



736 F Street
Arcata, CA 95521

City Manager (707) 822-5953	Police 822-2428	Recreation 822-7091
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May 3, 2019

Matthias St. John
Executive Officer
Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403
By email: northcoast@waterboards.ca.gov

**Subject: Comments on Tentative Order No. R1-2019-0006 for the City of Arcata
Wastewater Treatment Facility (Reissuance of NPDES No. CA0022713)**

Dear Mr. St. John:

The City of Arcata (City) has reviewed the Tentative Order NPDES permit issued by the North Coast Regional Water Quality Control Board (Regional Water Board) on April 4, 2019. The following comments are submitted prior to the May 6, 2019 deadline to be considered for inclusion in the final adopted permit for the City of Arcata Wastewater Treatment Facility (WWTF). The City's substantive comments are described below and the non-substantive comments are presented in Attachment 1. For requested revisions to the text of the Tentative Order, underline is shown for suggested additions, and ~~strike-out~~ is shown for suggested deletions. The City reserves its right to discuss the Regional Water Board's response to these comments and any revisions made to the Tentative Order in a presentation at the permit adoption hearing.

- 1. Findings II.C describes the provisions and requirements of the Tentative Order that implement State law only. The City has identified additional subsections of the permit that implement State law only and should be identified in the Findings. The requested revisions are identified below.**

FINDINGS II.C. [Page 4]

"The provisions/requirements in subsections III.E, III.F, V.B, VI.C.5.a, IV.A.2., IV.B., IV.C, IV.D, VI.C.2.b, VI.C.5.c.ix and x, and VI.C.5.d of this Order and section X.E of the Monitoring and Reporting Program (MRP) are included to implement state law only."

- 2. The Arcata Marsh Wildlife Sanctuary (AMWS) is a Water of the State and "Discharge Specifications" have historically been assigned to regulate effluent quality discharged to the AMWS. The compliance approach is now being revised to incorporate representative effluent monitoring locations as part of City's Proposed Treatment Upgrade Project. Depending on the constituent and how it will be regulated at Discharge Point 002, the terms "Discharge Specifications" and "Effluent Limitations" may need to be exchanged or added to the following**

sections of the Tentative Order.

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.2 [Pages 7 to 8]

EFFLUENT MONITORING REQUIREMENTS IV.B [Table E-4, Pages E-5 to E-6]

REPORTING REQUIREMENTS X.B.6.a [Page E-18]

RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.D.3 [Page F-39]

RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.B [Page F-44]

RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.B.2 [Page F-45]

3. **The BOD₅, TSS, and percent removal effluent limitations prescribed for Discharge Point 001 were calculated as Equivalent to Secondary Treatment Standards using the process defined in 40 C.F.R. section 133.105(f). However, the effluent dataset utilized for the calculation is not representative of current WWTF operation and performance because it did not include the most recent 27 months of results (February 2017 to April 2019). The City requests consideration of the more recent data, recalculation of the Average Monthly Effluent Limitation (AMEL) and Average Weekly Effluent Limitation (AWEL) for Discharge Point 001, and recognition of two significant figures when the final effluent limitations are prescribed. Revisions to the following sections of the Tentative Order will be needed to reflect the revised effluent limits and changes to the recalculation process.**

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.1.a [Table 4, Page 6]

EFFLUENT LIMITATION AND DISCHARGE SPECIFICATIONS IV.A.1.B [Page 6]

RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.B.2.a [Page F-19]

4. **Effluent limitations and monitoring requirements for settleable solids are not required by state regulations or the North Coast Water Quality Control Plan (Basin Plan). TSS is a better indicator of secondary effluent quality and the Tentative Order includes TSS requirements for Discharge Points 001 and 002. Recent permits adopted in Region 1 for WWTP operation (e.g., City of Ukiah, Airport-Larkfield-Wikiup Sanitation Zone) have not included limits or monitoring requirements for settleable solids. The City requests removal of settleable solids requirements in the provisions identified below.**

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.1.a [Table 4, Page 6]

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.2.a [Table 5, Page 7]

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.3.a [Table 6, Page 8]

EFFLUENT MONITORING REQUIREMENTS IV.A.1 [Table E-3, Page E-4]

EFFLUENT MONITORING REQUIREMENTS IV.B.1 [Table E-4, Page E-5]

EFFLUENT MONITORING REQUIREMENTS IV.C.1 [Table E-5, Page E-6]

5. **Some of the effluent limitations specified for Discharge Point 001 and Discharge Point 002 will not be in effect until the Proposed Treatment Upgrade Project is completed. During the transition period, compliance will be evaluated under terms specified in Time Schedule Order (TSO). However, monitoring at EFF-001 and EFF-002 will be conducted as specified in the Tentative Order starting on the effective date of the new permit. The implementation approach needs to be correctly described in the permit and Attachment E. The following sections of the Tentative Order are affected by this change.**

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.1 [Modify Footnote, Page 6]

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.2 [Add Footnote, Page 7]

EFFLUENT LIMITATION AND DISCHARGE SPECIFICATIONS IV.D.1 [Modify Footnote 1, Page 9]

EFFLUENT MONITORING REQUIREMENTS IV.A.1. (Modify Footnote 1, Page E-4]

- 6. The City requests fecal coliform effluent limitations consistent with the limits prescribed in the current NPDES permit (Order No. R1-2012-0031). The following changes are suggested for consistency.**

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.1.c [Page 7]

- i. The median concentration shall not exceed a Most Probable Number (MPN) of 14 per 100 milliliters (mL) using the bacteriological results of the last ~~7 days~~ calendar month for which analyses have been completed¹; and
- ii. The number of fecal coliform bacteria shall not exceed an MPN of 43 per 100 mL in more than 10% of one samples collected in any ~~30-day period~~ calendar month.

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.2.c [Page 8]

- i. The median concentration shall not exceed an MPN of 14 per 100 milliliters (mL) using the bacteriological results of the last ~~7 days~~ calendar month for which analyses have been completed; and
- ii. The number of fecal coliform bacteria shall not exceed an MPN of 43 per 100 mL in more than 10% of one samples collected in any ~~30-day period~~ calendar month¹.

- 7. Due to natural treatment system influence, the City will not be able to control the Ultraviolet Light Transmittance (UVT) for effluent disinfected at Discharge Location 002. The UVT will be measured and used in the disinfection dose calculation, but UVT correlates with UV operational efficiency, not UV effectiveness. Therefore, the City requests removal of UVT requirements and use of the UV dose limitation to determine UV effectiveness. The specific changes to the Tentative Order are presented below.**

EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.D.e [Page 9]

~~e. Ensure that the UVT (at least 254 nanometers) in the wastewater does not fall below 35 percent of maximum at any time.~~

OTHER MONITORING REQUIREMENTS IX.A.1.b and IX.A.1.c [Page E-16]

~~b. Compliance. The UVT shall not fall below 35 percent of maximum at any time. The operational UV dose shall not fall below 50 millijoules per square centimeter (mJ/cm²) at any time. Flow through the UV disinfection system shall not exceed peak design flow for the UV system.~~

~~c. Reporting. If the UVT falls below 35 percent or UV dose falls below 50 mJ/cm², the event shall be reported to the Regional Water Board by telephone within 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.~~

- 8. The Tentative Order does not identify the MUNICIPAL AND DOMESTIC WATER SUPPLY (MUN) beneficial use for Humboldt Bay. The City requests removal of Receiving Water Limitations that are based on MUN beneficial use in Humboldt Bay in the following sections of the Tentative Order.**

RECEIVING WATER LIMITATIONS V.A.13 [Page 12]

RECEIVING WATER LIMITATIONS V.A.16 [Page 12]

RECEIVING WATER LIMITATIONS V.A.17 [Page 12]

- 9. The City's AMWS Special Study Monitoring Plan requires ammonia monitoring three times per month, no less than five days apart. The City requests the following changes to the Tentative Order to facilitate WWTP staffing arrangements and to be consistent with the monitoring plan approach.**

PROVISIONS VII.C.2.a.ii [Page 15]

ii. Nutrient levels/enrichment of the AMWS, including but not limited to ~~weekly monitoring for ammonia~~ monitoring for ammonia according to the schedule in the AMWS special study monitoring plan to determine natural cyclical loading from the AMWS;

- 10. The City is taking immediate actions to prepare the WWTF and its collection system for extreme wet weather events. These activities include but are not limited to ensuring availability of mobile pumps to drain low lying areas, storing sand bags for use in preventing inundation, preparing SOPs to respond to flood events, and developing public notification procedures and signage, etc. Additional time is needed to determine and evaluate the potential effects of climate change on the facilities. The City requests a 2-year extension of the deadline for submitting the Climate Change Readiness Study Plan as shown below.**

PROVISIONS VII.C.2.b [Page 16]

Extreme weather events, sea level rise, shifting precipitation patterns, and temperature variability, all intensified by climate change, have significant implications for wastewater treatment and operations. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, a Climate Change Readiness Study Plan shall be submitted to the Regional Water Board by June 1, ~~2024~~ 2023, for Executive Officer review and approval.

- 11. When the NPDES permit is adopted, the City will review its existing pretreatment program and modify the program as needed. In addition, the City is planning to revise its Local Limits when the new secondary treatment system is online. The Tentative Order appears to require development of an entirely new pretreatment program, which is unnecessary and unwarranted. The City requests revisions to clearly state that changes to the pretreatment program are only required if needed to ensure compliance with the new NPDES permit conditions. The following section of the Tentative Order will be affected by this change.**

PROVISIONS VII.C.2.c [Page 16]

- 12. Compliance with bacteria effluent limitations is based on use of "<" and ">" values not the "ND" and "DNQ" values assigned to chemical constituents. The following changes are requested to be consistent with symbology used in MPN value tables and to reflect bacteriological test results.**

COMPLIANCE DETERMINATION VII.H.1 [Page 26]

1. Median. The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ~~ND~~ "<" concentrations lowest, followed by the quantified and ">" values. ... If the data set has an odd number of data points, the median is the average of the two middle values, unless one or both points are "<" or ">" ~~ND or DNQ~~, in which case the median value shall be the lower of the two middle data points. ~~DNQ is lower than a detected value, and ND is lower than DNQ.~~

- 13. As required by California Environmental Laboratory Accreditation Program (ELAP), the Method Detection Limit (MDL) is defined using the EPA's 2017 MDL revision. The following changes are requested to implement this definition.**

DEFINITIONS [Page A-3]

Method Detection Limit (MDL). The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is distinguishable from method blank results greater than zero, as defined in 40 C.F.R. part 136, ~~Attachment B~~, revised as of ~~July 3, 1999~~ August 28, 2017.

- 14. The boundary of WWTF needs to be consistent between figures shown in Attachment B. Revised**

Attachment B-1 (that includes the Brackish Marsh) is provided with these comments.

15. The process flow schematic for the Upgrade Project has been modified. The new schematic shows the "Adaptive Management Diversion Line (A-Line)" as described in the 9/21/18 letter to Justin McSmith. Revised Attachment C-2 is provided with these comments.

16. The City requests clarification to the description of Monitoring Location Description EFF-001.

MONITORING LOCATIONS II. [Table E-1, Page E-3]

Location where representative samples of treated wastewater, to be discharged to Humboldt Bay at Discharge Point 001, can be collected at a point following ~~chlorination/dechlorination~~ disinfection and prior to contact with Humboldt Bay.

17. Representative samples at EFF-003 should include any flow that might occur through the A-line. The following changes are requested to incorporate this flow condition into the description of Monitoring Location EFF-003.

MONITORING LOCATIONS II. [Table E-1, Page E-3]

Location where representative samples of treated wastewater ~~following the three enhancement marshes in the AMWS,~~ to be discharged to the brackish marsh at Discharge Point 003, can be collected at a point prior to contact with the brackish marsh.

18. For chlorine residual monitoring at EFF-001 and EFF-002, the numeric limits defined in the permit should be referenced in the table notes instead of "no detectable concentration." The following changes are requested to make this clarification.

EFFLUENT MONITORING REQUIREMENTS IV.A.1. [Table E-3, Page E-5, Table Note 10]

Chlorine residual monitoring at Monitoring Location EFF-001 shall demonstrate that chlorine residual complies with effluent limits in Table 4 ~~that there is no detectable chlorine~~ during periods of discharge to Humboldt Bay...

EFFLUENT MONITORING REQUIREMENTS IV.A.1. [Table E-4, Page E-6, Table Note 6]

Chlorine residual monitoring at Monitoring Location EFF-002 shall demonstrate that chlorine residual complies with effluent limits in Table 5 ~~that there is no detectable chlorine~~ during periods of discharge to the AMWS...

19. The Humboldt County Public Health Lab is only accredited for enterococcus testing in surface water (not wastewater) and there are no ELAP accredited laboratories available within the required travel time from Arcata. For compliance testing, the analytical method recommends analysis immediately or within 2 hours after sample collection and the maximum transport time to a laboratory of 6 hours. As a result, the City does not have any immediate options for wastewater enterococcus testing and will need to obtain ELAP certification to conduct the analyses in-house. Due to ongoing program changes at ELAP, the City estimates it will take 1 to 2 years to obtain method accreditation. The City has begun acquiring testing supplies and developing SOPs to prepare for accreditation but will need additional time to start enterococcus monitoring at its in-house laboratory. A one-year extension and the following changes are requested for the Tentative Order.

EFFLUENT MONITORING REQUIREMENTS IV.A.1. [Table E-3, Page E-5, Table Note 12]

The Permittee shall begin monitoring for enterococci, from an ELAP accredited lab, by June 1, ~~2020~~ 2021.

EFFLUENT MONITORING REQUIREMENTS IV.A.1. [Table E-4, Page E-6, Table Note 8]

The Permittee shall begin monitoring for enterococci, from an ELAP accredited lab, by June 1, ~~2020~~

2021.

- 20. The City requests clarifications to EFF-001 monitoring requirements to state that sampling is required only if discharge occurs within the calendar year and that discharge doesn't have to continue solely to obtain a 24-hour composite sample or to meet specified toxicity sample type and duration. The following language is suggested to make that clarification.**

EFFLUENT MONITORING REQUIREMENTS IV.A.1. [Table E-3, Page E-5, Table Note 8]

When Discharge Point 001 is used for emergency discharges of flows exceeding 5.9 mgd under the upgraded Facility configuration, effluent monitoring at Monitoring Location EFF-001 shall be conducted annually when discharge occurs during a calendar year. The Permittee shall cease sample collection after the discharge ends. If the duration of the discharge is less than 24 hours or the duration required for toxicity testing, the Permittee shall either conduct the analyses using the available sample type/volume or contact the Executive Officer for authorization to waive the required analyses.

- 21. The City requests use of its current species for chronic toxicity testing until the Proposed Upgrade Project is completed. At that point, the City will conduct sensitive species screening to determine the appropriate species for future testing. The following section of the Tentative will be affected by this change.**

WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS V.B.5. [Page E-10]

- 22. The City requests the following changes in order to provide options for responding to chronic toxicity triggers if discharge stops before additional samples can be collected.**

WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS V.B.8. [Page E-12]

... If one of the accelerated toxicity test results is "Fail", the Permittee shall immediately implement the TRE Process conditions set forth in section V.C, below. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving waters.

- 23. The City is a permittee under Biosolids General Order No. 2004-0012 DWQ and follows the biosolids monitoring and reporting requirements specified in the General Order. The Tentative Order should refer to the Biosolids General Order for all sludge/biosolids requirements and Monitoring Location BIO-001 should be removed. The following revisions are recommended to modify the Tentative Order requirements for biosolids monitoring and reporting.**

OTHER MONITORING REQUIREMENTS IX.C. [Page E-16]

C. ~~Sludge Biosolids Monitoring (Monitoring Location BIO-001)~~

Biosolids monitoring shall be conducted as required by Order No. 2004-0012-DWQ.

- ~~1. Sludge sampling shall be conducted according to the requirements specified by the location and type of disposal activities undertaken.~~
- ~~2. Sampling records shall be retained for a minimum of 5 years. A log shall be maintained for sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for developing the Sludge Handling and Disposal report that is required as part of the Annual Report.~~

REPORTING REQUIREMENTS X.D.2.f [Page E-20]

- f. Sludge Handling and Disposal Activity Reporting.** The Biosolids Report required by Order No. 2004-0012-DWQ will be provided as an attachment to the WWTF annual report. The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous 12 months. At a

minimum, the report shall contain:

- ~~i. Annual sludge production, in dry tons and percent solids;~~
- ~~ii. Sludge monitoring results;~~
- ~~iii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram;~~
- ~~iv. Methods of final disposal of sludge:
 - ~~(a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the landfill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs Order number for the regulated landfill, and the landfill classification.~~
 - ~~(b) For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs Order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.~~
 - ~~(c) For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.~~~~
- ~~v. Results of internal or external third-party audits of the Biosolids Management System, including reported program deficiencies and recommendations, required corrective actions, and a schedule to complete corrective actions.~~

RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.E.3 [Page F-46]

3. Sludge Biosolids Monitoring. ~~The Permittee monitors biosolids and reports biosolids application practices under requirements specified in Order No. 2004-0012-DWQ. New sludge monitoring requirements at Monitoring Location BIO-001 serve as a basis for the Permittee to develop the Sludge Handling and Disposal Activity Report that is required as part of the Annual Report pursuant to section X.D.2.f of the MRP.~~

24. The City requests permission to identify the "titles" of all persons employed at the facility in the annual reports instead of individual "names."

REPORTING REQUIREMENTS X.D.2.c. [Page E-20]

The ~~names~~ titles and general responsibilities of all persons employed at the Facility.

25. The following changes are provided to ensure accurate descriptions of the WWTF operation.

FACILITY DESCRIPTION II.B.2. [Page F-6]

...The Permittee has evaluated the ability to disinfect all flow using UV and is currently planning to disinfect ~~all flows~~ flows up to 7.6 mgd through the Facility with UV. Wastewater discharged at Discharge Point 002 will flow through the Allen, Gearheart, and Hauser marshes in succession. The Permittee will manage flows through Allen, Gearheart, and Hauser Marshes to preserve enhanced treatment and beneficial uses of the enhancement marshes. Flow rates determined to negatively impact the enhancement marshes and flow in excess of 5.9 mgd will be diverted around the enhancement marshes. Diverted flow will co-mingle with Hauser Marsh effluent prior to discharge to the Brackish Marsh at Outfall-003. At the design average...

FACILITY DESCRIPTION II.B.2. [Page F-6]

The upgraded Facility configuration will provide overall improvements to effluent quality discharged to Humboldt Bay because all effluent up to 5.9 mgd ~~will~~ may receive enhanced treatment through the AMWS.

FACILITY DESCRIPTION II.F. [Page F-9]

The Proposed Treatment Upgrade Project will replace the chlorine disinfection system with a UV disinfection system for ~~flows not exceeding~~ the peak wet weather ~~peak~~ design flows of 5.9 mgd, or greater. Emergency flows, in excess of the peak design flows of 5.9 mgd, ~~will~~ may be disinfected with chlorine or UV and discharged via Discharge Point 001 or via Discharge Point 003 through the adaptive management diversion line. The Permittee is investigating the possibility of disinfecting all flows with UV and would like to maintain chlorine disinfection as a backup. Eliminating use of chlorine will reduce the number of violations for dichlorobromomethane, a chlorine disinfection by-product. The oxidation ditch and new clarifiers will provide full secondary treatment for ~~all flows~~ a portion of flow, improve ammonia removal, BOD and TSS removal and likely address toxicity concerns...

RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.B.2.b [Page F-19]

Under the upgraded Facility configuration, the Permittee will utilize oxidation ponds (i.e., waste stabilization ponds) ~~to treat wastewater flows less than 2.3 mgd~~ and a parallel oxidation ditch system to treat wastewater flows ~~greater than 2.3 mgd~~ and up to 5.9 mgd. Effluent from the waste stabilization pond and oxidation ditch treatment trains will be commingled prior to UV disinfection and discharge to the AMWS at Discharge Point 002.

- 26. The nitrate water quality objective is applicable to receiving waters designated with the MUN beneficial use. Because the Tentative Order does not identify MUN for Humboldt Bay, nitrate should not have been included in the Reasonable Potential Analysis and can be removed from the following sections of the Tentative Order.**

RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.C.3.c [Table F-6, Page F-27]

ATTACHMENT F-1 [Page F-52]

- 27. The test species and method for evaluating chronic aquatic toxicity are determined through the screening process, not during each sampling event. The following change is needed to make that clarification.**

RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.C.5.b [Page F-33]

The receiving waters at Discharge Points 001 and 003 are estuarine and depending on tide and time of year, may range from predominantly freshwater environments to predominantly marine environments. Therefore, the Permittee, when collecting samples for toxicity, shall also determine the characteristics of the receiving water at the time of ~~sampling~~ species screening to ensure the proper test species and method are implemented, as described in section V of the MRP (Attachment E).

- 28. To determine compliance with ammonia effluent limitations, receiving water temperature, pH and salinity monitoring (RSW-001) must coincide with effluent total ammonia monitoring (EFF-001, EFF-003). Table E-3 and Table E-5 erroneously identify effluent ammonia monitoring requirements for pH and temperature. The following revisions are needed to clarify associated ammonia monitoring requirements.**

EFFLUENT MONITORING REQUIREMENTS IV.A.1 [Table E-3, Page E-5, Note 5]

5. pH, and temperature, and salinity monitoring at RSW-001 shall be recorded at the time of ammonia sampling.

EFFLUENT MONITORING REQUIREMENTS IV.C.1 [Table E-5, Page E-7, Note 4]

4. pH, ~~and~~ temperature, and salinity monitoring at RSW-001 shall be recorded at the time of ammonia sampling.

29. The City's current NPDES permit allows use of grab samples for chronic toxicity testing since effluent quality doesn't fluctuate due to the long residence time in treatment system. The City requests approval to use grab samples to evaluate chronic toxicity at EFF-001 and EFF-003. The following sections of the Tentative Order will be affected by this change.

EFFLUENT MONITORING REQUIREMENTS IV.A.1 [Table E-3, Page E-4]

EFFLUENT MONITORING REQUIREMENTS IV.A.1 [Table E-5, Page E-7]

The City appreciated your staff's assistance and communication during development of this Tentative Order. Please contact me at (707) 822-8184 or mandre@cityofarcata.org if you have any questions or concerns.

Sincerely,



Mark Andre
Environmental Services Director

Cc: Justin McSmith, Heaven Moore – North Coast Regional Water Quality Control Board
Karen Diemer, Doby Class, Mike Clinton, Rachel Hernandez, City of Arcata
Doug Wing, Carollo Engineers
Denise Conners – Larry Walker Associates

Attachments:

Attachment 1 – Non-Substantive Comments on Tentative Order No. R1-2019-0006 for the City of Arcata Wastewater Treatment Facility
Attachment 2 - Revised Figure for Attachment B-1
Attachment 3 - Revised Flow Schematic Attachment C-2

Attachment 1 – Non-Substantive Comments on Tentative Order No. R1-2019-0006 for the City of Arcata Wastewater Treatment Facility

Comment Number	Page Number	Provision	Comment
1	4	Findings II.A.	... It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Permittee to discharge into waters of the United States at the discharge location <u>locations</u> described in Table 2 subject to WDRs in this Order.
2	4	Findings II.B.	... Attachments A through E <u>H</u> are also incorporated into this Order.
3	5	DISCHARGE PROHIBITIONS III.E.	The discharge of untreated or partially treated waste (receiving a lower level of treatment than described in section II. AB of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions G (Bypass) and H (Upset).
4	6	EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A.	A. Effluent Limitations – Discharge Points 001, 002, and 003 Effluent Limitations - Discharge Points 001 and 003 & Discharge Specifications - Discharge Point 002
5	6, Table 4, Table Note 2	EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A. 1.a	The AIR is the ammonia effluent limit and must be reported in the self-monitoring reports in addition to ammonia, pH, <u>salinity</u> , and temperature values. Monitoring for ammonia, pH, <u>salinity</u> and temperature must be conducted concurrently in order for the AIR to be calculated properly.
6	6, Table 4, Table Note 2	EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A. 1.a	Compliance determination will be based on the receiving water data and ammonia effluent data taken on the <u>same</u> day.
7	7	Page 7 Footnote 2	² The Permittee uses Discharge Point 002 year-round with flow increasing during wet weather flow. The Permittee [Rest of this sentence is missing]
8	8, Table 6, Table Note 2	EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.A. 3.	The AIR is the ammonia effluent limit and must be reported in the self-monitoring reports in addition to ammonia, pH, <u>salinity</u> and temperature values. Monitoring for ammonia, pH, <u>salinity</u> , and temperature must be conducted concurrently in order for the AIR to be calculated properly.
9	11	Page 11 Footnote 1	Natural conditions are conditions or circumstances affecting the physical, chemical, or biological integrity of water that are not influenced by past or present anthropogenic activities.
10	17	PROVISIONS VI.C.2.c.iii.	Missing language: "The Local Limits Study shall be conducted in The Local Limits"
11	17	PROVISIONS VI.C.2.c.iv.	"peak flow rates ¹ ;"

Comment Number	Page Number	Provision	Comment
12	21	PROVISIONS VI.C.5.b.iv.	(b) Wastes that will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
13	23	PROVISIONS VI.C.5.c.ix.	Missing language: "For the land application of biosolids as a soil amendment, the Permittee shall submit a ROWD for _____ or the Permittee may dispose of biosolids at another appropriately permitted facility."
14	27	COMPLIANCE DETERMINATION VI.K.	Compliance with the average dry weather flow prohibition in section III.H of this Order will be determined once each calendar year by evaluating all flow data collected at Monitoring Location INF-002001 in a calendar year. The flow through the Facility, measured daily and averaged monthly, must be 2.3 mgd or less for the month with the lowest average monthly flow.
15	27	COMPLIANCE DETERMINATION VI.L.	Compliance with the ammonia impact ratio average monthly effluent limitation in sections IV.A.1 and IV.A.3 of this Order will be determined based on the monthly average of the receiving water pH, temperature and salinity samples. If more than one <u>one</u> monthly ammonia sample is taken in the month, the average of the ammonia samples will be used in conjunction with the average of the receiving water samples. If the AIR is greater than 1.0 then the Permittee is considered out of compliance with the AIR AMEL
16	27	COMPLIANCE DETERMINATION VI.M.	Compliance with the ammonia impact ratio maximum daily effluent limitation in sections IV.A.1 and IV.A.3 of this Order will be determined based on the receiving water pH, temperature and salinity <u>samples</u> taken on the same day as the ammonia sample in the effluent. If the AIR is greater than 1.0 then the Permittee is considered out of compliance with the AIR MDEL.
17	27	COMPLIANCE DETERMINATION VII.L.	Revise second sentence: " If more than <u>one</u> monthly sample...."
18	A-05	Page A-5 Shellfish	Organisms identified by the California Department of Heal <u>Health</u> Services as shellfish for public health purposes (i.e., mussels, clams, and oysters).
19	D-02	STANDARD PROVISIONS - PERMIT COMPLIANCE I.G.3.4.	In any enforcement proceeding, the permittee seedi <u>needing</u> to establish the bypass defense has the burden of proof.
20	E-02	GENERAL MONITORING PROVISIONS I.B.	If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 C.F.R. part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly <u>quarterly</u> and annual discharge monitoring

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			reports.
21	E-02	GENERAL MONITORING PROVISIONS I.C.	The Permittee shall keep a manual onsite containing the <u>SOPs steps</u> followed in this program and must demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.
22	E-04, Table E-3	EFFLUENT MONITORING REQUIREMENTS IV.A.1.	Revise Table caption: "Effluent Monitoring – Monitoring Locations EFF-001"
23	E-04, Table E-3	EFFLUENT MONITORING REQUIREMENTS IV.A.1.	Revise units for Enterococci Bacteria: " CFU/100 mL <u>MPN/100 mL</u> "
24	E-04, Table E-3	EFFLUENT MONITORING REQUIREMENTS IV.A.1.	Revise Analytical Test Method for Enterococci Bacteria: " EPA Method 1600 <u>Part 136</u> ³ "
25	E-04, Table E-3	EFFLUENT MONITORING REQUIREMENTS IV.A.1.	Add footnote reference to Minimum Sampling Frequency for AIR: "Monthly ^g "
26	E-05, Table E-3, Table Note 4	EFFLUENT MONITORING REQUIREMENTS IV.A. 1.	Fecal coliform bacteria <u>and enterococcus bacteria</u> samples may be collected at any point downstream of the chlorine disinfection process.
27	E-05, Table E-4	EFFLUENT MONITORING REQUIREMENTS IV.B.1.	Revise Units for Flow: " 4mgd "
28	E-05, Table E-4	EFFLUENT MONITORING REQUIREMENTS IV.B.1.	Revise units for Enterococci Bacteria: " CFU/100 mL <u>MPN/100 mL</u> "
29	E-05, Table E-4	EFFLUENT MONITORING REQUIREMENTS IV.B.1.	Revise Analytical Test Method for Enterococci Bacteria: " EPA Method 1600 <u>Part 136</u> ³ "
30	E-06, Table E-4, Table Note 4	EFFLUENT MONITORING REQUIREMENTS IV.B.1.	Fecal coliform bacteria <u>and enterococcus bacteria</u> samples may be collected at any point downstream of the chlorine disinfection process.

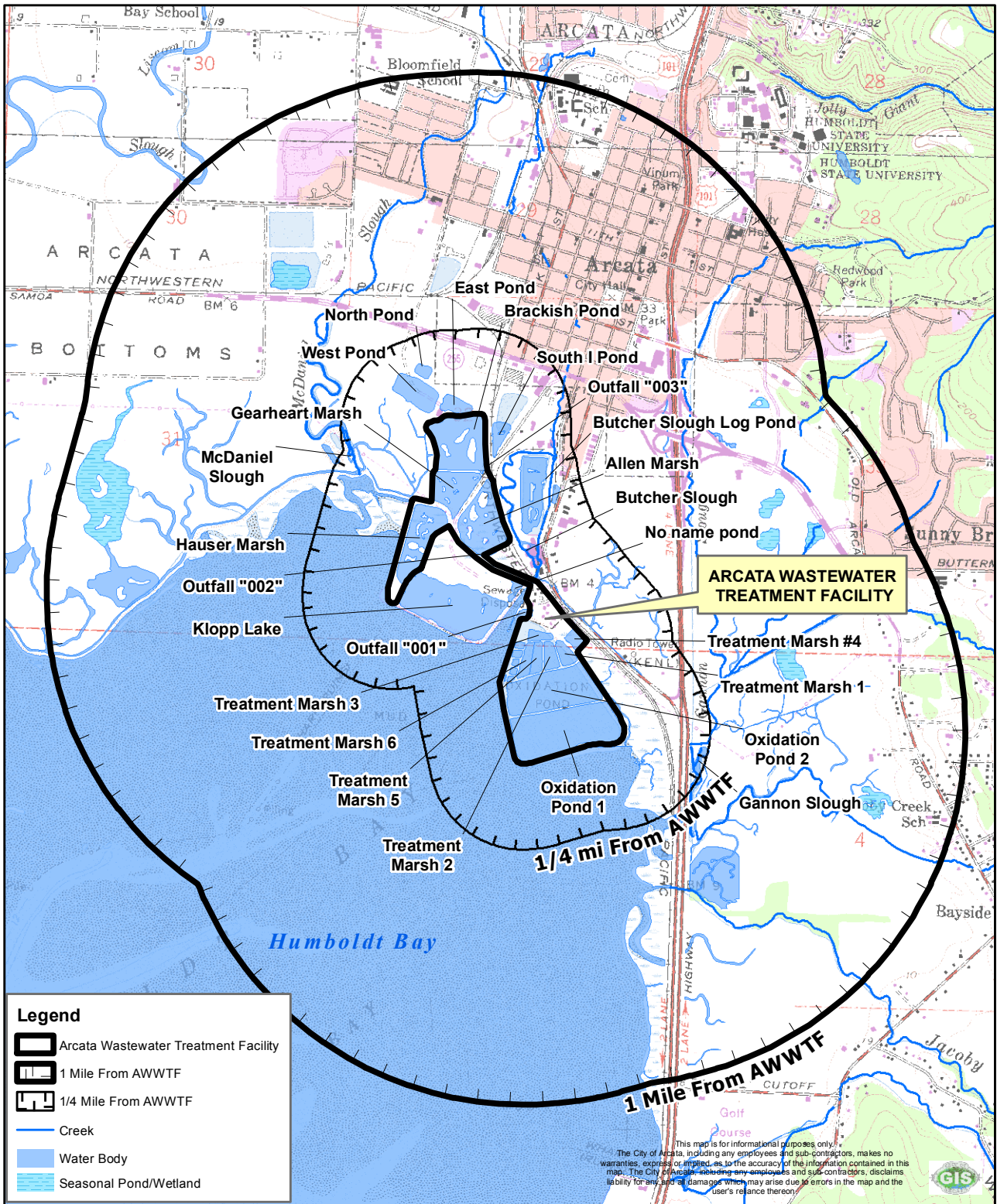
Comment Number	Page Number	Provision	Comment
31	E-06, Table E-4, Table Note 5	EFFLUENT MONITORING REQUIREMENTS IV.B.1.	If two of <u>for</u> more samples in a week exceed an effluent limitation, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance. 6. Chlorine residual monitoring at Monitoring Location EFF-002.
32	E-06	EFFLUENT MONITORING REQUIREMENTS IV.C.1.	Move footnote 1 from Table E-5 caption to the text as follows: "The Permittee shall monitor secondary treated wastewater to be discharged to the brackish marsh at Monitoring Location EFF-003 ¹ , as follows:"
33	E-06, Table E-5	EFFLUENT MONITORING REQUIREMENTS IV.C.1.	Remove footnote 1 from Table E-5 caption: "Effluent Monitoring – Monitoring Location EFF-003 ¹ "
34	E-07, Table E-4, Table Note 3	EFFLUENT MONITORING REQUIREMENTS IV.B.1.	If two of <u>for</u> more samples in a week exceed an effluent limitation, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance. 6. Chlorine residual monitoring at Monitoring Location EFF-002
35	E-07	Page E-7, Footnote 1	¹ The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Locations <u>EFF-001 and EFF-003.</u>
36	E-08	WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS V.A.4.	Revise text to include fathead minnow and to be consistent with Page F-32: "c. A 96-hour static renewal toxicity test with a vertebrate, the rainbow trout, <i>Oncorhynchus mykiss</i> (Survival Test Method 2019.0). d. A 96-hour static renewal or 96-hour static non-renewal toxicity test with a vertebrate, the sheepshead minnow, <i>Cyprinodon variegatus</i> (Survival Test Method 2004.0). e. A 96-hour static renewal or 96-hour static non-renewal toxicity test with a vertebrate, the fathead minnow, <i>Pimephales promelas</i> (Survival Test Method 2000.0)"
37	E-15, Table E-6	RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER VII.B.1.	Add footnote 1 to Weekly Sampling Frequency for Salinity: "Weekly ¹ "

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38	E-15, Table E-6, Table Note 1	RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER VII.B.1.	pH, and temperature, <u>and salinity</u> monitoring must coincide with monthly effluent monitoring for ammonia.
39	E-16	OTHER MONITORING REQUIREMENTS IX.A.1.c.	The Permittee shall report daily average and lowest daily UVT and operations UV dose on its monthly <u>quarterly</u> SMRs. The Permittee shall report daily average and maximum flow through the UV disinfection system.
40	E-16	OTHER MONITORING REQUIREMENTS IX.B.	Revise text to be consistent with page F-46: "B. Visual Monitoring (Monitoring Locations EFF-001, EFF-002, EFF-003, and RSW-001)"
41	E-17, Table E-7	REPORTING REQUIREMENTS X.B. 4.	Row 5, Column "Monitoring Period Begins on...": "Closest <u>Closest</u> of January 1, April 1, July 1, or October 1 following) <u>(or on)</u> permit effective date"
42	F-05	Facility Description II.B.2.	The Permittee is planning to upgrade the Facility, including improvements to the oxidation pond and wetland treatment system and addition of a parallel oxidation ditch treatment system, consisting of two <u>one</u> new oxidation ditches and two new secondary clarifiers.
43	F-25	RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.C. 3.b.	Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. For this Order, the Regional Water Board has conducted an RPA for discharges to Humboldt Bay at Discharge Point 001 and the brackish marsh at Discharge Point 003 using monitoring data collected at Monitoring Location EFF-001. During the term of Order No. R1-2012-0031, CTR priority pollutant sampling was conducted on August 5, 2013, October 14, 2013 (volatile organic compounds only), October 21, 2014, October 28, 2015, and September 22, 2016 at Monitoring Location EFF-001. <u>In addition, the Permittee conducted monthly monitoring for copper and cyanide, and quarterly monitoring for bis (2-ethylhexyl) phthalate, carbon tetrachloride, and dichlorobromomethane, and TCDD-equivalents.</u> All of this data was used to complete the RPA. No CTR priority pollutant data was available for the receiving water.

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44	F-29	RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.C. 3.c.	<p>Dichloromethane. <u>Dichlorobromomethane</u>. Order No. R1-2012-0031 included effluent limitations for dichlorobromomethane at Discharge Point 001. The CTR establishes a water quality objective for dichloromethane<u>dichlorobromomethane</u> for the protection of human health for waters from which organisms are consumed of 46 µg/L. The Permittee sampled the effluent for dichlorobromomethane 22 times during the term of Order No. R1-2012-0031. Dichlorobromomethane was detected in the effluent in 20 samples, with results ranging from 0.55 µg/L to 5.7 µg/L. Receiving water monitoring for dichlorobromomethane was not conducted over the term of Order No. R1-2012-0031. Since the MEC was less than the applicable water quality objective for dichlorobromomethane, a determination of no reasonable potential has been made and effluent limitations at Discharge Point 001 have not been retained in this Order.</p>
45	F-32	RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS IV.C.5.a.	<p>The Order implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring the Permittee to conduct acute toxicity tests on a fish species and on an invertebrate species to determine the most sensitive species. According to the U.S. EPA manual, Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test are the sheepshead minnow, <i>Cyprinodon variegatus</i>, the fathead minnow, <i>Pimephales promelas</i>, and the rainbow trout, <i>Oncorhynchus mykiss</i>. The acceptable invertebrate species for the acute toxicity test are the mysid shrimp, <i>Mysidopsis bahia</i>, and the water flea, <i>Ceriodaphnia dubia</i>, <i>Daphnia magna</i>, and <i>D. pulex</i>. This Order requires the Permittee to conduct a screening test using a vertebrate and invertebrate species. After the screening test is completed, monitoring can be reduced to the most sensitive species. Attachment E of this Order requires quarterly <u>annual</u> acute WET monitoring.</p>
46	F-42	RATIONALE FOR PROVISIONS VI.B.2.c.	<p>As discussed further in section VI.B.5.b of this Fact Sheet, this Order requires the Permittee to update their <u>its</u> pretreatment program that conforms to Federal regulations.</p>

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47	F-45	RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.B.3.d.	Order No. R1-2012-0031 required monitoring for phosphorus “concurrent with the special study”, but did not specify the frequency. This Order establishes quarterly monitoring for phosphorus at Monitoring Location EFF-001 EFF-003 consistent with monitoring requirements for other nutrients (e.g., ammonia and nitrate) in the effluent.
48	F-45	RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.B. 3.a.	Effluent monitoring frequencies and sample types for flow, BOD5, fecal coliform bacteria , pH, TSS, copper, cyanide, TCDD-equivalents, ammonia, hardness, nitrate, phosphorus, and settleable solids at Monitoring Location EFF-003 have been retained from Order No. R1-2012-0031.
49	F-46	RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.D.1.a	Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations. Monitoring requirements at Monitoring Location RSW-001 for pH, dissolved oxygen, floatables/discoloration, electrical conductivity specific conductance, hardness, nitrate, salinity, temperature, total dissolved solids, turbidity, and CTR priority pollutants have been retained from Order No. R1-2012-0031.
50	F-46	RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.E.1	UV disinfection system monitoring requirements at Monitoring Location EFF-002 INT-001 are included to assess compliance of the UV disinfection system with the NWRI Guidelines.
51	F-46	RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS VII.E.2	Revise text: "This Order establishes visual monitoring requirements for the effluent (Monitoring Locations EFF-001 and EFF-003) and receiving water (Monitoring Locations RSW-001 and RSW-003) to ensure compliance with receiving water limitations in section V of the Order."
52	G-02	Table 2	Revise Table caption: "pH, Salinity and Temperature Dependent MDEL Ammonia Criteria AMEL Ammonia Criteria"

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City of Arcata
Environmental Services

Arcata Wastewater Treatment Facility Topographical Map

U.S.G.S. 7.5 Minute Topographic Map: Arcata South Quadrangle
Section 32 of T.6.N., R.1.E. of H.B. & M.

NORTH

0 1,000 Feet



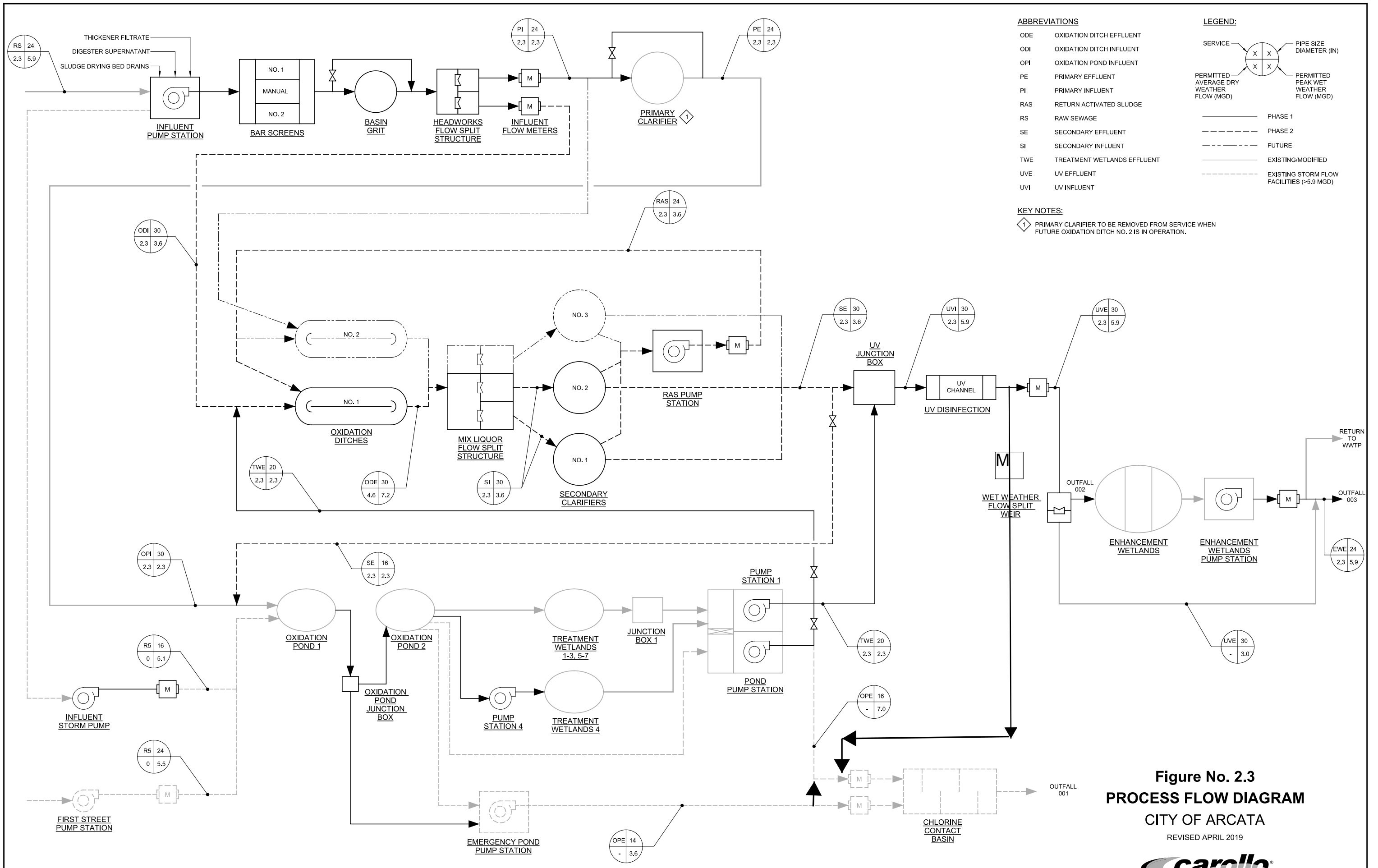


Figure No. 2.3
PROCESS FLOW DIAGRAM
 CITY OF ARCATA
 REVISED APRIL 2019

