

Municipal Treatment Train (MTT) Engineering Report

ID	Reference	Comment	Response
1	BODR Section 1.3.8	Please describe the "RP # oo. 1975g13" assumption used to evaluate the hydraulic gradient of the outfall structure.	"RP #oo. 1975g13" is the record drawing reference for the outfall invert and Oneida River level utilized in the analysis.
2	BODR Section 1.4.1	Section 2.5 of the Report anticipates that PFAS/PFOS regulatory limits may be imposed. To address this, the County is planning for the installation of a sludge dryer to destroy these compounds prior to the product's ultimate destination in either a landfill or for land application purpose. Based on the public comments to the DEIS, the discharge of emerging contaminates is forefront. Has OCDWEP evaluated installing MBRs with nanofiltration capabilities and/or reverse osmosis treatment to remove these pollutants to levels recommended by the NYSDOH?	<p>The proposed biosolids process will reduce overall quantity of material and set the plant up for future advanced thermal processes like gasification or pyrolysis which may be required for PFAS destruction in the future if the technologies are proven reliable and scalable. Drying is required ahead of pyrolysis or gasification. There is research indicating that dried Biosolids may have less of some PFAS than the feed sludge, but it's likely just through transformation of one PFAS to another in the exhaust or condensate streams. We are not suggesting that drying destroys PFAS. As noted in section 2.5 and Figure 2.4, space is allocated for future biosolids processing if needed for PFAS destruction.</p> <p>New York State is managing PFAS compounds by establishing a SPDES discharge action level of 10 ng/L for PFOA/PFOS. NYSDEC's Department of Water (DOW) manages the discharge of PFAS compounds via the SPDES permitting process, and the County will follow SPDES requirements as they evolve. If the discharge detects above 10 ng/L of either PFOA or PFOS in an initial and subsequent sample, then the county will look upstream to source control any identified contributors of PFOA/PFOS.</p> <p>This is not a potable water source application. NYSDOH standards apply to drinking/potable water, not surface water quality. The upgraded MTT will include MBR for secondary treatment as included in the MTT Engineering Report. Additionally, the use of nanofiltration is not expected to materially remove PFAS.</p>
3	BODR Table 1-12	This table lists the peak hour flow at full build-out as 38.86 million gallons per day (mgd), however Response 36 specifies the peak hour flow of 38.6 mgd. Please correct or clarify this discrepancy.	The previous NOIA response 36 included a typo. The peak hour flow is 38.86 MGD.

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4	BODR Table 1-12 and Section 2	Given the understanding that Total Dissolved Solids (TDS) will be included as a permit limit in the modified SPDES permit (500 mg/l WQ Standard), TDS is not included as a parameter of concern for consideration in the design criteria. The BODR should discuss how the proposed recommended treatment design will meet the TDS limit, especially under the treatment capabilities of receiving wastewater from the FAB1 along, prior to advanced treatment from the planned IWWTP.	The MTT does not anticipate treating for TDS. Refer to the ITT Engineering Report for additional information on planned TDS reduction.
5	BODR Table 2.1.9 and Section 3.7	Explain the operational details and differences between the MBBR Stages 1 and 2.	Each tank will function as a fully mixed, aerated biofilm reactor. Effluent from Stage 1 will flow directly into Stage 2, allowing for sequential treatment and polishing. The use of two tanks in series will enhance treatment stability and enable maintenance flexibility by allowing either tank to be taken offline if needed. The system will be designed to achieve effluent ammonia concentrations below 1 mg/L under average flow conditions. This clarification has been added to section 4.10.2
6	BODR Section 4.1.3.1	It is DEC's understanding the OCDWEP uses sodium hypochlorite, rather than Bioxide, to control hydrogen sulfide in the forcemains conveying flow from the Davis Road pump station. Please confirm or correct as needed.	This is correct, use of bioxide has been replaced with sodium hypochlorite at Davis Road. Section 4.1.3.1 has been corrected to reflect this.
7	BODR Table 4.2	We understand from the response to comment number 35 that the approach velocity to the climber screens is intended to meet Ten States Standards at average flow. Please provide the calculated velocity based upon the channel dimensions to verify this statement.	Based on the current hydraulic model, velocity is anticipated to be 1.79 fps. This velocity must be verified by the final design consultant who will be required to meet the Ten States Standards.
8	BODR Section 4.10.2	Drawing 00G07 indicates that the proposed MBBR tanks will be located north of where the existing chlorine disinfection tanks are presently sited. This is a significant distance from the existing HPO treatment basins. How will flow be routed to and from the MBBRs during the MOPO treatment phase?	Refer to section 4.10.1 for details of the MBBR feed pump station.
9	BODR TM1 Section 1.3	DEC agrees that additional composite sampling of BOD and TSS is warranted at the Davis Rd. pump station, at the influent bunker, and at the current influent sampling point at the Oak Orchard WWTP. Additional sample will assist in verifying whether the current sampling location is representative of the characterization of the influent flow received at OOWWTP.	Noted.

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10	BODR Appendix B, TM-1	<p>While the methodology used to estimate the expected growth of new residential and commercial properties and the associated potential average gallons per day per capita (gpcd) is detailed in Appendix B of the Technical Memo, the response to DEC's comment #86 together with the revised report do not provide sufficient detail on the determination of peaking factors and the subsequently presented peak hourly flowrates. Please discuss whether Ten States Standards or TR-16 (or another professionally recognized reference) was used for calculating the peaking factors. The narrative simply states that when determining the values in the tables, a peak hourly factor was applied to calculate the flowrates. The value of the peaking factor(s) is not provided, nor the methodology of its derivation. In Section 3.1.5 of this appendix, I/I contributions are based on the historical average of 89 gpcd. The report then states that the assumption of the standard 100 gpcd will account for extraneous inflow and infiltration. Keeping in mind that when the existing Oak Orchard WWTP was designed, a peaking factor of 3.95 was implemented, which is a conservative peaking factor based upon the methodology stipulated in Ten States Standards. How do the peaking factors in Appendix B compare to that used during the design of the existing facility?</p>	<p>The peaking factors used to develop the flow and load projections were determined from the last five years of data collected at the facility. Influent flow, loads, and peaking factors were determined for each of the previous five years and the maximum, average, or minimum (depending on the condition) historical flow, load, or peaking factor from those were used to develop the flow, load, and peaking factor selected to represent existing conditions at the facility. Tables A.1 to A.7 in Attachment A of TM1 summarize the historical flow and load data, calculated peaking factors, as well as those selected for the projections. The selected values are summarized in Table 1, Attachment B, TM1. Importantly, these values reflect the historical influent flows, loads, and peaking factors for the existing facility based on the previous five years of data, not the values used for the design of the existing facility.</p> <p>For the referenced peak hour flow to average annual flow peaking factor, the selected value of 3.95 was determined from the maximum peak hour flow to maximum month peaking factor observed in the previous five years (2.93, observed in 2021), the maximum maximum month flow observed in the previous five years (7.19 mgd, observed in 2023), and the average flow for the previous five years (5.34 mgd). This approach is consistent with professionally recognized references (e.g., WEF Manual of Practice 8 and Ten States Standards) that recommend flow and load projections for facilities serving existing collection systems be developed from historical data where possible. As clarified above, Table 1, Attachment B, TM1 reflects the historical influent flows, loads, and peaking factors for the existing facility based on the previous five years of data. The peaking factors assumed when the existing facility was designed in the late 1970s are not available for comparison. The 89 gpcd was estimated from the previous five years of data during dry weather conditions when infiltration and inflow contributions were minimized. The Ten States Standards recommended 100 gpcd was applied to future growth under the average flow condition. Therefore, relative to existing, future growth projections include an average I&I contribution of approximately 10 gpcd. As noted in the comment, the peak hour flow to average annual flow peaking factor of 3.95 adopted for the flow projections is</p>

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			<p>higher than the peaking factor calculated from Figure 1 of the Ten States Standards. This higher peaking factor was determined from historical influent flow data that includes the I&I contribution of the existing collection system. Applying this to the future growth therefore provides reasonable conservatism for the wet weather flow projections.</p>
11	BODR Appendix F, Section 1.2	<p>Please clarify what the "validation period" is, specifically in the context to the Ready for Equipment (RFE) and Ready for Manufacturing (RFM) periods.</p>	<p>TM-1 was developed in parallel with Micron finalizing validation period flows, however the validation flows only impact the MOPO project. Micron validation flows are assumed to be flows from utility testing/validation activities. The upgraded MTT will not receive validation period flows from Micron. TM-1 is an historic document attached to the engineering report for background on the future MTT design flows and load, which do not include Micron validation period flow.</p> <p>The MTT will not and has never anticipated receiving RFM flows. The acceptance of RFE flows was included in the MOPO project alternatives analysis, but subsequently determined that based on updated Micron construction schedules the ITT would be able to accept RFE flows and the MOPO project is sized only for existing OOWWTP collection system flows, anticipated development, and Micron construction and utility validation water.</p>
12	BODR Drawing 00G09	<p>Please explain the presence of the injection of a brine source to the effluent pipe prior to discharge to the Oneida River.</p>	<p>Brine is rejected from the RO and discharged to the Onieda River via injection into the effluent stream as shown on the PFD (00G09).</p>



EFC Municipal BODR Comments Provided to DEC on 9.24.25

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13	BODR Section 1.2.1 Establishment of Sewer Debt Responsibility	Provide the updated EDU breakdown to EFC when available.	No update to the EDU breakdown at this time. Future updates will be provided when available.
14	BODR Section 1.3.2 Plant Current Conditions	It is noted that the need for additional CCTV of the existing outfall is under evaluation. Prior to closing a SRF financing, provide a revised report with the outfall CCTV inspection results and summary of proposed capital improvements and associated costs if included in the project scope.	The County has decided to proceed with reattempting the CCTV inspection under low flow night conditions. Results of this inspection will be provided once the inspection has been completed. Section 1.3.2 has been updated to indicate that this inspection will be reattempted.
15	BODR Section 1.4.1 Future Flow Projections and Needs	This section notes that a closed vessel UV disinfection system will be installed in place of the existing chlorination and dechlorination system. However, the Section 2.4.1 alternatives analysis section calls out an open channel UV Disinfection System as the disinfection system of choice. Please clarify if the selected alternative will be an open channel or close vessel UV disinfection system and revise the report as needed.	Section 2.4 indicates that open channel UV is the recommended alternative for disinfection following a BNR secondary process but closed vessel UV is the recommended alternative for disinfection following an MBR secondary process. The selected secondary process is MBR, resulting in the use of closed vessel UV. The recommended alternative is summarized in Section 3.3.
16	BODR Section 1.4.3 Reuse Facility	Table 1.13 dictates that the water quality target for UPW Source Water has a total chlorine target of less than 2mg/l. Chlorine and other oxidative chemicals pose a serious risk to the membrane functionality of reverse osmosis filters, and leads to reduced permeate quality, increased operating costs, and increased energy needs. Please confirm that a method of dechlorination is present prior to flows reaching the RO system.	Chlorine is not being dosed upstream of the RO. Chlorine is to be added downstream to reduce fouling in recycled water conveyance per Figure 2.6.
17	BODR Section 2.4 Disinfection Alternatives	Please provide a 30 Year Life Cycle Cost comparative analysis between Chlorination/Dechlorination and UV Disinfection. Confirm whether UV Transmittance testing has been conducted to confirm viability of this technology.	Chlor/Dechlor is not recommended because it is not a feasible disinfection alternative for RO feed water. NPV analysis has only been conducted for feasible alternatives.
18	BODR Section 3.4 Biosolids Facility	It is noted that the construction of the biosolids facility will serve as a source of income to by accepting solids from various sources within Onondaga County. Please provide a Net Present Worth analysis of anticipated cash flows generated from the biosolids facility over the next 30 years.	Determination of HSW receiving at OOWWTP is still under review with the County. Subsequent submittals will indicate final decision on inclusion of HSW receiving and potential rates/income.



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19	BODR Section 4.7.9 Chemical Feed Systems	It's noted that ferric chloride is being used in the proposed solids handling system. Confirm whether recycled flows are sent to the head of the plant. Please note that ferric chloride has been known to cause operational issues for UV disinfection systems as it may foul the lamps and may not be the best chemical for this application.	Ferric chloride is a common chemical used in wastewater treatment that includes UV disinfection. It is difficult to determine the fouling potential of a particular wastewater that uses ferric chloride as it is dependent on other water chemistry parameters. UV systems being considered for this project include an automated mechanical cleaning system that will clean the quartz sleeves based on a timer. The design will also include an offline chemical cleaning system that will be used to chemically clean the quartz sleeves. This cleaning interval can only be determined once the UV system is installed at the facility. Ferric chloride may increase the fouling potential of the effluent which will then increase the chemical cleaning frequency. The design includes the appropriate cleaning means to address any fouling concerns.



Industrial Treatment Train (ITT) Engineering Report

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20	Industrial BODR Section 1.4.3	Are pipe sizing specifications for the Reverse Osmosis system based on manufacturer recommendations or other design standard(s)?	This comment appears to have been mislabeled for the ITT in the comments letter. MTT RO system pipe sizes are recommendations based on system hydraulics and manufacturer recommendations but are not prescriptive at this stage of design. The FDC will be responsible for verifying pipe sizes throughout the design per general note 2.
21	Industrial BODR Section 1.4.3	Response 33 of NOIA Comments states that comment pertaining to water treatment chemical usage for a future cooling water needs is not relevant. Please be advised that a Water Treatment Chemical Notification Form will need to be submitted to DEC if any chemical (i.e., a biocide) is applied to a cooling tower waste stream. This is to ensure the SPDES permit accounts for the discharge of any such chemical.	<p>This comment appears to have been mislabeled for the ITT in the comments letter. Section 1.4.3 of the MTT Engineering Report is intended to indicate that recycled water produced through the MTT will meet/exceed quality standards required for cooling tower water should Micron choose to use the recycled water for cooling tower makeup water supply.</p> <p>County acknowledges that a Water Treatment Chemical Notification Form will need to be submitted to DEC in the future for any water treatment chemicals applied to its facilities (POTW), and not those of its collection system users (permitted or otherwise).</p>
22	Industrial BODR Section 3.2	The opening paragraph states: "Following the completion of FAB2, the IWWTP will be required to treat flows from both FAB1 and FAB2. This requires essentially doubling the biological treatment and biosolids management systems described in Alternative 10. It also requires adding chemical and physical treatment for appropriate TDS and other water quality criteria removal to comply with anticipated NY SPDES permit requirements..." Since FAB1 will have the identical SPDES parameter limits for TDS as will both FAB1 and FAB2 combined, please describe the treatment methods for assuring that TDS concentrations will be reduced to assure that the municipal WWTP will not be overwhelmed with TDS loadings under the conditions when FAB1 alone is in operation.	<p>Per communication on 9/30/25 with DEC, the SPDES permit limits will be tiered meaning that when Fab 2 is brought online, the TDS concentration limits will presumably be lower than for Fab 1 alone.</p> <p>In addition, industrial wastewater from Micron for Fab1 or Fab2 will not be discharged to the MWWTP (aka MTT), so the wastewater to the ITT will not overwhelm or have any impacts on the MWWTP treatment train.</p>
23	Industrial BODR Section 3.2.8	This section contains a typo: the existing effluent outfall is 001, not 01B.	Text will be corrected to 001.
24	Industrial BODR Table 1-2 and Response 21 of the NOIA Comments	It is assumed that "Maximum design conditions" for FAB1 and FAB2 waste streams represents the treatment capacity (versus the hydraulic capacity) of the respective phase of treatment at the ITT. Please confirm this assumption.	This assumption is correct.



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25	Industrial BODR Response 22 of NOIA Comments	Please provide any discussion and/or calculations pertaining to the peaking factors applied to Micron's waste stream.	As stated in the previous response, the flow peaking factor of 1.3 was provided by Micron to represent a typical flow peaking factor for the semi-conductor industry. The value was selected after review of long term flow data from currently operating Micron facilities. This value is within the range expected by Brown and Caldwell based on experiences at other semi-conductor facilities.

