



Technical Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
 - English
 - Alternative Language (Spanish)
 2. First notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
 - English
 - Alternative Language (Spanish)
 3. Second notice (NAPD-Notice of Preliminary Decision)
 - English
 - Alternative Language (Spanish)
 4. Application materials
 5. Draft permit
 6. Technical summary or fact sheet
-



Portada de Paquete Técnico

Este archivo contiene los siguientes documentos:

1. Resumen de la solicitud (en lenguaje sencillo)
 - Inglés
 - Idioma alternativo (español)
2. Primer aviso (NORI, Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
 - Inglés
 - Idioma alternativo (español)
3. Segundo aviso (NAPD, Aviso de Decisión Preliminar)
 - Inglés
 - Idioma alternativo (español)
4. Materiales de la solicitud
5. Proyecto de permiso
6. Resumen técnico u hoja de datos

ENGLISH PLS

Windy Hill Utility Company LLC (CN605145986) proposes to operate WHU-WRRF1 a Membrane Bioreactor (MBR) system that combines the activated sludge process with advanced membrane technology. The facility will be located at 2784 FM2001, in Buda, Hays County, Texas 78610. This application request is to renew a Texas Pollution Discharge Elimination System permit with a 0.68 MGD proposed final phase.

Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD-5), total suspended solids (TSS), and E.Coli. Domestic wastewater will be treated by an activated sludge process combined with advanced MBR technology and the treatment units include an influent screening system, Anoxic/EQ basin, aeration basin, membrane train, and a chlorination chamber.

SPANISH PLS

Windy Hill Utility Company LLC (CN605145986) propone operar WHU-WRRF1, una Sistema de biorreactor de membrana (MBR) que combina el proceso de lodos activados con tecnología avanzada de membranas. La instalación estará ubicada en 2784 FM2001 , en Buda, Condado de Hays, Texas 78610. Esta solicitud es para renovar un permiso del Sistema de Eliminación de Descargas Contaminantes de Texas con una fase final propuesta de 0.68 MGD.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno (DBO-5) de cinco días, sólidos suspendidos totales (SST) y E. Coli. Aguas residuales domésticas. **están** tratado por un proceso de lodos activados combinado con tecnología MBR avanzada y las unidades de tratamiento incluyen un sistema de cribado de afluentes, una cuenca anóxica/EQ, una balsa de aireación, un tren de membranas y una cámara de cloración.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT RENEWAL

PERMIT NO. WQ0015478001

APPLICATION. Windy Hill Utility Company LLC, a Texas Limited Liability company, P.O. Box 701201, San Antonio, Texas 78270, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015478001 (EPA I.D. No. TX0137111) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 680,000 gallons per day. The domestic wastewater treatment facility is located at 2784 Farm-to-Market Road 2001, near the city of Buda, in Hays County, Texas 78610. The discharge route is from the plant site to an unnamed tributary; thence to Brushy Creek; thence to a reservoir; thence to Brushy Creek; thence to Plum Creek. TCEQ received this application on October 30, 2024. The permit application will be available for viewing and copying at Kyle Public Library, 550 Scott Street, Kyle, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.806666,30.045833&level=18>

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

El aviso de idioma alternativo en español está disponible en

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public

interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application.** If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted either electronically at <https://www14.tceq.texas.gov/epic/eComment/>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Windy Hill Utility Company LLC, a Texas Limited Liability company at the address stated above or by calling Mr. Bill Fry, General Manager, at 210-209-8029.

Issuance Date: November 21, 2024

Comisión de Calidad Ambiental del Estado de Texas



AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0015478001

SOLICITUD. Windy Hill Utility Company LLC, a Texas Limited Liability company, P.O. Box 701201, San Antonio, Texas 78270, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0015478001 (EPA I.D. No. TX0137111) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 680,000 por día. La planta está ubicada 2784 Farm-to-Market Road 2001, cerca de la ciudad de Buda, en el Condado de Hays, Texas 78610. La ruta de descarga es del sitio de la planta a un afluente sin nombre; Allí Brushy Creek; de allí a un embalse; de allí a Brushy Creek; de allí a Plum Creek. La TCEQ recibió esta solicitud el 30 de octubre 2024. La solicitud para el permiso está disponible para leerla y copiarla en Kyle Public Library, 550 Scott Street, Kyle, Texas. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página de web:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.806666,30.045833&level=18>

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El

propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO

CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de

derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN DE LA TCEQ. Todos los comentarios escritos del público y los para pedidos una reunión deben ser presentados a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o por el internet at www.tceq.texas.gov/about/comments.html.

Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Si necesita más información en Español sobre esta solicitud para un permiso o el proceso del permiso, por favor llame a El Programa de Educación Pública de la TCEQ, sin cobro, al 1-800-687-4040. La información general sobre la TCEQ puede ser encontrada en nuestro sitio de la red: www.tceq.texas.gov.

También se puede obtener información adicional del Windy Hill Utility Company LLC, a Texas Limited Liability company, a la dirección indicada arriba o llamando a Mr. Bill Fry, General Manager al 210-209-8029.

Fecha de emisión 21 de noviembre de 2024

Texas Commission on Environmental Quality



NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR MUNICIPAL WASTEWATER

RENEWAL

PERMIT NO. WQ0015478001

APPLICATION AND PRELIMINARY DECISION. Windy Hill Utility Company LLC, P.O. Box 701201, San Antonio, Texas, 78270, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015478001 which authorizes the discharge of treated domestic wastewater at a daily average flow not to exceed 680,000 gallons per day. TCEQ received this application on October 30, 2024.

The facility is located at 2784 Farm-to-Market Road 2001, in Hays County, Texas 78610. The treated effluent is discharged to an unnamed tributary, thence to Brushy Creek, thence to a reservoir, thence to Brushy Creek, thence to Plum Creek in Segment No. 1810 of the Guadalupe River Basin. The unclassified receiving water use is limited aquatic life use for unnamed tributary. The designated uses for Segment No. 1810 are primary contact recreation, aquifer protection, and high aquatic life use. All determinations are preliminary and subject to additional review and/or revisions. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.806666,30.045833&level=18>

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Kyle Public Library, 550 Scott Street, Kyle, Texas. The application, including any updates, and associated notices are available electronically at the following webpage:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at <https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices>. El aviso de idioma alternativo en español está disponible en <https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices>.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period; and the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period. TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, TX 78711-3087 or electronically at www.tceq.texas.gov/goto/comment within 30 days from the date of newspaper publication of this notice.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at www.tceq.texas.gov/goto/comment, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC 105, P.O. Box 13087, Austin, Texas 78711-3087. Any personal information you submit to the TCEQ will become part of the agency's record; this includes email addresses. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Windy Hill Utility Company LLC at the address stated above or by calling Mr. Bill Fry, General Manager, at 210-209-8029.

Issuance Date: September 24, 2025

Comisión De Calidad Ambiental Del Estado De Texas



AVISO DE LA SOLICITUD Y DECISIÓN PRELIMINAR PARA EL PERMISO DEL SISTEMA DE ELIMINACION DE DESCARGAS DE CONTAMINANTES DE TEXAS (TPDES) PARA AGUAS RESIDUALES MUNICIPALES

RENOVACIÓN

PERMISO NO. WQ0015478001

SOLICITUD Y DECISIÓN PRELIMINAR. Windy Hill Utility Company LLC, P.O. Box 701201, San Antonio, Texas, 78270, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) una renovación para autorizar la descarga de aguas residuales domésticas tratadas a un flujo promedio diario que no exceda los 680,000 galones por día. La TCEQ recibió esta solicitud el 30 de Octubre 2024.

La planta está ubicada en 2784 Farm-to-Market Road 2001, en el Condado de Hays, Texas 78610. El efluente tratado es descargado al a un afluente sin nombre, de allí a Brushy Creek, de allí a un embalse, de allí a Brushy Creek, de allí a Plum Creek en el Segmento No. 1810 de la Cuenca del Río Guadalupe. Los usos no clasificados de las aguas receptoras son, limitados usos de la vida acuática para el afluente sin nombre. Los usos designados para el Segmento No. 1810 son la recreación de contacto primario, la protección de acuíferos y el alto uso de la vida acuática.

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en Kyle Public Library, 550 Scott Street, Kyle, Texas. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. <https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.806666,30.045833&level=18>

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud.

El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO.

Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso para descargar aguas residuales sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

ACCIÓN DEL DIRECTOR EJECUTIVO. El Director Ejecutivo puede emitir una aprobación final de la solicitud a menos que exista un pedido antes del plazo de vencimiento de una audiencia administrativa de lo contencioso o se ha presentado un pedido de reconsideración. Si un pedido ha llegado antes del plazo de vencimiento de la audiencia o el pedido de reconsideración ha sido presentado, el Director Ejecutivo no emitirá una aprobación final sobre el permiso y enviará la solicitud y el pedido a los Comisionados de la TECQ para consideración en una reunión programada de la Comisión.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

Todos los comentarios escritos del público y los pedidos una reunión deben ser presentados durante los 30 días después de la publicación del aviso a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or por el internet a www.tceq.texas.gov/about/comments.html. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia.

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Los comentarios y solicitudes públicas deben enviarse electrónicamente a <https://www14.tceq.texas.gov/epic/eComment/>, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Cualquier información personal que envíe a la TCEQ pasará a formar parte del registro de la agencia; esto incluye las direcciones de correo electrónico. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en www.tceq.texas.gov/goto/pep. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Windy Hill Utility Company LLC a la dirección indicada arriba o llamando a Mr. Bill Fry, Gerente General al 210-209-8029.

Fecha de emisión el 24 de septiembre de 2025



Windy Hill Utility Company LLC

WHU-WRRF1 Renewal

TPDES No. WQ0015478001

October 29, 2024

TCEQ ePay Receipt

Transaction Information

Trace Number: 582EA000631489
Date: 10/28/2024 11:58 AM
Payment Method: CC - Authorization 0000B81033
ePay Actor: SAMANTHA MARIN
TCEQ Amount: \$1,615.00
Texas.gov Price:: \$1,651.59*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name: SAMANTHA MARIN
Company: WINDY HILL UTILITY COMPANY LLC
Address: 503 E RAMSEY RD SUITE 201, SAN ANTONIO, TX 78216
Phone: 210-632-8645

Cart Items

Voucher	Fee Description	AR Number	Amount
727892	WW PERMIT - FACILITY WITH FLOW >= .50 & < 1.0 MGD - RENEWAL		\$1,600.00
727893	30 TAC 305.53B WQ RENEWAL NOTIFICATION FEE		\$15.00
		TCEQ Amount:	\$1,615.00



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: Windy Hill Utility Company LLC a Texas Limited Liability Company

PERMIT NUMBER (If new, leave blank): WQ00 15478001

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Original USGS Map	☐	☒
Administrative Report 1.1	☐	☒	Affected Landowners Map	☐	☒
SPIF	☒	☐	Landowner Disk or Labels	☐	☒
Core Data Form	☒	☐	Buffer Zone Map	☐	☒
Public Involvement Plan Form	☐	☒	Flow Diagram	☒	☐
Technical Report 1.0	☒	☐	Site Drawing	☐	☐
Technical Report 1.1	☐	☒	Original Photographs	☐	☒
Worksheet 2.0	☒	☐	Design Calculations	☐	☒
Worksheet 2.1	☐	☒	Solids Management Plan	☐	☒
Worksheet 3.0	☐	☒	Water Balance	☐	☒
Worksheet 3.1	☐	☒			
Worksheet 3.2	☐	☒			
Worksheet 3.3	☐	☒			
Worksheet 4.0	☐	☒			
Worksheet 5.0	☐	☒			
Worksheet 6.0	☐	☒			
Worksheet 7.0	☐	☒			

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**DOMESTIC WASTEWATER PERMIT APPLICATION
ADMINISTRATIVE REPORT 1.0**

For any questions about this form, please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 26)

Indicate the amount submitted for the application fee (check only one).

Flow	New/Major Amendment	Renewal
<0.05 MGD	\$350.00 ☐	\$315.00 ☐
≥0.05 but <0.10 MGD	\$550.00 ☐	\$515.00 ☐
≥0.10 but <0.25 MGD	\$850.00 ☐	\$815.00 ☐
≥0.25 but <0.50 MGD	\$1,250.00 ☐	\$1,215.00 ☐
≥0.50 but <1.0 MGD	\$1,650.00 ☐	\$1,615.00 ☒
≥1.0 MGD	\$2,050.00 ☐	\$2,015.00 ☐

Minor Amendment (for any flow) \$150.00 ☐

Payment Information:

Mailed Check/Money Order Number:

Check/Money Order Amount:

Name Printed on Check:

EPAY Voucher Number: 582EA000631489

Copy of Payment Voucher enclosed? Yes ☒

Section 2. Type of Application (Instructions Page 26)

a. Check the box next to the appropriate authorization type.

- ☐ Publicly-Owned Domestic Wastewater
- ☒ Privately-Owned Domestic Wastewater
- ☐ Conventional Wastewater Treatment

b. Check the box next to the appropriate facility status.

- ☒ Active ☐ Inactive

c. Check the box next to the appropriate permit type.

- ☒ TPDES Permit
☐ TLAP
☐ TPDES Permit with TLAP component
☐ Subsurface Area Drip Dispersal System (SADDS)

d. Check the box next to the appropriate application type

- ☐ New
☐ Major Amendment with Renewal
☐ Major Amendment without Renewal
☒ Renewal without changes
☐ Minor Amendment with Renewal
☐ Minor Amendment without Renewal
☐ Minor Modification of permit

e. For amendments or modifications, describe the proposed changes: N/A

f. For existing permits:

Permit Number: WQ00 15478001

EPA I.D. (TPDES only): TX 0137111

Expiration Date: May 8, 2025

Section 3. Facility Owner (Applicant) and Co-Applcant Information (Instructions Page 26)

A. The owner of the facility must apply for the permit.

What is the Legal Name of the entity (applicant) applying for this permit?

Windy Hill Utility Company LLC a Texas limited liability company

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)?

You may search for your CN on the TCEQ website at <http://www15.tceq.texas.gov/crpub/>

CN: 605145986

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in 30 TAC § 305.44.

Prefix: Click to enter text.

Last Name, First Name: Patel, Shilen

Title: President & CEO

Credential: Click to enter text.

B. **Co-applicant information.** Complete this section only if another person or entity is required to apply as a co-permittee.

What is the Legal Name of the co-applicant applying for this permit?

N/A

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)?
You may search for your CN on the TCEQ website at: <http://www15.tceq.texas.gov/crpub/>

CN: Click to enter text.

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in 30 TAC § 305.44.

Prefix: Click to enter text.

Last Name, First Name: Click to enter text.

Title: Click to enter text.

Credential: Click to enter text.

Provide a brief description of the need for a co-permittee: Click to enter text.

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. 'Administrative Report 1.0 Attachment 3.C Core Data Form'

Section 4. Application Contact Information (Instructions Page 27)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

A. Prefix: Click to enter text.

Last Name, First Name: Fry, Bill

Title: General Manager

Credential: Click to enter text.

Organization Name: Windy Hill Utility Company LLC

Mailing Address: P.O. Box 701201

City, State, Zip Code: San Antonio, TX 78270

Phone No.: 210-209-8029

E-mail Address: billf@bvrwater.com

Check one or both: ☒

Administrative Contact

☒

Technical Contact

B. Prefix: Click to enter text.

Last Name, First Name: Marin, Samantha

Title: Regulatory Manager

Credential: Click to enter text.

Organization Name: Windy Hill Utility Company LLC

Mailing Address: P.O. Box 701201

City, State, Zip Code: San Antonio, TX 78270

Phone No.: 210-632-8645

E-mail Address: samantham@bvrwater.com

Check one or both: ☒

Administrative Contact

☒

Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

Provide the names and contact information for two individuals that can be contacted throughout the permit term.

A. Prefix: Click to enter text.

Last Name, First Name: Fry, Bill

Title: General Manager

Credential: Click to enter text.

Organization Name: Windy Hill Utility Company LLC

Mailing Address: P.O. Box 701201

City, State, Zip Code: San Antonio, TX 78270

Phone No.: 210-209-8029

E-mail Address: billf@bvrwater.com

B. Prefix: [Click to enter text.](#) Last Name, First Name: Marin, Samantha
Title: Regulatory Manager Credential: [Click to enter text.](#)
Organization Name: Windy Hill Utility Company LLC
Mailing Address: P.O. Box 701201 City, State, Zip Code: San Antonio, TX 78270
Phone No.: 210-632-8645 E-mail Address: samantham@bvrwater.com

Section 6. Billing Contact Information (Instructions Page 27)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix: [Click to enter text.](#) Last Name, First Name: Diller, Carol
Title: Director of Accounting Credential: [Click to enter text.](#)
Organization Name: Windy Hill Utility Company LLC
Mailing Address: P.O. Box 701201 City, State, Zip Code: San Antonio, TX 78270
Phone No.: 210-209-8029 E-mail Address: accounting@bvrwater.com

Section 7. DMR/MER Contact Information (Instructions Page 27)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (DMR) (EPA 3320-1) or maintain Monthly Effluent Reports (MER).

Prefix: [Click to enter text.](#) Last Name, First Name: Marin, Samantha
Title: Regulatory Manager Credential: [Click to enter text.](#)
Organization Name: Windy Hill Utility Company LLC
Mailing Address: P.O. Box 701201 City, State, Zip Code: San Antonio, TX 78270
Phone No.: 210-632-8645 E-mail Address: samantham@bvrwater.com

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: [Click to enter text.](#) Last Name, First Name: Marin, Samantha
Title: Regulatory Manager Credential: [Click to enter text.](#)
Organization Name: Windy Hill Utility Company LLC
Mailing Address: P.O. Box 701201 City, State, Zip Code: San Antonio, TX 78270
Phone No.: 210-632-8645 E-mail Address: samantham@bvrwater.com

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☒ E-mail Address

☐ Fax

☐ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: Click to enter text.

Last Name, First Name: Fry, Bill

Title: General Manager

Credential: Click to enter text.

Organization Name: Windy Hill Utility Company LLC

Mailing Address: P.O. Box 701201

City, State, Zip Code: San Antonio, TX 78270

Phone No.: 210-209-8029

E-mail Address: billf@bvrwater.com

D. Public Viewing Information

If the facility or outfall is located in more than one county, a public viewing place for each county must be provided.

Public building name: Kyle Public Library

Location within the building: Click to enter text.

Physical Address of Building: 550 Scott St, Kyle, TX 78640

City: Kyle

County: Hays

Contact (Last Name, First Name): N/A

Phone No.: 512-268-7411 Ext.: Click to enter text.

E. Bilingual Notice Requirements

This information **is required** for **new, major amendment, minor amendment or minor modification, and renewal** applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

☒ Yes

☐ No

If **no**, publication of an alternative language notice is not required; **skip to** Section 9 below.

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

☒ Yes

☐ No

3. Do the students at these schools attend a bilingual education program at another location?
- ☐ Yes ☐ No
4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?
- ☐ Yes ☐ No
5. If the answer is **yes** to **question 1, 2, 3, or 4**, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

F. Plain Language Summary Template

Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment.

Attachment: 'Administrative Report 1.0 Attachment 8.F Plain Language Summary'

G. Public Involvement Plan Form

Complete the Public Involvement Plan Form (TCEQ Form 20960) for each application for a **new permit or major amendment to a permit** and include as an attachment.

Attachment: N/A

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 29)

- A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. RN 109208553

Search the TCEQ's Central Registry at <http://www15.tceq.texas.gov/crpub/> to determine if the site is currently regulated by TCEQ.

- B. Name of project or site (the name known by the community where located):

WHU-WRRF1

- C. Owner of treatment facility: Windy Hill Utility Company LLC

Ownership of Facility: ☐ Public ☒ Private ☐ Both ☐ Federal

- D. Owner of land where treatment facility is or will be:

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

Organization Name: Windy Hill Utility Company LLC

Mailing Address: P.O. Box 701201

City, State, Zip Code: San Antonio, TX 78270

Phone No.: 210-209-8029

E-mail Address: billf@bvrwater.com

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

E. Owner of effluent disposal site:

Prefix: Click to enter text.

Last Name, First Name: Click to enter text.

Title: Click to enter text.

Credential: Click to enter text.

Organization Name: Windy Hill Utility Company LLC

Mailing Address: Click to enter text.

City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text.

E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: N/A

F. Owner sewage sludge disposal site (if authorization is requested for sludge disposal on property owned or controlled by the applicant):

Prefix: N/A

Last Name, First Name: Click to enter text.

Title: Click to enter text.

Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text.

City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text.

E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

Section 10. TPDES Discharge Information (Instructions Page 31)

A. Is the wastewater treatment facility location in the existing permit accurate?

☒

Yes

☐

No

If **no**, or a new permit application, please give an accurate description:

Location is accurate however please note the registered address is 2784 FM 2001, Buda TX 78610

B. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☒

Yes

☐

No

If **no**, or a new or amendment permit application, provide an accurate description of the point of discharge and the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:

N/A

City nearest the outfall(s): Buda

County in which the outfalls(s) is/are located: Hays

C. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐

Yes

☒

No

If **yes**, indicate by a check mark if:

- ☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment: [Click to enter text.](#)

- D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: N/A

Section 11. TLAP Disposal Information (Instructions Page 32)

- A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

N/A

- B. City nearest the disposal site: N/A

- C. County in which the disposal site is located: N/A

- D. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

N/A

- E. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: N/A

Section 12. Miscellaneous Information (Instructions Page 32)

- A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

- B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No ☒ Not Applicable

If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.

[Click to enter text.](#)

C. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application: [Click to enter text.](#)

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account number: [Click to enter text.](#)

Amount past due: [Click to enter text.](#)

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, please provide the following information:

Enforcement order number: [Click to enter text.](#)

Amount past due: [Click to enter text.](#)

Section 13. Attachments (Instructions Page 33)

Indicate which attachments are included with the Administrative Report. Check all that apply:

☐ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.

☐ Original full-size USGS Topographic Map with the following information:

- Applicant's property boundary
- Treatment facility boundary
- Labeled point of discharge for each discharge point (TPDES only)
- Highlighted discharge route for each discharge point (TPDES only)
- Onsite sewage sludge disposal site (if applicable)
- Effluent disposal site boundaries (TLAP only)
- New and future construction (if applicable)
- 1 mile radius information
- 3 miles downstream information (TPDES only)
- All ponds.

☐ Attachment 1 for Individuals as co-applicants

☐ Other Attachments. Please specify: [Click to enter text.](#)

Section 14. Signature Page (Instructions Page 34)

If co-applicants are necessary, each entity must submit an original, separate signature page.

Permit Number: WQ0015478001

Applicant: Windy Hill Utility Company LLC

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code § 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory name (typed or printed): Shilen Patel

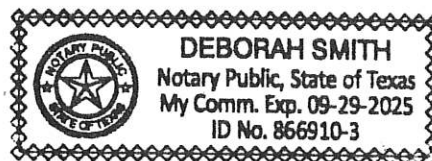
Signatory title: President & CEO

Signature:  Date: 09/23/2024
(Use blue ink)

Subscribed and Sworn to before me by the said Shilen Patel as CEO of
on this 23rd day of September, 2024. Windy Hill Utility Co.
My commission expires on the 9th day of September, 2025.


Notary Public

[SEAL]



County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: 'SUPPLEMENTAL PERMIT INFORMATION (SPIF) & USGS MAP'



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

For any questions about this form, please contact the Domestic Wastewater Permitting Team at 512-239-4671.

The following information is required for all renewal, new, and amendment applications.

Section 1. Permitted or Proposed Flows (Instructions Page 43)

A. Existing/Interim I Phase

Design Flow (MGD): 0.12 MGD

2-Hr Peak Flow (MGD): 0.48 MGD

Estimated construction start date: Existing

Estimated waste disposal start date: Existing

B. Interim II Phase

Design Flow (MGD): 0.26 MGD

2-Hr Peak Flow (MGD): 1.04 MGD

Estimated construction start date: March 2025

Estimated waste disposal start date: April 2025

C. Interim II Phase

Design Flow (MGD): 0.40 MGD

2-Hr Peak Flow (MGD): 1.6 MGD

Estimated construction start date: November 2026

Estimated waste disposal start date: November 2027

D. Final Phase

Design Flow (MGD): 0.68 MGD

2-Hr Peak Flow (MGD): 2.72 MGD

Estimated construction start date: October 2028

Estimated waste disposal start date: October 2029

E. Current Operating Phase

Provide the startup date of the facility: December 11, 2023

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

Provide a detailed description of the treatment process. **Include the type of treatment plant, mode of operation, and all treatment units.** Start with the plant's head works and finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed, a description of each phase must be provided.**

Please see 'Technical Report 1.0 Attachment 2.B Treatment Process Design Summary'

B. Treatment Units

In Table 1.0(1), provide the treatment unit type, the number of units, and dimensions (length, width, depth) of **each treatment unit, accounting for all phases of operation.**

Table 1.0(1) - Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Please see 'Technical Report 1.0 Attachment 2.B Treatment Process Design Summary'		

C. Process Flow Diagram

Provide flow diagrams for the existing facilities and **each** proposed phase of construction.

Attachment: 'Technical Report 1.0 Attachment 2.C Process Flow Diagrams'

Section 3. Site Information and Drawing (Instructions Page 44)

Provide the TPDES discharge outfall latitude and longitude. Enter N/A if not applicable.

- Latitude: 30.044796
- Longitude: -97.806467

Provide the TLAP disposal site latitude and longitude. Enter N/A if not applicable.

- Latitude: N/A
- Longitude: N/A

Provide a site drawing for the facility that shows the following:

- The boundaries of the treatment facility;
- The boundaries of the area served by the treatment facility;
- If land disposal of effluent, the boundaries of the disposal site and all storage/holding ponds; and
- If sludge disposal is authorized in the permit, the boundaries of the land application or disposal site.

Attachment: Please see 'Technical Report 1.0 Attachment 3 Site Drawing'

Provide the name **and** a description of the area served by the treatment facility.

WHU-WRRF1 is currently serving five subdivisions in northeast Kyle, TX. Estates of Windy Hill (sf, 35-acres), Luxe of Buda (mf, 38-acres), Emma Park (sf, 60-acres), Porter Country (sf, 254-acres), Mansions at Kyle (sf, 68-acres); bounded on the north by Hillside Terrace, on the west by Dacy Lane, and on the east by FM 2001. Future expansion will include 260+ additional acres that are in different stages of development.

Collection System Information **for wastewater TPDES permits only:** Provide information for each **uniquely owned** collection system, existing and new, served by this facility, including satellite collection systems. **Please see the instructions for a detailed explanation and examples.**

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served
Estates of Windy Hill	WHU	Privately Owned	558
Luxe of Buda	Luxe of Buda	Privately Owned	708
Emma Park	WHU	Privately Owned	765
Porter Country	WHU	Privately Owned	2937
Mansions of Buda	Mansions of Buda	Privately Owned	678

Section 4. Unbuilt Phases (Instructions Page 45)

Is the application for a renewal of a permit that contains an unbuilt phase or phases?

☒ Yes ☐ No

If yes, does the existing permit contain a phase that has not been constructed **within five years** of being authorized by the TCEQ?

☒ Yes ☐ No

If yes, provide a detailed discussion regarding the continued need for the unbuilt phase. **Failure to provide sufficient justification may result in the Executive Director recommending denial of the unbuilt phase or phases.**

The final phase of is expected to be completed by October 2029 to provide service to 260+ additional acres including multi-family and single-family residential developments that are in different stages of growth.

Section 5. Closure Plans (Instructions Page 45)

Have any treatment units been taken out of service permanently, or will any units be taken out of service in the next five years?

☐ Yes ☒ No

If **yes**, was a closure plan submitted to the TCEQ?

☐ Yes ☐ No

If **yes**, provide a brief description of the closure and the date of plan approval.

Click to enter text.

Section 6. Permit Specific Requirements (Instructions Page 45)

For applicants with an existing permit, check the Other Requirements or Special Provisions of the permit.

A. Summary transmittal

Have plans and specifications been approved for the existing facilities and each proposed phase?

☒ Yes ☐ No

If **yes**, provide the date(s) of approval for each phase: Phase II - June 13, 2022

Provide information, including dates, on any actions taken to meet a *requirement or provision* pertaining to the submission of a summary transmittal letter. **Provide a copy of an approval letter from the TCEQ, if applicable.**

See 'Technical Report 1.0 Attachment 6.A TCEQ Approval Letter'

B. Buffer zones

Have the buffer zone requirements been met?

☒ Yes ☐ No

Provide information below, including dates, on any actions taken to meet the conditions of the buffer zone. If available, provide any new documentation relevant to maintaining the buffer zones.

N/A

C. Other actions required by the current permit

Does the *Other Requirements* or *Special Provisions* section in the existing permit require submission of any other information or other required actions? Examples include Notification of Completion, progress reports, soil monitoring data, etc.

☒ Yes ☐ No

If **yes**, provide information below on the status of any actions taken to meet the conditions of an *Other Requirement* or *Special Provision*.

See 'Technical Report 1.0 Attachment 6.C Notice of Completion'

D. Grit and grease treatment

1. Acceptance of grit and grease waste

Does the facility have a grit and/or grease processing facility onsite that treats and decants or accepts transported loads of grit and grease waste that are discharged directly to the wastewater treatment plant prior to any treatment?

☐ Yes ☒ No

If **No**, stop here and continue with Subsection E. Stormwater Management.

2. *Grit and grease processing*

Describe below how the grit and grease waste is treated at the facility. In your description, include how and where the grit and grease is introduced to the treatment works and how it is separated or processed. Provide a flow diagram showing how grit and grease is processed at the facility.

Click to enter text.

3. *Grit disposal*

Does the facility have a Municipal Solid Waste (MSW) registration or permit for grit disposal?

☐ Yes ☒ No

If No, contact the TCEQ Municipal Solid Waste team at 512-239-2335. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.

Describe the method of grit disposal.

Click to enter text.

4. *Grease and decanted liquid disposal*

Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-2335.

Describe how the decant and grease are treated and disposed of after grit separation.

Click to enter text.

E. Stormwater management

1. Applicability

Does the facility have a design flow of 1.0 MGD or greater in any phase?

☐ Yes ☒ No

Does the facility have an approved pretreatment program, under 40 CFR Part 403?

☐ Yes ☒ No

If no to both of the above, then skip to Subsection F, Other Wastes Received.

2. MSGP coverage

Is the stormwater runoff from the WWTP and dedicated lands for sewage disposal currently permitted under the TPDES Multi-Sector General Permit (MSGP), TXR050000?

☐ Yes ☐ No

If yes, please provide MSGP Authorization Number and skip to Subsection F, Other Wastes Received:

TXR05 [Click to enter text.](#) or TXRNE [Click to enter text.](#)

If no, do you intend to seek coverage under TXR050000?

☐ Yes ☐ No

3. Conditional exclusion

Alternatively, do you intend to apply for a conditional exclusion from permitting based TXR050000 (Multi Sector General Permit) Part II B.2 or TXR050000 (Multi Sector General Permit) Part V, Sector T 3(b)?

☐ Yes ☐ No

If yes, please explain below then proceed to Subsection F, Other Wastes Received:

[Click to enter text.](#)

4. Existing coverage in individual permit

Is your stormwater discharge currently permitted through this individual TPDES or TLAP permit?

☐ Yes ☐ No

If yes, provide a description of stormwater runoff management practices at the site that are authorized in the wastewater permit then skip to Subsection F, Other Wastes Received.

Click to enter text.

5. Zero stormwater discharge

Do you intend to have no discharge of stormwater via use of evaporation or other means?

☐ Yes ☐ No

If yes, explain below then skip to Subsection F. Other Wastes Received.

Click to enter text.

Note: If there is a potential to discharge any stormwater to surface water in the state as the result of any storm event, then permit coverage is required under the MSGP or an individual discharge permit. This requirement applies to all areas of facilities with treatment plants or systems that treat, store, recycle, or reclaim domestic sewage, wastewater or sewage sludge (including dedicated lands for sewage sludge disposal located within the onsite property boundaries) that meet the applicability criteria of above. You have the option of obtaining coverage under the MSGP for direct discharges, (recommended), or obtaining coverage under this individual permit.

6. Request for coverage in individual permit

Are you requesting coverage of stormwater discharges associated with your treatment plant under this individual permit?

☐ Yes ☐ No

If yes, provide a description of stormwater runoff management practices at the site for which you are requesting authorization in this individual wastewater permit and describe whether you intend to comingle this discharge with your treated effluent or discharge it via a separate dedicated stormwater outfall. Please also indicate if you intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

Click to enter text.

Note: Direct stormwater discharges to waters in the state authorized through this individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional

monitoring and reporting requirements. Indirect discharges of stormwater via headworks recycling will require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional information during the technical review of your application.

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If yes, attach a Sewage Sludge Solids Management Plan. See Example 5 in the instructions. [Click to enter text.](#)

G. Other wastes received including sludge from other WWTPs and septic waste

1. Acceptance of sludge from other WWTPs

Does or will the facility accept sludge from other treatment plants at the facility site?

☐ Yes ☒ No

If yes, attach sewage sludge solids management plan. See Example 5 of instructions.

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the sludge, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

[Click to enter text.](#)

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

If yes, does the facility have a Type V processing unit?

☐ Yes ☐ No

If yes, does the unit have a Municipal Solid Waste permit?

☐ Yes ☐ No

If yes to any of the above, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the

septic waste, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

3. Acceptance of other wastes (not including septic, grease, grit, or RCRA, CERCLA or as discharged by IUs listed in Worksheet 6)

Is or will the facility accept wastes that are not domestic in nature excluding the categories listed above?

☐ Yes ☒ No

If yes, provide the date that the plant started accepting the waste, an estimate how much waste is accepted on a monthly basis (gallons or millions of gallons), a description of the entities generating the waste, and any distinguishing chemical or other physical characteristic of the waste. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 50)

Is the facility in operation?

☒ Yes ☐ No

If no, this section is not applicable. Proceed to Section 8.

If yes, provide effluent analysis data for the listed pollutants. **Wastewater treatment facilities** complete Table 1.0(2). **Water treatment facilities** discharging filter backwash water, complete Table 1.0(3). Provide copies of the laboratory results sheets. **These tables are not applicable for a minor amendment without renewal.** See the instructions for guidance.

Note: The sample date must be within 1 year of application submission.

Table1.0(2) – Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD ₅ , mg/l	<u>Please See 'Technical Report 1.0 Attachment 7 Pollution Analysis Results'</u>				
Total Suspended Solids, mg/l					
Ammonia Nitrogen, mg/l					
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l					
Chloride, mg/l					
Total Phosphorus, mg/l					
pH, standard units					
Dissolved Oxygen*, mg/l					
Chlorine Residual, mg/l					
<i>E.coli</i> (CFU/100ml) freshwater					
Enterococci (CFU/100ml) saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, μ mohs/cm, †					
Oil & Grease, mg/l					
Alkalinity (CaCO ₃)*, mg/l					

*TPDES permits only

†TLAP permits only

Table1.0(3) – Pollutant Analysis for Water Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Total Suspended Solids, mg/l	N/A				
Total Dissolved Solids, mg/l	N/A				
pH, standard units	N/A				
Fluoride, mg/l	N/A				
Aluminum, mg/l	N/A				
Alkalinity (CaCO ₃), mg/l	N/A				

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Scott Manuel

Facility Operator's License Classification and Level: Class A Wastewater Treatment Operator

Facility Operator's License Number: WW0056927

Section 9. Sludge and Biosolids Management and Disposal (Instructions Page 51)

A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

- ☐ Design flow $\geq$ 1 MGD
- ☐ Serves $\geq$ 10,000 people
- ☐ Class I Sludge Management Facility (per 40 CFR § 503.9)
- ☒ Biosolids generator
- ☐ Biosolids end user - land application (onsite)
- ☐ Biosolids end user - surface disposal (onsite)
- ☐ Biosolids end user - incinerator (onsite)

B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

- ☒ Aerobic Digestion
- ☐ Air Drying (or sludge drying beds)
- ☐ Lower Temperature Composting
- ☐ Lime Stabilization
- ☐ Higher Temperature Composting
- ☐ Heat Drying
- ☐ Thermophilic Aerobic Digestion
- ☐ Beta Ray Irradiation
- ☐ Gamma Ray Irradiation
- ☐ Pasteurization
- ☐ Preliminary Operation (e.g. grinding, de-gritting, blending)
- ☒ Thickening (e.g. gravity thickening, centrifugation, filter press, vacuum filter)
- ☐ Sludge Lagoon

- ☐ Temporary Storage (< 2 years)
- ☐ Long Term Storage (>= 2 years)
- ☐ Methane or Biogas Recovery
- ☐ Other Treatment Process: [Click to enter text.](#)

C. Biosolids Management

Provide information on the *intended* biosolids management practice. Do not enter every management practice that you want authorized in the permit, as the permit will authorize all biosolids management practices listed in the instructions. Rather indicate the management practice the facility plans to use.

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Other	Off-site Third-Party Handler or Preparer	Not Applicable	Approximately 5 Dry Metric Tons Annually	N/A	N/A

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): Biosolids are transported to another facility for further processing.

D. Disposal site

Disposal site name: Wastewater Residuals Management LLC

TCEQ permit or registration number: 2384

County where disposal site is located: Travis

E. Transportation method

Method of transportation (truck, train, pipe, other): Truck

Name of the hauler: Wastewater Transport Services

Hauler registration number: 24343

Sludge is transported as a:

Liquid ☐ semi-liquid ☒ semi-solid ☐ solid ☐

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 53)

A. Beneficial use authorization

Does the existing permit include authorization for land application of sewage sludge for beneficial use?

☐ Yes ☒ No

If **yes**, are you requesting to continue this authorization to land apply sewage sludge for beneficial use?

☐ Yes ☐ No

If **yes**, is the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)** attached to this permit application (see the instructions for details)?

☐ Yes ☐ No

B. Sludge processing authorization

Does the existing permit include authorization for any of the following sludge processing, storage or disposal options?

Sludge Composting	☐ Yes	☒ No
Marketing and Distribution of sludge	☐ Yes	☒ No
Sludge Surface Disposal or Sludge Monofill	☐ Yes	☒ No
Temporary storage in sludge lagoons	☐ Yes	☒ No

If **yes** to any of the above sludge options and the applicant is requesting to continue this authorization, is the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)** attached to this permit application?

☐ Yes ☐ No

Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

If yes, complete the remainder of this section. If no, proceed to Section 12.

A. Location information

The following maps are required to be submitted as part of the application. For each map, provide the Attachment Number.

- Original General Highway (County) Map:
Attachment: [Click to enter text.](#)
- USDA Natural Resources Conservation Service Soil Map:
Attachment: [Click to enter text.](#)
- Federal Emergency Management Map:
Attachment: [Click to enter text.](#)

- Site map:

Attachment: [Click to enter text.](#)

Discuss in a description if any of the following exist within the lagoon area. Check all that apply.

- ☐ Overlap a designated 100-year frequency flood plain
- ☐ Soils with flooding classification
- ☐ Overlap an unstable area
- ☐ Wetlands
- ☐ Located less than 60 meters from a fault
- ☐ None of the above

Attachment: [Click to enter text.](#)

If a portion of the lagoon(s) is located within the 100-year frequency flood plain, provide the protective measures to be utilized including type and size of protective structures:

[Click to enter text.](#)

B. Temporary storage information

Provide the results for the pollutant screening of sludge lagoons. These results are in addition to pollutant results in *Section 7 of Technical Report 1.0*.

Nitrate Nitrogen, mg/kg: [Click to enter text.](#)

Total Kjeldahl Nitrogen, mg/kg: [Click to enter text.](#)

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: [Click to enter text.](#)

Phosphorus, mg/kg: [Click to enter text.](#)

Potassium, mg/kg: [Click to enter text.](#)

pH, standard units: [Click to enter text.](#)

Ammonia Nitrogen mg/kg: [Click to enter text.](#)

Arsenic: [Click to enter text.](#)

Cadmium: [Click to enter text.](#)

Chromium: [Click to enter text.](#)

Copper: [Click to enter text.](#)

Lead: [Click to enter text.](#)

Mercury: [Click to enter text.](#)

Molybdenum: [Click to enter text.](#)

Nickel: [Click to enter text.](#)

Selenium: [Click to enter text.](#)

Zinc: [Click to enter text.](#)

Total PCBs: [Click to enter text.](#)

Provide the following information:

Volume and frequency of sludge to the lagoon(s): [Click to enter text.](#)

Total dry tons stored in the lagoons(s) per 365-day period: [Click to enter text.](#)

Total dry tons stored in the lagoons(s) over the life of the unit: [Click to enter text.](#)

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1×10^{-7} cm/sec?

☐ Yes ☐ No

If **yes**, describe the liner below. Please note that a liner is required.

[Click to enter text.](#)

D. Site development plan

Provide a detailed description of the methods used to deposit sludge in the lagoon(s):

[Click to enter text.](#)

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)
Attachment: [Click to enter text.](#)
- Copy of the closure plan
Attachment: [Click to enter text.](#)
- Copy of deed recordation for the site

Attachment: [Click to enter text.](#)

- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

Attachment: [Click to enter text.](#)

- Description of the method of controlling infiltration of groundwater and surface water from entering the site

Attachment: [Click to enter text.](#)

- Procedures to prevent the occurrence of nuisance conditions

Attachment: [Click to enter text.](#)

E. Groundwater monitoring

Is groundwater monitoring currently conducted at this site, or are any wells available for groundwater monitoring, or are groundwater monitoring data otherwise available for the sludge lagoon(s)?

☐ Yes ☐ No

If groundwater monitoring data are available, provide a copy. Provide a profile of soil types encountered down to the groundwater table and the depth to the shallowest groundwater as a separate attachment.

Attachment: [Click to enter text.](#)

Section 12. Authorizations/Compliance/Enforcement (Instructions Page 55)

A. Additional authorizations

Does the permittee have additional authorizations for this facility, such as reuse authorization, sludge permit, etc?

☒ Yes ☐ No

If yes, provide the TCEQ authorization number and description of the authorization:

Reclaimed Water Authorization R15478-001

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

Is the permittee required to meet an implementation schedule for compliance or enforcement?

☐ Yes ☒ No

If **yes** to either question, provide a brief summary of the enforcement, the implementation schedule, and the current status:

Click to enter text.

Section 13. RCRA/CERCLA Wastes (Instructions Page 55)

A. RCRA hazardous wastes

Has the facility received in the past three years, does it currently receive, or will it receive RCRA hazardous waste?

☐ Yes ☒ No

B. Remediation activity wastewater

Has the facility received in the past three years, does it currently receive, or will it receive CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?

☐ Yes ☒ No

C. Details about wastes received

If **yes** to either Subsection A or B above, provide detailed information concerning these wastes with the application.

Attachment: N/A

Section 14. Laboratory Accreditation (Instructions Page 56)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
 - periodically inspected by the TCEQ; or
 - located in another state and is accredited or inspected by that state; or
 - performing work for another company with a unit located in the same site; or
 - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review 30 TAC Chapter 25 for specific requirements.

The following certification statement shall be signed and submitted with every application. See the Signature Page section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*.

Printed Name: Shilen Patel

Title: President & CEO

Signature: 

Date: 09/23/2024

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 2.0: RECEIVING WATERS

The following information is required for all TPDES permit applications.

Section 1. Domestic Drinking Water Supply (Instructions Page 64)

Is there a surface water intake for domestic drinking water supply located within 5 miles downstream from the point or proposed point of discharge?

☐ Yes ☒ No

If **no**, proceed to Section 2. If **yes**, provide the following:

Owner of the drinking water supply: [Click to enter text.](#)

Distance and direction to the intake: [Click to enter text.](#)

Attach a USGS map that identifies the location of the intake.

Attachment: [Click to enter text.](#)

Section 2. Discharge into Tidally Affected Waters (Instructions Page 64)

Does the facility discharge into tidally affected waters?

☐ Yes ☒ No

If **no**, proceed to Section 3. If **yes**, complete the remainder of this section. If no, proceed to Section 3.

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: [Click to enter text.](#)

B. Oyster waters

Are there oyster waters in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from outfall(s).

[Click to enter text.](#)

C. Sea grasses

Are there any sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s).

[Click to enter text.](#)

Section 3. Classified Segments (Instructions Page 64)

Is the discharge directly into (or within 300 feet of) a classified segment?

☐ Yes ☒ No

If **yes**, this Worksheet is complete.

If **no**, complete Sections 4 and 5 of this Worksheet.

Section 4. Description of Immediate Receiving Waters (Instructions Page 65)

Name of the immediate receiving waters: Unnamed Tributary

A. Receiving water type

Identify the appropriate description of the receiving waters.

- ☐ Stream
- ☐ Freshwater Swamp or Marsh
- ☐ Lake or Pond

Surface area, in acres: Click to enter text.

Average depth of the entire water body, in feet: Click to enter text.

Average depth of water body within a 500-foot radius of discharge point, in feet:
Click to enter text.

- ☐ Man-made Channel or Ditch
- ☐ Open Bay
- ☐ Tidal Stream, Bayou, or Marsh
- ☒ Other, specify: Unnamed Tributary

B. Flow characteristics

If a stream, man-made channel or ditch was checked above, provide the following. For existing discharges, check one of the following that best characterizes the area *upstream* of the discharge. For new discharges, characterize the area *downstream* of the discharge (check one).

- ☒ Intermittent - dry for at least one week during most years
- ☐ Intermittent with Perennial Pools - enduring pools with sufficient habitat to maintain significant aquatic life uses
- ☐ Perennial - normally flowing

Check the method used to characterize the area upstream (or downstream for new dischargers).

- ☐ USGS flow records
- ☒ Historical observation by adjacent landowners
- ☒ Personal observation
- ☐ Other, specify: Click to enter text.

C. Downstream perennial confluences

List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point.

N/A – No perennial streams within three miles downstream of discharge point.

D. Downstream characteristics

Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?

☐ Yes ☒ No

If yes, discuss how.

Click to enter text.

E. Normal dry weather characteristics

Provide general observations of the water body during normal dry weather conditions.

The water body appeared to be in normal conditions during observation.

Date and time of observation: October 3, 2024 @ 3:30 pm

Was the water body influenced by stormwater runoff during observations?

☐ Yes ☒ No

Section 5. General Characteristics of the Waterbody (Instructions Page 66)

A. Upstream influences

Is the immediate receiving water upstream of the discharge or proposed discharge site influenced by any of the following? Check all that apply.

- | | |
|---|---|
| ☐ Oil field activities | ☐ Urban runoff |
| ☐ Upstream discharges | ☐ Agricultural runoff |
| ☐ Septic tanks | ☒ Other(s), specify: <u>N/A – No Upstream</u> |

B. Waterbody uses

Observed or evidences of the following uses. Check all that apply.

- | | |
|--|---|
| ☐ Livestock watering | ☐ Contact recreation |
| ☐ Irrigation withdrawal | ☐ Non-contact recreation |
| ☐ Fishing | ☐ Navigation |
| ☐ Domestic water supply | ☐ Industrial water supply |
| ☐ Park activities | ☒ Other(s), specify: <u>Unnamed tributary</u> |
- appears to be used for conveyance of rainfall runoff.

C. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the receiving water and the surrounding area.

- ☐ Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional
- ☒ Natural Area: trees and/or native vegetation; some development evident (from fields, pastures, dwellings); water clarity discolored
- ☐ Common Setting: not offensive; developed but uncluttered; water may be colored or turbid
- ☐ Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

ADMINISTRATIVE REPORT 1.0

ATTACHMENT 3.C

CORE DATA FORM



TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
☐ New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
☒ Renewal (Core Data Form should be submitted with the renewal form)		☐ Other
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 605145986		RN 109208553

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)		8/27/2024			
☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership							
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)							
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>							
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>			
Windy Hill Utility Company LLC a Texas Limited Liability							
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)		
0802295754		32058344485		810984			
11. Type of Customer:		☒ Corporation		☐ Individual	Partnership: ☐ General ☐ Limited		
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship		☐ Other:			
12. Number of Employees				13. Independently Owned and Operated?			
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher				☐ Yes ☒ No			
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following							
☒ Owner ☐ Operator ☐ Owner & Operator ☐ Other:							
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant							
15. Mailing Address:	P.O. Box 701201						
	City	San Antonio	State	TX	ZIP	78270	ZIP + 4
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)			
				samantham@bvtwater.com			
18. Telephone Number			19. Extension or Code		20. Fax Number (if applicable)		

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)							
☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information							
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>							
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)							
WHU-WRRF1							
23. Street Address of the Regulated Entity: (No PO Boxes)	2784 FM 2001						
	City	Buda	State	TX	ZIP	78610	ZIP + 4
24. County	Hays						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City	State			Nearest ZIP Code	
Buda	TX				
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>					
27. Latitude (N) In Decimal:		30.045833		28. Longitude (W) In Decimal:	
Degrees		Minutes	Seconds	Degrees	
30		02	45.0"N	97	
				48	
				24.0"	
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)
4952			22132		
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)					
Wastewater Treatment					
34. Mailing Address:	P.O. Box 701201				
	City	San Antonio	State	TX	ZIP
35. E-Mail Address:	billf@bvrwater.com				
36. Telephone Number		37. Extension or Code		38. Fax Number (if applicable)	
(210) 209-8029				() -	

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Samantha Marin			41. Title:	Regulatory Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
(210) 632-8645		() -	samantham@bvrwater.com		

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Windy Hill Utility Company LLC		Job Title:	President and CEO	
Name (In Print):	Shilen Patel			Phone:	(210) 209- 8029
Signature:				Date:	09/23/24

ADMINISTRATIVE REPORT 1.0

ATTACHMENT 8.F

PLAIN LANGUAGE SUMMARY

ENGLISH PLS

Windy Hill Utility Company LLC (CN605145986) proposes to operate WHU-WRRF1 a Membrane Bioreactor (MBR) system that combines the activated sludge process with advanced membrane technology. The facility will be located at 2784 FM2001, in Buda, Hays County, Texas 78610. This application request is to renew a Texas Pollution Discharge Elimination System permit with a 0.68 MGD proposed final phase.

Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD-5), total suspended solids (TSS), and E.Coli. Domestic wastewater will be treated by an activated sludge process combined with advanced MBR technology and the treatment units include an influent screening system, Anoxic/EQ basin, aeration basin, membrane train, and a chlorination chamber.

SPANISH PLS

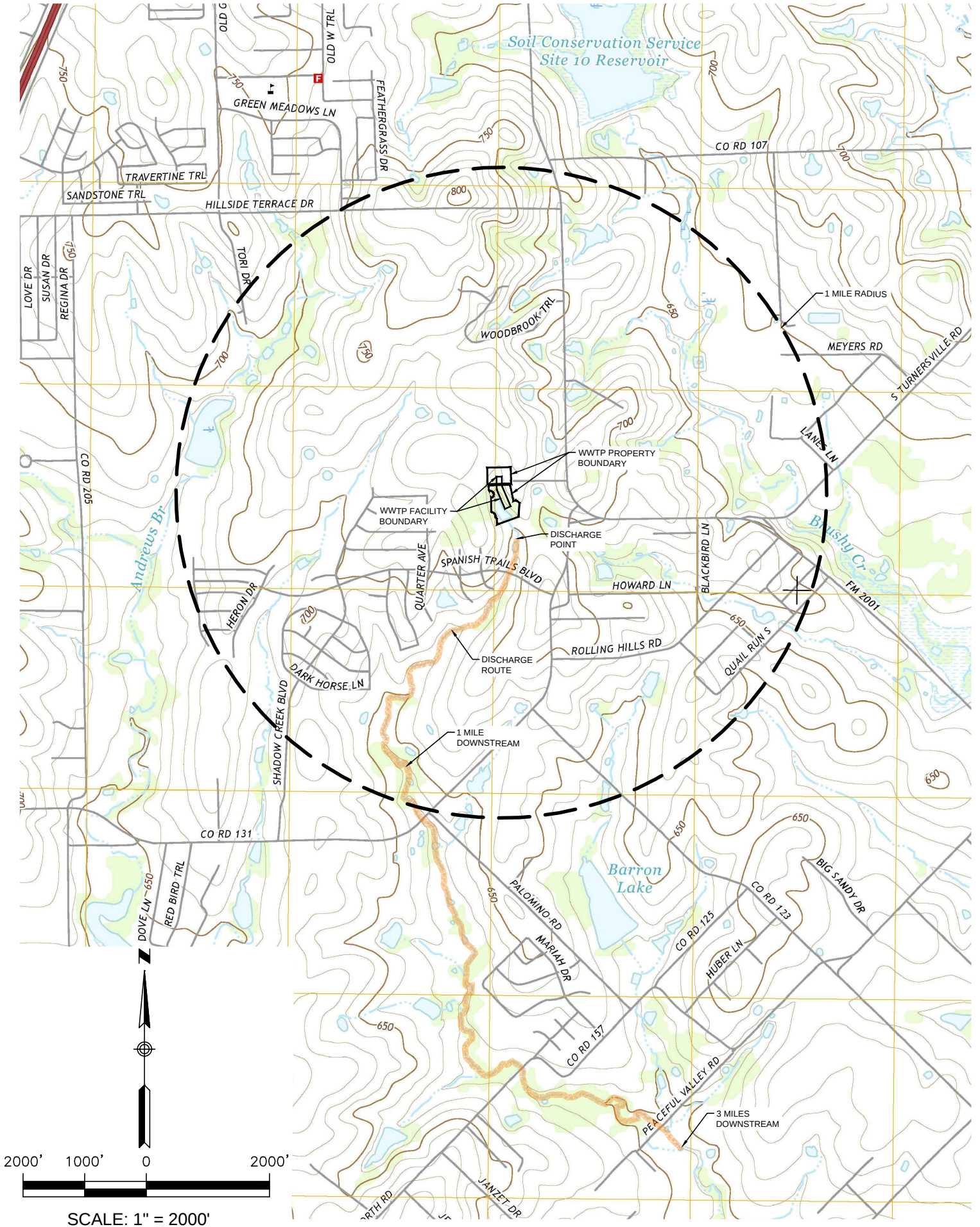
Windy Hill Utility Company LLC (CN605145986) propone operar WHU-WRRF1, una Sistema de biorreactor de membrana (MBR) que combina el proceso de lodos activados con tecnología avanzada de membranas. La instalación estará ubicada en 2784 FM2001 , en Buda, Condado de Hays, Texas 78610. Esta solicitud es para renovar un permiso del Sistema de Eliminación de Descargas Contaminantes de Texas con una fase final propuesta de 0.68 MGD.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno (DBO-5) de cinco días, sólidos suspendidos totales (SST) y E. Coli. Aguas residuales domésticas. **están** tratado por un proceso de lodos activados combinado con tecnología MBR avanzada y las unidades de tratamiento incluyen un sistema de cribado de afluentes, una cuenca anóxica/EQ, una balsa de aireación, un tren de membranas y una cámara de cloración.

ADMINISTRATIVE REPORT 1.0

ATTACHMENT 13

USGS MAP



SUPPLEMENTAL PERMIT INFORMATION
(SPIF) & USGS MAP

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ____Minor Amendment ____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

____ Texas Historical Commission

____ U.S. Fish and Wildlife

____ Texas Parks and Wildlife Department

____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: Windy Hill Utility Company LLC

Permit No. WQ00 15478001EPA ID No. TX 0137111

Address of the project (or a location description that includes street/highway, city/vicinity, and county):

2784 FM 2001, Buda, TX 78610

Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Prefix (Mr., Ms., Miss): [REDACTED]

First and Last Name: Bill Fry

Credential (P.E, P.G., Ph.D., etc.): [REDACTED]

Title: General Manager

Mailing Address: PO Box 701201

City, State, Zip Code: San Antonio TX 78270

Phone No.: 210-209-8029 Ext.: [REDACTED] Fax No.: [REDACTED]

E-mail Address: billf@bvrwater.com

2. List the county in which the facility is located: Hays
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

4. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

Discharge flows into an unnamed tributary; thence to Bushy Creek; thence to a reservoir; thence to Bushy Creek; thence to Plum Creek Segment No. 1810 of the Guadalupe River Basin.

5. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report).

Provide original photographs of any structures 50 years or older on the property.

Does your project involve any of the following? Check all that apply.

- ☐ Proposed access roads, utility lines, construction easements
- ☐ Visual effects that could damage or detract from a historic property's integrity
- ☐ Vibration effects during construction or as a result of project design
- ☐ Additional phases of development that are planned for the future
- ☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

1. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

The Wastewater Treatment property is currently 5.3-acres and has expanded to include an additional 2 acres to accommodate growth. Excavation is anticipated to be no more than ten (10) feet deep. No caves or karst features are anticipated to be encountered.

2. Describe existing disturbances, vegetation, and land use:

Existing disturbances include an existing detention area. Vegetation is natural to the area. Land Use includes residential developments

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

3. List construction dates of all buildings and structures on the property:

Phase 1 construction was completed September 2018. Phase 2 was completed December 2023.

4. Provide a brief history of the property, and name of the architect/builder, if known.

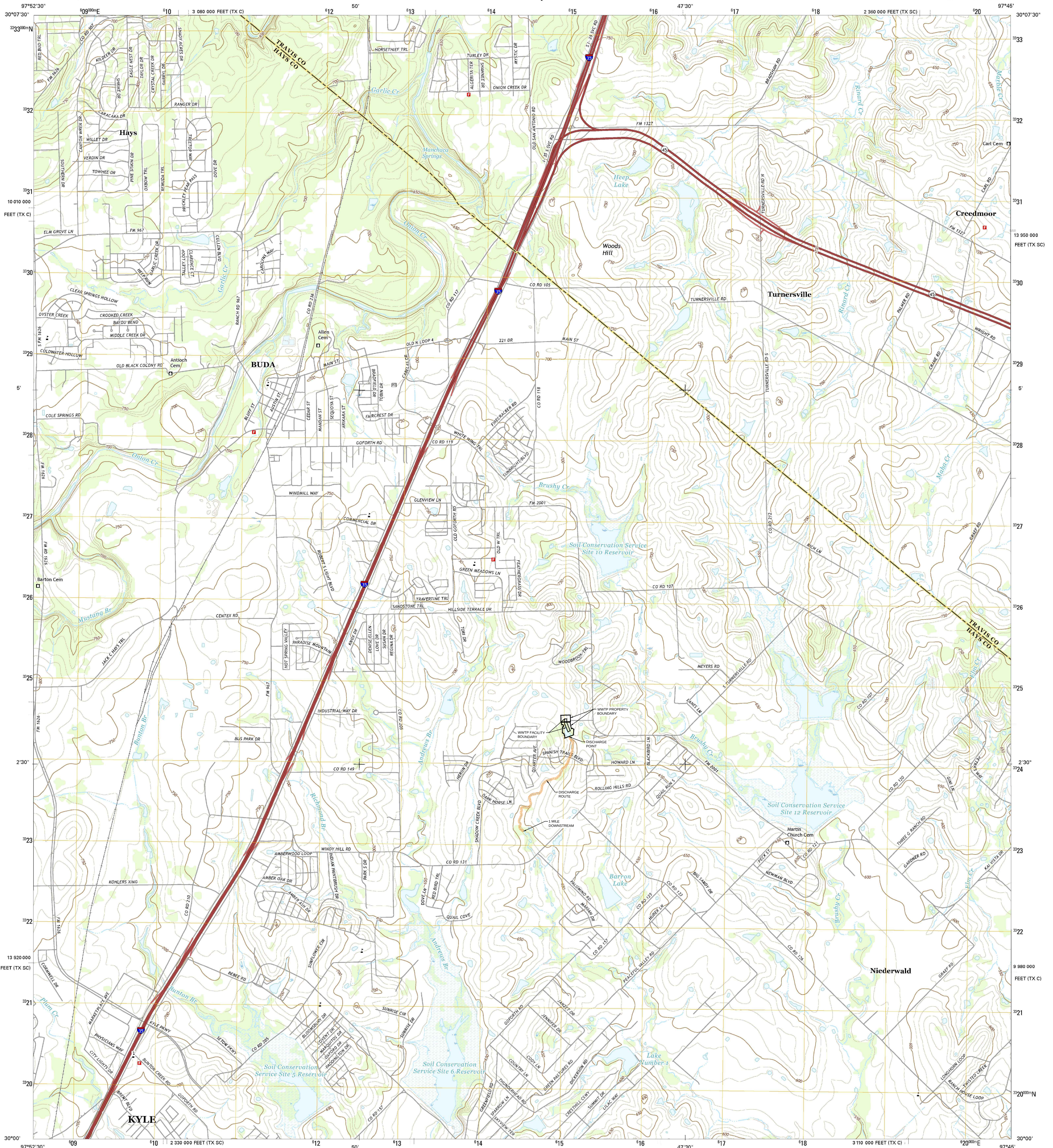
N/A



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



BUDA QUADRANGLE
TEXAS
7.5-MINUTE SERIES

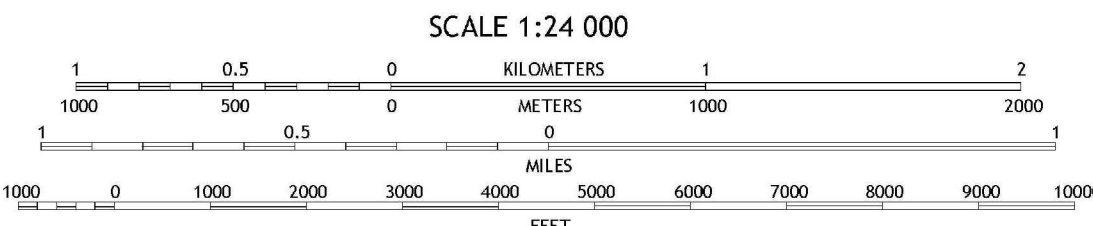
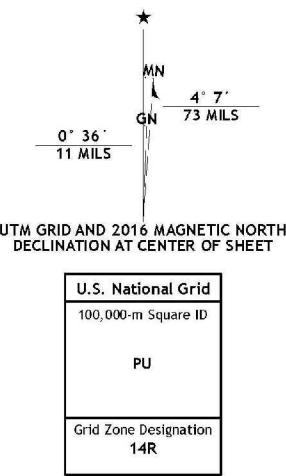


Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84), Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south
central and central zones)

This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, August 2014
Roads.....U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2002
Boundaries.....Multiple sources; see metadata file 1972 - 2015
Wetlands.....FWS National Wetlands Inventory 1977 - 2014



QUADRANGLE LOCATION

1	2	3
4	5	6
7	8	9

- 1 Signal Hill
- 2 Oak Hill
- 3 Montopolis
- 4 Mountain City
- 5 Creedmoor
- 6 San Marcos North
- 7 Umland
- 8 Lockhart North

BUDA, TX
2016



DOMESTIC TECHNICAL REPORT 1.0

ATTACHMENT 2

TREATMENT PROCESS DESIGN
SUMMARY

WHU-WRRF1 Treatment Process Design Summary

The following report provides a summary of the process design used for the Membrane Bioreactor (MBR) wastewater treatment system to be supplied for the new Windy Hill Utility WRRF1 (WHU-WRRF1). The proposed Wastewater Treatment Plant is a state-of-the-art Membrane Bioreactor (MBR) system, employing the most advanced membrane technology, and providing a cost-efficient and user-friendly wastewater treatment solution. The system is designed to biodegrade high strength domestic waste into simple compounds, resulting in a high-quality effluent suitable for stream discharge or reuse.

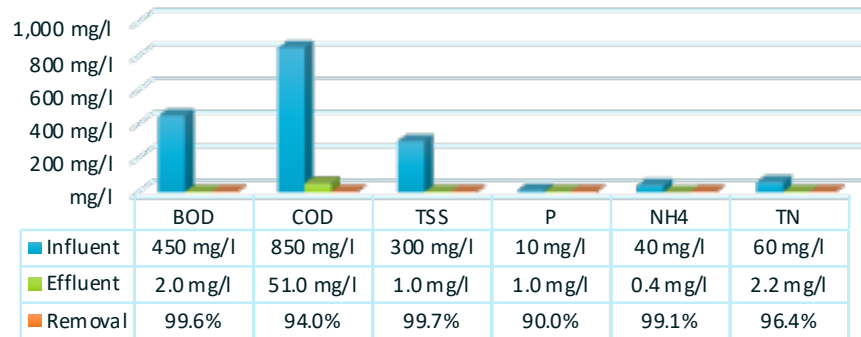
The MBR system is a bioreactor that combines the activated sludge process with advanced membrane technology. The process utilizes naturally occurring microorganisms in an environment where they can biodegrade the organic material present in the wastewater into carbon dioxide and water. The treatment process steps include:

1. Pre-treatment and Equalization
2. Biological Reduction
3. Membrane Filtration
4. 2 Stage Nutrient Removal
5. Effluent Disinfection

There are 3 expansion phases from the existing 0.12 MGD phase for this facility. Phase 1 is a concrete tank system with 120,000 gpd of capacity, Phase 2 will provide 260,000 gpd of capacity and a parallel plant will be added in Phase 3 to achieve a total of 400,000 gpd of capacity, an additional treatment train will be added to provide 680,000 gpd capacity in Phase 4.

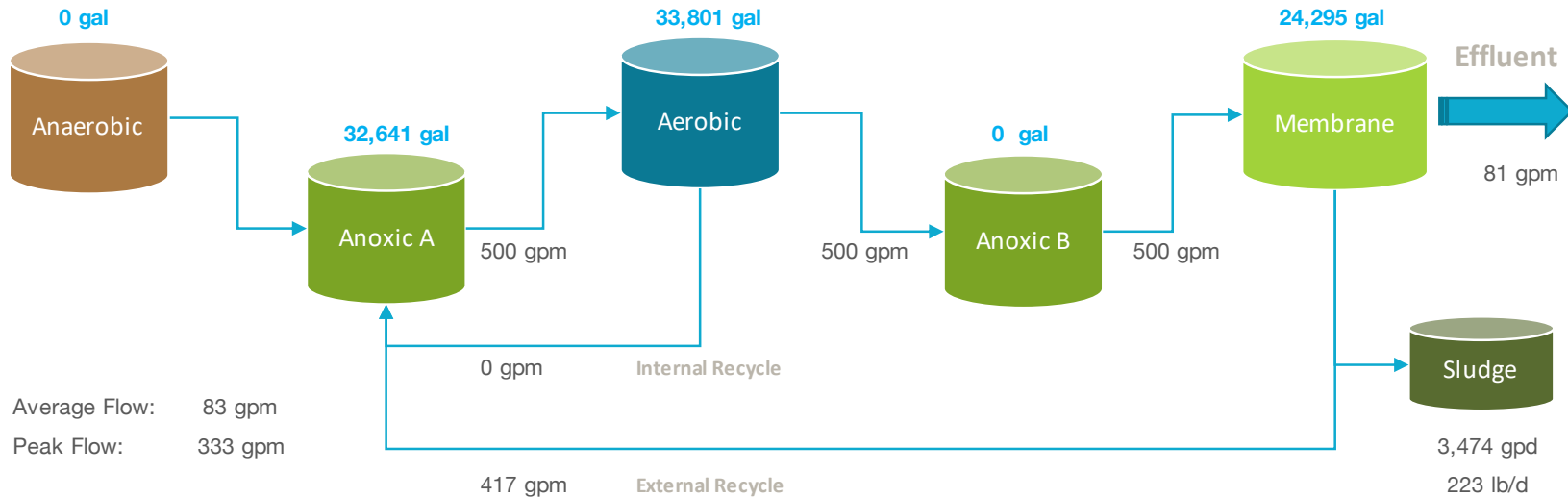
Process Summary for Phase 1 - 120,000 GPD

Influent & Effluent Parameters



PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	90,737 gal
Total SOR	893 kgO2/d
MLSS in Anoxic / Aerobic Tank	7,652 mg/l
MLSS in Membrane Tank	9,246 mg/l
HRT	18 h
F/M RATIO (BOD)	0.080
F/M RATIO (COD)	0.152
Total Membrane Surface	32,550 sf



Aeration	Flow	Pressure
EQ	29 scfm	5.5 psi
Sludge	65 scfm	7.5 psi
Aerobic	287 scfm	7.5 psi
Membrane	372 scfm	7.5 psi

Applied Options:

NO	DAF
NO	RO

2/16/22

Biological Process Calculation

Influent Characteristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	20	°C
pH	-	7.0	-
H ₂ CO ₃ alkalinity	Alk _i	250	mg/l as CaCO ₃
Site pressure / elevation	p _{a,i}	14.7	psi
Average daily flow	Q _i	120,000	gpd
Peak daily flow	Q _{i, max,d}	240,000	gpd
Hourly peak flow	Q _{i, max,p}	333	gpm
Peak factor	-	4.0	-
Average daily flow	Q _i	454	m ³ /d
Max. monthly average daily flow	Q _{i, max,d}	908	m ³ /d
Hourly peak flow	Q _{i, max,h}	75.7	m ³ /h
Total BOD	S _{BOD,i}	450	mgBOD/l
Total COD	S _{COD,i}	850	mgCOD/l
COD/BOD ratio	-	1.89	-
Rapidly biodegradable COD	S _{s,i}	213	mgCOD/l
Volitale fatty acids (VFA)	S _{VFA,i}	32	mgCOD/l
Fermentable COD	S _{F,i}	180	mgCOD/l
Slowly biodegradable COD	S _{ss,i}	459	mgCOD/l
Biodegradable COD	S _{bio,i}	672	mgCOD/l
Soluble inert COD	S _{SIN,i}	51	mgCOD/l
Particulate inert COD	S _{PIN,i}	128	mgCOD/l

Influent Characteristics	Symbol	Value	Units
NO ₃	N _{NO3,i}	0.0	mg/l
NH ₄	N _{a,i}	40.0	mg/l
TKN	N _{TKN,i}	60.0	mg/l
TP	P _i	10.0	mg/l
Dissolved Oxygen	S _{O2,i}	0.0	mg/l
FSA fraction	f _{a/TKN,i}	0.7	-
Fixed (inorganic) suspended solids	X _{FSS,i}	47.5	mgISS/l
TSS concentration	S _{TSS,i}	300.0	mgTSS/l
Total BOD mass	FS _{BOD,i}	204.4	kgBOD/d
Total COD mass	FS _{COD,i}	386.1	kgCOD/d
Total NH ₄ mass	FS _{a,i}	18.2	kgNH ₄ /d
Total TKN mass	FS _{TKN,i}	27.3	kgTKN/d
Total P mass	FS _{P,i}	4.5	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	FX _t	223	lb/d
Waste Sludge	Q _w	3,474	gpd
Effluent BOD	S _{BOD,e}	< 3	mgBOD/l
Effluent COD	S _{COD,e}	51	mgCOD/l
Effluent TSS	S _{TSS,e}	1.0	mgTSS/l
Effluent P	P _e	1.0	mgP/l
Effluent NH ₄	N _{a,e}	0.4	mgN/l
Effluent NO ₃	N _{NO3,e}	0.0	mgN/l
Effluent TN (N _{ne} + N _{te})	N _{t,e}	2.2	mgN/l

Bioreactor Characteristics	Symbol	Value	Units	Biological Oxygen Demand	Symbol	Value	Units
Temperature	T_{bio}	20	°C	OD for synth & endo respiration (PAO)	FO_{PAO}	0	kgO ₂ /d
Sludge retention time / Sludge age	SRT	25	d	OD for synth & endo respiration (OHO)	FO_{OHO}	248	kgO ₂ /d
Reactor volume	$V_{P,chosen}$	90,737	gallons	Mass carbonaceous oxygen demand	FO_C	248	kgO ₂ /d
Reactor volume	$V_{P,chosen}$	343	m ³	Carbonaceous oxygen utilization rate	O_c	72%	-
Reactor volume	$V_{P,calc}$	86,852	gallons	Nitrification oxygen demand	FO_n	77	kgO ₂ /d
Average MLSS concentration	X_{TSS}	7,750	mgTSS/l	Total oxygen demand	FO_t	325	kgO ₂ /d
Food to microorganism ratio	$F/M_{BOD,used}$	0.080	kgBOD/kgMLSS	Oxygen recovered by denitrification	FO_d	49	kgO ₂ /d
Food to microorganism ratio	$F/M_{COD,used}$	0.152	kgCOD/kgMLSS	Net total oxygen demand (AOR)	FO_{td}	277	kgO ₂ /d
Membrane tank MLSS concentration	X_M	9,246	mgTSS/l	Oxygen saturation @ operating temp.	c_s	9.2	mg/l
Aerobic/Anoxic tank MLSS concentration	X_{Bio}	7,652	mgTSS/l	Desired oxygen level	c_x	2.0	mg/l
Number of anaerobic zones	$\#_{AN}$	0	-	Transfer coefficient	α	0.40	-
Number of anoxic zones	$\#_{AO}$	1	-	Diffuser water depth	DWD	14	feet
Number of aerobic zones	$\#_{AE}$	1	-	Oxygen transfer efficiency	OTE	2	%
External recycle ratio	m	5	-	Standard total oxygen demand (SOR)	SOR	893	kgO ₂ /d
Internal recycle ratio	a	0	-	Required air flow	Q_{air}	282	scfm
DO in m recycle	O_m	0	mgO ₂ /l	Oxygen requir. per volume & depth	OS	18.2	gO ₂ /(Nm ₃ *mD)
DO in a recycle	O_a	0	mgO ₂ /l				
Recycle ratio to anaerobic tank (PAO)	s	0	-				
DO in s recycle	$S_{O2,s}$	0	mgO ₂ /l				
Nitrate on s recycle	$S_{NO3,s}$	0	mg/l				
TKN/COD ratio	$f_{TKN/COD}$	0.071	mgTKN/mgCOD				
Carbon source addition (Micro C)	B_{MicroC}	0.0	lb/d				
Carbon source addition (Micro C)	S_{MicroC}	0.00	gpd				
Nominal hydraulic retention time	HRT_n	18.1	h				
Actual hydraulic retention time	HRT_a	3.0	h				

Membrane Module Design

	Symbol	Value	Units
Permeate on cycle	T_o	8	minute
Permeate off cycle (relaxation)	T_s	2	minute
Effective membrane module surface	$A_{m,eff}$	84.0	m^2
Effective membrane module surface	$A_{m,eff}$	904	ft^2
Total number of membrane modules	N_M	36	-
Total membrane module surface	A_{total}	3,024	m^2
Total membrane module surface	A_{total}	32,550	ft^2
Nominal average daily flux	$Q_{ave,n}$	7.8	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	15.6	lmh
Nominal peak hourly flux	$Q_{peak,n}$	31.3	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	3.7	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	7.4	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	14.7	gfd
Total membrane module displacement vol.	$V_{modules}$	396	ft^3
Total membrane module displacement vol.	$V_{modules}$	2,962	gallons
Aeration modules	$A\#$	12	-
Membrane module aeration requirement	Q_{am}	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	342	acfm
Membrane diffuser water depth	DWD_m	13.3	feet
Oxygen requirement per volume & depth	OS	14	$gO_2/(Nm_3 \cdot m_D)$
Standard oxygen rate, membrane aeration	SOR_m	1,678	lbO_2/d
Standard oxygen rate, membrane aeration	SOR_m	769	kgO_2/d



- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

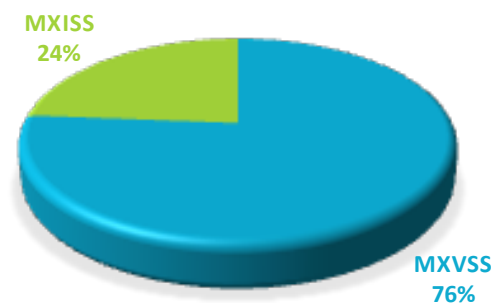
Kinetic Constants	Symbol	Value	Units	Stoichiometric Constants	Symbol	Value	Units
Yield coefficient OHO	Y_{OHO}	0.40	mgVSS/mgCOD	COD/BOD ratio	-	1.89	-
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD	Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd	Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Temperature coefficient for $k_{F,T}$	Θ_{KF}	1.029	-	Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
Fermentation rate at T	$k_{F,T}$	0.06	m3/gVSSd	SVFA fraction of RBCOD	$f_{SVFA,SSI}$	0.15	g/gCOD _{SS}
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd	VSS/TSS of activated sludge	f_{VT}	0.76	mgVSS/mgTSS
Endogenous respiration rate T	$b_{OHO,T}$	0.24	gVSS/gVSSd	COD/VSS of activated sludge	f_{cv}	1.48	kgCOD/kgVSS
Yield coefficient FSA	Y_A	0.10	mgVSS/mgFSA	True synthesis fraction	f_s^0	0.57	-
Nitri. pH sensitivity coefficient	K_i	1.13	-	Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
Nitri. pH sensitivity coefficient	K_{max}	9.50	-	ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Nitri. pH sensitivity coefficient	K_{II}	0.30	-	Active fraction - VSS	f_{avOHO}	23%	-
Max. specific growth rate at 20°C	μ_{Am}	0.45	1/d	Active fraction - TSS	f_{at}	17%	-
Max. spec. growth rate - Temp/pH	μ_{AmTpH}	0.38	1/d	Influent FSA fraction	$f_{FSA,i}$	0.67	-
Half saturation coefficient	K_n	0.75	mgFSA/l	Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Half saturation coefficient - Temp	K_{nT}	0.75	mgFSA/l	Non-bio. particulate orgN fraction	f_n	0.12	-
Endogenous respiration rate (decay)	b_A	0.04	1/d	Permissible unaer. sludge mass fraction	f_{xm}	0.75	-
Temperature coefficient for $k_{F,T}$	θ_n	1.123	-	Design unaerated sludge mass fraction	f_{xt}	0.36	-
Endogenous respiration rate T	b_{AT}	0.040	1/d	Minimum primary anoxic mass fraction	f_{x1min}	0.04	-
Temperature sensitivity coefficient	Θ_{nk1}	1.20	-	Primary anoxic mass fraction	f_{x1}	0.36	-
Temperature sensitivity coefficient	Θ_{nk2}	1.05	-	Secondary anoxic mass fraction	f_{x2}	0.00	-
Temperature sensitivity coefficient	Θ_{nk3}	1.03	-	Anaerobic mass fraction	f_{AN}	0.00	-
Denitrification rates at 20°C	k_1	0.70	-	Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Denitrification rates at 20°C	k_2	0.10	-	Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
Denitrification rates at 20°C	k_3	0.08	-	P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
Denitrification rates	k_{1T}	0.700	-	VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Denitrification rates	k_{2T}	0.101	-	Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Denitrification rates	k_{3T}	0.080	-	Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
Yield coefficient PAO	Y_{PAO}	0.45	gAVSS/gCOD	P content of TSS	$f_{P,TSS}$	0.040	gP/gTSS
Yield coefficient PAO	$Y_{PAO,obs}$	0.20	gAVSS/gCOD	P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
Endogenous respiration rate (decay)	$b_{PAO,20}$	0.04	gEVSS/gCOD	TKN/COD ratio	f_{ns}	0.07	mgTKN/mgCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{d,PAO}$	1.029	-	Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS
Endogenous respiration rate T	$b_{PAO,T}$	0.04	gEVSS/gVSSd				

Biological Mass Balance

	Symbol	Value	Units
Sludge age	SRT	25 d	
Mixed liquor suspended solids	X _{TSS}	7,750 mgTSS/l	
Readable biodegradable COD flux	FS _{S,i}	97 kgCOD/d	
Daily flux of VFAs	FS _{VFA,i}	15 kgCOD/d	
Daily flux of fermentable COD	FS _{F,i}	82 kgCOD/d	
Daily flux of biodegradable COD	FS _{bio,i}	305 kgCOD/d	
Daily flux of particulate inert COD	FS _{PIN,i}	58 kgCOD/d	
Daily flux of fixed inorganic sus. solids	FS _{ISS,i}	22 kgISS/d	
Influent particulate non-bio. COD	FX _{VSS,i}	39 kgVSS/d	
Mass nitrogen into sludge prod.	FN _{Sludge}	9 kgN/d	
Mass of nitrate generated per day	FN _{NO3}	17 kgN/d	
VFAs stored by PAOs	FS _{S,PAO}	0 kgCOD/d	
Remaining biodegradable COD	FCOD _{b,OH0}	305 kgCOD/d	
Mass nitrifiers	MX _A	21 kgVSS	
Active biomass PAO	MX _{PAO}	0 KgAVSS	
Endogenous active biomass PAO	MX _{E,PAO}	0 kgEVSS	
Bio mass	MX _{bio}	438 kgVSS	
Active organism mass	MX _{OH0}	438 kgVSS	
Endogenous residue mass	MX _{E,OH0}	526 kgVSS	
Non-biodegradable particulate mass	MX _{Iv}	978 kgVSS	
Volatile suspended solids mass	MX _{VSS}	1,943 kgVSS	
Inorganic suspended solid mass	MX _{ISS}	605 kgISS	
Total suspended solids mass	MX _{TSS}	2,548 kgTSS	
Mass/Sludge TSS wasted	FX _t	102 KgTSS/d	
Mass/Sludge VSS wasted	FX _v	78 kgVSS/d	
Effluent COD	S _{COD,e}	51 mgCOD/l	
COD mass out (effluent and waste)	FS _{COD,e}	23 kgCOD/d	
Mass/Sludge COD wasted	FX _{COD,s}	115 kgCOD/d	

Alkalinity

	Symbol	Value	Units
Alkalinity Nitrification as CaCO ₃ (consumed)	Alk _{Nitri}	266 mg/l as CaCO ₃	
Alkalinity Denitrification as CaCO ₃ (recovered)	Alk _{Denitri}	134 mg/l as CaCO ₃	
Alkalinity _{ef}	Alk _e	100 mg/l as CaCO ₃	
Alkalinity _{inf}	Alk _i	250 mg/l as CaCO ₃	
Alkalinity Alum (consumed)	Alk _{Alum}	0.0 mg/l as CaCO ₃	
Alkalinity _{Total}	Alk _{total}	118 mg/l as CaCO ₃	
Alkalinity _{Added}	Alk _{added}	-18 mg/l as CaCO ₃	
Alkalinity _{Added}	XAlk _{added}	0 lb/d	
Density caustic solution (50%)	-	12.76 lb/gal	
Alkalinity _{recovered}	Alk _{recovered}	0.4 lbCaCO ₃ /lb	
Caustic _{needed}	-	0.0 lb/d	
Caustic _{needed}	-	0.0 gpd	



$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

N Removal

	Symbol	Value	Units
Factor of safety	S_f	1.2	-
Nitrogen requirements	FN_{synth}	8	kgN/d
Nitrogen requirements	$TKN_{i,\text{synth}}$	17.11	gN/m ³
Influent non-bio. soluble organic N	$N_{\text{nbios},i}$	1.8	mgN/l
Influent non-bio. particulate org. N	$N_{\text{nbio},i}$	10.3	mgN/l
Influent biodegradable organic N	$N_{\text{bio},i}$	18.2	mgN/l
Effluent non-bio. soluble organic N	$N_{\text{nbios},e}$	1.8	mgN/l
NH ₄ concentration avail. for nitri.	N_{an}	37.7	mgN/l
Effluent ammonia	$N_{\text{a},e}$	0.4	mgN/l
Effluent TKN	$N_{\text{TKN},e}$	2.2	mgN/l
N concentration into sludge prod.	N_s	20.5	mgN/l
Nitrification capacity	N_c	37.3	mgN/l
Denitrification potential RBCOD	$D_{p1\text{RBCOD}}$	30.0	mgNO ₃ -N/l
Denitrification potential SBCOD	$D_{p1\text{SBCOD}}$	35.1	mgNO ₃ -N/l
Denitrification potential RBCOD	$D_{p3\text{RBCOD}}$	0.0	mgNO ₃ -N/l
Denitrification potential SBCOD	$D_{p3\text{SBCOD}}$	0.0	mgNO ₃ -N/l
Minimum sludge age for nitri.	SRT_m	4.9	d
Denitrification potential primary tank	D_{p1}	65.1	mgN/l
Denitrification potential secondary tank	D_{p3}	0.0	mgN/l
Denitri. potential recycle rate ($f_{xm} = f_{xdm}$)	D_{p^*}	31.1	mgN/l
Effluent nitrate	$N_{\text{NO}_3,e}$	0.0	mgN/l
Effluent nitrate @ f_{xdm} & recycle rate	N_{NO_3,e^*}	6.2	mgN/l

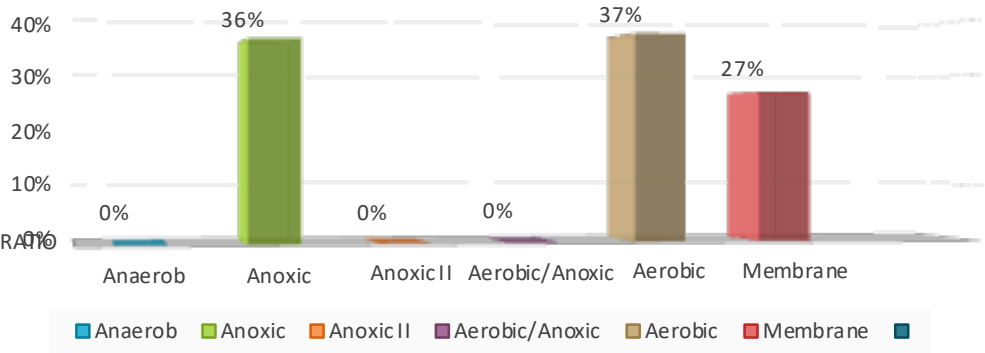
P Removal

	Symbol	Value	Units
COD lost in anaerobic reactor	$S_{F,ANn}$	0.0	gCOD/m ³
COD lost in anaerobic reactor	S_{F,ANn^*}	0.0	gCOD/m ³
Fermentable COD for AN reactor	$S_{F,i,\text{conv}}$	0.0	gCOD/m ³
DO in influent	$SO_{2,i}$	0.0	mgO ₂ /l
PO ₄ release AN reactor	$S_{PO_4,\text{rel}}$	0.0	gP/m ³
P removal by PAOs	ΔP_{PAO}	0.0	gP/m ³
P removal by OHOs	ΔP_{OHO}	1.2	gP/m ³
P removal by endogeneous biomass	ΔP_{XE}	2.3	gP/m ³
P removal by influent inert mass	ΔP_{XI}	4.3	gP/m ³
P into sludge production	P_s	6.9	gP/m ³
Potential P removal by system	$\Delta P_{\text{SYS,POT}}$	14.7	gP/m ³
Actual P removal by system	$\Delta P_{\text{SYS,ACT}}$	10.0	gP/m ³
Effluent particulate P from TSS	$X_{P,e}$	0.0	gP/m ³
Influent total P	P_i	10.0	gP/m ³
Effluent total P	P_{e^*}	0.0	gP/m ³
P precipitated	P_{prec}	0.0	mgP/l
Precipitation chemical	B_{Alum}	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	Z_{AL}^{3+}	0.100	lb _{AL} /lb _{prec}
Density Iron	Z_{FE}^{3+}	0.077	lb _{FE} /lb _{prec}
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d

Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerob	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	1	21.00 ft	14.00 ft	.00 ft	0.0	17.50 ft	14.84 ft	32,641 gal	32,641 gal	123.5 m3
Aerobic	1	22.00 ft	14.00 ft	.00 ft	0.0	17.50 ft	14.67 ft	33,801 gal	33,801 gal	127.9 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	1	16.00 ft	14.00 ft	.00 ft	0.0	17.50 ft	14.50 ft	24,295 gal	24,295 gal	92.0 m3
Sludge	1	10.00 ft	14.00 ft	.00 ft	0.0	17.50 ft	14.75 ft	15,446 gal	15,446 gal	58.5 m3
Post Aeration	1	20.00 ft	15.00 ft	.00 ft	0.0	12.50 ft	10.00 ft	22,440 gal	22,440 gal	84.9 m3

Tank Design	Symbol	Value	Units
Total process tank volume	90,737	gallons	Weir level 2.1 inches
Total process tank volume _{calc}	86,852	gallons	Weir length 4.0 ft
Unaerated tank percentage	36	%	Velocity 1.35 fps
Total tank volume	128,623	gallons	Vertical tank 0
Membrane modules volume	2,962	gallons	Horz. Tank 0
F/M _{used,BOD}	0.080	kgBOD/kgMLSS	Diameter 0 ft
F/M _{used,COD}	0.152	kgCOD/kgMLSS	



Process Volume Distribution

Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A, re}$	342	282	62	30	acfm / scfm
Chosen air flow - actual	$Q_{A, chosen}$	343	270	61	27	acfm
Chosen air flow - inlet	$Q_{A, chosen}$	631	488	110	49	m ³ /h
Chosen air flow - inlet	$Q_{A, chosen}$	372	287	65	29	scfm
Chosen air flow - piping	$Q_{A, chosen}$	246	190	43	21	acfm
Pipe pressure	p_b	7.5	7.5	7.5	5.5	psi
Pipe losses	H	0.25	0.16	0.30	0.04	psi
Equivalent length in pipe losses	L_p	400	400	400	200	feet
Pipe diameter	d	4.0	4.0	2.0	2.0	inches
Internal pipe diameter	d_i	4.26	4.26	2.16	2.16	inches
Standard temperature	T_1	293	293	293	293	K
Pipe temperature	T_2	329	329	329	321	K
Constant	f	0.02	0.02	0.03	0.03	-
Air velocity	v	41.4	32.0	28.3	13.8	fps
Atmospheric pressure	$p_{a,1}$	14.7	14.7	14.7	14.7	psi
Absolute pressure	p_2	22.2	22.2	22.2	20.2	psi
Pressure due to tank liquid level	$p_{DWD,m}$	5.8	6.2	6.2	4.1	psi
Pressure due to aeration device	p_{DWD}	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD,s}$	0.5	0.4	0.5	0.2	psi
Total pipe losses	p_t	7.0	7.2	7.2	4.9	psi
Total pipe losses	p_t	484.2	498.3	496.5	336.4	mbar

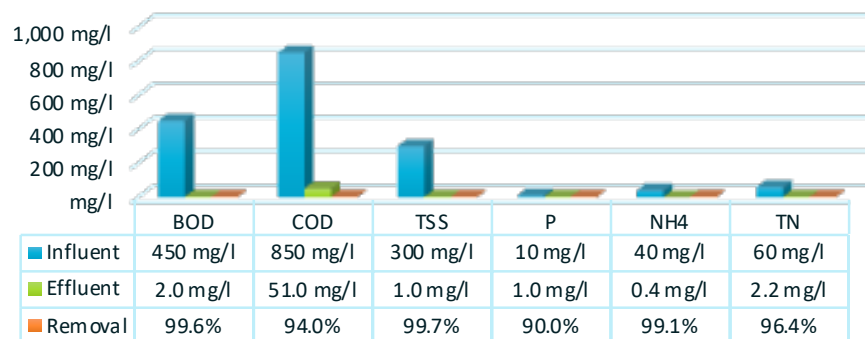
$$H = 9.82 \cdot 10^{-8} \cdot \frac{(f \cdot L_p \cdot T_2 \cdot Q_{A, chosen})}{(p_2 d_i)^5}$$

$$f = \frac{(0.029 \cdot d_i^{0.027})}{Q_{A, chosen}^{0.148}} \quad T_2 = T_1 \left(\frac{p_2}{p_{a,1}} \right)^{0.283}$$



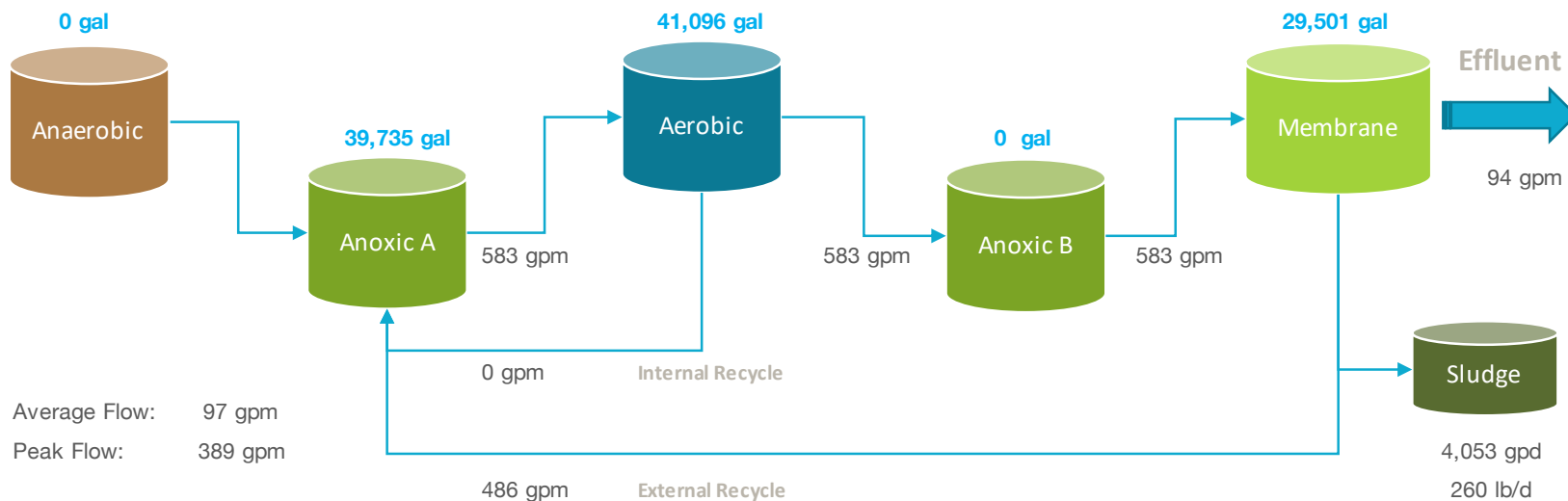
Process Summary for Phases 2 & 3 - 140,000 GPD

Influent & Effluent Parameters



PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	110,332 gal
Total SOR	1,042 kgO2/d
MLSS in Anoxic / Aerobic Tank	7,641 mg/l
MLSS in Membrane Tank	9,246 mg/l
HRT	19 h
F/M RATIO (BOD)	0.080
F/M RATIO (COD)	0.152
Total Membrane Surface	37,975 sf



Aeration	Flow	Pressure
EQ	29 scfm	5.5 psi
Sludge	65 scfm	7.5 psi
Aerobic	340 scfm	7.5 psi
Membrane	433 scfm	7.5 psi

Applied Options:

NO	DAF
NO	RO

2/16/22

Biological Process Calculation

Influent Characteristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	20	°C
pH	-	7.0	-
H ₂ CO ₃ alkalinity	Alk _i	250	mg/l as CaCO ₃
Site pressure / elevation	p _{a,i}	14.7	psi
Average daily flow	Q _i	140,000	gpd
Peak daily flow	Q _{i, max,d}	280,000	gpd
Hourly peak flow	Q _{i, max,p}	389	gpm
Peak factor	-	4.0	-
Average daily flow	Q _i	530	m ³ /d
Max. monthly average daily flow	Q _{i, max,d}	1,060	m ³ /d
Hourly peak flow	Q _{i, max,h}	88.3	m ³ /h
Total BOD	S _{BOD,i}	450	mgBOD/l
Total COD	S _{COD,i}	850	mgCOD/l
COD/BOD ratio	-	1.89	-
Rapidly biodegradable COD	S _{s,i}	213	mgCOD/l
Volitale fatty acids (VFA)	S _{VFA,i}	32	mgCOD/l
Fermentable COD	S _{F,i}	180	mgCOD/l
Slowly biodegradable COD	S _{ss,i}	459	mgCOD/l
Biodegradable COD	S _{bio,i}	672	mgCOD/l
Soluble inert COD	S _{SIN,i}	51	mgCOD/l
Particulate inert COD	S _{PIN,i}	128	mgCOD/l

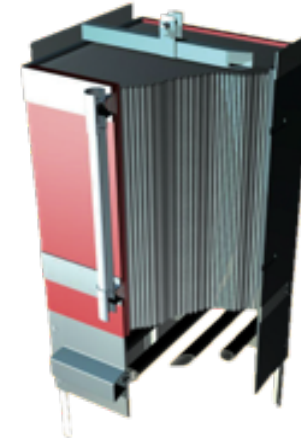
Influent Characteristics	Symbol	Value	Units
NO ₃	N _{NO3,i}	0.0	mg/l
NH ₄	N _{a,i}	40.0	mg/l
TKN	N _{TKN,i}	60.0	mg/l
TP	P _i	10.0	mg/l
Dissolved Oxygen	S _{O2,i}	0.0	mg/l
FSA fraction	f _{a/TKN,i}	0.7	-
Fixed (inorganic) suspended solids	X _{FSS,i}	47.5	mgISS/l
TSS concentration	S _{TSS,i}	300.0	mgTSS/l
Total BOD mass	FS _{BOD,i}	238.5	kgBOD/d
Total COD mass	FS _{COD,i}	450.4	kgCOD/d
Total NH ₄ mass	FS _{a,i}	21.2	kgNH ₄ /d
Total TKN mass	FS _{TKN,i}	31.8	kgTKN/d
Total P mass	FS _{P,i}	5.3	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	FX _t	260	lb/d
Waste Sludge	Q _w	4,053	gpd
Effluent BOD	S _{BOD,e}	< 3	mgBOD/l
Effluent COD	S _{COD,e}	51	mgCOD/l
Effluent TSS	S _{TSS,e}	1.0	mgTSS/l
Effluent P	P _e	1.0	mgP/l
Effluent NH ₄	N _{a,e}	0.4	mgN/l
Effluent NO ₃	N _{NO3,e}	0.0	mgN/l
Effluent TN (N _{ne} + N _{te})	N _{t,e}	2.2	mgN/l

Bioreactor Characteristics	Symbol	Value	Units	Biological Oxygen Demand	Symbol	Value	Units
Temperature	T _{bio}	20	°C	OD for synth & endo respiration (PAO)	FO _{PAO}	0	kgO ₂ /d
Sludge retention time / Sludge age	SRT	25	d	OD for synth & endo respiration (OHO)	FO _{OHO}	289	kgO ₂ /d
Reactor volume	V _{P,chosen}	110,332	gallons	Mass carbonaceous oxygen demand	FO _C	289	kgO ₂ /d
Reactor volume	V _{P,chosen}	418	m ³	Carbonaceous oxygen utilization rate	O _c	69%	-
Reactor volume	V _{P,calc}	101,327	gallons	Nitrification oxygen demand	FO _n	90	kgO ₂ /d
Average MLSS concentration	X _{TSS}	7,750	mgTSS/l	Total oxygen demand	FO _t	380	kgO ₂ /d
Food to microorganism ratio	F/M _{BOD,used}	0.080	kgBOD/kgMLSS	Oxygen recovered by denitrification	FO _d	57	kgO ₂ /d
Food to microorganism ratio	F/M _{COD,used}	0.152	kgCOD/kgMLSS	Net total oxygen demand (AOR)	FO _{td}	323	kgO ₂ /d
Membrane tank MLSS concentration	X _M	9,246	mgTSS/l	Oxygen saturation @ operating temp.	c _s	9.2	mg/l
Aerobic/Anoxic tank MLSS concentration	X _{Bio}	7,641	mgTSS/l	Desired oxygen level	c _x	2.0	mg/l
Number of anaerobic zones	# _{AN}	0	-	Transfer coefficient	α	0.40	-
Number of anoxic zones	# _{AO}	1	-	Diffuser water depth	DWD	14	feet
Number of aerobic zones	# _{AE}	1	-	Oxygen transfer efficiency	OTE	2	%
External recycle ratio	m	5	-	Standard total oxygen demand (SOR)	SOR	1,042	kgO ₂ /d
Internal recycle ratio	a	0	-	Required air flow	Q _{air}	329	scfm
DO in m recycle	O _m	0	mgO ₂ /l	Oxygen requir. per volume & depth	OS	18.2	gO ₂ /(Nm ₃ *mD)
DO in a recycle	O _a	0	mgO ₂ /l				
Recycle ratio to anaerobic tank (PAO)	s	0	-				
DO in s recycle	S _{O2,s}	0	mgO ₂ /l				
Nitrate on s recycle	S _{NO3,s}	0	mg/l				
TKN/COD ratio	f _{TKN/COD}	0.071	mgTKN/mgCOD				
Carbon source addition (Micro C)	B _{MicroC}	0.0	lb/d				
Carbon source addition (Micro C)	S _{MicroC}	0.00	gpd				
Nominal hydraulic retention time	HRT _n	18.9	h				
Actual hydraulic retention time	HRT _a	3.2	h				

Membrane Module Design

	Symbol	Value	Units
Permeate on cycle	T_o	8	minute
Permeate off cycle (relaxation)	T_s	2	minute
Effective membrane module surface	$A_{m,eff}$	84.0	m ²
Effective membrane module surface	$A_{m,eff}$	904	ft ²
Total number of membrane modules	N_M	42	-
Total membrane module surface	A_{total}	3,528	m ²
Total membrane module surface	A_{total}	37,975	ft ²
Nominal average daily flux	$Q_{ave,n}$	7.8	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	15.6	lmh
Nominal peak hourly flux	$Q_{peak,n}$	31.3	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	3.7	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	7.4	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	14.7	gfd
Total membrane module displacement vol.	$V_{modules}$	462	ft ³
Total membrane module displacement vol.	$V_{modules}$	3,456	gallons
Aeration modules	$A\#$	14	-
Membrane module aeration requirement	Q_{am}	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	399	acfm
Membrane diffuser water depth	DWD_m	13.3	feet
Oxygen requirement per volume & depth	OS	14	gO ₂ /(Nm ₃ *m _D)
Standard oxygen rate, membrane aeration	SOR_m	1,958	lbO ₂ /d
Standard oxygen rate, membrane aeration	SOR_m	897	kgO ₂ /d



- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

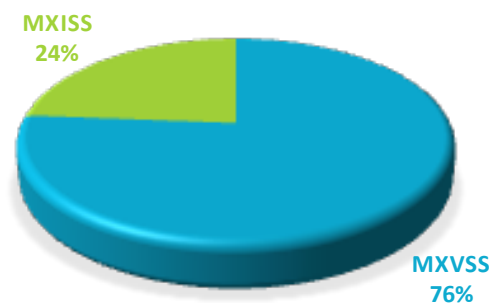
Kinetic Constants	Symbol	Value	Units	Stoichiometric Constants	Symbol	Value	Units
Yield coefficient OHO	Y_{OHO}	0.40	mgVSS/mgCOD	COD/BOD ratio	-	1.89	-
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD	Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd	Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Temperature coefficient for $k_{F,T}$	Θ_{KF}	1.029	-	Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
Fermentation rate at T	$k_{F,T}$	0.06	m3/gVSSd	SVFA fraction of RBCOD	$f_{SVFA,SSI}$	0.15	g/gCOD _{SS}
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd	VSS/TSS of activated sludge	f_{VT}	0.76	mgVSS/mgTSS
Endogenous respiration rate T	$b_{OHO,T}$	0.24	gVSS/gVSSd	COD/VSS of activated sludge	f_{cv}	1.48	kgCOD/kgVSS
Yield coefficient FSA	Y_A	0.10	mgVSS/mgFSA	True synthesis fraction	f_s^0	0.57	-
Nitri. pH sensitivity coefficient	K_i	1.13	-	Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
Nitri. pH sensitivity coefficient	K_{max}	9.50	-	ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Nitri. pH sensitivity coefficient	K_{II}	0.30	-	Active fraction - VSS	f_{avOHO}	23%	-
Max. specific growth rate at 20°C	μ_{Am}	0.45	1/d	Active fraction - TSS	f_{at}	17%	-
Max. spec. growth rate - Temp/pH	μ_{AmTpH}	0.38	1/d	Influent FSA fraction	$f_{FSA,i}$	0.67	-
Half saturation coefficient	K_n	0.75	mgFSA/l	Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Half saturation coefficient - Temp	K_{nT}	0.75	mgFSA/l	Non-bio. particulate orgN fraction	f_n	0.12	-
Endogenous respiration rate (decay)	b_A	0.04	1/d	Permissible unaer. sludge mass fraction	f_{xm}	0.75	-
Temperature coefficient for $k_{F,T}$	θ_n	1.123	-	Design unaerated sludge mass fraction	f_{xt}	0.36	-
Endogenous respiration rate T	b_{AT}	0.040	1/d	Minimum primary anoxic mass fraction	f_{x1min}	0.04	-
Temperature sensitivity coefficient	Θ_{nk1}	1.20	-	Primary anoxic mass fraction	f_{x1}	0.36	-
Temperature sensitivity coefficient	Θ_{nk2}	1.05	-	Secondary anoxic mass fraction	f_{x2}	0.00	-
Temperature sensitivity coefficient	Θ_{nk3}	1.03	-	Anaerobic mass fraction	f_{AN}	0.00	-
Denitrification rates at 20°C	k_1	0.70	-	Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Denitrification rates at 20°C	k_2	0.10	-	Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
Denitrification rates at 20°C	k_3	0.08	-	P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
Denitrification rates	k_{1T}	0.700	-	VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Denitrification rates	k_{2T}	0.101	-	Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Denitrification rates	k_{3T}	0.080	-	Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
Yield coefficient PAO	Y_{PAO}	0.45	gAVSS/gCOD	P content of TSS	$f_{P,TSS}$	0.040	gP/gTSS
Yield coefficient PAO	$Y_{PAO,obs}$	0.20	gAVSS/gCOD	P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
Endogenous respiration rate (decay)	$b_{PAO,20}$	0.04	gEVSS/gCOD	TKN/COD ratio	f_{ns}	0.07	mgTKN/mgCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{d,PAO}$	1.029	-	Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS
Endogenous respiration rate T	$b_{PAO,T}$	0.04	gEVSS/gVSSd				

Biological Mass Balance

	Symbol	Value	Units
Sludge age	SRT	25 d	
Mixed liquor suspended solids	X _{TSS}	7,750 mgTSS/l	
Readable biodegradable COD flux	FS _{S,i}	113 kgCOD/d	
Daily flux of VFAs	FS _{VFA,i}	17 kgCOD/d	
Daily flux of fermentable COD	FS _{F,i}	96 kgCOD/d	
Daily flux of biodegradable COD	FS _{bio,i}	356 kgCOD/d	
Daily flux of particulate inert COD	FS _{PIN,i}	68 kgCOD/d	
Daily flux of fixed inorganic sus. solids	FS _{ISS,i}	25 kgISS/d	
Influent particulate non-bio. COD	FX _{VSS,i}	46 kgVSS/d	
Mass nitrogen into sludge prod.	FN _{Sludge}	11 kgN/d	
Mass of nitrate generated per day	FN _{NO3}	20 kgN/d	
VFAs stored by PAOs	FS _{S,PAO}	0 kgCOD/d	
Remaining biodegradable COD	FCOD _{b,OH0}	356 kgCOD/d	
Mass nitrifiers	MX _A	25 kgVSS	
Active biomass PAO	MX _{PAO}	0 KgAVSS	
Endogenous active biomass PAO	MX _{E,PAO}	0 kgEVSS	
Bio mass	MX _{bio}	511 kgVSS	
Active organism mass	MX _{OH0}	511 kgVSS	
Endogenous residue mass	MX _{E,OH0}	614 kgVSS	
Non-biodegradable particulate mass	MX _{Iv}	1,141 kgVSS	
Volatile suspended solids mass	MX _{VSS}	2,266 kgVSS	
Inorganic suspended solid mass	MX _{ISS}	706 kgISS	
Total suspended solids mass	MX _{TSS}	2,972 kgTSS	
Mass/Sludge TSS wasted	FX _t	119 KgTSS/d	
Mass/Sludge VSS wasted	FX _v	91 kgVSS/d	
Effluent COD	S _{COD,e}	51 mgCOD/l	
COD mass out (effluent and waste)	FS _{COD,e}	27 kgCOD/d	
Mass/Sludge COD wasted	FX _{COD,s}	134 kgCOD/d	

Alkalinity

	Symbol	Value	Units
Alkalinity Nitrification as CaCO ₃ (consumed)	Alk _{Nitri}	266 mg/l as CaCO ₃	
Alkalinity Denitrification as CaCO ₃ (recovered)	Alk _{Denitri}	134 mg/l as CaCO ₃	
Alkalinity _{ef}	Alk _e	100 mg/l as CaCO ₃	
Alkalinity _{inf}	Alk _i	250 mg/l as CaCO ₃	
Alkalinity Alum (consumed)	Alk _{Alum}	0.0 mg/l as CaCO ₃	
Alkalinity _{Total}	Alk _{total}	118 mg/l as CaCO ₃	
Alkalinity _{Added}	Alk _{added}	-18 mg/l as CaCO ₃	
Alkalinity _{Added}	XAlk _{added}	0 lb/d	
Density caustic solution (50%)	-	12.76 lb/gal	
Alkalinity _{recovered}	Alk _{recovered}	0.4 lbCaCO ₃ /lb	
Caustic _{needed}	-	0.0 lb/d	
Caustic _{needed}	-	0.0 gpd	



$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

N Removal

	Symbol	Value	Units
Factor of safety	S_f	1.2	-
Nitrogen requirements	FN_{synth}	9	kgN/d
Nitrogen requirements	$TKN_{i,\text{synth}}$	17.11	gN/m ³
Influent non-bio. soluble organic N	$N_{\text{nbios},i}$	1.8	mgN/l
Influent non-bio. particulate org. N	$N_{\text{nbio},i}$	10.3	mgN/l
Influent biodegradable organic N	$N_{\text{bio},i}$	18.2	mgN/l
Effluent non-bio. soluble organic N	$N_{\text{nbios},e}$	1.8	mgN/l
NH ₄ concentration avail. for nitrif.	N_{an}	37.7	mgN/l
Effluent ammonia	$N_{\text{a},e}$	0.4	mgN/l
Effluent TKN	$N_{\text{TKN},e}$	2.2	mgN/l
N concentration into sludge prod.	N_s	20.5	mgN/l
Nitrification capacity	N_c	37.3	mgN/l
Denitrification potential RBCOD	$D_{p1\text{RBCOD}}$	30.0	mgNO ₃ -N/l
Denitrification potential SBCOD	$D_{p1\text{SBCOD}}$	35.1	mgNO ₃ -N/l
Denitrification potential RBCOD	$D_{p3\text{RBCOD}}$	0.0	mgNO ₃ -N/l
Denitrification potential SBCOD	$D_{p3\text{SBCOD}}$	0.0	mgNO ₃ -N/l
Minimum sludge age for nitrif.	SRT_m	4.9	d
Denitrification potential primary tank	D_{p1}	65.2	mgN/l
Denitrification potential secondary tank	D_{p3}	0.0	mgN/l
Denitri. potential recycle rate ($f_{xm} = f_{xdm}$)	D_{p^*}	31.1	mgN/l
Effluent nitrate	$N_{\text{NO3},e}$	0.0	mgN/l
Effluent nitrate @ f_{xdm} & recycle rate	N_{NO3,e^*}	6.2	mgN/l

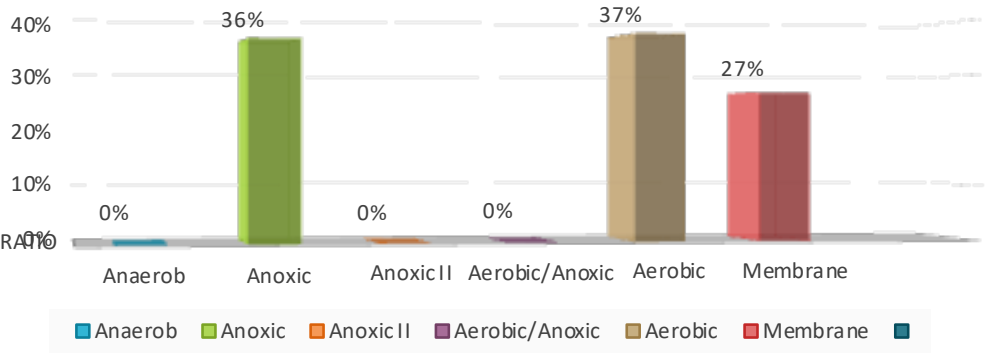
P Removal

	Symbol	Value	Units
COD lost in anaerobic reactor	$S_{F,ANn}$	0.0	gCOD/m ³
COD lost in anaerobic reactor	S_{F,ANn^*}	0.0	gCOD/m ³
Fermentable COD for AN reactor	$S_{F,i,\text{conv}}$	0.0	gCOD/m ³
DO in influent	$SO_{2,i}$	0.0	mgO ₂ /l
PO ₄ release AN reactor	$S_{PO4,\text{rel}}$	0.0	gP/m ³
P removal by PAOs	ΔP_{PAO}	0.0	gP/m ³
P removal by OHOs	ΔP_{OHO}	1.2	gP/m ³
P removal by endogeneous biomass	ΔP_{XE}	2.3	gP/m ³
P removal by influent inert mass	ΔP_{XI}	4.3	gP/m ³
P into sludge production	P_s	6.9	gP/m ³
Potential P removal by system	$\Delta P_{\text{SYS,POT}}$	14.7	gP/m ³
Actual P removal by system	$\Delta P_{\text{SYS,ACT}}$	10.0	gP/m ³
Effluent particulate P from TSS	$X_{P,e}$	0.0	gP/m ³
Influent total P	P_i	10.0	gP/m ³
Effluent total P	P_{e^*}	0.0	gP/m ³
P precipitated	P_{prec}	0.0	mgP/l
Precipitation chemical	B_{Alum}	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	Z_{AL}^{3+}	0.100	lb _{AL} /lb _{prec}
Density Iron	Z_{FE}^{3+}	0.077	lb _{FE} /lb _{prec}
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d

Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerob	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	1	21.00 ft	17.00 ft	.00 ft	0.0	17.50 ft	14.88 ft	39,735 gal	39,735 gal	150.4 m3
Aerobic	1	22.00 ft	17.00 ft	.00 ft	0.0	17.50 ft	14.69 ft	41,096 gal	41,096 gal	155.5 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	1	16.00 ft	17.00 ft	.00 ft	0.0	17.50 ft	14.50 ft	29,501 gal	29,501 gal	111.7 m3
Sludge	1	10.00 ft	14.00 ft	.00 ft	0.0	17.50 ft	14.75 ft	15,446 gal	15,446 gal	58.5 m3
Post Aeration	1	20.00 ft	15.00 ft	.00 ft	0.0	12.50 ft	10.00 ft	22,440 gal	22,440 gal	84.9 m3

Tank Design	Symbol	Value	Units
Total process tank volume	110,332	gallons	Weir level 2.3 inches
Total process tank volume _{calc}	101,327	gallons	Weir length 4.0 ft
Unaerated tank percentage	36	%	Velocity 1.43 fps
Total tank volume	148,218	gallons	Vertical tank 0
Membrane modules volume	3,456	gallons	Horz. Tank 0
F/M _{used,BOD}	0.080	kgBOD/kgMLSS	Diameter 0 ft
F/M _{used,COD}	0.152	kgCOD/kgMLSS	



Process Volume Distribution

Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A, re}$	399	329	62	30	acfm / scfm
Chosen air flow - actual	$Q_{A, chosen}$	400	320	61	27	acfm
Chosen air flow - inlet	$Q_{A, chosen}$	736	577	110	49	m ³ /h
Chosen air flow - inlet	$Q_{A, chosen}$	433	340	65	29	scfm
Chosen air flow - piping	$Q_{A, chosen}$	287	225	43	21	acfm
Pipe pressure	p_b	7.5	7.5	7.5	5.5	psi
Pipe losses	H	0.34	0.22	0.30	0.04	psi
Equivalent length in pipe losses	L_p	400	400	400	200	feet
Pipe diameter	d	4.0	4.0	2.0	2.0	inches
Internal pipe diameter	d_i	4.26	4.26	2.16	2.16	inches
Standard temperature	T_1	293	293	293	293	K
Pipe temperature	T_2	329	329	329	321	K
Constant	f	0.02	0.02	0.03	0.03	-
Air velocity	v	48.4	37.9	28.3	13.8	fps
Atmospheric pressure	$p_{a,1}$	14.7	14.7	14.7	14.7	psi
Absolute pressure	p_2	22.2	22.2	22.2	20.2	psi
Pressure due to tank liquid level	$p_{DWD,m}$	5.8	6.2	6.2	4.1	psi
Pressure due to aeration device	p_{DWD}	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD,s}$	0.5	0.4	0.5	0.2	psi
Total pipe losses	p_t	7.1	7.3	7.2	4.9	psi
Total pipe losses	p_t	490.0	502.9	496.5	336.4	mbar

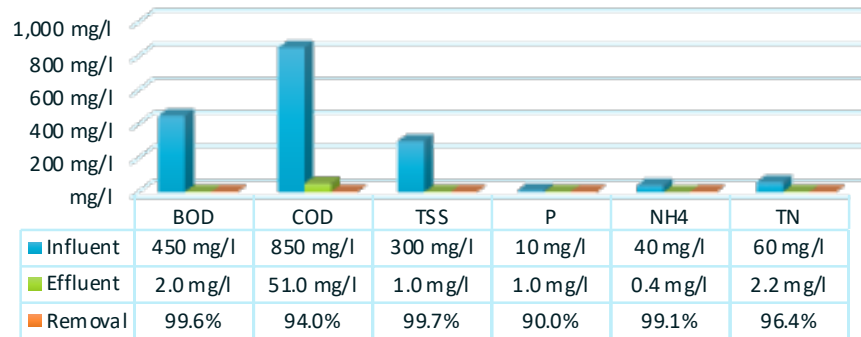
$$H = 9.82 \cdot 10^{-8} \cdot \frac{(f \cdot L_p \cdot T_2 \cdot Q_{A, chosen})}{(p_2 d_i)^5}$$

$$f = \frac{(0.029 \cdot d_i^{0.027})}{Q_{A, chosen}^{0.148}} \quad T_2 = T_1 \left(\frac{p_2}{p_{a,1}} \right)^{0.283}$$



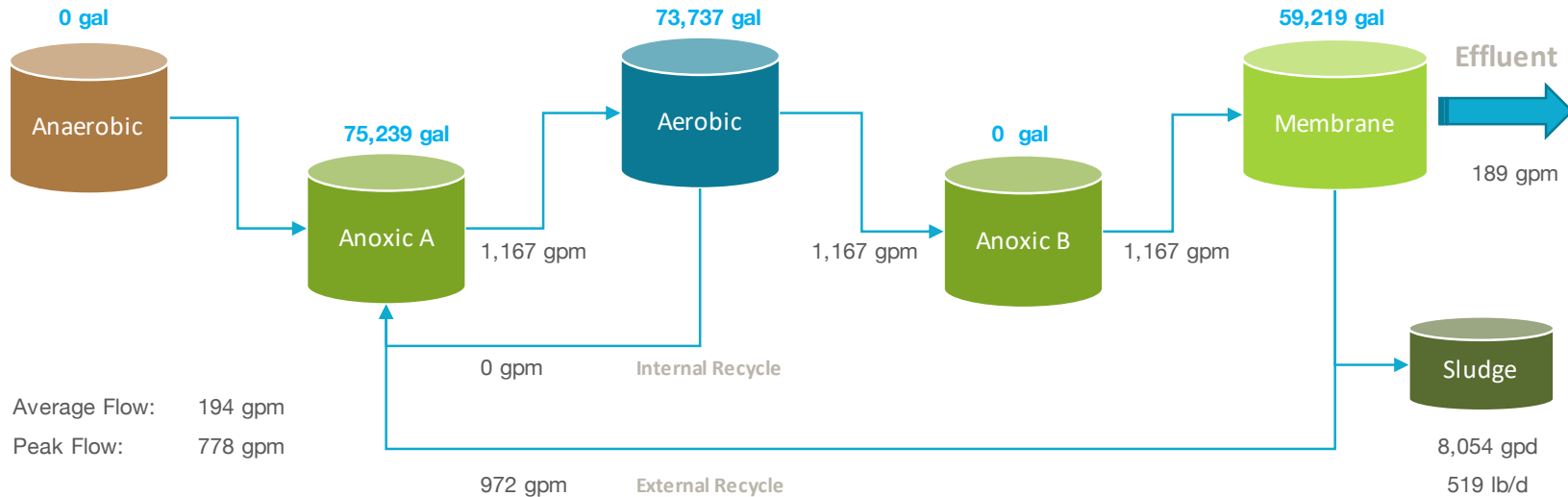
Process Summary for Phase 4 - 280,000 GPD

Influent & Effluent Parameters



PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	208,195 gal
Total SOR	2,084 kgO2/d
MLSS in Anoxic / Aerobic Tank	7,682 mg/l
MLSS in Membrane Tank	9,306 mg/l
HRT	18 h
F/M RATIO (BOD)	0.080
F/M RATIO (COD)	0.152
Total Membrane Surface	75,950 sf



Aeration	Flow	Pressure
EQ	0 scfm	5.5 psi
Sludge	0 scfm	7.5 psi
Aerobic	664 scfm	7.5 psi
Membrane	799 scfm	7.5 psi

Applied Options:

NO	DAF
NO	RO

10/29/24

Biological Process Calculation

Influent Characteristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	20	°C
pH	-	7.0	-
H ₂ CO ₃ alkalinity	Alk _i	250	mg/l as CaCO ₃
Site pressure / elevation	p _{a,i}	14.7	psi
Average daily flow	Q _i	280,000	gpd
Peak daily flow	Q _{i, max,d}	560,000	gpd
Hourly peak flow	Q _{i, max,p}	778	gpm
Peak factor	-	4.0	-
Average daily flow	Q _i	1,060	m ³ /d
Max. monthly average daily flow	Q _{i, max,d}	2,120	m ³ /d
Hourly peak flow	Q _{i, max,h}	176.6	m ³ /h
Total BOD	S _{BOD,i}	450	mgBOD/l
Total COD	S _{COD,i}	850	mgCOD/l
COD/BOD ratio	-	1.89	-
Rapidly biodegradable COD	S _{s,i}	213	mgCOD/l
Volitale fatty acids (VFA)	S _{VFA,i}	32	mgCOD/l
Fermentable COD	S _{F,i}	180	mgCOD/l
Slowly biodegradable COD	S _{ss,i}	459	mgCOD/l
Biodegradable COD	S _{bio,i}	672	mgCOD/l
Soluble inert COD	S _{SIN,i}	51	mgCOD/l
Particulate inert COD	S _{PIN,i}	128	mgCOD/l

Influent Characteristics	Symbol	Value	Units
NO ₃	N _{NO3,i}	0.0	mg/l
NH ₄	N _{a,i}	40.0	mg/l
TKN	N _{TKN,i}	60.0	mg/l
TP	P _i	10.0	mg/l
Dissolved Oxygen	S _{O2,i}	0.0	mg/l
FSA fraction	f _{a/TKN,i}	0.7	-
Fixed (inorganic) suspended solids	X _{FSS,i}	47.5	mgISS/l
TSS concentration	S _{TSS,i}	300.0	mgTSS/l
Total BOD mass	FS _{BOD,i}	476.9	kgBOD/d
Total COD mass	FS _{COD,i}	900.8	kgCOD/d
Total NH ₄ mass	FS _{a,i}	42.4	kgNH ₄ /d
Total TKN mass	FS _{TKN,i}	63.6	kgTKN/d
Total P mass	FS _{P,i}	10.6	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	FX _t	519	lb/d
Waste Sludge	Q _w	8,054	gpd
Effluent BOD	S _{BOD,e}	< 3	mgBOD/l
Effluent COD	S _{COD,e}	51	mgCOD/l
Effluent TSS	S _{TSS,e}	1.0	mgTSS/l
Effluent P	P _e	1.0	mgP/l
Effluent NH ₄	N _{a,e}	0.4	mgN/l
Effluent NO ₃	N _{NO3,e}	0.0	mgN/l
Effluent TN (N _{ne} + N _{te})	N _{t,e}	2.2	mgN/l

Bioreactor Characteristics	Symbol	Value	Units	Biological Oxygen Demand	Symbol	Value	Units
Temperature	T _{bio}	20	°C	OD for synth & endo respiration (PAO)	FO _{PAO}	0	kgO ₂ /d
Sludge retention time / Sludge age	SRT	25	d	OD for synth & endo respiration (OHO)	FO _{OHO}	578	kgO ₂ /d
Reactor volume	V _{P,chosen}	208,195	gallons	Mass carbonaceous oxygen demand	FO _C	578	kgO ₂ /d
Reactor volume	V _{P,chosen}	788	m ³	Carbonaceous oxygen utilization rate	O _c	73%	-
Reactor volume	V _{P,calc}	201,355	gallons	Nitrification oxygen demand	FO _n	181	kgO ₂ /d
Average MLSS concentration	X _{TSS}	7,800	mgTSS/l	Total oxygen demand	FO _t	759	kgO ₂ /d
Food to microorganism ratio	F/M _{BOD,used}	0.080	kgBOD/kgMLSS	Oxygen recovered by denitrification	FO _d	113	kgO ₂ /d
Food to microorganism ratio	F/M _{COD,used}	0.152	kgCOD/kgMLSS	Net total oxygen demand (AOR)	FO _{td}	646	kgO ₂ /d
Membrane tank MLSS concentration	X _M	9,306	mgTSS/l	Oxygen saturation @ operating temp.	c _s	9.2	mg/l
Aerobic/Anoxic tank MLSS concentration	X _{Bio}	7,682	mgTSS/l	Desired oxygen level	c _x	2.0	mg/l
Number of anaerobic zones	# _{AN}	0	-	Transfer coefficient	α	0.40	-
Number of anoxic zones	# _{AO}	1	-	Diffuser water depth	DWD	14	feet
Number of aerobic zones	# _{AE}	1	-	Oxygen transfer efficiency	OTE	2	%
External recycle ratio	m	5	-	Standard total oxygen demand (SOR)	SOR	2,084	kgO ₂ /d
Internal recycle ratio	a	0	-	Required air flow	Q _{air}	659	scfm
DO in m recycle	O _m	0	mgO ₂ /l	Oxygen requir. per volume & depth	OS	18.2	gO ₂ /(Nm ₃ *mD)
DO in a recycle	O _a	0	mgO ₂ /l				
Recycle ratio to anaerobic tank (PAO)	s	0	-				
DO in s recycle	S _{O2,s}	0	mgO ₂ /l				
Nitrate on s recycle	S _{NO3,s}	0	mg/l				
TKN/COD ratio	f _{TKN/COD}	0.071	mgTKN/mgCOD				
Carbon source addition (Micro C)	B _{MicroC}	0.0	lb/d				
Carbon source addition (Micro C)	S _{MicroC}	0.00	gpd				
Nominal hydraulic retention time	HRT _n	17.8	h				
Actual hydraulic retention time	HRT _a	3.0	h				

Membrane Module Design

	Symbol	Value	Units
Permeate on cycle	T_o	8	minute
Permeate off cycle (relaxation)	T_s	2	minute
Effective membrane module surface	$A_{m,eff}$	84.0	m^2
Effective membrane module surface	$A_{m,eff}$	904	ft^2
Total number of membrane modules	N_M	84	-
Total membrane module surface	A_{total}	7,056	m^2
Total membrane module surface	A_{total}	75,950	ft^2
Nominal average daily flux	$Q_{ave,n}$	7.8	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	15.6	lmh
Nominal peak hourly flux	$Q_{peak,n}$	31.3	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	3.7	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	7.4	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	14.7	gfd
Total membrane module displacement vol.	$V_{modules}$	924	ft^3
Total membrane module displacement vol.	$V_{modules}$	6,912	gallons
Aeration modules	$A\#$	28	-
Membrane module aeration requirement	Q_{am}	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	798	acfm
Membrane diffuser water depth	DWD_m	13.3	feet
Oxygen requirement per volume & depth	OS	14	$gO_2/(Nm_3 \cdot m_D)$
Standard oxygen rate, membrane aeration	SOR_m	3,916	lbO_2/d
Standard oxygen rate, membrane aeration	SOR_m	1,793	kgO_2/d



- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

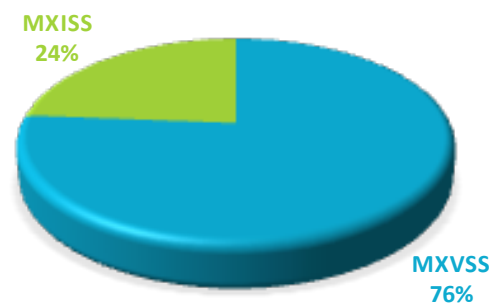
Kinetic Constants	Symbol	Value	Units	Stoichiometric Constants	Symbol	Value	Units
Yield coefficient OHO	Y_{OHO}	0.40	mgVSS/mgCOD	COD/BOD ratio	-	1.89	-
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD	Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd	Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Temperature coefficient for $k_{F,T}$	Θ_{KF}	1.029	-	Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
Fermentation rate at T	$k_{F,T}$	0.06	m3/gVSSd	SVFA fraction of RBCOD	$f_{SVFA,SSI}$	0.15	g/gCOD _{SS}
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd	VSS/TSS of activated sludge	f_{VT}	0.76	mgVSS/mgTSS
Endogenous respiration rate T	$b_{OHO,T}$	0.24	gVSS/gVSSd	COD/VSS of activated sludge	f_{cv}	1.48	kgCOD/kgVSS
Yield coefficient FSA	Y_A	0.10	mgVSS/mgFSA	True synthesis fraction	f_s^0	0.57	-
Nitri. pH sensitivity coefficient	K_i	1.13	-	Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
Nitri. pH sensitivity coefficient	K_{max}	9.50	-	ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Nitri. pH sensitivity coefficient	K_{II}	0.30	-	Active fraction - VSS	f_{avOHO}	23%	-
Max. specific growth rate at 20°C	μ_{Am}	0.45	1/d	Active fraction - TSS	f_{at}	17%	-
Max. spec. growth rate - Temp/pH	μ_{AmTpH}	0.38	1/d	Influent FSA fraction	$f_{FSA,i}$	0.67	-
Half saturation coefficient	K_n	0.75	mgFSA/l	Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Half saturation coefficient - Temp	K_{nT}	0.75	mgFSA/l	Non-bio. particulate orgN fraction	f_n	0.12	-
Endogenous respiration rate (decay)	b_A	0.04	1/d	Permissible unaer. sludge mass fraction	f_{xm}	0.75	-
Temperature coefficient for $k_{F,T}$	θ_n	1.123	-	Design unaerated sludge mass fraction	f_{xt}	0.36	-
Endogenous respiration rate T	b_{AT}	0.040	1/d	Minimum primary anoxic mass fraction	f_{x1min}	0.04	-
Temperature sensitivity coefficient	Θ_{nk1}	1.20	-	Primary anoxic mass fraction	f_{x1}	0.36	-
Temperature sensitivity coefficient	Θ_{nk2}	1.05	-	Secondary anoxic mass fraction	f_{x2}	0.00	-
Temperature sensitivity coefficient	Θ_{nk3}	1.03	-	Anaerobic mass fraction	f_{AN}	0.00	-
Denitrification rates at 20°C	k_1	0.70	-	Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Denitrification rates at 20°C	k_2	0.10	-	Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
Denitrification rates at 20°C	k_3	0.08	-	P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
Denitrification rates	k_{1T}	0.700	-	VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Denitrification rates	k_{2T}	0.101	-	Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Denitrification rates	k_{3T}	0.080	-	Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
Yield coefficient PAO	Y_{PAO}	0.45	gAVSS/gCOD	P content of TSS	$f_{P,TSS}$	0.040	gP/gTSS
Yield coefficient PAO	$Y_{PAO,obs}$	0.20	gAVSS/gCOD	P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
Endogenous respiration rate (decay)	$b_{PAO,20}$	0.04	gEVSS/gCOD	TKN/COD ratio	f_{ns}	0.07	mgTKN/mgCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{d,PAO}$	1.029	-	Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS
Endogenous respiration rate T	$b_{PAO,T}$	0.04	gEVSS/gVSSd				

Biological Mass Balance

	Symbol	Value	Units
Sludge age	SRT	25 d	
Mixed liquor suspended solids	X _{TSS}	7,800 mgTSS/l	
Readiable biodegradabe COD flux	FS _{S,i}	225 kgCOD/d	
Daily flux of VFAs	FS _{VFA,i}	34 kgCOD/d	
Daily flux of fermentable COD	FS _{F,i}	191 kgCOD/d	
Daily flux of biodegradable COD	FS _{bio,i}	712 kgCOD/d	
Daily flux of particulate inert COD	FS _{PI,N,i}	135 kgCOD/d	
Daily flux of fixed inorganic sus. solids	FS _{ISS,i}	50 kgISS/d	
Influent particulate non-bio. COD	FX _{VSS,i}	91 kgVSS/d	
Mass nitrogen into sludge prod.	FN _{Sludge}	22 kgN/d	
Mass of nitrate generated per day	FN _{NO3}	40 kgN/d	
VFAs stored by PAOs	FS _{S,PAO}	0 kgCOD/d	
Remaining biodegradable COD	FCOD _{b,OH0}	712 kgCOD/d	
Mass nitrifiers	MX _A	49 kgVSS	
Active biomass PAO	MX _{PAO}	0 KgAVSS	
Endogenous active biomass PAO	MX _{E,PAO}	0 kgEVSS	
Bio mass	MX _{bio}	1,023 kgVSS	
Active organism mass	MX _{OH0}	1,023 kgVSS	
Endogenous residue mass	MX _{E,OH0}	1,227 kgVSS	
Non-biodegradable particulate mass	MX _{Iv}	2,283 kgVSS	
Volatile suspended solids mass	MX _{VSS}	4,533 kgVSS	
Inorganic suspended solid mass	MX _{ISS}	1,412 kgISS	
Total suspended solids mass	MX _{TSS}	5,945 kgTSS	
Mass/Sludge TSS wasted	FX _t	238 KgTSS/d	
Mass/Sludge VSS wasted	FX _v	181 kgVSS/d	
Effluent COD	S _{COD,e}	51 mgCOD/l	
COD mass out (effluent and waste)	FS _{COD,e}	54 kgCOD/d	
Mass/Sludge COD wasted	FX _{COD,s}	268 kgCOD/d	

Alkalinity

	Symbol	Value	Units
Alkalinity Nitrification as CaCO ₃ (consumed)	Alk _{Nitri}	266 mg/l as CaCO ₃	
Alkalinity Denitrification as CaCO ₃ (recovered)	Alk _{Denitri}	134 mg/l as CaCO ₃	
Alkalinity _{ef}	Alk _e	100 mg/l as CaCO ₃	
Alkalinity _{inf}	Alk _i	250 mg/l as CaCO ₃	
Alkalinity Alum (consumed)	Alk _{Alum}	0.0 mg/l as CaCO ₃	
Alkalinity Total	Alk _{total}	118 mg/l as CaCO ₃	
Alkalinity Added	Alk _{added}	-18 mg/l as CaCO ₃	
Alkalinity Added	XAlk _{added}	0 lb/d	
Density caustic solution (50%)	-	12.76 lb/gal	
Alkalinity recovered	Alk _{recovered}	0.4 lbCaCO ₃ /lb	
Caustic needed	-	0.0 lb/d	
Caustic needed	-	0.0 gpd	



$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

N Removal

	Symbol	Value	Units
Factor of safety	S_f	1.2	-
Nitrogen requirements	FN_{synth}	18	kgN/d
Nitrogen requirements	$TKN_{i,\text{synth}}$	17.11	gN/m ³
Influent non-bio. soluble organic N	$N_{\text{nbios},i}$	1.8	mgN/l
Influent non-bio. particulate org. N	$N_{\text{nbio},i}$	10.3	mgN/l
Influent biodegradable organic N	$N_{\text{bio},i}$	18.2	mgN/l
Effluent non-bio. soluble organic N	$N_{\text{nbios},e}$	1.8	mgN/l
NH ₄ concentration avail. for nitri.	N_{an}	37.7	mgN/l
Effluent ammonia	$N_{a,e}$	0.4	mgN/l
Effluent TKN	$N_{\text{TKN},e}$	2.2	mgN/l
N concentration into sludge prod.	N_s	20.5	mgN/l
Nitrification capacity	N_c	37.3	mgN/l
Denitrification potential RBCOD	$D_{p1\text{RBCOD}}$	30.0	mgNO ₃ -N/l
Denitrification potential SBCOD	$D_{p1\text{SBCOD}}$	35.2	mgNO ₃ -N/l
Denitrification potential RBCOD	$D_{p3\text{RBCOD}}$	0.0	mgNO ₃ -N/l
Denitrification potential SBCOD	$D_{p3\text{SBCOD}}$	0.0	mgNO ₃ -N/l
Minimum sludge age for nitri.	SRT_m	4.9	d
Denitrification potential primary tank	D_{p1}	65.3	mgN/l
Denitrification potential secondary tank	D_{p3}	0.0	mgN/l
Denitri. potential recycle rate ($f_{xm} = f_{x\text{dm}}$)	D_{p^*}	31.1	mgN/l
Effluent nitrate	$N_{\text{NO}_3,e}$	0.0	mgN/l
Effluent nitrate @ $f_{x\text{dm}}$ & recycle rate	N_{NO_3,e^*}	6.2	mgN/l

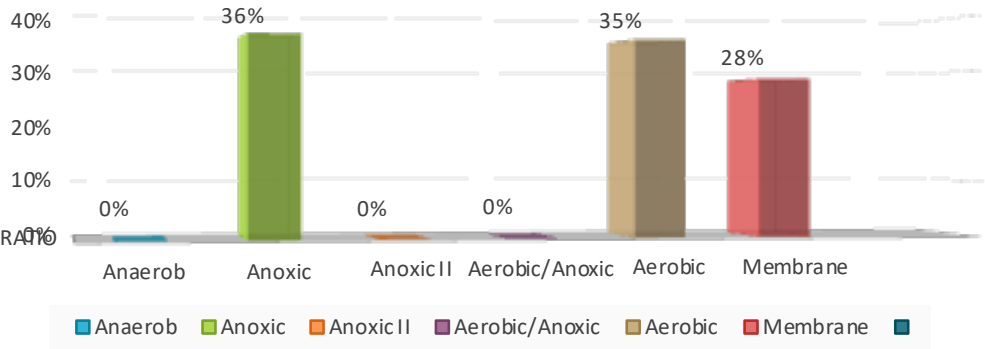
P Removal

	Symbol	Value	Units
COD lost in anaerobic reatcor	$S_{F,\text{ANn}}$	0.0	gCOD/m ³
COD lost in anaerobic reatcor	S_{F,ANn^*}	0.0	gCOD/m ³
Fermentable COD for AN reactor	$S_{F,i,\text{conv}}$	0.0	gCOD/m ³
DO in influent	$S_{\text{O}_2,i}$	0.0	mgO ₂ /l
PO ₄ release AN reactor	$S_{\text{PO}_4,\text{rel}}$	0.0	gP/m ³
P removal by PAOs	ΔP_{PAO}	0.0	gP/m ³
P removal by OHOs	ΔP_{OHO}	1.2	gP/m ³
P removal by endgeneous biomass	ΔP_{XE}	2.3	gP/m ³
P removal by influent inert mass	ΔP_{XI}	4.3	gP/m ³
P into sludge production	P_s	6.9	gP/m ³
Potential P removal by system	$\Delta P_{\text{SYS,POT}}$	14.7	gP/m ³
Actual P removal by system	$\Delta P_{\text{SYS,ACT}}$	10.0	gP/m ³
Effluent particulate P from TSS	$X_{P,e}$	0.0	gP/m ³
Influent total P	P_i	10.0	gP/m ³
Effluent total P	P_{e^*}	0.0	gP/m ³
P precipitated	P_{prec}	0.0	mgP/l
Precipitation chemical	B_{Alum}	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	Z_{AL}^{3+}	0.100	lb _{AL} /lb _{prec}
Density Iron	Z_{FE}^{3+}	0.077	lb _{FE} /lb _{prec}
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d

Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerob	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	1	37.00 ft	18.00 ft	.00 ft	0.0	17.50 ft	15.10 ft	75,239 gal	75,239 gal	284.8 m3
Aerobic	1	37.00 ft	18.00 ft	.00 ft	0.0	17.50 ft	14.80 ft	73,737 gal	73,737 gal	279.1 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	1	42.00 ft	13.00 ft	.00 ft	0.0	17.50 ft	14.50 ft	59,219 gal	59,219 gal	224.1 m3
Sludge	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Post Aeration	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3

Tank Design	Symbol	Value	Units
Total process tank volume	208,195	gallons	Weir level 3.6 inches
Total process tank volume _{calc}	201,355	gallons	Weir length 4.0 ft
Unaerated tank percentage	36	%	Velocity 1.80 fps
Total tank volume	208,195	gallons	Vertical tank 0
Membrane modules volume	6,912	gallons	Horz. Tank 0
F/M _{used,BOD}	0.080	kgBOD/kgMLSS	Diameter 0 ft
F/M _{used,COD}	0.152	kgCOD/kgMLSS	



Process Volume Distribution

Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A, re}$	798	659	0	0	acfm / scfm
Chosen air flow - actual	$Q_{A, chosen}$	737	626	0	0	acfm
Chosen air flow - inlet	$Q_{A, chosen}$	1,357	1,129	0	0	m ³ /h
Chosen air flow - inlet	$Q_{A, chosen}$	799	664	0	0	scfm
Chosen air flow - piping	$Q_{A, chosen}$	529	440	0	0	acfm
Pipe pressure	p_b	7.5	7.5	7.5	5.5	psi
Pipe losses	H	0.14	0.10	0.00	0.00	psi
Equivalent length in pipe losses	L_p	400	400	400	200	feet
Pipe diameter	d	6.0	6.0	2.0	2.0	inches
Internal pipe diameter	d_i	6.36	6.36	2.16	2.16	inches
Standard temperature	T_1	293	293	293	293	K
Pipe temperature	T_2	329	329	329	321	K
Constant	f	0.02	0.02	0.09	0.09	-
Air velocity	v	40.0	33.3	0.0	0.0	fps
Atmospheric pressure	$p_{a,1}$	14.7	14.7	14.7	14.7	psi
Absolute pressure	p_2	22.2	22.2	22.2	20.2	psi
Pressure due to tank liquid level	$p_{DWD,m}$	5.8	6.2	0.0	0.0	psi
Pressure due to aeration device	p_{DWD}	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD,s}$	0.3	0.3	0.2	0.2	psi
Total pipe losses	p_t	6.9	7.2	0.7	0.7	psi
Total pipe losses	p_t	476.6	498.4	48.3	48.3	mbar

$$H = 9.82 \cdot 10^{-8} \cdot \frac{(f \cdot L_p \cdot T_2 \cdot Q_{A, chosen})}{(p_2 d_i)^5}$$

$$f = \frac{(0.029 \cdot d_i^{0.027})}{Q_{A, chosen}^{0.148}} \quad T_2 = T_1 \left(\frac{p_2}{p_{a,1}} \right)^{0.283}$$

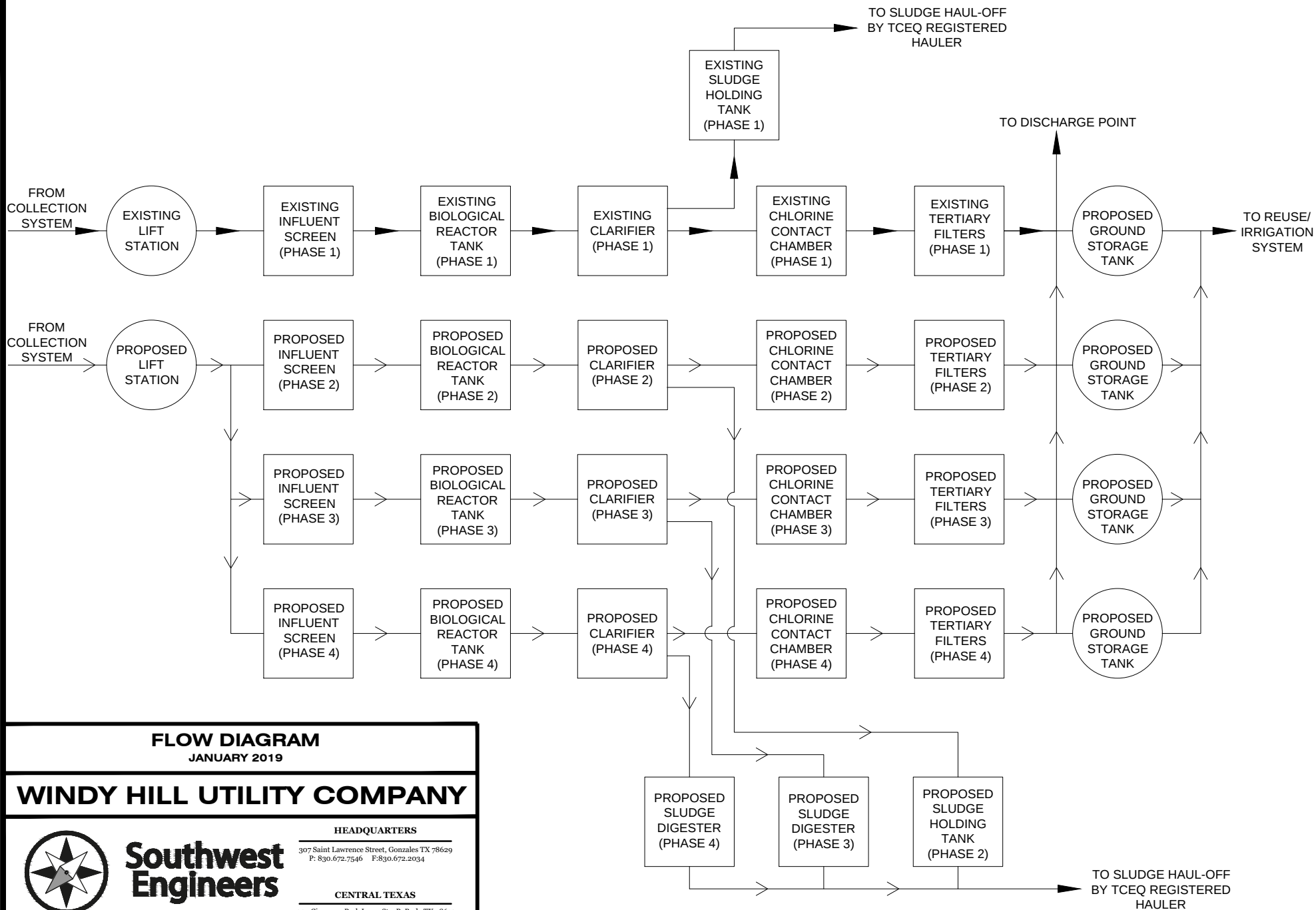


DOMESTIC TECHNICAL REPORT 1.0

ATTACHMENT 2.C

PROCESS FLOW DIAGRAMS

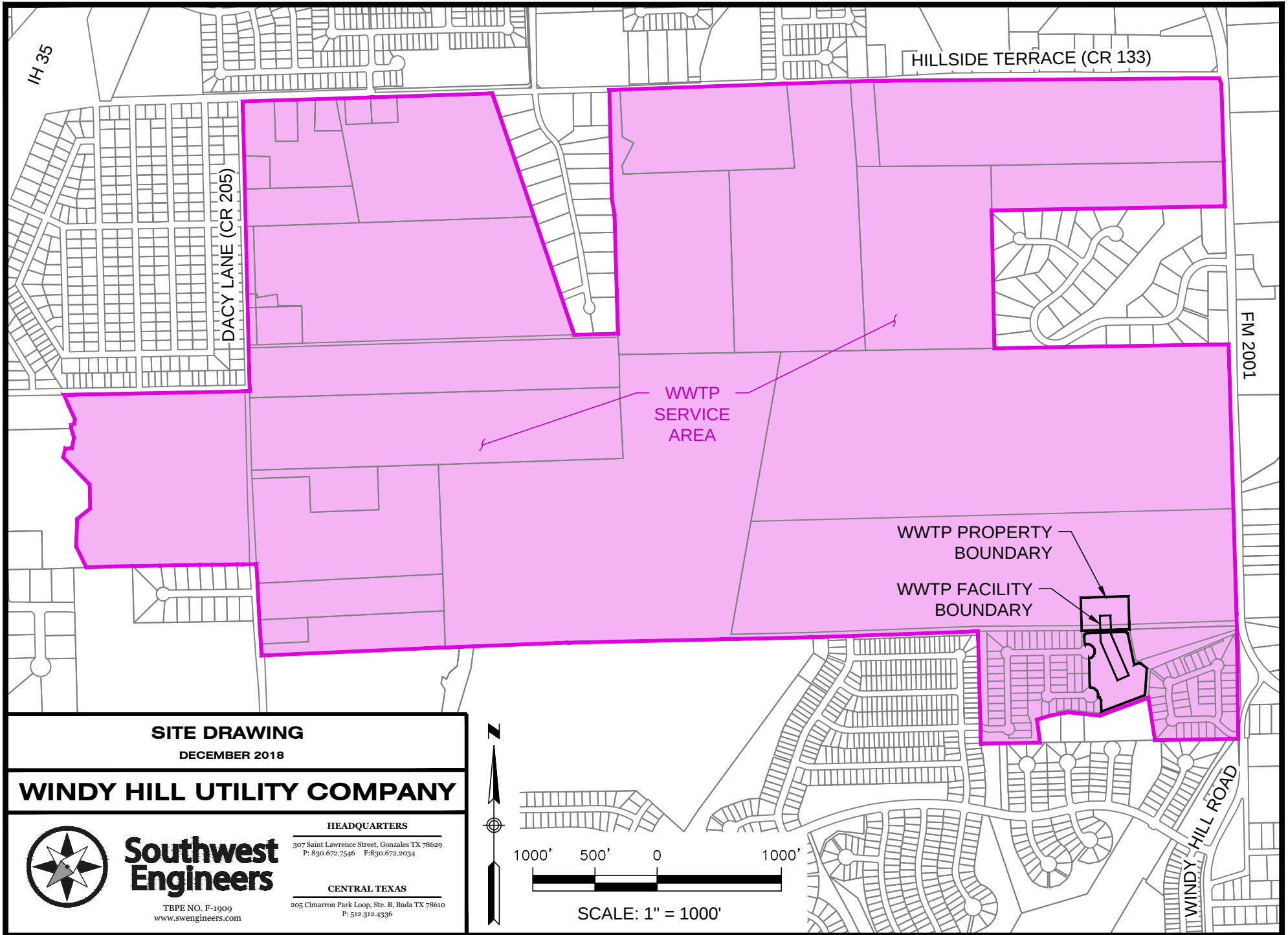
O:\CompanyData\Clients\0762 - Windy Hill Utility WWTP Expansion (Task Order #8)\Work in Progress\TCEQ Exhibit\Flow Diagram.dwg



DOMESTIC TECHNICAL REPORT 1.0

ATTACHMENT 3

SITE DRAWING



DOMESTIC TECHNICAL REPORT 1.0

ATTACHMENT 6.A

TCEQ APPROVAL LETTER

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 7, 2022

Allison M. Nieto, P.E.
SOUTHWEST ENGINEERS, INC.
307 Saint Lawrence Street
Gonzales, TX 78628



Re: Windy Hill Utility Company, LLC
WHU WRRF #1 - Phase 2
Permit No. WQ0015478-001
WWPR Log No. 0622/013
CN605145986, RN109208553
Hays County

Dear Ms. Nieto:

TCEQ received the project summary transmittal letter dated 5/31/2022.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 217, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Wastewater Systems.

Section 217.6(e), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §217.6(e) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 217 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

- You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 217. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §217.6(d). Additionally, the engineering report must include all constants, graphs,

Allison M. Nieto, P.E.

Page 2

June 7, 2022

equations, and calculations needed to show substantial compliance with Chapter 217. The items which shall be included in the summary transmittal letter are addressed in §217.6(d)(1)-(9).

- Any deviations from Chapter 217 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 217 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
- Any variance from a Chapter 217 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 217 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
- Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of 30 TAC §217.7(a) of the rules which states, "Approval given by the executive director or other authorized review authority does not relieve an owner of any liability or responsibility with respect to designing, constructing, or operating a collection system or treatment facility in accordance with applicable commission rules and the associated wastewater permit".

If you have any questions, or if we can be of any further assistance, please call me at (512) 239-4924.

Sincerely,



Baltazar Lucero-Ramirez, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

BLR/tc

cc: TCEQ, Region 11 Office

DOMESTIC TECHNICAL REPORT 1.0

ATTACHMENT 6.C

NOTICE OF COMPLETION



**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
NOTIFICATION OF COMPLETION/PHASE OF WASTEWATER
TREATMENT FACILITY**

If you have questions about completing this form please contact the Applications Review and Processing Team at 512-239-4671.

Current Permit Information

What is the TCEQ Water Quality Permit Number? WQ0015478001

What is the EPA I.D. Number? TX 0137111

Current Name on Permit: Windy Hill Utility Co. LLC

Notification

Indicate the phase the facility will be operating.

- ☒ Interim Phase I Flow
- ☐ Interim Phase II Flow
- ☐ Interim Phase III Flow
- ☐ Final Phase Flow

Indicate the date that the operation began or will begin operating under the selected phase:

Month/Day/Year: 09/24/2018

Comments: [REDACTED]

Certification and Signature

Responsible Official Name (Print or Type): Mia Natalino, P.E.

Responsible Official Title: General Manager

Responsible Official Email: mian@bvrwater.com

I certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink): Mia Natalino Date: 10.4.18

Email completed form to:
or

WQ-ARPTeam@tceq.texas.gov

Fax completed form to:
or mail completed form to:

512-239-0884
Texas Commission on Environmental Quality
Applications Review and Processing Team (MC-148)
P.O. Box 13087
Austin TX 78711-3087



**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
NOTIFICATION OF COMPLETION/PHASE OF WASTEWATER
TREATMENT FACILITY**

If you have questions about completing this form please contact the Applications Review and Processing Team at 512-239-4671.

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Current Name on Permit: Windy Hill Utility Co., LLC

Notification

Indicate the phase the facility will be operating.

- ☐ Interim Phase I Flow
- ☒ Interim Phase II Flow
- ☐ Interim Phase III Flow
- ☐ Final Phase Flow

Indicate the date that the operation began or will begin operating under the selected phase:

Month/Day/Year: 12/11/23

Comments: Phase II 0.12 MGD

Certification and Signature

Responsible Official Name (Print or Type): Paul Townsley

Responsible Official Title: Authorized Signatory

Responsible Official Email: pault@bvrtwater.com

I certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink):  Date: 12/20/23

Email completed form to:
or

WQ-ARPTeam@tceq.texas.gov

Fax completed form to:
or mail completed form to:

512-239-0884
Texas Commission on Environmental Quality
Applications Review and Processing Team (MC-148)
P.O. Box 13087
Austin TX 78711-3087

DOMESTIC TECHNICAL REPORT 1.0

ATTACHMENT 7

POLLUTION ANALYSIS

Email information for report date:
10/17/24 11:50
H032473

O & M Management Services

Attn: Bill Fry
billf@bvrwater.com

PO Box 701201
San Antonio, TX 78270

Please contact us for your sampling needs or if you have any questions. Some convenient contacts are listed below. You can also access your results and reports through our ClientConnect™ portal on our website (www.aqua-techlabs.com).

For sampling questions:

samplingbryan@aqua-techlabs.com (Bryan area)
samplingaustin@aqua-techlabs.com (Austin area)

reporting@aqua-techlabs.com (report questions)

Aqua-Tech values you as a customer and encourages you to speak with our staff at 979-778-3707 or the above emails if you have questions.

Thank you for your business,
June M. Brien
Executive Technical Director

BRYAN FACILITY
635 Phil Gramm Boulevard
Bryan, TX 77807
Phone: (979) 778-3707
Fax: (979) 778-3193



AUSTIN FACILITY
3512 Montopolis Dr. Suite A
Austin, TX 78744
Phone: (512) 301-9559
Fax: (512) 301-9552

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

The following abbreviations indicate certification status:

NEL	TNI accredited parameter.
ANR	Accreditation not offered by the State of Texas.
DWP	Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
INF	Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

General Definitions:

NR	Not Reported.
RPD	Relative Percent Difference.
% R	Percent Recovery.
dry	Results with the "dry" unit designation are reported on a "dry weight" basis.
SQL	The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
Adj MDL	The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations.
MDL	The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

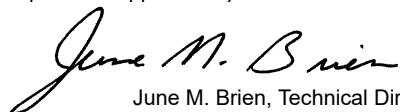
Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - *Required containers, preservation techniques, and holding times*, unless otherwise noted in this report.

Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:


June M. Brien, Technical Director

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

corp@aqua-techlabs.com

www.aqua-techlabs.com

Certificate: TX-C24-00311



TCEQ Lab ID T104704371

BRYAN FACILITY
635 Phil Gramm Boulevard
Bryan, TX 77807
Phone: (979) 778-3707
Fax: (979) 778-3193



AUSTIN FACILITY
3512 Montopolis Dr. Suite A
Austin, TX 78744
Phone: (512) 301-9559
Fax: (512) 301-9552

Analytical Report

O & M Management Services

Report Printed: 10/17/24 11:50

H032473

Windy Hill WWTP Permit Effluent

Collected: 10/02/24 13:03 by Mitchell Mindieta
Received: 10/02/24 15:20 by Mitchell Mindieta

Type
Grab

Matrix
Non Potable

C-O-C #
N/A

Lab ID#	H032473-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
Field Parameters												
Total Residual Chlorine	1.4		mg Cl as CL2/L			0.10	0.10	Calc	At Collection	SM4500-Cl F 2011	[CALC]	ANR
General Chemistry												
Total Dissolved Solids	556		mg/L	C-02		25.0	50.0	50.0	Austin	10/03/24 10:14 KHA	SM2540 C 2015	M183638 NEL
Total Kjeldahl Nitrogen as N	0.38		mg/L			0.13	0.13	0.20	Bryan	10/15/24 13:03 KMA	EPA 351.2 R2.0	M184070 NEL
Nitrate as N	3.0		mg/L				0.10	0.12	Calc	10/16/24 13:34 MSA	SM4500-NO3-F 2011	[CALC] NEL
Nitrite as N	<0.01		mg/L			0.002	0.002	0.01	Austin	10/03/24 11:15 MSA	SM4500 NO2- B 2011	M183652 NEL
Nitrate/Nitrite as N	3.0		mg/L			0.02	0.10	0.12	Bryan	10/16/24 13:34 KMA	SM4500-NO3-F 2011	M184238 ANR
Total Alkalinity as CaCO3 (pH4.5)	164		mg/L			5.00	20.0	20.0	Austin	10/04/24 10:53 MSA	SM2320 B 2011	M183675 DWP
Oil & Grease (HEM)	<4.9		mg/L			4.4	4.9	4.9	Bryan	10/08/24 09:19 HDH	EPA 1664B	M183838 NEL
Chloride	93.0		mg/L			0.60	2.41	20.0	Austin	10/07/24 10:30 MSA	SM4500-Cl- B 2011	M183779 NEL
Sulfate as SO4(2-)	133		mg/L			2.63	10.5	20.0	Austin	10/07/24 09:36 BEB	ASTM D516-16	M183789 NEL
Metals (Total)												
Phosphorus (Total)	<0.050		mg/L			0.082	0.041	0.050	Austin	10/08/24 12:53 KT	EPA 200.7 R4.4	M183750 NEL

Explanation of Notes

C-02 Result confirmed by re-analysis.

J Analyte detected below the SQL but above the MDL.

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H032473

Field Parameters - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Chlorine Residual, Total - SM4500-Cl F 2011												<i>Austin</i>
Duplicate	3.0	mg/L	0.1	0.1	10/02/24 09:15 MAM		6.0			66.7	10.2	M183420

General Chemistry - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Chloride - SM4500-Cl- B 2011												<i>Austin</i>
Initial Cal Check	49.8	mg/L			10/07/24 10:30 MSA	50.0		99.5	90 - 110			2410092
Low Cal Check	5.11	mg/L			10/07/24 10:30 MSA	4.95		103	70 - 130			2410092
Blank	<5.00	mg/L	0.60	5.00	10/07/24 10:30 MSA							M183779
LCS	20.5	mg/L	0.60	5.00	10/07/24 10:30 MSA	19.8		103	90 - 110			M183779
LCS Dup	20.5	mg/L	0.60	5.00	10/07/24 10:30 MSA	19.8		103	90 - 110	0.00	5.86	M183779
Matrix Spike	223	mg/L	2.41	20.0	10/07/24 10:30 MSA	79.2	139	106	83.4 - 113			M183779
Matrix Spike Dup	223	mg/L	2.41	20.0	10/07/24 10:30 MSA	79.2	139	106	83.4 - 113	0.00	10.7	M183779
MRL Check	5.11	mg/L	0.60	5.00	10/07/24 10:30 MSA	4.95		103	70 - 130			M183779
Mn Interference - SM4500-Cl F 2011												<i>Austin</i>
Duplicate	0.4	mg/L	0.1	0.1	10/08/24 07:09 BAL		0.4			0.00	7.47	M183836
Nitrate/Nitrite as N - SM4500-NO3-F 2011												<i>Bryan</i>
Initial Cal Check	1.0	mg/L			10/16/24 13:34 KMA	0.959		105	90 - 110			2410239
Interference Check A	2.0	mg/L			10/16/24 13:34 KMA	2.00		99.2	0 - 200			2410239
Low Cal Check	0.02	mg/L			10/16/24 13:34 KMA	0.0200		95.0	70 - 130			2410239
Blank	<0.02	mg/L	0.02	0.02	10/16/24 13:34 KMA							M184238
LCS	0.50	mg/L	0.02	0.02	10/16/24 13:34 KMA	0.500		101	92.6 - 108			M184238
LCS Dup	0.51	mg/L	0.02	0.02	10/16/24 13:34 KMA	0.500		102	92.6 - 108	0.989	2.2	M184238
Matrix Spike	10	mg/L	0.17	0.20	10/16/24 13:34 KMA	5.00	5.3	103	79.4 - 122			M184238
Matrix Spike Dup	11	mg/L	0.17	0.20	10/16/24 13:34 KMA	5.00	5.3	105	79.4 - 122	2.25	7.62	M184238

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General Chemistry - Quality Control												
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Nitrite as N - SM4500 NO2- B 2011												Austin
Initial Cal Check	0.08	mg/L			10/03/24 11:15 MSA	0.0740		104	90 - 110			2410052
Blank	<0.01	mg/L	0.002	0.01	10/03/24 11:15 MSA							M183652
LCS	0.08	mg/L	0.002	0.01	10/03/24 11:15 MSA	0.0800		102	90 - 110			M183652
LCS Dup	0.08	mg/L	0.002	0.01	10/03/24 11:15 MSA	0.0800		102	90 - 110	0.440	10	M183652
Matrix Spike	0.07	mg/L	0.002	0.01	10/03/24 11:15 MSA	0.0800	<0.01	87.2	57 - 116			M183652
Matrix Spike Dup	0.07	mg/L	0.002	0.01	10/03/24 11:15 MSA	0.0800	<0.01	86.8	57 - 116	0.515	10	M183652
MRL Check	<0.01	mg/L	0.002	0.01	10/03/24 11:15 MSA	0.0100		91.6	70 - 130			M183652
Initial Cal Check	0.08	mg/L			10/06/23 11:00 MSA	0.0800		106	90 - 110			2310075
Oil & Grease (HEM) - EPA 1664B												Bryan
Blank	<5.0	mg/L	5.0	5.0	10/08/24 09:19 HDH							M183838
LCS	33.9	mg/L	5.0	5.0	10/08/24 09:19 HDH	40.1		84.5	78 - 114			M183838
LCS Dup	33.8	mg/L	5.0	5.0	10/08/24 09:19 HDH	40.0		84.5	78 - 114	0.000027200		M183838
Matrix Spike	33.9	mg/L	4.9	4.9	10/08/24 09:19 HDH	39.3	<4.9	86.3	78 - 114			M183838
Sulfate as SO4(2-) - ASTM D516-16												Austin
Initial Cal Check	27.8	mg/L			09/13/24 09:10 BEB	30.0		92.7	90 - 110			2409181
Initial Cal Check	29.3	mg/L			10/07/24 09:36 BEB	30.0		97.6	90 - 110			2410096
Low Cal Check	4.23	mg/L			10/07/24 09:36 BEB	5.00		84.5	70 - 130			2410096
Blank	<5.00	mg/L	2.63	5.00	10/07/24 09:36 BEB							M183789
Duplicate	90.5	mg/L	10.5	20.0	10/07/24 09:36 BEB		91.7			1.32	11.9	M183789
Filtered Blank	<5.00	mg/L	2.63	5.00	10/07/24 09:36 BEB							M183789
LCS	8.84	mg/L	2.63	5.00	10/07/24 09:36 BEB	10.0		88.4	85 - 115			M183789
Matrix Spike	126	mg/L	10.5	20.0	10/07/24 09:36 BEB	40.0	91.7	84.6	61.6 - 137			M183789
Matrix Spike Dup	123	mg/L	10.5	20.0	10/07/24 09:36 BEB	40.0	91.7	79.0	61.6 - 137	6.87	17.1	M183789
MRL Check	<5.00	mg/L	2.63	5.00	10/07/24 09:36 BEB	5.00		84.5	70 - 130			M183789
Total Alkalinity as CaCO3 (pH4.5) - SM2320 B 2011												Austin
Initial Cal Check	6.84	mg/L			10/04/24 10:53 MSA	6.86		99.7	97 - 103			2410064
Initial Cal Check	9.08	mg/L			10/04/24 10:53 MSA	9.18		98.9	97 - 103			2410064
Low Cal Check	20.5	mg/L			10/04/24 10:53 MSA	18.8		109	0 - 200			2410064
Duplicate	363	mg/L	20.0	20.0	10/04/24 10:53 MSA		362			0.331	5.52	M183675
LCS	77.3	mg/L	20.0	20.0	10/04/24 10:53 MSA	75.4		103	95.5 - 105			M183675
LCS Dup	76.7	mg/L	20.0	20.0	10/04/24 10:53 MSA	75.4		102	95.5 - 105	0.779	4.76	M183675
MRL Check	20.5	mg/L	20.0	20.0	10/04/24 10:53 MSA	18.8		109	70 - 130			M183675

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Analytical Report

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General Chemistry - Quality Control												
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Total Dissolved Solids - SM2540 C 2015												Austin
Blank	<25.0	mg/L	25.0	25.0	10/03/24 10:14 KHA							M183638
Duplicate	550	mg/L	50.0	50.0	10/03/24 10:14 KHA		556			1.08	11.2	M183638
Reference	504	mg/L	100	100	10/03/24 10:14 KHA	501		101	75 - 127			M183638
Total Kjeldahl Nitrogen as N - EPA 351.2 R2.0												Bryan
Initial Cal Check	1.72	mg/L			10/15/24 13:03 KMA	1.69		102	90 - 110			2410219
Low Cal Check	0.22	mg/L			10/15/24 13:03 KMA	0.200		108	70 - 130			2410219
Blank	<0.20	mg/L	0.13	0.20	10/15/24 13:03 KMA							M184070
LCS	4.09	mg/L	0.13	0.20	10/15/24 13:03 KMA	4.00		102	87.4 - 119			M184070
LCS Dup	4.14	mg/L	0.13	0.20	10/15/24 13:03 KMA	4.00		104	87.4 - 119	1.24	5.44	M184070
Matrix Spike	168	mg/L	3.25	5.00	10/15/24 13:03 KMA	100	68.2	100	62.1 - 130			M184070
Matrix Spike Dup	169	mg/L	3.25	5.00	10/15/24 13:03 KMA	100	68.2	100	62.1 - 130	0.349	17.5	M184070
Metals (Total) - Quality Control												
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Phosphorus (Total) - EPA 200.7 R4.4												Austin
Blank	<0.050	mg/L	0.041	0.050	10/08/24 12:13 KT							M183750
LCS	2.47	mg/L	0.041	0.050	10/08/24 12:15 KT	2.50		98.7	84.5 - 115.4			M183750
LCS Dup	2.47	mg/L	0.041	0.050	10/08/24 12:18 KT	2.50		99.0	84.5 - 115.4	0.283	20	M183750
Duplicate	12.7	mg/L	0.041	0.050	10/08/24 12:20 KT		12.5			1.79	20	M183750
Matrix Spike	15.2	mg/L	0.041	0.050	10/08/24 12:23 KT	2.50	12.5	110	69.5 - 130.4			M183750
Sample Preparation Summary												
Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch		
H032473-01												
Chloride	SM4500-Cl- B 2011	10/7/24 10:30 MSA	Austin	F	25.0	mL	100	mL	1	M183779		
Nitrate/Nitrite as N	SM4500-NO3-F 2011	10/16/24 10:00 KMA	Bryan	B	1.00	mL	6.00	mL	1	M184238		
Nitrite as N	SM4500 NO2- B 2011	10/3/24 11:15 MSA	Austin	C	25.0	mL	25.0	mL	1	M183652		
Oil & Grease (HEM)	EPA 1664B	10/8/24 9:19 HDH	Bryan	K	1020	mL	1000	mL	1	M183838		
Phosphorus (Total)	EPA 200.7 R4.4	10/4/24 12:22 KT	Austin	I	50.0	mL	25.0	mL	1	M183750		
Sulfate as SO4(2-)	ASTM D516-16	10/7/24 9:36 BEB	Austin	F	25.0	mL	100	mL	1	M183789		
Total Alkalinity as CaCO3 (pH4.5)	SM2320 B 2011	10/4/24 10:53 MSA	Austin	D	50.0	mL	200	mL	1	M183675		
Total Dissolved Solids	SM2540 C 2015	10/3/24 10:14 KHA	Austin	F	50.0	mL	100	mL	1	M183638		
Total Kjeldahl Nitrogen as N	EPA 351.2 R2.0	10/14/24 8:26 CTG	Bryan	B	25.0	mL	25.0	mL	1	M184070		

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AQUA-TECH
LABORATORIES

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Analytical Report

O & M Management Services

Report Printed: 10/17/24 11:50
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Chain-of-Custody Summary

The following record summarizes custody for work orders sampled by Aqua-Tech Laboratories, Inc. personnel on route.

Original signatures are kept on file by Aqua-Tech Laboratories, Inc. and are available upon request.

WORK ORDER H032473

Cooler ID	Temperature °C	Condition Good?	On Ice?	Preservation Correct?	Custody Maintained by ATL?	See comments below or comments and qualifiers with analytical results explaining any "No" answers.	
T02	5.7	Yes	Yes	Yes	Yes		
H032473-01	Grab	Sampling Begun: 10/2/24 13:03			Sampling Ended: 10/2/24 13:03		
Container & Description		pH Checks / Comments		Container & Description		pH Checks / Comments	
A	Dechlor 0.5 LP			B	NO3 TKN 0.25LP H2SO4	pH < 2	
D	ALK 0.25LP			F	CL SO4 TDS 1LP		
I	P 0.25LP H2SO4	pH < 2		K	OG - 1LG Amber HCl		
M	OG pH Chk - 1LP HCl	pH < 2		L	OG - 1LG Amber HCl		
Sampled & Submitted to Lab by:		Mitchell Mindieta (Route Driver)			Received: 10/2/24 15:20 By Mitchell Mindieta (Austin)		

Comisión de Calidad Ambiental del Estado de Texas



AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0015478001

SOLICITUD. Windy Hill Utility Company LLC, A Texas Limited Liability Company, P.O. Box 701201, San Antonio, Texas 78270, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0015478001 (EPA I.D. No. TX0137111) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 680,000 por día. La planta está ubicada 2784 Farm-to-Market Road 2001, cerca de la ciudad de Buda, en el Condado de Hays, Texas. La ruta de descarga es del sitio de la planta a un afluente sin nombre; Allí a Brushy Creek; de allí a un embalse; de allí a Brushy Creek; de allí a Plum Creek. La TCEQ recibió esta solicitud el 30 de Octubre 2024. La solicitud para el permiso está disponible para leerla y copiarla en 550 Scott Street, Kyle, Texas. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página de web: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.806666,30.045833&level=18>

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o

hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO

CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que

se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envíe por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN DE LA TCEQ. Todos los comentarios escritos del público y los para pedidos una reunión deben ser presentados a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o por el internet at www.tceq.texas.gov/about/comments.html. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Si necesita más información en Español sobre esta solicitud para un permiso o el proceso del permiso, por favor llame a El Programa de Educación Pública de la TCEQ, sin cobro, al 1-800-687-4040. La información general sobre la TCEQ puede ser encontrada en nuestro sitio de la red: www.tceq.texas.gov.

También se puede obtener información adicional del Windy Hill Utility Company LLC, A Texas Limited Liability Company, a la dirección indicada arriba o llamando a Mr. Bill Fry, General Manager al 210-209-8029.

Fecha de emisión _____ *[Date notice issued]*



TPDES PERMIT NO.
WQ0015478001
*[For TCEQ office use only - EPA I.D.
No. TX0137111]*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal that replaces TPDES
Permit No. WQ0015478001 issued on
on November 19, 2020.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Windy Hill Utility Company LLC

whose mailing address is

P.O. Box 701201
San Antonio, Texas, 78270

is authorized to treat and discharge wastes from the Windy Hill Utility Wastewater Treatment Facility,
SIC Code 4952

located at 2784 Farm-to-Market Road 2001, in Hays County, Texas 78610

to an unnamed tributary, thence to Brushy Creek, thence to a reservoir, thence to Brushy Creek, thence
to Plum Creek in Segment No. 1810 of the Guadalupe River Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this
permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the
State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the
permittee the right to use private or public property for conveyance of wastewater along the discharge
route described in this permit. This includes, but is not limited to, property belonging to any individual,
partnership, corporation or other entity. Neither does this permit authorize any invasion of personal
rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the
permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, **five years from the date of issuance.**

ISSUED DATE:

For the Commission

INTERIM I EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

1. During the period beginning upon the date of issuance and lasting through the completion of expansion to the 0.26 million gallons per day (MGD) facility, the permittee is authorized to discharge subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 0.12 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 250 gallons per minute.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Min. Self-Monitoring Requirements</u>	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Max. Single Grab Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	5 (5.0)	10	20	30	One/week	Grab
Total Suspended Solids	5 (5.0)	10	20	30	One/week	Grab
Ammonia Nitrogen	2 (2.0)	5	10	15	One/week	Grab
Total Phosphorus	1 (1.0)	2	4	6	One/week	Grab
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	126	N/A	N/A	399	One/month	Grab

2. The effluent shall contain a chlorine residual of at least 1.0 mg/l and shall not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored five times per week by grab sample at each chlorine contact chamber. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 5.0 mg/l and shall be monitored once per week by grab sample.

INTERIM II EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

- During the period beginning upon the completion of expansion to the 0.26 million gallons per day (MGD) facility and lasting through the completion of expansion to the 0.40 MGD facility, the permittee is authorized to discharge subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 0.26 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 722 gallons per minute.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Min. Self-Monitoring Requirements</u>	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Max. Single Grab Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	5 (11)	10	20	30	One/week	Grab
Total Suspended Solids	5 (11)	10	20	30	One/week	Grab
Ammonia Nitrogen	2 (4.3)	5	10	15	One/week	Grab
Total Phosphorus	1 (2.2)	2	4	6	One/week	Grab
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	126	N/A	N/A	399	One/month	Grab

- The effluent shall contain a chlorine residual of at least 1.0 mg/l and shall not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored five times per week by grab sample at each chlorine contact chamber. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month by grab sample.
- There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
- Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
- The effluent shall contain a minimum dissolved oxygen of 5.0 mg/l and shall be monitored once per week by grab sample.

INTERIM III EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

- During the period beginning upon completion of the expansion to the 0.40 million gallons per day (MGD) facility and lasting through the completion of expansion to the 0.68 MGD facility, the permittee is authorized to discharge subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 0.40 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 833 gallons per minute.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Min. Self-Monitoring Requirements</u>	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Max. Single Grab Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	5 (17)	10	20	30	One/week	Grab
Total Suspended Solids	5 (17)	10	20	30	One/week	Grab
Ammonia Nitrogen	2 (6.7)	5	10	15	One/week	Grab
Total Phosphorus	1 (3.3)	2	4	6	One/week	Grab
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	126	N/A	N/A	399	One/month	Grab

- The effluent shall contain a chlorine residual of at least 1.0 mg/l and shall not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored five times per week by grab sample at each chlorine contact chamber. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month by grab sample.
- There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
- Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
- The effluent shall contain a minimum dissolved oxygen of 5.0 mg/l and shall be monitored once per week by grab sample.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

1. During the period beginning upon the completion of expansion to the 0.68 million gallons per day (MGD) facility and lasting through the date of expiration, the permittee is authorized to discharge subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 0.68 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 1,417 gallons per minute.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Min. Self-Monitoring Requirements</u>	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Max. Single Grab Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	5 (28)	10	20	30	One/week	Grab
Total Suspended Solids	5 (28)	10	20	30	One/week	Grab
Ammonia Nitrogen	2 (11)	5	10	15	One/week	Grab
Total Phosphorus	1 (5.7)	2	4	6	One/week	Grab
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	126	N/A	N/A	399	One/month	Grab

2. The effluent shall contain a chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored daily by grab sample at each chlorine contact chamber. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l chlorine residual and shall monitor chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 5.0 mg/l and shall be monitored once per week by grab sample.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC § 305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§ 5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§ 361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in TWC § 26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

- a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with one million gallons per day or greater permitted flow.
- b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
- c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.
- d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.
- e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.
- f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

- a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
 - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

- ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
- b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
- c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.
- d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the sampling day.

The daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily discharge determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

- e. Bacteria concentration (*E. coli* or Enterococci) - Colony Forming Units (CFU) or Most Probable Number (MPN) of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the n th root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or, computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substituted value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.
 - f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD x Concentration, mg/l x 8.34).
 - g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.
3. Sample Type
- a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).

- b. Grab sample - an individual sample collected in less than 15 minutes.
- 4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.
- 5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.
- 6. The term "biosolids" is defined as sewage sludge that has been tested or processed to meet Class A, Class AB, or Class B pathogen standards in 30 TAC Chapter 312 for beneficial use.
- 7. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act (CWA); TWC §§ 26, 27, and 28; and THSC § 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

- a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.
- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC § 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge or biosolids use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR § 264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.
- c. Records of monitoring activities shall include the following:
 - i. date, time and place of sample or measurement;
 - ii. identity of individual who collected the sample or made the measurement.
 - iii. date and time of analysis;
 - iv. identity of the individual and laboratory who performed the analysis;
 - v. the technique or method of analysis; and
 - vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Enforcement

Division (MC 224).

7. Noncompliance Notification

- a. In accordance with 30 TAC § 305.125(9) any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Except as allowed by 30 TAC § 305.132, report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective December 21, 2025, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
 - b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
 - i. Unauthorized discharges as defined in Permit Condition 2(g).
 - ii. Any unanticipated bypass that exceeds any effluent limitation in the permit.
 - iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.
 - c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.
 - d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.
8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.
9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - i. One hundred micrograms per liter (100 µg/L);
 - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - i. Five hundred micrograms per liter (500 µg/L);
 - ii. One milligram per liter (1 mg/L) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to CWA § 301 or § 306 if it were directly discharging those pollutants;
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and
- c. For the purpose of this paragraph, adequate notice shall include information on:
 - i. The quality and quantity of effluent introduced into the POTW; and
 - ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS**1. General**

- a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.
- b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:
 - i. Violation of any terms or conditions of this permit;
 - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance

with 30 TAC §§ 305.62 and 305.66 and TWC§ 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

- g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.
- h. In accordance with 30 TAC § 305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility which does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.
- i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under TWC §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC § 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC § 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment and/or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC § 305.534 (relating to New Sources and New Dischargers); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or
 - iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
- c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
- d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
- e. In accordance with the TWC § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.
- f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA § 307(a) for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or

prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA § 307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to TWC Chapter 11.

8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy

- a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:
 - i. the permittee;
 - ii. an entity (as that term is defined in 11 USC, § 101(14)) controlling the permittee or listing the permit or permittee as property of the estate; or

- iii. an affiliate (as that term is defined in 11 USC, § 101(2)) of the permittee.
- b. This notification must indicate:
 - i. the name of the permittee;
 - ii. the permit number(s);
 - iii. the bankruptcy court in which the petition for bankruptcy was filed; and
 - iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.
2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge or biosolids use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.
3. Domestic wastewater treatment facilities shall comply with the following provisions:
 - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
 - b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.
5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC § 7.302(b)(6).

7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §§ 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words confidential business information on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.
 - a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been

secured.

- c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
 10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.
 11. Facilities that generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
 - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.

- e. The term “industrial solid waste management unit” means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
- f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC § 335 and must include the following, as it pertains to wastewater treatment and discharge:
 - i. Volume of waste and date(s) generated from treatment process;
 - ii. Volume of waste disposed of on-site or shipped off-site;
 - iii. Date(s) of disposal;
 - iv. Identity of hauler or transporter;
 - v. Location of disposal site; and
 - vi. Method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

- 12. For industrial facilities to which the requirements of 30 TAC § 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC § 361.

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SLUDGE PROVISIONS

The permittee is authorized to dispose of sludge or biosolids only at a Texas Commission on Environmental Quality (TCEQ) authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge. **The disposal of sludge or biosolids by land application on property owned, leased or under the direct control of the permittee is a violation of the permit unless the site is authorized with the TCEQ. This provision does not authorize Distribution and Marketing of Class A or Class AB Biosolids. This provision does not authorize the permittee to land apply biosolids on property owned, leased or under the direct control of the permittee.**

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE OR BIOSOLIDS LAND APPLICATION

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC § 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge or biosolids.
2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.
3. The land application of processed or unprocessed chemical toilet waste, grease trap waste, grit trap waste, milk solids, or similar non-hazardous municipal or industrial solid wastes, or any of the wastes listed in this provision combined with biosolids, WTP residuals or domestic septage is prohibited unless the grease trap waste is added at a fats, oil and grease (FOG) receiving facility as part of an anaerobic digestion process.

B. Testing Requirements

1. Sewage sludge or biosolids shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 11) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. The permittee must submit this annual report by September 30th of each year using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and the Enforcement Division (MC 224).

2. Biosolids shall not be applied to the land if the concentration of the pollutants exceeds the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Section I.C. of this permit.

TABLE 1

<u>Pollutant</u>	<u>Ceiling Concentration</u> <u>(Milligrams per kilogram)*</u>
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

3. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B biosolids pathogen requirements.

- a. For sewage sludge to be classified as Class A biosolids with respect to pathogens, the density of fecal coliform in the sewage sludge must be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge must be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met:

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(3)(A) for specific information;

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion; or

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

- b. For sewage sludge to be classified as Class AB biosolids with respect to pathogens, the density of fecal coliform in the sewage sludge must be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met:

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%; or

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(iv-vi) for specific information; or

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

- c. Sewage sludge that meets the requirements of Class AB biosolids may be classified a Class A biosolids if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment, or create nuisance odor conditions.
- d. Three alternatives are available to demonstrate compliance with Class B biosolids criteria.

Alternative 1

- i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
- ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must make a certification to the generator of a sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification shall include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the PSRP, and shall meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 - Sewage sludge shall be treated in an equivalent process that has been approved by the U.S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;

- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iii. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. The Executive Director will accept from the U.S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and
- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

In addition to the Alternatives 1 – 3, the following site restrictions must be met if Class B biosolids are land applied:

- i. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
- ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for 4 months or longer prior to incorporation into the soil.
- iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than 4 months prior to incorporation into the soil.
- iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
- v. Domestic livestock shall not be allowed to graze on the land for 30 days after application of biosolids.
- vi. Turf grown on land where biosolids are applied shall not be harvested for 1 year after application of the biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn.
- vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of biosolids.
- viii. Public access to land with a low potential for public exposure shall be restricted

for 30 days after application of biosolids.

- ix. Land application of biosolids shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.

4. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following Alternatives 1 through 10 for vector attraction reduction.

- Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%.
- Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30° and 37° Celsius. Volatile solids must be reduced by less than 17% to demonstrate compliance.
- Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. Volatile solids must be reduced by less than 15% to demonstrate compliance.
- Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20° Celsius.
- Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40° Celsius and the average temperature of the sewage sludge shall be higher than 45° Celsius.
- Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.
- Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids

generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

- Alternative 9 -
- i. Biosolids shall be injected below the surface of the land.
 - ii. No significant amount of the biosolids shall be present on the land surface within one hour after biosolids are injected.
 - iii. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the biosolids shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.
- Alternative 10 -
- i. Biosolids applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.
 - ii. When biosolids that are incorporated into the soil is Class A or Class AB with respect to pathogens, the biosolids shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

Toxicity Characteristic Leaching Procedure (TCLP) Test	- once during the term of this permit
PCBs	- once during the term of this permit

All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC § 312.46(a)(1):

<u>Amount of biosolids (*) metric tons per 365-day period</u>	<u>Monitoring Frequency</u>
0 to less than 290	Once/Year
290 to less than 1,500	Once/Quarter
1,500 to less than 15,000	Once/Two Months
15,000 or greater	Once/Month

(*) *The amount of bulk biosolids applied to the land (dry wt. basis).*

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC § 312.7

Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal

coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.

Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge or biosolids for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A, CLASS AB or B BIOSOLIDS PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A, Class AB or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below listed in Table 3, the following conditions apply:

A. Pollutant Limits

Table 2

<u>Pollutant</u>	<u>Cumulative Pollutant Loading Rate (pounds per acre)*</u>
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

<u>Pollutant</u>	<u>Monthly Average Concentration (milligrams per kilogram)*</u>
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

*Dry weight basis

B. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, shall be treated by either Class A, Class AB or Class B biosolids pathogen reduction requirements as defined above in Section I.B.3.

C. Management Practices

1. Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk biosolids enters a wetland or other waters in the State.
2. Bulk biosolids not meeting Class A biosolids requirements shall be land applied in a manner which complies with Applicability in accordance with 30 TAC §312.41 and the Management Requirements in accordance with 30 TAC § 312.44.
3. Bulk biosolids shall be applied at or below the agronomic rate of the cover crop.
4. An information sheet shall be provided to the person who receives bulk Class A or AB biosolids sold or given away. The information sheet shall contain the following information:
 - a. The name and address of the person who prepared the Class A or AB biosolids that are sold or given away in a bag or other container for application to the land.
 - b. A statement that application of the biosolids to the land is prohibited except in accordance with the instruction on the label or information sheet.
 - c. The annual whole sludge application rate for the biosolids application rate for the biosolids that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Section II above are met.

D. Notification Requirements

1. If bulk biosolids are applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk biosolids are proposed to be applied. The notice shall include:
 - a. The location, by street address, and specific latitude and longitude, of each land application site.
 - b. The approximate time period bulk biosolids will be applied to the site.
 - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk biosolids.

E. Record Keeping Requirements

The documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a biosolids material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative for a period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.

1. The concentration (mg/kg) in the sludge of each pollutant listed in Table 3 above and the applicable pollutant concentration criteria (mg/kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (lbs/ac) listed in Table 2 above.
2. A description of how the pathogen reduction requirements are met (including site restrictions for Class AB and Class B biosolids, if applicable).
3. A description of how the vector attraction reduction requirements are met.
4. A description of how the management practices listed above in Section II.C are being met.
5. The following certification statement:

“I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk biosolids are applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.”
6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk biosolids shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:
 - a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee’s specific sludge treatment activities.
 - b. The location, by street address, and specific latitude and longitude, of each site on which biosolids are applied.
 - c. The number of acres in each site on which bulk biosolids are applied.
 - d. The date and time biosolids are applied to each site.

- e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
- f. The total amount of biosolids applied to each site in dry tons.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.
3. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.
4. The frequency of monitoring listed in Section I.C. that applies to the permittee.
5. Toxicity Characteristic Leaching Procedure (TCLP) results.
6. PCB concentration in sludge or biosolids in mg/kg.
7. Identity of hauler(s) and TCEQ transporter number.
8. Date(s) of transport.
9. Texas Commission on Environmental Quality registration number, if applicable.
10. Amount of sludge or biosolids disposal dry weight (lbs/acre) at each disposal site.
11. The concentration (mg/kg) in the sludge of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.
12. Level of pathogen reduction achieved (Class A, Class AB or Class B).
13. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B biosolids, include information on how site restrictions were met.

14. Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.
15. Vector attraction reduction alternative used as listed in Section I.B.4.
16. Amount of sludge or biosolids transported in dry tons/year.
17. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge or biosolids treatment activities, shall be attached to the annual reporting form.
18. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.
 - a. The location, by street address, and specific latitude and longitude.
 - b. The number of acres in each site on which bulk biosolids are applied.
 - c. The date and time bulk biosolids are applied to each site.
 - d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk biosolids applied to each site.
 - e. The amount of biosolids (i.e., dry tons) applied to each site.

The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION III. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE OR BIOSOLIDS DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL

- A. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC § 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge or biosolids meets the requirements in 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
- B. If the permittee generates sewage sludge or biosolids and supplies that sewage sludge or biosolids to the owner or operator of a municipal solid waste landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.
- C. Sewage sludge or biosolids shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR § 261.24. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 11) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 11) and the Enforcement Division (MC 224) by September 30 of each year.

- D. Sewage sludge or biosolids shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.
- E. Record Keeping Requirements

The permittee shall develop the following information and shall retain the information for five years.

1. The description (including procedures followed and the results) of all liquid Paint Filter Tests performed.
2. The description (including procedures followed and results) of all TCLP tests performed.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Toxicity Characteristic Leaching Procedure (TCLP) results.
3. Annual sludge or biosolids production in dry tons/year.
4. Amount of sludge or biosolids disposed in a municipal solid waste landfill in dry tons/year.
5. Amount of sludge or biosolids transported interstate in dry tons/year.
6. A certification that the sewage sludge or biosolids meets the requirements of 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
7. Identity of hauler(s) and transporter registration number.
8. Owner of disposal site(s).
9. Location of disposal site(s).
10. Date(s) of disposal.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION IV. REQUIREMENTS APPLYING TO SLUDGE OR BIOSOLIDS TRANSPORTED TO ANOTHER FACILITY FOR FURTHER PROCESSING

These provisions apply to sludge or biosolids that is transported to another wastewater treatment facility or facility that further processes sludge or biosolids. These provisions are intended to allow transport of sludge or biosolids to facilities that have been authorized to accept sludge or biosolids. These provisions do not limit the ability of the receiving facility to determine whether to accept the sludge or biosolids, nor do they limit the ability of the receiving facility to request additional testing or documentation.

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
2. Sludge or biosolids may only be transported using a registered transporter or using an approved pipeline.

B. Record Keeping Requirements

1. For sludge or biosolids transported by an approved pipeline, the permittee must maintain records of the following:
 - a. the amount of sludge or biosolids transported;
 - b. the date of transport;
 - c. the name and TCEQ permit number of the receiving facility or facilities;
 - d. the location of the receiving facility or facilities;
 - e. the name and TCEQ permit number of the facility that generated the waste; and
 - f. copy of the written agreement between the permittee and the receiving facility to accept sludge or biosolids.
2. For sludge or biosolids transported by a registered transporter, the permittee must maintain records of the completed trip tickets in accordance with 30 TAC § 312.145(a)(1)-(7) and amount of sludge or biosolids transported.
3. The above records shall be maintained on-site on a monthly basis and shall be made available to the TCEQ upon request. These records shall be retained for at least five years.

C. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. the annual sludge or biosolids production;
3. the amount of sludge or biosolids transported;
4. the owner of each receiving facility;
5. the location of each receiving facility; and
6. the date(s) of disposal at each receiving facility.

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OTHER REQUIREMENTS

1. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations, and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

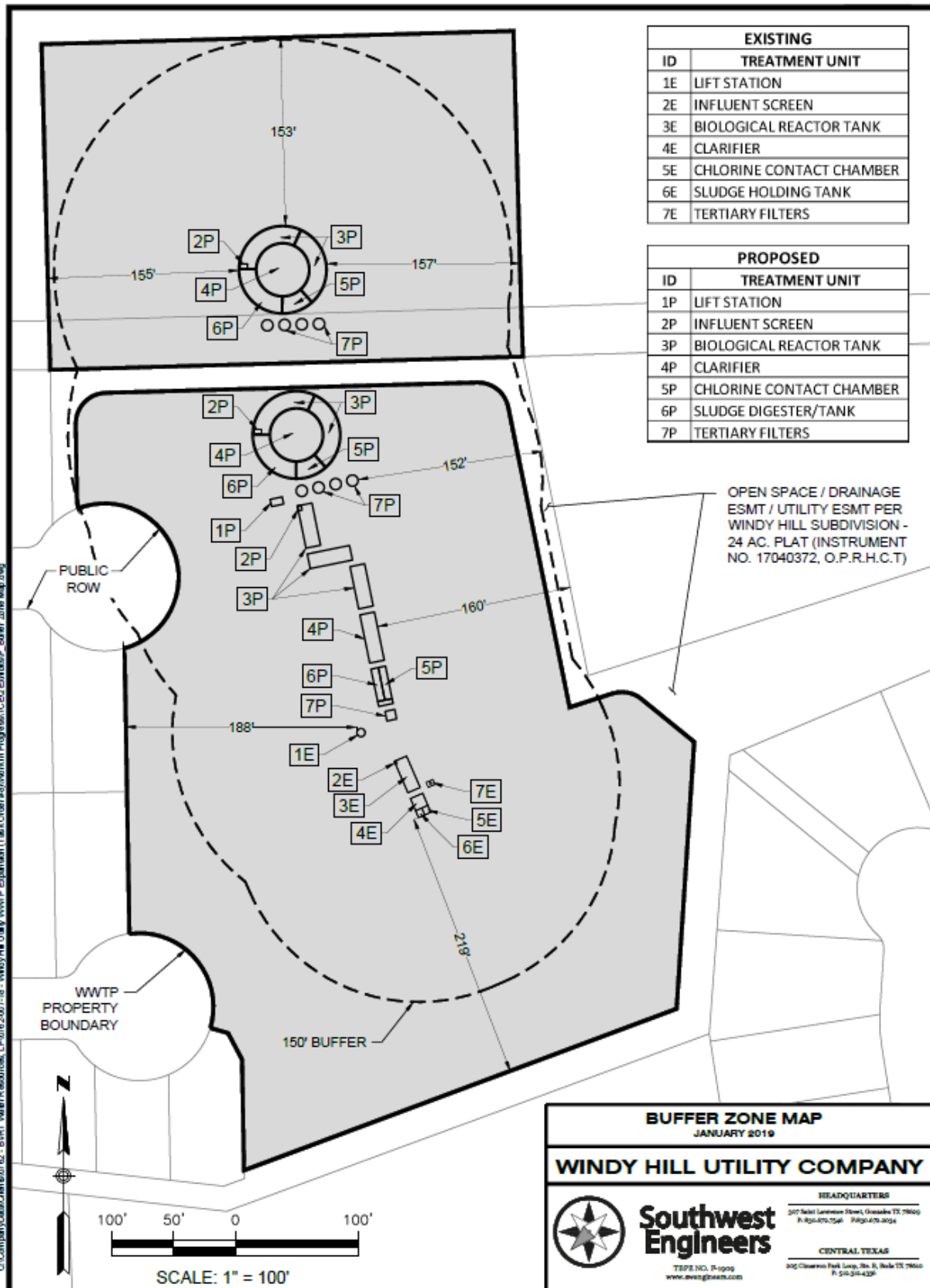
This Category C facility must be operated by a chief operator or an operator holding a Class C license or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift which does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.

2. The facility is not located in the Coastal Management Program boundary.
3. The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d) through a combination of ownership and utilization of public right-of-way and existing utility easements. In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC § 309.13(e). See Attachment A.
4. The permittee shall provide facilities for the protection of its wastewater treatment facility from a 100-year flood.
5. In accordance with 30 TAC § 319.9, a permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, one/month may be reduced to one/quarter in the Interim I, II, and III phases, and two/month may be reduced to one/month in the Final phase. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule and submit written notice to the TCEQ Wastewater Permitting Section (MC 148).** The permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.
6. Prior to construction of the Interim II, Interim III, and Final treatment facilities, the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) a summary transmittal letter in accordance with the requirements in 30 TAC § 217.6(d). If requested by the Wastewater Permitting Section, the permittee shall submit plans and specifications and a final engineering design report which comply with 30 TAC Chapter 217, Design Criteria for Domestic Wastewater Systems. The permittee shall clearly show how the treatment system

will meet the permitted effluent limitations required on Page 2a, 2b and 2c of this permit. A copy of the summary transmittal letter shall be available at the plant site for inspection by authorized representatives of the TCEQ.

7. The permittee shall notify the TCEQ Regional Office (MC Region 11) and the Applications Review and Processing Team (MC 148) of the Water Quality Division in writing at least forty-five days prior to the completion of the Interim II, Interim III, and Final phases on Notification of Completion Form 20007.

Attachment 'A' – Buffer Zone Map- TPDES Permit No. WQ0015478001



**STATEMENT OF BASIS/TECHNICAL SUMMARY
AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION**

DESCRIPTION OF APPLICATION

Applicant:	Windy Hill Utility Company LLC Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015478001, EPA ID No. TX0137111
Regulated Activity:	Domestic Wastewater Permit
Type of Application:	Renewal with changes
Request:	Renewal with changes to increase flow in the Interim I Phase and add an Interim II Phase.
Authority:	Federal Clean Water Act (CWA) § 402; Texas Water Code (TWC) § 26.027; 30 Texas Administrative Code (TAC) Chapters 30, 305, 307, 309, 312, and 319; Commission policies; and United States Environmental Protection Agency (EPA) guidelines.

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit includes an expiration date of **five years from the date of issuance**.

REASON FOR PROJECT PROPOSED

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of the existing permit that authorizes the discharge of treated domestic wastewater at a daily average flow not to exceed 0.12 MGD in the Interim I Phase, a daily average flow not to exceed 0.26 MGD in the Interim II phase, a daily average flow not to exceed 0.40 MGD in the Interim III Phase, and a daily average flow not to exceed 0.68 MGD in the Final Phase. The existing wastewater treatment facility serves the Estates at Windy Hill development.

PROJECT DESCRIPTION AND LOCATION

The WHU-WRRF1 Wastewater Treatment Plant is a Membrane Bioreactor (MBR) system that combines activated sludge process with advanced membrane technology. Treatment units in the Interim I phase include a lift station, a bar screen, a biological reactor tank, a final clarifier, a sludge holding tank, a chlorine contact chamber and two tertiary filters. Treatment units in the Interim II phase include a lift station, two bar screens, two biological reactor tanks, two final clarifiers, two sludge holding tanks, two chlorine contact chambers and five tertiary filters. Treatment units in the Interim III phase will include a lift station, three bar screens, three biological reactor tanks, three final clarifiers, three sludge holding tanks, three chlorine contact chambers and nine tertiary filters. Treatment units in the Final phase will include a lift station, four bar screens, four biological reactor tanks, four final clarifiers, three sludge holding tanks, four chlorine contact chambers, a dechlorination chamber, and thirteen tertiary filters. The facility is operating in the Interim I phase.

The draft permit authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

The plant site is located at 2784 Farm-to-Market Road 2001, in Hays County, Texas 78610.

Outfall Location:

Outfall Number	Latitude	Longitude
001	30.044796 N	97.806467 W

The treated effluent is discharged to an unnamed tributary, thence to Brushy Creek, thence to a reservoir, thence to Brushy Creek, thence to Plum Creek in Segment No. 1810 of the Guadalupe River Basin. The unclassified receiving water use is limited aquatic life use for the unnamed tributary. The designated uses for Segment No. 1810 are primary contact recreation, aquifer protection, and high aquatic life use. The effluent limitations in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and/or revisions.

Effluent limitations for the conventional effluent parameters (i.e., Five-Day Biochemical Oxygen Demand or Five-Day Carbonaceous Biochemical Oxygen Demand, Ammonia Nitrogen, etc.) are based on stream standards and waste load allocations for water-quality limited streams as established in the Texas Surface Water Quality Standards (TSWQS) and the State of Texas Water Quality Management Plan (WQMP).

In a case such as this, end-of-pipe compliance with pH limits between 6.0 and 9.0 standard units reasonably assures instream compliance with the TSWQS for pH when the discharge authorized is from a minor facility. This technology-based approach reasonably assures instream compliance with TSWQS criteria due to the relatively smaller discharge volumes authorized by these permits. This conservative assumption is based on TCEQ sampling conducted throughout the state which indicates that instream buffering quickly restores pH levels to ambient conditions.

The effluent limits recommended above have been reviewed for consistency with the State of Texas Water Quality Management Plan (WQMP). The recommended limits are consistent with the approved WQMP.

No priority watershed of critical concern has been identified in Segment 1810. However, several threatened or endangered aquatic species are known to occur in Hays County. Species distribution information documents the Comal Springs Dryopid Beetle (*Stygoparnus comalensis*), San Marcos Salamander (*Eurycea nana*), Barton Springs Salamander (*Eurycea sosorum*), San Marcos Gambusia (*Gambusia georgei*), Texas Blind Salamander (*Eurycea (Typhlomolge) rathbuni*), Texas wild-rice (*Zizania texana*), Comal Springs Riffle Beetle (*Heterelmis comalensis*), Fountain Darter (*Etheostoma fonticola*), occurring in separate watersheds than that of Segment 1810. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to

Texas Commission on Environmental Quality reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Segment 1810 is not currently listed on the State's inventory of impaired and threatened waters (the 2022 Clean Water Act Section 303(d) list).

SUMMARY OF EFFLUENT DATA

The following is a summary of the applicant's effluent monitoring data for the period October 2022 through October 2024. The average of Daily Average value is computed by the averaging of all 30-day average values for the reporting period for each parameter: flow, five-day carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids (TSS), Total Phosphorus (TP), and ammonia nitrogen (NH₃-N). The average of Daily Average value for *Escherichia coli* in colony-forming units (CFU) or most probable number (MPN) per 100 ml is calculated via geometric mean.

<u>Parameter</u>	<u>Average of Daily Average</u>
Flow, MGD	0.032
CBOD ₅ , mg/l	2.7
TSS, mg/l	5.5
NH ₃ -N, mg/l	0.40
<i>E. coli</i> , CFU or MPN per 100 ml	17
TP, mg/l	0.86

DRAFT PERMIT CONDITIONS

The draft permit authorizes a discharge of treated domestic wastewater at an Interim I volume not to exceed a daily average flow of 0.12 MGD, an Interim II not to exceed a daily average flow of 0.26 MGD, an Interim III volume not to exceed a daily average flow of 0.40 MGD, and a Final volume not to exceed a daily average flow of 0.68 MGD.

The effluent limitations in the Interim I, Interim II, Interim III, and Final phases of the draft permit, based on a 30-day average, are 5.0 mg/l CBOD₅, 5.0 mg/l TSS, 2.0 mg/l, NH₃-N, 126 CFU or MPN of *E. coli* per 100 ml, and 5.0 mg/l minimum dissolved oxygen (DO). The TP limit in the Interim I phase is 2.0 mg/l and 1.0 mg/l in the Interim II and III phases. The effluent shall contain a chlorine residual of at least 1.0 mg/l and shall not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes based on peak flow

The draft permit includes Sludge Provisions according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. The draft permit authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

SUMMARY OF CHANGES FROM APPLICATION

None.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The Standard Permit Conditions, Sludge Provisions, and Other Requirements sections of the draft permit have been updated.

The existing permit authorizes a daily average flow of 0.68 MGD in the Final phase. The permittee is currently operating in the Interim I Phase (0.12 MGD).

The draft permit authorizes a daily average flow of 0.12 MGD in the Interim I Phase, 0.26 MGD in the Interim II Phase, 0.40 MGD in the Interim III Phase, and 0.68 MGD in the Final Phase.

The effluent limitations in the existing permit have been updated in the draft permit for the Interim I and II phases.

The draft permit includes all updates based on the 30 TAC 312 rule change effective April 23, 2020.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on October 30, 2024.
2. TPDES Permit No. WQ0015478001 issued on May 8, 2020.
3. The effluent limitations and conditions in the draft permit comply with EPA-approved portions of the 2018 Texas Surface Water Quality Standards (TSWQS), 30 TAC §§ 307.1 - 307.10, effective March 1, 2018; 2014 TSWQS, effective March 6, 2014; 2010 TSWQS, effective July 22, 2010; and 2000 TSWQS, effective July 26, 2000.
4. The effluent limitations in the draft permit meet the requirements for secondary treatment and the requirements for disinfection according to 30 TAC Chapter 309, Subchapter A: Effluent Limitations.
5. The effluent limits recommended above have been reviewed for consistency with the State of Texas Water Quality Management Plan (WQMP). The recommended limits are consistent with the approved WQMP.
6. Consistency with the Coastal Management Plan: The facility is not located in the Coastal Management Program boundary.
7. *Procedures to Implement the Texas Surface Water Quality Standards (IP)*, Texas Commission on Environmental Quality, June 2010, as approved by EPA, and the IP, January 2003, for portions of the 2010 IP not approved by EPA.
8. Texas 2022 Clean Water Act Section 303(d) List, Texas Commission on Environmental Quality, June 1, 2022; approved by the U.S. Environmental Protection Agency on July 7, 2022.

9. Texas Natural Resource Conservation Commission, Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, Document No. 98-001.000-OWR-WQ, May 1998.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment, and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

Windy Hill Utility Company LLC
TPDES Permit No. WQ0015478001
Statement of Basis/Technical Summary and Executive Director's Preliminary Decision

For additional information about this application, contact Jeevanthika Vignes at (512) 239-4549.

Jeevanthika Vignes

Jeevanthika Vignes
Municipal Permits Team
Wastewater Permitting Section (MC 148)

July 28, 2025

Date