Administrative 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. Application materials

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

1. Resumen en lenguaje sencillo (PLS, por sus siglas en inglés) de la actividad propuesta
   - Inglés
   - Idioma alternativo (español)
2. Primer aviso (NORI, por sus siglas en inglés)
   - Inglés
   - Idioma alternativo (español)
3. Solicitud original

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. Applicants may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS DOMESTIC WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

The City of San Marcos (CN600521272) proposes to operate the Flemming Farms WWTP (RN110842184), a package wastewater facility. The facility will be located on Flemming Pass, approximately 1.75 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123, in Guadalupe County, Texas, 78666.

The application is to authorize an increase in the discharge of treated wastewater to a volume not to exceed an annual average flow of 990,000 gallons per day and the relocation of the proposed facility and outfall location.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent and Domestic Worksheet 4.0 in the permit application package.

Domestic wastewater is treated by aeration basins, clarifier, chorine contact basin, digesters, and tertiary cloth disk filter.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES DOMÉSTICAS /AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

La ciudad de San Marcos (CN600521272) propone operar la planta de tratamiento de aguas residuales Flemming Farms WWTP (RN110842184). La planta estará ubicada en Flemming Pass, aproximadamente a 1,75 millas al este de la intersección de Farm-to-Market Road 1978 y State Highway 123, en el condado de Guadalupe, Texas, 78666.

La solicitud es para autorizar un aumento en la descarga de aguas residuales tratadas a un volumen que no exceda un flujo promedio anual de 990,000 galones por día y la reubicación de la instalación propuesta y la ubicación del emisario.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniaco (NH3-N) y Escherichia coli. Se incluyen otros contaminantes potenciales en el Informe Técnico Doméstico 1.0, Sección 7. Análisis de Contaminantes de Efluentes Tratados y la Hoja de Trabajo Doméstica 4.0 en el paquete de solicitud de permiso.

Las aguas residuales domésticas se tratan mediante piscinas de aireación, clarificador, piscina de contacto con cloro, digestores y filtro de disco de tela terciario.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0015817001

APPLICATION. City of San Marcos, 630 East Hopkins Street, San Marcos, Texas 78666, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015817001 (EPA I.D. No. TX0139521) to authorize relocating the facility and outfall and increasing the discharge of treated wastewater to a volume not to exceed a daily average flow of 990,000 gallons per day. The domestic wastewater treatment facility will be located approximately 1.75 miles northeast of the intersection of Farm-to-Market Road 1978 and State Highway 123, near the city of San Marcos, in Guadalupe County, Texas 78666. The discharge route will be from the plant site to Cottonwood Creek, thence to York Creek, thence to Lower San Marcos River. TCEQ received this application on January 7, 2025. The permit application will be available for viewing and copying at Seguin Public Library, 313 West Nolte Street, Seguin, in Guadalupe County, 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=-97.919444,29.811111&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.**

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 City of San Marcos at the address stated above or by calling Mr. Paul Kite, Assistant Director of Utilities, at 512-393-8003.

Issuance Date: February 11, 2025

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
MODIFICACION

PERMISO NO. WQ0015817001

SOLICITUD. La ciudad de San Marcos, 630 East Hopkins Street, San Marcos, TX 78666, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0015817001 (EPA I.D. No. TX0139521) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la reubicación de la instalación y el emisario y aumentar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 990,000 galones por día. La planta estará ubicada aproximadamente 1.75 millas al noreste de la intersección de Farm-to-Market Road 1978 y State Highway 123, cerca de la ciudad de San Marcos, en el Condado de Guadalupe, Texas 78666. La ruta de descarga estará del sitio de la planta a Cottonwood Creek, de allí al York Creek, de allí al Lower San Marcos River. La TCEQ recibió esta solicitud el 7 de enero de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Pública de Seguin, 313 West Nolte Street, Seguin, en el Condado de Guadalupe, Texas antes de la fecha de publicación de este aviso en el periódico. 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=-97.919444,29.811111&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.

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.

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. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas 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 especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para detalles sobre el estado de la solicitud, favor de visitar la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Para buscar en la base de datos, utilizar el número de permiso para esta solicitud que aparece en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. 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. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional de la Ciudad de San Marcos a la dirección indicada arriba o llamando a Sr. Paul Kite al 512-393-8003.

Fecha de emisión el 11 de febrero de 2025

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 7, 2025

Dear Applicant:

Re: Confirmation of Submission of the New Industrial Wastewater Individual Permit Application

This is an acknowledgment that you have successfully completed the Industrial Wastewater Individual Permit Application.

ER Account Number: ER037555

Application Reference Number: 739496

Authorization Number: WQ0015817001

Site Name: Fleming Farms WWTP

Regulated Entity: RN110842184

Customer(s): City of San Marcos

Please be aware that TCEQ staff may contact your designated contact for any additional information.

If you have any questions, you may contact the Applications Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by telephone at (512) 239-4671.

Sincerely,
Applications Review and Processing Team
Water Quality Division

Texas Commission on Environmental Quality

Update Domestic or Industrial Individual Permit

WQ0015817001

Site Information (Regulated Entity)

What is the name of the site to be authorized?	FLEMING FARMS WWTP
Does the site have a physical address?	No
Because there is no physical address, describe how to locate this site:	APPROXIMATELY 1.2 MI NE OF THE INTERSECTION OF FM 1978 AND SH 123
City	SAN MARCOS
State	TX
ZIP	78666
County	GUADALUPE
Latitude (N) (##.######)	29.805833
Longitude (W) (-###.######)	-97.920277
Primary SIC Code	
Secondary SIC Code	
Primary NAICS Code	
Secondary NAICS Code	
Regulated Entity Site Information	
What is the Regulated Entity's Number (RN)?	RN110842184
What is the name of the Regulated Entity (RE)?	FLEMING FARMS WWTP
Does the RE site have a physical address?	No
Physical Address	
Because there is no physical address, describe how to locate this site:	APPROXIMATELY 1.2 MI NE OF THE INTERSECTION OF FM 1978 AND SH 123
City	SAN MARCOS
State	TX
ZIP	78666
County	GUADALUPE
Latitude (N) (##.######)	29.805833
Longitude (W) (-###.######)	-97.920277
Facility NAICS Code	
What is the primary business of this entity?	

City of-Customer (Applicant) Information (Owner)

How is this applicant associated with this site?	Owner

What is the applicant's Customer Number (CN)?	CN600521272
Type of Customer	City Government
Full legal name of the applicant:	
Legal Name	City of San Marcos
Texas SOS Filing Number	
Federal Tax ID	746002238
State Franchise Tax ID	
State Sales Tax ID	
Local Tax ID	
DUNS Number	27620574
Number of Employees	251-500
Independently Owned and Operated?	No
I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.	Yes
Responsible Authority Contact	
Organization Name	City of San Marcos
Prefix	MR
First	PAUL
Middle	
Last	KITE
Suffix	
Credentials	
Title	ASSISTANT DIRECTOR OF UTILITIES
Responsible Authority Mailing Address	
Enter new address or copy one from list:	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	630 E HOPKINS ST
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN MARCOS
State	TX
ZIP	78666
Phone (###-###-####)	5123938003
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	PKITE@SANMARCOSTX.GOV

Billing Contact

Responsible contact for receiving billing statements:

Select the permittee that is responsible for payment of the annual fee.	CN600521272, City of San Marcos
Organization Name	CITY OF SAN MARCOS
Prefix	MR
First	PAUL
Middle	
Last	KITE
Suffix	
Credentials	
Title	ASSISTANT DIRECTOR OF UTILITIES

Enter new address or copy one from list:

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	630 E HOPKINS ST
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN MARCOS
State	TX
ZIP	78666
Phone (###-###-####)	5123938003
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	PKITE@SANMARCOSTX.GOV

Application Contact

Person TCEQ should contact for questions about this application:

Same as another contact?	Billing Contact
Organization Name	CITY OF SAN MARCOS
Prefix	MR
First	PAUL
Middle	
Last	KITE
Suffix	
Credentials	
Title	ASSISTANT DIRECTOR OF UTILITIES

Enter new address or copy one from list:

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	630 E HOPKINS ST
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN MARCOS
State	TX
ZIP	78666
Phone (###-###-####)	5123938003
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	PKITE@SANMARCOSTX.GOV

Technical Contact

Person TCEQ should contact for questions about this application:

Same as another contact?	
Organization Name	CITY OF SAN MARCOS
Prefix	MR
First	MARCUS
Middle	
Last	NAISER
Suffix	
Credentials	PE
Title	ASSISTANT DIRECTOR OF CIP/ ENGINEERING
Enter new address or copy one from list:	Billing Contact Address

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	630 E HOPKINS ST
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN MARCOS
State	TX
ZIP	78666
Phone (###-###-####)	5123938376
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	MNAISER@SANMARCOSTX.GOV

DMR Contact

Person responsible for submitting Discharge Monitoring Report Forms:	
Same as another contact?	
Organization Name	JACOBS
Prefix	MS
First	ANDREANA
Middle	
Last	ALEXANDER
Suffix	
Credentials	
Title	PROJECT MANAGER
Enter new address or copy one from list:	
Mailing Address:	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	720 RIVER RD
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN MARCOS
State	TX
ZIP	78666
Phone (###-###-####)	5123938345
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	ANDREANA.ALEXANDER@JACOBS.COM

Section 1# Permit Contact

Permit Contact#: 1

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	Application Contact
2) Organization Name	CITY OF SAN MARCOS
3) Prefix	MR
4) First	PAUL
5) Middle	
6) Last	KITE
7) Suffix	
8) Credentials	
9) Title	ASSISTANT DIRECTOR OF UTILITIES

Mailing Address

10) Enter new address or copy one from list	
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	630 E HOPKINS ST
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	SAN MARCOS
11.4) State	TX
11.5) ZIP	78666
12) Phone (###-###-####)	5123938003
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	PKITE@SANMARCOSTX.GOV

Section 2# Permit Contact

Permit Contact#: 2

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	Technical Contact
2) Organization Name	CITY OF SAN MARCOS
3) Prefix	MR
4) First	MARCUS
5) Middle	
6) Last	NAISER
7) Suffix	
8) Credentials	PE
9) Title	ASSISTANT DIRECTOR OF CIP/ ENGINEERING

Mailing Address

10) Enter new address or copy one from list	
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	630 E HOPKINS ST
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	SAN MARCOS
11.4) State	TX
11.5) ZIP	78666
12) Phone (###-###-####)	5123938376
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	MNAISER@SANMARCOSTX.GOV

Owner Information

Owner of Treatment Facility	
1) Prefix	
2) First and Last Name	
3) Organization Name	CITY OF SAN MARCOS
4) Mailing Address	630 E HOPKINS
5) City	SAN MARCOS
6) State	TX
7) Zip Code	78666
8) Phone (###-###-####)	5123938003
9) Extension	
10) Email	THJORTH@SANMARCOSTX.GOV
11) What is ownership of the treatment facility?	Public
Owner of Land (where treatment facility is or will be)	
12) Prefix	
13) First and Last Name	
14) Organization Name	CITY OF SAN MARCOS
15) Mailing Address	630 E HOPKINS
16) City	SAN MARCOS
17) State	TX
18) Zip Code	78666
19) Phone (###-###-####)	5123938003
20) Extension	
21) Email	THJORTH@SANMARCOSTX.GOV
22) Is the landowner the same person as the facility owner or co-applicant?	Yes

General Information Renewal-Amendment

1) Current authorization expiration date:	11/29/2026
2) Current Facility operational status:	Inactive
3) Is the facility located on or does the treated effluent cross American Indian Land?	No
4) What is the application type that you are seeking?	Major Amendment with Renewal
4.1) Describe the proposed changes:	The facility has not been constructed yet. Requesting an increase in flow and change in location. Requesting name change to FM 1978 Water Reclamation Facility
5) Current Authorization type:	Private Domestic Wastewater

5.1) What is the proposed total flow in MGD discharged at the facility?	0.99
5.2) Select the applicable fee	>= .50 & < 1.0 MGD - Major Amendment - $1,650
6) What is the classification for your authorization?	TPDES
6.1) What is the EPA Identification Number?	TX0139521
6.2) Is the wastewater treatment facility location in the existing permit accurate?	No
6.2.1) Provide an accurate description of the wastewater treatment facility location:	The proposed location is located on Fleming Pass, approximately 1.75 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123.
6.3) Are the point(s) of discharge and the discharge route(s) in the existing permit correct?	No
6.3.1) Provide an accurate description of the point of discharge:	The proposed relocated outfall discharges to Cottonwood Creek, thence to York Creek, thence to Lower San Marcos River in Segment 1808 of the Guadalupe River Basin.
6.3.2) Provide an accurate description of the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:	The proposed relocated outfall discharges to Cottonwood Creek, thence to York Creek, thence to Lower San Marcos River in Segment 1808 of the Guadalupe River Basin.
6.4) City nearest the outfall(s):	Redwood
6.5) County where the outfalls are located:	GUADALUPE
6.6) Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?	No
6.7) Is the daily average discharge at your facility of 5 MGD or more?	No
7) Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?	No

Public Notice Information

Individual Publishing the Notices

1) Prefix	MS
2) First and Last Name	Andreana Alexander
3) Credential	
4) Title	Project Manager
5) Organization Name	Jacobs
6) Mailing Address	720 RIVER RD
7) Address Line 2	
8) City	SAN MARCOS
9) State	TX

10) Zip Code	78666
11) Phone (###-###-####)	5123938345
12) Extension	
13) Fax (###-###-####)	
14) Email	andreana.alexander@jacobs.com
Contact person to be listed in the Notices	
15) Prefix	MR
16) First and Last Name	Paul Kite
17) Credential	
18) Title	Assistant Director of Utilities
19) Organization Name	City of San Marcos
20) Phone (###-###-####)	5123938003
21) Fax (###-###-####)	
22) Email	pkite@sanmarcostx.gov
Bilingual Notice Requirements	
23) 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
23.1) Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?	Yes
23.2) Do the students at these schools attend a bilingual education program at another location?	No
23.3) 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)?	No
23.4) Which language is required by the bilingual program?	Spanish

Section 1# Public Viewing Information

County#: 1

1) County	GUADALUPE
2) Public building name	Seguin Public Library
3) Location within the building	Front Desk
4) Physical Address of Building	313 W Nolte Street
5) City	Seguin
6) Contact Name	Christy Silvia
7) Phone (###-###-####)	8304012422
8) Extension	
9) Is the location open to the public?	Yes

Plain Language

1) Plain Language

[File Properties]

File Name LANG_PLS.pdf

Hash 499443247BD574F5E6C5F27D38808A5A9352AD2716D99D5EC7B72827F3F76E14

MIME-Type application/pdf

Supplemental Permit Information Form

1) Supplemental Permit Information Form (SPIF)

[File Properties]

File Name SPIF_Revised 20971.pdf

Hash 80AF91836AD9BEF1747C8D78F0F2D768B853E24574D44D0FD1FE23F22A88CB8A

MIME-Type application/pdf

[File Properties]

File Name SPIF_Fig5_SPIF_Revised.pdf

Hash A53C01C8E29672A4B9E60DB6AFE3F85EFFEF4253FB0865264AEADFC55D646137

MIME-Type application/pdf

Domestic Attachments

1) Attach an 8.5"x11", reproduced portion of the most current and original USGS Topographic Quadrangle Map(s) that meets the 1:24,000 scale.

[File Properties]

File Name MAP_Fig1_USGS_Revised.pdf

Hash E1D5721A58251F2B1BD0805385ADFA3809D87F10CBF9F6213DB4948A8A265656

MIME-Type application/pdf

2) Public Involvement Plan attachment (TCEQ Form 20960)

[File Properties]

File Name PIP_pip-form-tceq-20960.pdf

Hash 8C3E3FE5D86925FE38DAEBBEECDF42BF1A4422501F976E2E971C6A7FE208E7A4

MIME-Type application/pdf

3) Administrative Report 1.1

[File Properties]

File Name ARPT_10053.pdf

Hash 986179488E998D2113067A3C8F3BB255F91E6C2AA2138523BE71F17DE8B337F9

MIME-Type application/pdf

[File Properties]

File Name	ARPT_Revised Core Data Form 10400.pdf
Hash	02DAFF8C994767103A0536B6A624F04D764F6BE64096DB2C1B31764E2D7750B5
MIME-Type	application/pdf

4) I confirm that all required sections of Technical Report 1.0 are complete and will be included in the Technical Attachment.	Yes
4.1) I confirm that Technical Report 1.1 is complete and included in the Technical Attachment.	Yes
4.2) I confirm that Worksheet 2.0 (Receiving Waters) is complete and included in the Technical Attachment.	Yes
4.3) Are you planning to include Worksheet 2.1 (Stream Physical Characteristics) in the Technical Attachment?	No
4.4) Are you planning to include Worksheet 4.0 (Pollutant Analyses Requirements) in the Technical Attachment?	No
4.5) Are you planning to include Worksheet 5.0 (Toxicity Testing Requirements) in the Technical Attachment?	No
4.6) Are you planning to include Worksheet 7.0 (Class V Injection Well Inventory/Authorization Form) in the Technical Attachment?	No

4.7) Technical Attachment

[File Properties]

File Name	TECH_Technical Report and Attachments.pdf
Hash	27E3BAC882949836FDE3B345DC6E35FFF342D3181557C80445E960E6FD34B37A
MIME-Type	application/pdf

5) Affected Landowners Map

[File Properties]

File Name	LANDMP_Fig2_Landowner_Revised.pdf
Hash	EA70A90B0DF40C8EE2420884940FE20C3BE68D04A33465427DE9DBFFA90EFCDA
MIME-Type	application/pdf

6) Landowners Cross Reference List

[File Properties]

File Name	LANDCRL_Revised_Cross Referenced Landowner List.pdf
Hash	F11F18B804503CB049DEDC425C67C2EB4DA956C41938BF4A0504DFD69579CB95
MIME-Type	application/pdf

7) Landowner Avery Template

[File Properties]

File Name	LANDAT_Landowner Labels_Revised.pdf
Hash	98B53195A49899D4894474C36B646FB3681D7830212DF6A07FF0B1E3636D0180
MIME-Type	application/pdf

8) Buffer Zone Map

[File Properties]

File Name	BUFF_ZM_Fig4_Buffer_Revised.pdf
Hash	9EEBBCB83F364CAD27BED8564A141C3B21C98334939DCA20F37933F7E6943D4A
MIME-Type	application/pdf

9) Flow Diagram

[File Properties]

File Name	FLDIA_Revised_24-12-09_Process Flow Diagram - CAS AUC R2.pdf
Hash	25E6538829E0B69812BF25CA93488AD226EC5563F6F8482C8C1CD16CB1A9D6F4
MIME-Type	application/pdf

10) Site Drawing

[File Properties]

File Name	SITEDR_Fig6_SiteDrawing_Revised.pdf
Hash	6F50C13A63D2FDB6C0867232299D2E90144E0E7EC6D8F603AACFD6796CF0A0ED
MIME-Type	application/pdf

11) Original Photographs

[File Properties]

File Name	ORIGPH_Site Photos and Maps.pdf
Hash	FC7929B8BE15D0521A5B1031A0C7E4286905B3284C5ECF703888C00D41D55E14
MIME-Type	application/pdf

12) Design Calculations

[File Properties]

File Name	DES_CAL_Preliminary Process Calculations - Phase I - 0.25 MGD ADF.pdf
Hash	68B6E6CB843EC7AD66574FC6FA1771796CDC09E621382EEE12CEB50E16295181
MIME-Type	application/pdf

[File Properties]

File Name	DES_CAL_Preliminary Process Calculations - Phase II - 0.50 MGD ADF.pdf
Hash	C5C3610D8B94A7C2F0C975450EE99215AF5A107B50890C54D15BE24FCEE41F50
MIME-Type	application/pdf

[File Properties]

File Name	DES_CAL_Preliminary Process Calculations - Phase III- 0.99 MGD ADF.pdf
Hash	D2A794CEE8DB0C39D75110DBFEDAD498F005EF32621FE059A40B23552C24C432
MIME-Type	application/pdf

13) Solids Management Plan

[File Properties]

File Name	SMP_Domestic Technical Report 1.1 (7) - Sludge Solids Management Plan - rev1.pdf
Hash	8643FCEC25DC87F7734516C53AA564A6008766FC68A0951BFC3C26A54146BF8C
MIME-Type	application/pdf

14) Water Balance

[File Properties]

File Name	WB_Revised_24-12-09_Process Flow Diagram - CAS AUC R2.pdf
Hash	25E6538829E0B69812BF25CA93488AD226EC5563F6F8482C8C1CD16CB1A9D6F4
MIME-Type	application/pdf

15) Other Attachments

Certification

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

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.

1. I am Tyler Hjorth, the owner of the STEERS account ER110210.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Update Domestic or Industrial Individual Permit WQ0015817001.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OWNER Signature: Tyler Hjorth OWNER

Customer Number:	CN600521272
Legal Name:	City of San Marcos

Account Number:	ER110210
Signature IP Address:	24.155.188.114
Signature Date:	2025-01-07
Signature Hash:	51FED8F4502DF6ACC28A157912DDC5A90D90AE5F3DE19A3AEA9548A6B48DD3A7
Form Hash Code at time of Signature:	A8A847C0CCE8CA03CA7F7AC35D44138660F465D3E558A50B85871BD8DEE63433

Fee Payment

Transaction by:	The application fee payment transaction was made by ER110058/Marcus J Naiser
Paid by:	The application fee was paid by MARCUS NAISER
Fee Amount:	$1600.00
Paid Date:	The application fee was paid on 2025-01-07
Transaction/Voucher number:	The transaction number is 582EA000642354 and the voucher number is 739523

Submission

Reference Number:	The application reference number is 739496
Submitted by:	The application was submitted by ER037555/ Katie Leatherwood
Submitted Timestamp:	The application was submitted on 2025-01-07 at 13:54:39 CST
Submitted From:	The application was submitted from IP address 97.75.108.6
Confirmation Number:	The confirmation number is 616770
Steers Version:	The STEERS version is 6.85
Permit Number:	The permit number is WQ0015817001

Additional Information

Application Creator: This account was created by Katie Leatherwood

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: City of San Marcos

PERMIT NUMBER (If new, leave blank): WQ00 15817001

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: Click to enter text.

Check/Money Order Amount: Click to enter text.

Name Printed on Check: Click to enter text.

EPAY Voucher Number: Submitted in STEERS application

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: The facility has not been constructed yet. Requesting an increase in flow and change in location.

f. For existing permits:

Permit Number: WQ00 15817001

EPA I.D. (TPDES only): TX 0139521

Expiration Date: November 29, 2026

Section 3. Facility Owner (Applicant) and Co-Applicant 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?

City of San Marcos

(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: 600521272

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: Mr. Last Name, First Name: Hjorth, Tyler

Title: Director of Utilities Credential: P.E.

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: N/A

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: N/A Last Name, First Name: N/A

Title: N/A Credential: N/A

Provide a brief description of the need for a co-permittee: N/A

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. AR-1

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: Mr. Last Name, First Name: Kite, Paul

Title: Assistant Director Utilities Credential: N/A

Organization Name: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8003 E-mail Address: pkite@sanmarcostx.gov

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: Mr. Last Name, First Name: Naiser, Marcus

Title: Assistant Director of CIP/ Engineering Credential: P.E.

Organization Name: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8376 E-mail Address: mnaiser@sanmarcostx.gov

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: Mr. Last Name, First Name: Kite, Paul

Title: Assistant Director Utilities Credential: N/A

Organization Name: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8003 E-mail Address: pkite@sanmarcostx.gov

B. Prefix: Mr. Last Name, First Name: Naiser, Marcus

Title: Assistant Director of CIP/ Engineering Credential: P.E.

Organization Name: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8376 E-mail Address: mnaiser@sanmarcostx.gov

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: Mr. Last Name, First Name: Kite, Paul

Title: Assistant Director Utilities Credential: N/A

Organization Name: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8003 E-mail Address: pkite@sanmarcostx.gov

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: Ms. Last Name, First Name: Alexander, Andreana

Title: Project Manager Credential: N/A

Organization Name: Jacobs

Mailing Address: 720 River Rd. City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8345 E-mail Address: andreana.alexander@jacobs.com

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: Ms. Last Name, First Name: Alexander, Andreana

Title: Project Manager Credential: N/A

Organization Name: Jacobs

Mailing Address: 720 River Rd. City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8345 E-mail Address: andreana.alexander@jacobs.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: Mr. Last Name, First Name: Kite, Paul

Title: Assistant Director Utilities Credential: N/A

Organization Name: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8003 E-mail Address: pkite@sanmarcostx.gov

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: Seguin Public Library

Location within the building: Front Desk

Physical Address of Building: 313 W Nolte St.

City: Seguin County: Guadalupe

Contact (Last Name, First Name): Christy, Silvia

Phone No.: 830-401-2422 Ext.: N/A

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: AR-2

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: AR-3

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** 110842184

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):

Fleming Farms WWTP (current name), FM 1978 Water Reclamation Facility (new name)

C. Owner of treatment facility: City of San Marcos

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: City of San Marcos

Mailing Address: 630 E. Hopkins City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8003 E-mail Address: pkite@sanmarcostx.gov

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

E. Owner of effluent disposal site:

Prefix: N/A Last Name, First Name: N/A

Title: N/A Credential: N/A

Organization Name: N/A

Mailing Address: N/A City, State, Zip Code: N/A

Phone No.: N/A E-mail Address: N/A

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: N/A

Title: N/A Credential: N/A

Organization Name: N/A

Mailing Address: N/A City, State, Zip Code: N/A

Phone No.: N/A E-mail Address: N/A

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

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:

The facility has not been constructed yet. The currently permitted location is approximately 1.2 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123.

The proposed location is located on Flemming Pass, approximately 1.75 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123.

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:

The currently permitted outfall discharges to an unnamed tributary of Cottonwood Creek, thence to Cottonwood Creek, thence to York Creek, thence to Lower San Marcos River in Segment 1808 of the Guadalupe River Basin.

The proposed relocated outfall discharges to Cottonwood Creek, thence to York Creek, thence to Lower San Marcos River in Segment 1808 of the Guadalupe River Basin.

City nearest the outfall(s): Redwood

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

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: N/A

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 – Under 5 MGD

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.

N/A

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: N/A

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: N/A

Amount past due: N/A

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: N/A

Amount past due: N/A

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: AR-1 (Core Data Form), AR-2 (PLS), AR-3 (PIP)

Section 14. Signature Page (Instructions Page 34)

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

Permit Number: Click to enter text.

Applicant: Click to enter text.

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): Click to enter text.

Signatory title: Click to enter text.

Signature:_____ Date:_____

(Use blue ink)

Subscribed and Sworn to before me by the said_____

on this_____ day of_____, 20_____.

My commission expires on the_____ day of_____, 20_____.

_____

Notary Public *[SEAL]*

_____

County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

A. Indicate by a check mark that the landowners map or drawing, with scale, includes the following information, as applicable:

- ☒ The applicant's property boundaries
- ☒ The facility site boundaries within the applicant's property boundaries
- ☒ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
- ☒ The property boundaries of all landowners surrounding the applicant's property (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)
- ☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream
- ☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
- ☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides
- ☐ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property
- ☐ The property boundaries of all landowners surrounding the effluent disposal site
- ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
- ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located

B. ☒ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.

C. Indicate by a check mark in which format the landowners list is submitted:

☐ USB Drive ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: Guadalupe Central Appraisal District

E. As required by *Texas Water Code § 5.115*, is any permanent school fund land affected by this application?

☐ Yes ☒ No

If **yes**, provide the location and foreseeable impacts and effects this application has on the land(s):

N/A

Section 2. Original Photographs (Instructions Page 38)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided.

☒ At least one original photograph of the new or expanded treatment unit location

☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.

☐ At least one photograph of the existing/proposed effluent disposal site

☒ A plot plan or map showing the location and direction of each photograph

Section 3. Buffer Zone Map (Instructions Page 38)

A. Buffer zone map. Provide a buffer zone map on 8.5 x 11-inch paper with all of the following information. The applicant's property line and the buffer zone line may be distinguished by using dashes or symbols and appropriate labels.

- The applicant's property boundary;
- The required buffer zone; and
- Each treatment unit; and
- The distance from each treatment unit to the property boundaries.

B. Buffer zone compliance method. Indicate how the buffer zone requirements will be met. Check all that apply.

☒ Ownership

☐ Restrictive easement

☐ Nuisance odor control

☐ Variance

C. Unsuitable site characteristics. Does the facility comply with the requirements regarding unsuitable site characteristic found in 30 TAC § 309.13(a) through (d)?

☒ Yes ☐ No

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: SPIF-1

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit the Application Fee, if the mailing the payment.

- Complete items 1 through 5 below.
- Staple the check or money order in the space provided at the bottom of this document.
- **Do Not mail this form with the application form.**
- Do not mail this form to the same address as the application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, Texas 78753

Fee Code: WQP **Waste Permit No:** Click to enter text.

1. Check or Money Order Number: Click to enter text.
2. Check or Money Order Amount: Click to enter text.
3. Date of Check or Money Order: Click to enter text.
4. Name on Check or Money Order: Click to enter text.
5. APPLICATION INFORMATION

   Name of Project or Site: Click to enter text.

   Physical Address of Project or Site: Click to enter text.

   If the check is for more than one application, attach a list which includes the name of each Project or Site (RE) and Physical Address, exactly as provided on the application.

Staple Check or Money Order in This Space

ATTACHMENT 1

INDIVIDUAL INFORMATION

Section 1. Individual Information (Instructions Page 41)

Complete this attachment if the facility applicant or co-applicant is an individual. Make additional copies of this attachment if both are individuals.

Prefix (Mr., Ms., Miss): Click to enter text.

Full legal name (Last Name, First Name, Middle Initial): Click to enter text.

Driver's License or State Identification Number: Click to enter text.

Date of Birth: Click to enter text.

Mailing Address: Click to enter text.

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

Phone Number: Click to enter text. Fax Number: Click to enter text.

E-mail Address: Click to enter text.

CN: Click to enter text.

For Commission Use Only:
Customer Number:
Regulated Entity Number:
Permit Number:

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

Below is a list of common deficiencies found during the administrative review of domestic wastewater permit applications. To ensure the timely processing of this application, please review the items below and indicate by checking Yes that each item is complete and in accordance applicable rules at 30 TAC Chapters 21, 281, and 305. If an item is not required this application, indicate by checking N/A where appropriate. Please do not submit the application until the items below have been addressed.

Core Data Form (TCEQ Form No. 10400) ☒ Yes
(Required for all application types. Must be completed in its entirety and signed. Note: Form may be signed by applicant representative.)

Correct and Current Industrial Wastewater Permit Application Forms ☒ Yes
(TCEQ Form Nos. 10053 and 10054. Version dated 6/25/2018 or later.)

Water Quality Permit Payment Submittal Form (Page 19) ☐ Yes
(Original payment sent to TCEQ Revenue Section. See instructions for mailing address.)

7.5 Minute USGS Quadrangle Topographic Map Attached ☒ Yes
(Full-size map if seeking "New" permit. 8 ½ x 11 acceptable for Renewals and Amendments)

Current/Non-Expired, Executed Lease Agreement or Easement ☒ N/A ☐ Yes

Landowners Map ☐ N/A ☒ Yes
(See instructions for landowner requirements)

Things to Know:

- All the items shown on the map must be labeled.
- The applicant's complete property boundaries must be delineated which includes boundaries of contiguous property owned by the applicant.
- The applicant cannot be its own adjacent landowner. You must identify the landowners immediately adjacent to their property, regardless of how far they are from the actual facility.
- If the applicant's property is adjacent to a road, creek, or stream, the landowners on the opposite side must be identified. Although the properties are not adjacent to applicant's property boundary, they are considered potentially affected landowners. If the adjacent road is a divided highway as identified on the USGS topographic map, the applicant does not have to identify the landowners on the opposite side of the highway.

Landowners Cross Reference List ☐ N/A ☒ Yes
(See instructions for landowner requirements)

Landowners Labels or USB Drive attached ☐ N/A ☒ Yes
(See instructions for landowner requirements)

Original signature per 30 TAC § 305.44 – Blue Ink Preferred ☒ Yes
(If signature page is not signed by an elected official or principle executive officer, a copy of signature authority/delegation letter must be attached)

Plain Language Summary ☒ Yes

TCEQ Use Only

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 **Major Amendment**

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 600521272		**RN 110842184**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 12/9/2024

☐ 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)

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).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

City of San Marcos

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher

13. Independently Owned and Operated?

☒ **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

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

603 E Hopkins St

City	San Marcos	State	TX	ZIP	78666	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	pkite@sanmarcostx.gov

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*

(512) 393-8376		( ) -

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

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).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Flemming Farms WWTP (current name), FM 1978 Water Reclamation Facility (new name

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	N/A							
	City	San Marcos	**State**	TX	**ZIP**	78666	**ZIP + 4**	
24. County	Hays							

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

25. Description to Physical Location:	1.2 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123

26. Nearest City	**State**	**Nearest ZIP Code**
San Marcos	TX	78666

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).

27. Latitude (N) In Decimal:	29.810975		**28. Longitude (W) In Decimal:**	-97.919444	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	48	39.5	97	55	10.0

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		221320	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Wastewater treatment

34. Mailing Address:	**630 E Hopkins St**							
	City	**San Marcos**	**State**	**TX**	**ZIP**	**78666**	**ZIP + 4**	

35. E-Mail Address:	**pkite@sanmarcostx.gov**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 393-8003		( ) -

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:
	WQ0015817001			

SECTION IV: Preparer Information

40. Name:	Cassandra Villarreal	**41. Title:**	Enviornmental Scientist

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(817 **)** 735-7294		**( )** -	cassandra.villarreal@freese.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:	Freese and Nichols, Inc.	**Job Title:**	Environmental Scientist		
Name *(In Print):*	Cassandra Villarreal			**Phone:**	**(** 817 **)** 735- **7294**
Signature:				**Date:**	12/23/2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. Applicants may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS DOMESTIC WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

The City of San Marcos (CN600521272) proposes to operate the Flemming Farms WWTP (RN110842184), a package wastewater facility. The facility will be located on Flemming Pass, approximately 1.75 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123, in Guadalupe County, Texas, 78666.

The application is to authorize an increase in the discharge of treated wastewater to a volume not to exceed an annual average flow of 990,000 gallons per day and the relocation of the proposed facility and outfall location.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent and Domestic Worksheet 4.0 in the permit application package.

Domestic wastewater is treated by aeration basins, clarifier, chorine contact basin, digesters, and tertiary cloth disk filter.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES DOMÉSTICAS /AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

La ciudad de San Marcos (CN600521272) propone operar la planta de tratamiento de aguas residuales Flemming Farms WWTP (RN110842184). La planta estará ubicada en Flemming Pass, aproximadamente a 1,75 millas al este de la intersección de Farm-to-Market Road 1978 y State Highway 123, en el condado de Guadalupe, Texas, 78666.

La solicitud es para autorizar un aumento en la descarga de aguas residuales tratadas a un volumen que no exceda un flujo promedio anual de 990,000 galones por día y la reubicación de la instalación propuesta y la ubicación del emisario.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniaco (NH3-N) y Escherichia coli. Se incluyen otros contaminantes potenciales en el Informe Técnico Doméstico 1.0, Sección 7. Análisis de Contaminantes de Efluentes Tratados y la Hoja de Trabajo Doméstica 4.0 en el paquete de solicitud de permiso.

Las aguas residuales domésticas se tratan mediante piscinas de aireación, clarificador, piscina de contacto con cloro, digestores y filtro de disco de tela terciario.

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☐ New Permit or Registration Application

☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☒ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

Location is not located in geographical locations listed above. PIP not applicable.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☒ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

(City)

(County)

(Census Tract)
Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☐ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☐ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☐ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

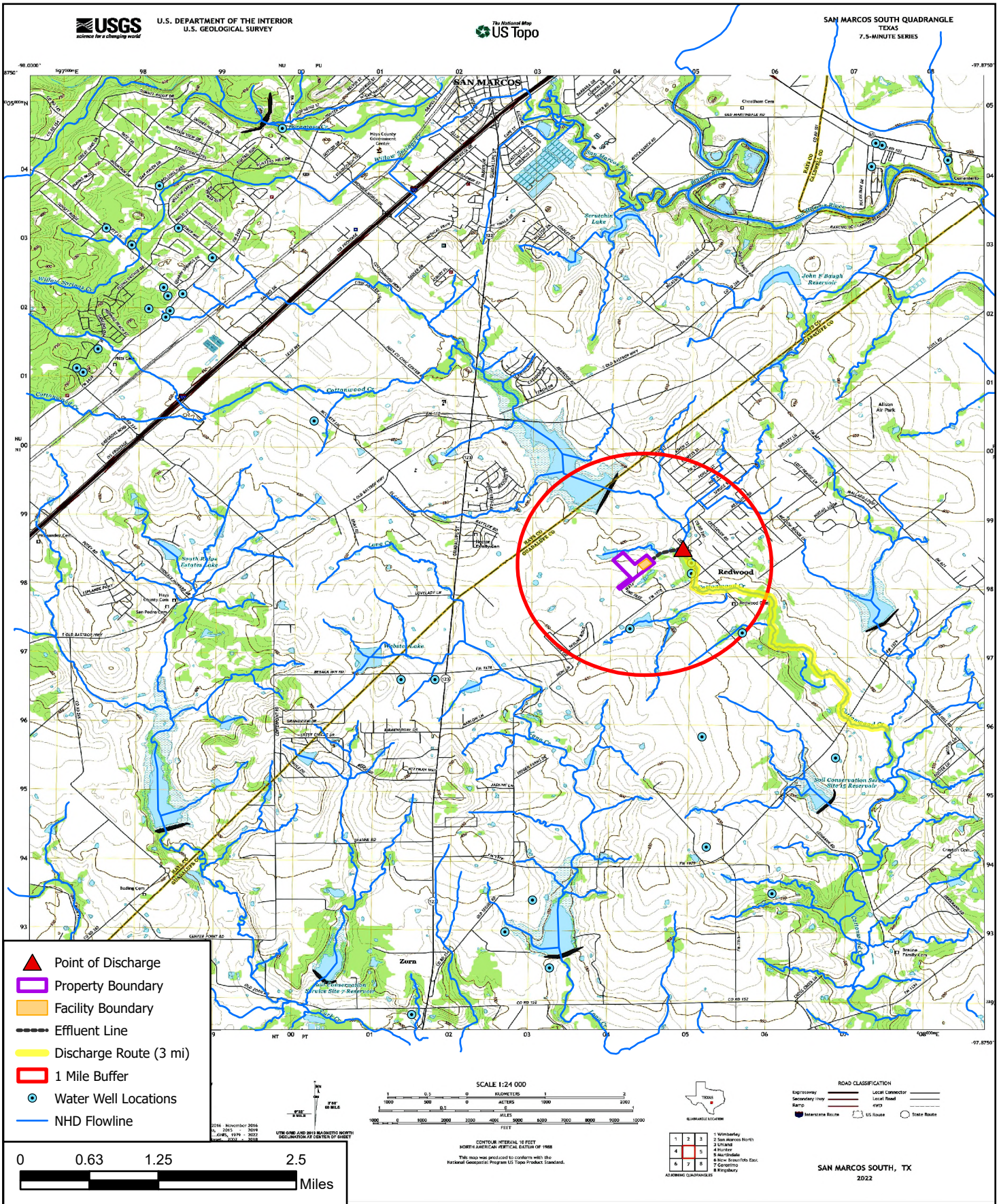
What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)



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CITY OF SAN MARCOS

TPDES Permit Major Amendment

USGS Topographic Map

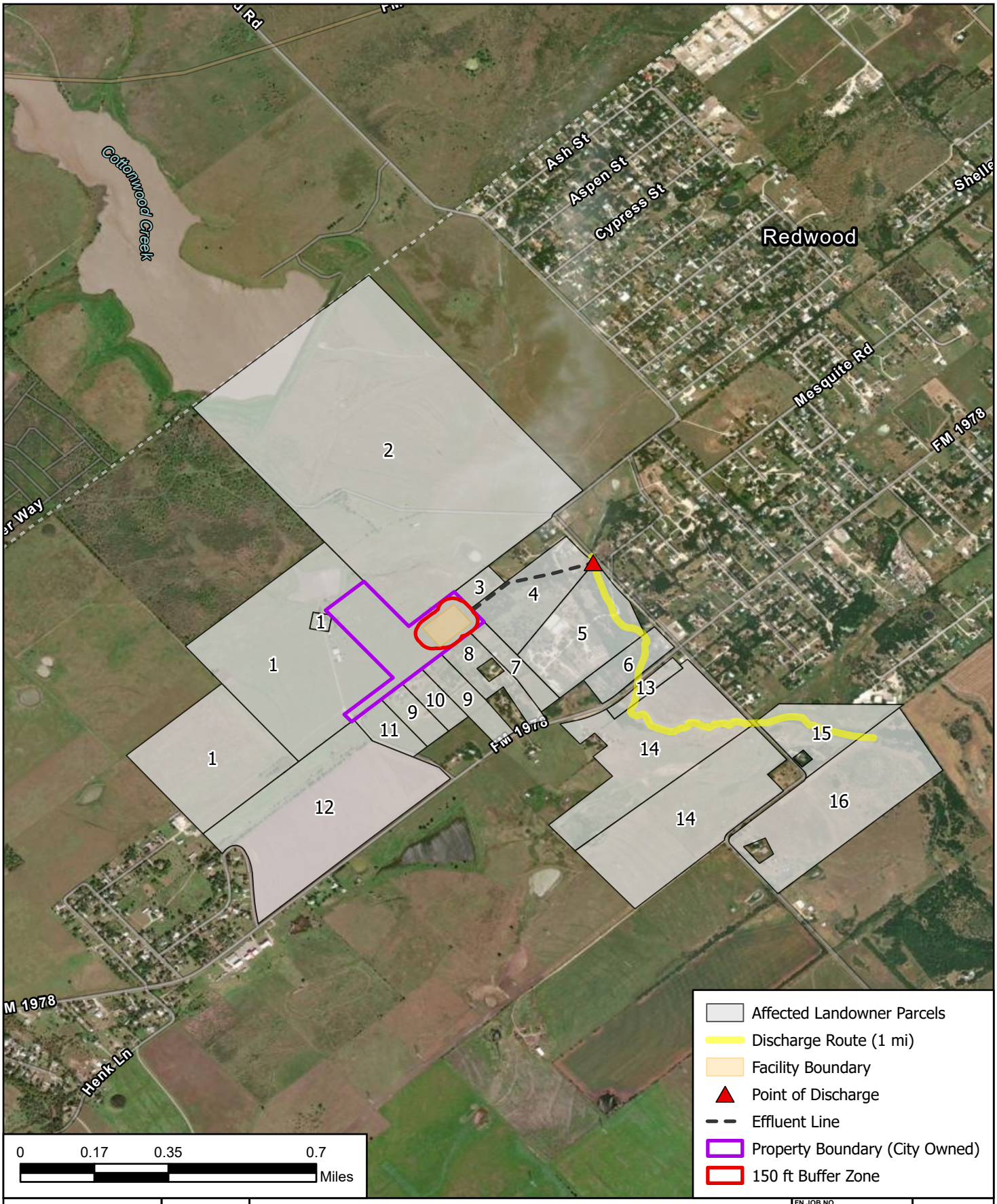
Quad Name: San Marcos South

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	402,151
DESIGNED	CLV
DRAFTED	08245

1

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx



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CITY OF SAN MARCOS

TPDES Permit Major Amendment

Affected Landowner Map

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	19,535
DESIGNED	CLV
DRAFTED	08245

2

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx

JLBC 710 INVESTMENTS LLC
3701 LONG CHAMP DR
AUSTIN, TX 78746

MOELLER FAMILY LIMITED PARTNERSHIP
5401 HWY 621
SAN MARCOS, TX 78666

GARZA GLORIA DE LA ROSA
P O BOX 928
SAN MARCOS, TX 78667

MATA GREGORIO & MARIA JIMENEZ MATA
1825 FIR ST
SAN MARCOS, TX 78666

HW CONSTRUCTION AND DESIGN LLC
4908 REDWOOD RD
SAN MARCOS, TX 78666

WOODARD KAREN & SUSAN REYNOLDS
C/O KAREN WOODARD
5082 REDWOOD RD
SAN MARCOS, TX 78666

FLEMING STEPHEN THOMAS
3270 FM 1978
SAN MARCOS, TX 78666

FLEMING DARYL P
3278 FM 1978
SAN MARCOS, TX 78666

FLEMING MICHAEL
453 FLEMING PASS
SAN MARCOS, TX 78666

OTTMERS DELBERT MAX III
1716 PIEDMONT AVE
AUSTIN, TX 78757

FLEMING SHARON TERESA BRUNDRETT
P O BOX 1038
DRIPPING SPRINGS, TX 78620-1038

JONES CLINT E
1848 PEBBLE BROOK DR
NEW BRAUNFELS, TX 78130

ORTIZ ALFREDO
2951 FM 1978
SAN MARCOS, TX 78666

DONKEY & JACK LLC
7312 VALBURN DR
AUSTIN, TX 78731

SHARON PETERS REAL ESTATE INC
603 MUSTANG LN
SAN MARCOS, TX 78666

BIERSTEDT THOMAS DALE
C/O KEVIN BIERSTEDT
P O BOX 160
MARTINDALE, TX 78655

Affected Landowner Map
Cross Referenced List

1 JLBC 710 INVESTMENTS LLC
3701 LONG CHAMP DR
AUSTIN, TX 78746

2 MOELLER FAMILY LIMITED PARTNERSHIP
5401 HWY 621
SAN MARCOS, TX 78666

3 GARZA GLORIA DE LA ROSA
P O BOX 928
SAN MARCOS, TX 78667

4 MATA GREGORIO & MARIA JIMENEZ MATA
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SAN MARCOS, TX 78666

9 FLEMING MICHAEL
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10 OTTMERS DELBERT MAX III
1716 PIEDMONT AVE
AUSTIN, TX 78757

11 FLEMING SHARON TERESA BRUNDRETT
P O BOX 1038
DRIPPING SPRINGS, TX 78620-1038

12 JONES CLINT E
1848 PEBBLE BROOK DR
NEW BRAUNFELS, TX 78130

13 ORTIZ ALFREDO
2951 FM 1978
SAN MARCOS, TX 78666

14 DONKEY & JACK LLC
7312 VALBURN DR
AUSTIN, TX 78731

15 SHARON PETERS REAL ESTATE INC
603 MUSTANG LN
SAN MARCOS, TX 78666

16 BIERSTEDT THOMAS DALE
C/O KEVIN BIERSTEDT
P O BOX 160
MARTINDALE, TX 78655

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CITY OF SAN MARCOS

TPDES Permit Major Amendment

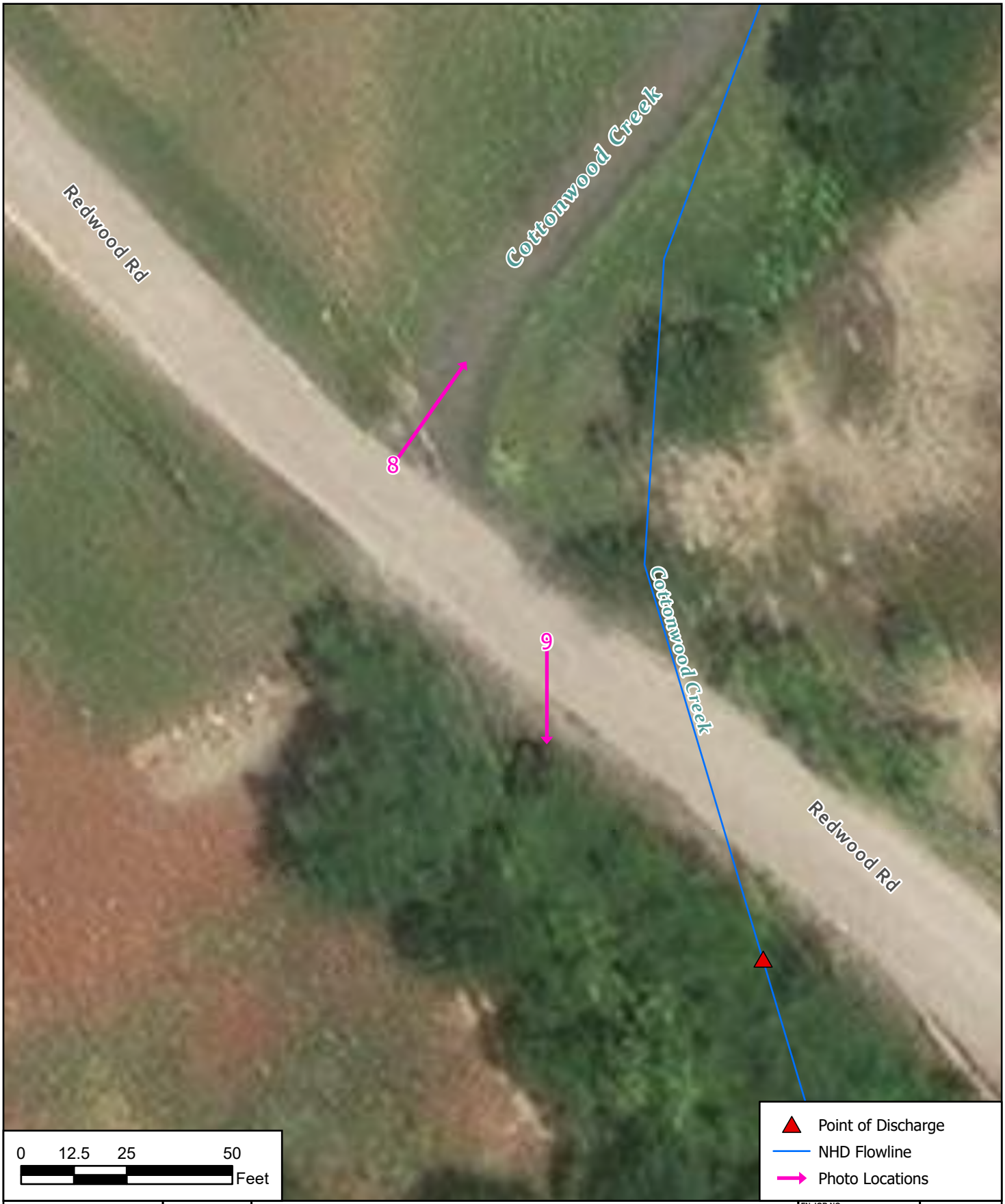
Photo Locations

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	1:1,357
DESIGNED	CLV
DRAFTED	08245

3a

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx



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CITY OF SAN MARCOS

TPDES Permit Major Amendment

Photo Locations

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/6/2024
SCALE	1:373
DESIGNED	CLV
DRAFTED	08245

3b

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx

Photo 1. Facing East

Photo 2. Facing North

Photo 3. Facing Southeast

Photo 4. Facing east

Photo 5. Facing north

Photo 6. Facing west

Photo 7. Facing east.

Photo 8. Outfall location facing upstream

Photo 9. Outfall location facing downstream

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: City of San Marcos

   Permit No. WQ00 15817001 EPA ID No. TX 0139521

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

   The proposed WWTP is located approximately 1.6 miles east of the intersection of Highway 123 and Highway 1978. It is situated on Fleming Pass off Highway 1978.

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): Mr.

First and Last Name: Paul Kite

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Assistant Director Utilities

Mailing Address: 630 E. Hopkins

City, State, Zip Code: San Marcos, TX 78666

Phone No.: 512-393-8003 Ext.: N/A Fax No.: N/A

E-mail Address: pkite@sanmarcostx.gov

2. List the county in which the facility is located: Guadalupe
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.

From the proposed wastewater treatment plant, effluent will travel approximately 1600' of pipe to Cottonwood Creek, thence to York Creek, thence to the Lower San Marcos River in Segment No. 1808 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):

~2.5 acres, 5 ft depth of impact. There will be one 10x10 ft lift station that will have a 30 ft depth of impact. A gravity line flowing to the influent lift station will have an approximately 10 ft depth of disturbance over ~1 acre.

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

The existing site vegetation is characterized by pasture grasses with several dozen mesquite saplings. There is a small, intermittent stream that passes through the northeast corner of the site. The site is currently used as a grazing pasture for cattle.

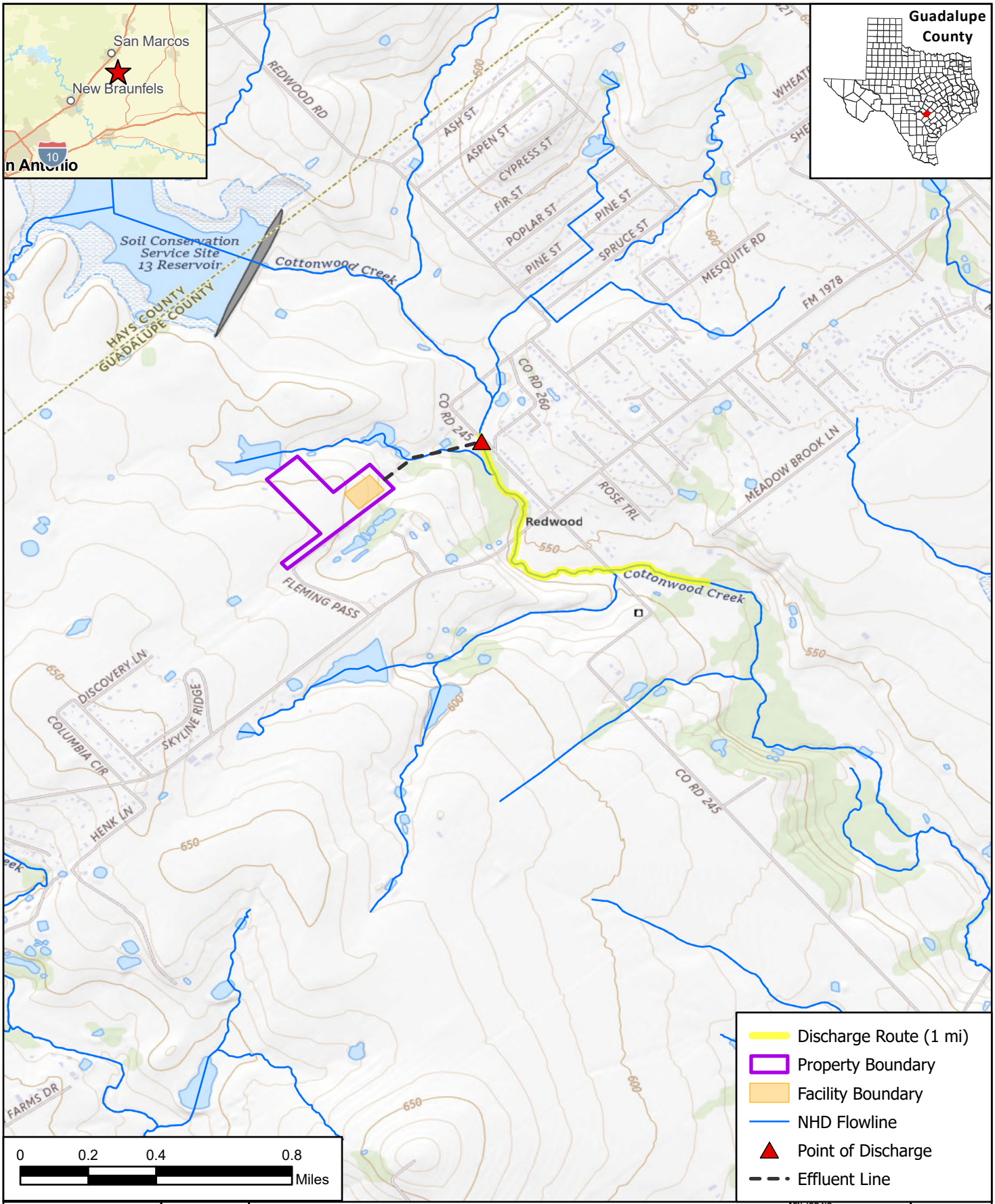
THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

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

Currently, there are no buildings or structures on the property.

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

The property has been used for agriculture as a grazing pasture. The property is currently undeveloped.



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CITY OF SAN MARCOS

TPDES Permit Major Amendment

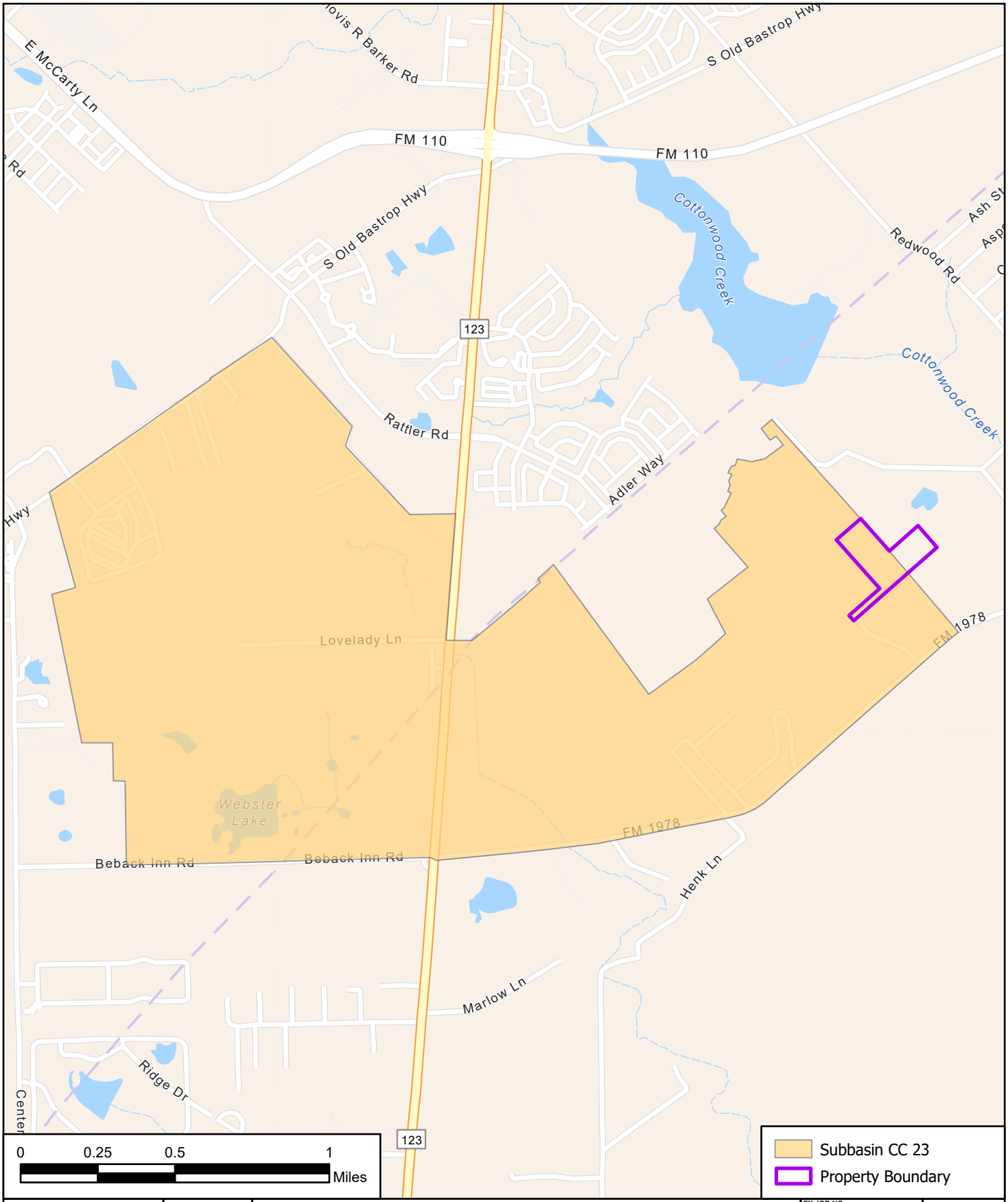
SPIF USGS Topographic Map

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	2,106,743
DESIGNED	CLV
DRAFTED	08245

5

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx



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CITY OF SAN MARCOS

TPDES Permit Major Amendment

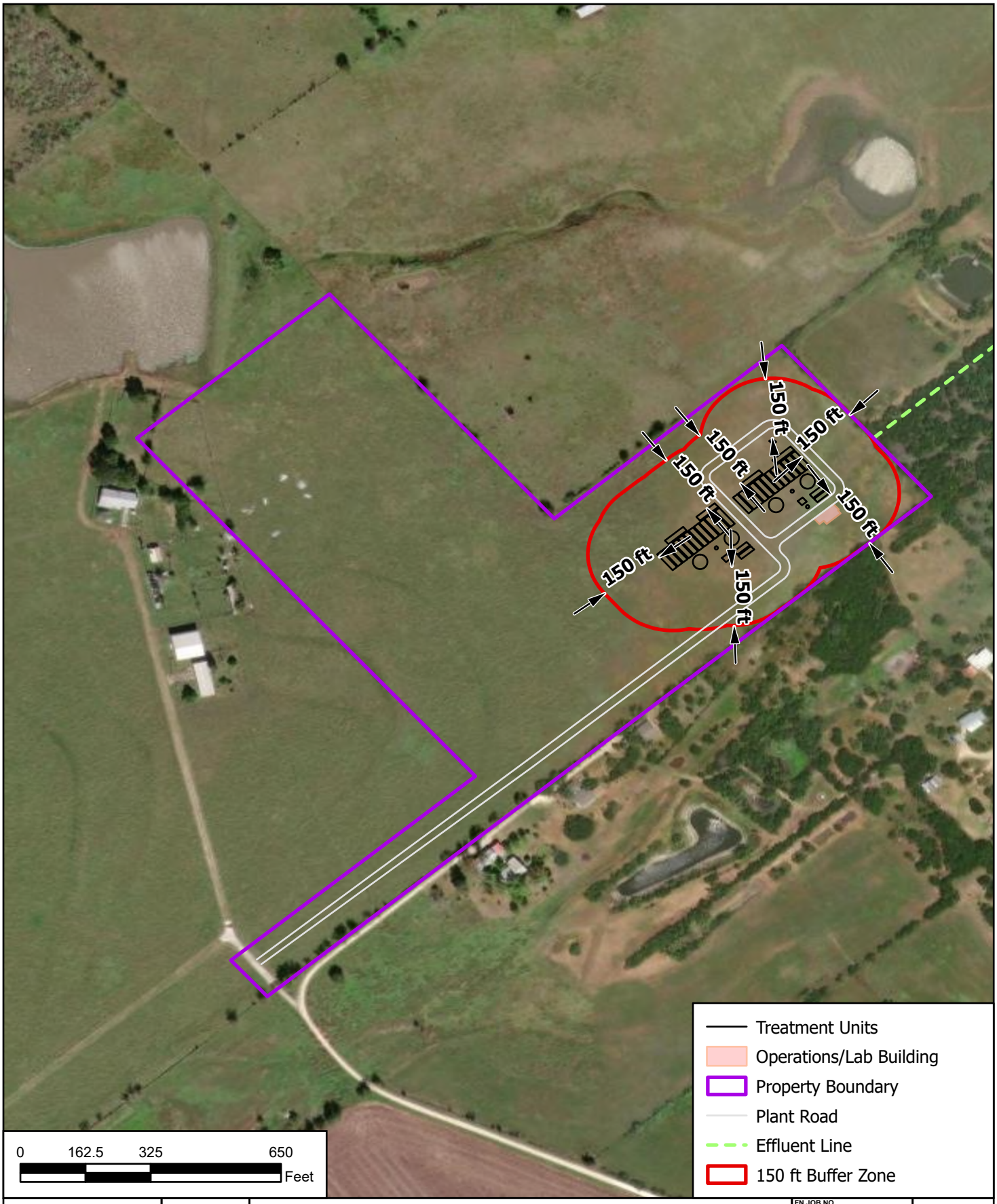
Site Drawing

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	27,041
DESIGNED	CLV
DRAFTED	08245

6

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx



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CITY OF SAN MARCOS

TPDES Permit Major Amendment

Buffer Zone Map

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	3,900
DESIGNED	CLV
DRAFTED	08245

4

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx

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): 0.25

2-Hr Peak Flow (MGD): 1

Estimated construction start date: 2025

Estimated waste disposal start date: 2025

B. Interim II Phase

Design Flow (MGD): 0.5

2-Hr Peak Flow (MGD): 2

Estimated construction start date: 2026

Estimated waste disposal start date: 2027

C. Final Phase

Design Flow (MGD): 0.99

2-Hr Peak Flow (MGD): 3.96

Estimated construction start date: 2027

Estimated waste disposal start date: 2028

D. Current Operating Phase

Provide the startup date of the facility: 2025

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.**

Attachment TR-1

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)
Attachment		
TR-2		

C. Process Flow Diagram

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

Attachment: TR-3

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

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

- Latitude: 29.813159
- Longitude: -97.914439

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: TR-4

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

Planned developments along FM1978.

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
CC-23 Subbasin	City of San Marcos	Publicly Owned	22,125

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**.

N/A

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.

N/A

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: N/A

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**.

N/A

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*.

Other Requirement No. 7 states that reporting and monitoring requirements are suspended until plant startup or discharge from the facility, whichever occurs first. A Notification of Completion Form must be submitted at least 45 days prior to plant startup or anticipated discharge, whichever occurs first.

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.

N/A

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.

N/A

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.

N/A

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 N/A or TXRNE N/A

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:

N/A

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.

N/A

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.

N/A

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.

N/A

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.
N/A

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 BOD_5 concentration of the sludge, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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 BOD_5 concentration of the septic waste, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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.

N/A

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). **W*ater 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					
Total Suspended Solids, mg/l					
Ammonia Nitrogen, mg/l					
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l		N/A			
Chloride, mg/l					
Total Phosphorus, mg/l					
pH, standard units					
Dissolved Oxygen*, mg/l					
Chlorine Residual, mg/l					
E.coli (CFU/100ml) freshwater					
Entercocci (CFU/100ml) saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, µmohs/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					
Total Dissolved Solids, mg/l					
pH, standard units		N/A			
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity ($CaCO_3$), mg/l					

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Andreana Alexander

Facility Operator's License Classification and Level: Wastewater Treatment Operator B

Facility Operator's License Number: WW0067995

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>= 1 MGD
- ☒ Serves >= 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: Sludge will be collected in aerated sludge holding tank and disposed of at the landfill.

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
Disposal in Landfill	Off-site Third-Party Handler or Preparer	Not Applicable	N/A	N/A	N/A

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): N/A

D. Disposal site

Disposal site name: Waste Management Mesquite Creek Landfill

TCEQ permit or registration number: 66B

County where disposal site is located: Comal

E. Transportation method

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

Name of the hauler: Residuals Transport Corporation

Hauler registration number: 24346

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: N/A
- USDA Natural Resources Conservation Service Soil Map:

  Attachment: N/A
- Federal Emergency Management Map:

Attachment: N/A

- Site map:

  Attachment: N/A

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: N/A

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:

N/A

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: N/A

Total Kjeldahl Nitrogen, mg/kg: N/A

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: N/A

Phosphorus, mg/kg: N/A

Potassium, mg/kg: N/A

pH, standard units: N/A

Ammonia Nitrogen mg/kg: N/A

Arsenic: N/A

Cadmium: N/A

Chromium: N/A

Copper: N/A

Lead: N/A

Mercury: N/A

Molybdenum: N/A

Nickel: N/A

Selenium: N/A

Zinc: N/A

Total PCBs: N/A

Provide the following information:

Volume and frequency of sludge to the lagoon(s): N/A

Total dry tons stored in the lagoons(s) per 365-day period: N/A

Total dry tons stored in the lagoons(s) over the life of the unit: N/A

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of $1x10^{-7}$ cm/sec?

☐ Yes ☐ No

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

N/A

D. Site development plan

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

N/A

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)

  Attachment: N/A
- Copy of the closure plan

  Attachment: N/A
- Copy of deed recordation for the site

  Attachment: N/A
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

  Attachment: N/A
- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment: N/A
- Procedures to prevent the occurrence of nuisance conditions

  Attachment: N/A

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: N/A

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:

N/A

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:

N/A

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: Click to enter text.

Title: Click to enter text.

Signature: _____

Date: _____

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.1

The following information is required for new and amendment major applications.

Section 1. Justification for Permit (Instructions Page 57)

A. Justification of permit need

Provide a detailed discussion regarding the need for any phase(s) not currently permitted. Failure to provide sufficient justification may result in the Executive Director recommending denial of the proposed phase(s) or permit.

TR-5

B. Regionalization of facilities

For additional guidance, please review TCEQ's Regionalization Policy for Wastewater Treatment[1].

Provide the following information concerning the potential for regionalization of domestic wastewater treatment facilities:

1. *Municipally incorporated areas*

If the applicant is a city, then Item 1 is not applicable. Proceed to Item 2 Utility CCN areas.

Is any portion of the proposed service area located in an incorporated city?

☐ Yes ☐ No ☒ Not Applicable

If yes, within the city limits of: N/A

If yes, attach correspondence from the city.

Attachment: N/A

If consent to provide service is available from the city, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the city versus the cost of the proposed facility or expansion attached.

Attachment: N/A

2. *Utility CCN areas*

Is any portion of the proposed service area located inside another utility's CCN area?

☐ Yes ☒ No

[1] https://www.tceq.texas.gov/permitting/wastewater/tceq-regionalization-for-wastewater

If yes, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the CCN facilities versus the cost of the proposed facility or expansion.

Attachment: N/A

3. ***Nearby WWTPs or collection systems***

Are there any domestic permitted wastewater treatment facilities or collection systems located within a three-mile radius of the proposed facility?

☒ Yes ☐ No

If yes, attach a list of these facilities and collection systems that includes each permittee's name and permit number, and an area map showing the location of these facilities and collection systems.

Attachment: TR-5

If yes, attach proof of mailing a request for service to each facility and collection system, the letters requesting service, and correspondence from each facility and collection system.

Attachment: N/A – see Attachment TR-5

If the facility or collection system agrees to provide service, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the facility or collection system versus the cost of the proposed facility or expansion.

Attachment: N/A – see Attachment TR-5

Section 2. Proposed Organic Loading (Instructions Page 59)

Is this facility in operation?

☐ Yes ☒ No

If no, proceed to Item B, Proposed Organic Loading.

If yes, provide organic loading information in Item A, Current Organic Loading

A. Current organic loading

Facility Design Flow (flow being requested in application): N/A

Average Influent Organic Strength or BOD_5 Concentration in mg/l: N/A

Average Influent Loading (lbs/day = total average flow X average BOD_5 conc. X 8.34): N/A

Provide the source of the average organic strength or BOD_5 concentration.

N/A

B. Proposed organic loading

This table must be completed if this application is for a facility that is not in operation or if this application is to request an increased flow that will impact organic loading.

Table 1.1(1) – Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD5 Concentration (mg/l)
Municipality		
Subdivision	98%*0.99MGD = 0.9702 MGD	250
Trailer park – transient		
Mobile home park		
School with cafeteria and showers	1% = 0.0099 MGD	300
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use	1% = 0.0099 MGD	300
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources	0.99	251 mg/L (assume 300 mg/L)
AVERAGE BOD_5 from all sources	0.99	251 mg/L (assume 300 mg/L)

Section 3. Proposed Effluent Quality and Disinfection (Instructions Page 59)

A. Existing/Interim I Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 5.0

Other: E. coli 126 MPN

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 5.0

Other: E. coli 126 MPN

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 5.0

Other: E. coli 126 MPN

D. Disinfection Method

Identify the proposed method of disinfection.

☒ Chlorine: 1 mg/l after 20 minutes detention time at peak flow

Dechlorination process: Chlorine contact basin

☐ Ultraviolet Light: N/A seconds contact time at peak flow

☐ Other: Click to enter text.

Section 4. Design Calculations (Instructions Page 59)

Attach design calculations and plant features for each proposed phase. Example 4 of the instructions includes sample design calculations and plant features.

Attachment: TR-7

Section 5. Facility Site (Instructions Page 60)

A. 100-year floodplain

Will the proposed facilities be located above the 100-year frequency flood level?

☒ Yes ☐ No

If no, describe measures used to protect the facility during a flood event. Include a site map showing the location of the treatment plant within the 100-year frequency flood level. If applicable, provide the size and types of protective structures.

N/A

Provide the source(s) used to determine 100-year frequency flood plain.

FEMA Firm Panel 0045F

For a new or expansion of a facility, will a wetland or part of a wetland be filled?

☐ Yes ☒ No

If yes, has the applicant applied for a US Corps of Engineers 404 Dredge and Fill Permit?

☐ Yes ☐ No

If yes, provide the permit number: N/A

If no, provide the approximate date you anticipate submitting your application to the Corps: N/A

B. Wind rose

Attach a wind rose: TR-8

Section 6. Permit Authorization for Sewage Sludge Disposal (Instructions Page 60)

A. Beneficial use authorization

Are you requesting to include authorization to land apply sewage sludge for beneficial use on property located adjacent to the wastewater treatment facility under the wastewater permit?

☐ Yes ☒ No

If yes, attach the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)**: N/A

B. Sludge processing authorization

Identify the sludge processing, storage or disposal options that will be conducted at the wastewater treatment facility:

☐ Sludge Composting

☐ Marketing and Distribution of sludge

☐ Sludge Surface Disposal or Sludge Monofill

If any of the above, sludge options are selected, attach the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)**: N/A

Section 7. Sewage Sludge Solids Management Plan (Instructions Page 61)

Attach a solids management plan to the application.

Attachment: TR-9

The sewage sludge solids management plan must contain the following information:

- Treatment units and processes dimensions and capacities
- Solids generated at 100, 75, 50, and 25 percent of design flow
- Mixed liquor suspended solids operating range at design and projected actual flow

- Quantity of solids to be removed and a schedule for solids removal
- Identification and ownership of the ultimate sludge disposal site
- For facultative lagoons, design life calculations, monitoring well locations and depths, and the ultimate disposal method for the sludge from the facultative lagoon

An example of a sewage sludge solids management plan has been included as Example 5 of the instructions.

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 it Section 2. **If yes**, provide the following:

Owner of the drinking water supply: N/A

Distance and direction to the intake: N/A

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

Attachment: N/A

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: N/A

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).

N/A

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).

N/A

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: Cottonwood Creek

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: Click to enter text.

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: NHD Data

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 – none within 3 miles

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.

N/A

E. Normal dry weather characteristics

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

The water was clear, and the creek bottom could be seen. Water depth was about 2-3 feet of depth and flowing

Date and time of observation: 7/3/24 9:30 AM

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: Click to enter text.

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: Click to enter text.

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

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

The following **is required** for **all publicly owned treatment works**.

Section 1. All POTWs (Instructions Page 89)

A. Industrial users (IUs)

Provide the number of each of the following types of industrial users (IUs) that discharge to your POTW and the daily flows from each user. See the Instructions for definitions of Categorical IUs, Significant IUs – non-categorical, and Other IUs.

If there are no users, enter 0 (zero).

Categorical IUs:

Number of IUs: 0 (zero)

Average Daily Flows, in MGD: 0 (zero)

Significant IUs – non-categorical:

Number of IUs: 0 (zero)

Average Daily Flows, in MGD: 0 (zero)

Other IUs:

Number of IUs: 0 (zero)

Average Daily Flows, in MGD: 0 (zero)

B. Treatment plant interference

In the past three years, has your POTW experienced treatment plant interference (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, description of interference, and probable cause(s) and possible source(s) of each interference event. Include the names of the IUs that may have caused the interference.

N/A – plant is not in operation

C. Treatment plant pass through

In the past three years, has your POTW experienced pass through (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, a description of the pollutants passing through the treatment plant, and probable cause(s) and possible source(s) of each pass through event. Include the names of the IUs that may have caused pass through.

N/A – plant is not in operation

D. Pretreatment program

Does your POTW have an approved pretreatment program?

☐ Yes ☒ No

If yes, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

☐ Yes ☒ No

If yes, complete Section 2.c. and 2.d. only, and skip Section 3.

If no to either question above, skip Section 2 and complete Section 3 for each significant industrial user and categorical industrial user.

Section 2. POTWs with Approved Programs or Those Required to Develop a Program (Instructions Page 90)

A. Substantial modifications

Have there been any **substantial modifications** to the approved pretreatment program that have not been submitted to the TCEQ for approval according to *40 CFR §403.18*?

☐ Yes ☐ No

If yes, identify the modifications that have not been submitted to TCEQ, including the purpose of the modification.

N/A

B. Non-substantial modifications

Have there been any **non-substantial modifications** to the approved pretreatment program that have not been submitted to TCEQ for review and acceptance?

☐ Yes ☐ No

If yes, identify all non-substantial modifications that have not been submitted to TCEQ, including the purpose of the modification.

N/A

C. Effluent parameters above the MAL

In Table 6.0(1), list all parameters measured above the MAL in the POTW's effluent monitoring during the last three years. Submit an attachment if necessary.

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date
	N/A			

D. Industrial user interruptions

Has any SIU, CIU, or other IU caused or contributed to any problems (excluding interferences or pass throughs) at your POTW in the past three years?

☐ Yes ☐ No

If yes, identify the industry, describe each episode, including dates, duration, description of the problems, and probable pollutants.

N/A

Section 3. Significant Industrial User (SIU) Information and Categorical Industrial User (CIU) (Instructions Page 90)

A. General information

Company Name: N/A

SIC Code: N/A

Contact name: N/A

Address: N/A

City, State, and Zip Code: N/A

Telephone number: N/A

Email address: N/A

B. Process information

Describe the industrial processes or other activities that affect or contribute to the SIU(s) or CIU(s) discharge (i.e., process and non-process wastewater).

N/A

C. Product and service information

Provide a description of the principal product(s) or services performed.

N/A

D. Flow rate information

See the Instructions for definitions of "process" and "non-process wastewater."

Process Wastewater:

Discharge, in gallons/day: N/A

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: N/A

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

E. Pretreatment standards

Is the SIU or CIU subject to technically based local limits as defined in the *i*nstructions?

☐ Yes ☐ No

Is the SIU or CIU subject to categorical pretreatment standards found in *40 CFR Parts 405-471*?

☐ Yes ☐ No

If subject to categorical pretreatment standards, indicate the applicable category and subcategory for each categorical process.

Category: Subcategories: N/A

Click or tap here to enter text. Click to enter text.

Category: N/A

Subcategories: Click to enter text.

Category: N/A

Subcategories: Click to enter text.

Category: N/A

Subcategories: Click to enter text.

Category: N/A

Subcategories: Click to enter text.

F. Industrial user interruptions

Has the SIU or CIU caused or contributed to any problems (e.g., interferences, pass through, odors, corrosion, blockages) at your POTW in the past three years?

☐ Yes ☐ No

If yes, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants.

N/A

ATTACHMENT TR-1

Treatment Process Description

Treatment Process Description

San Marcos Wastewater Treatment Plant

Phase 1

The proposed WWTP will be designed as an activated sludge package plant that operates in the single stage nitrification mode and will be able to treat an average annual daily flow of 0.25 MGD and manage a peak flow rate of 694 gpm. Due to the anticipated stringent cBOD5, TSS, and TP limits under consideration, the plant will also require tertiary filtration with coagulant addition to reliably meet the potential effluent limits. The package plant process units will include preliminary screening with flow splitting, (4) aeration basins, (1) clarifier, (1) chlorine contact basin, (2) digesters, and (1) tertiary cloth disk filter. A chlorine feed system will be provided for chemical disinfection. A coagulant feed system will be provided to precipitate phosphorus to ensure compliance with expected TP limits. Two coagulant injection points will be provided: one in the clarifier mixed liquor piping upstream of the secondary clarifier, and one in the filter influent line. The aeration basins, digesters, and secondary clarifier will be sized to provide the treatment volume required to treat the Phase I peak flow rate. The tertiary filter will be oversized to handle the Phase II phase with one disk offline, but will be furnished with the necessary disks as required by the Phase I peak flow rate.

Phase 2

The proposed WWTP expansion will be designed as an activated sludge package plant that operates in the single stage nitrification mode and will be an expansion to Phase I. This Phase will be able to treat an average annual daily flow of 0.50 MGD and manage a a peak flow rate of 1,389 gpm. The Phase I treatment units will remain in operation and the following additional treatment units will be installed and function in conjunction with the existing ones: (4) new aeration basins, (2) new digesters, one (1) new secondary clarifier, one (1) new disinfection basin, new blowers, and additional disks for the tertiary filter unit. Concerning the secondary treatment/activated sludge portion, the expansion plant will be designed so as to function as a separate treatment train from the existing Phase I plant. It is anticipated that dechlorination will be required at the Phase II flows; therefore, a dechlorination feed system will be supplied and the disinfection system will include a dechlorination zone upstream of the final measuring weir to provide the required contact time for dechlorination.

Phase 3

The proposed WWTP expansion will be designed as an activated sludge package plant that operates in the single stage nitrification mode and will be an expansion to Phases I & II. This Phase will be able to treat an average annual daily flow of 0.99 MGD and manage a peak flow rate of 2,750 gpm. The Phase I & II treatment units will remain in operation and the following additional treatment units will be installed and function in conjunction with the existing ones: (8) new aeration basis, (4) new digesters, (2) new clarifiers, (2) new disinfection basins, new blowers, and (1) separate tertiary filter unit sized to handle the Phase III flows. The tankage and equipment installed as part of this Phase will operate as a completely separate treatment train.

ATTACHMENT TR-2

Treatment Units

Domestic Technical Report 1.0 – 2(b)
Treatment Unit Dimensions
San Marcos Wastewater Treatment Plant

Major Components and sizes for the proposed Phases as follows:

Phase I
(0.250 MGD)

Unit Dimensions	Number of units	Dimensions (L x W x SWD)
Aeration (Ph. I)	4	52’-0”x 12’-0” x 10.50’
Digester (Ph. I)	2	52’-0”x 12’-0” x 10.67’
Clarifier (Ph. I)	1	36’-0” Dia. x 10’ SWD
Disinfection (Ph. I)	1	36’-0” x 11’-0”x 5.5’ SWD

Phase II
(Exp. to 0.5 MGD)

Unit Dimensions	Number of units	Dimensions (L x W x SWD)
Aeration (Ph. I)	4	52’-0”x 12’-0” x 10.50’
Aeration (Ph. II)	4	52’-0”x 12’-0” x 10.50’
Digester (Ph. I)	2	52’-0”x 12’-0” x 10.67’
Digester (Ph. II)	2	52’-0”x 12’-0” x 10.67’
Clarifier (Ph. I)	1	36’-0” Dia. x 10’ SWD
Clarifier (Ph. II)	1	36’-0” Dia. x 10’ SWD
Disinfection (Ph. I)	1	36’-0” x 11’-0”x 5.5’ SWD
Disinfection (Ph. II)	1	36’-0” x 11’-0”x 5.5’ SWD

Phase III
(Exp. to 0.990 MGD)

Unit Dimensions	Number of units	Dimensions (L x W x SWD)
Aeration (Ph. I)	4	52’-0”x 12’-0” x 10.50’
Aeration (Ph. II)	4	52’-0”x 12’-0” x 10.50’
Aeration (Ph. III)	8	52’-0”x 12’-0” x 10.50’

Digester (Ph. I)	2	52’-0”x 12’-0” x 10.67’
Digester (Ph. II)	2	52’-0”x 12’-0” x 10.67’
Digester (Ph. III)	4	52’-0”x 12’-0” x 10.67’
Clarifier (Ph. I)	1	36’-0” Dia. x 10’ SWD
Clarifier (Ph. II)	1	36’-0” Dia. x 10’ SWD
Clarifier (Ph. III)	2	36’-0” Dia. x 10’ SWD
Chlorine (Ph. I)	1	36’-0” x 11’-0”x 5.5’
Chlorine (Ph. II)	1	36’-0” x 11’-0”x 5.5’
Chlorine (Ph. III)	2	36’-0” x 11’-0”x 5.5’

SWD – side-water depth, W – width, L - length

CITY OF SAN MARCOS
Phase 1: 250,000 GPD ADF

Data	Quantity				
Permitted Average Daily Flow	250,000	gpd	174	gpm	0.387 cfs
Peak 2-hour Flow	1,000,000	gpd	694	gpm	1.547 cfs
BOD5 Loading	300	mg/l			
Maximum Aeration Zone Loading	25	lbs of BOD5 / 1,000 cf			
Minimum Aerobic Digester Loading	20	cf/lbs of BOD5/day			
Minimum SRT for Digester	40	days	@	1.5	% Concentration
Maximum Clarifier Surface Loading	1,200	gpd/sf (@ peak flow)			
Minimum Clarifier Detention Time	1.8	hr (@ peak flow)			
Minimum Disinfection Basin Detention Time	20	min (@ peak flow)			
Air Supply (Aeration Zone)	3,200	scfm/day/lb of BOD5			
Air Supply (Aerobic Digester)	30	scfm/1,000 cf of volume			
Air Supply (Disinfection)	20	scfm/1,000 cf of volume			

Calculations of Requirements

BOD5 Loading	625.50	lbs/day

Unit Requirements	Quantity	
Aeration Zone Volume	25,020	cf
Aerobic Digester Volume at Minimum Loading	12,510	cf
Aerobic Digester Volume at Minimum SRT	7,506	cf
Clarifier Surface Area	833	sf
Clarifier Volume at Minimum Detention Time	10,027	cf
Disinfection Volume	1,857	cf

Air Supply Requirements	Quantity	
Aeration Process	1,306	scfm
Digester	399	scfm
Disinfection	44	scfm
Air Lift Pumps & Initial Mixing	163	scfm
Total Air Required	1,912	scfm

Note: The process calculation is based on 10' of submergence with a correction factor of 1.56 and clean water transfer efficiency of 0.85% per foot of submergence.

Proposed Unit Features

Proposed Units	Quantity	#Units	Length	Width	Height	SWD
Aeration Zone Volume	26,208 cf	4	52	12	12.17	10.50
Aerobic Digester Volume	13,316 cf	2	52	12	12.17	10.67
Clarifier Surface Area	1,018 sf	1		36	13.17	
Clarifier Volume	10,179 cf					10.00
Chlorine Contact Volume	2,178 cf	1	36	11	8.17	5.50
Blowers	975 scfm	3	50.0 hp			

CITY OF SAN MARCOS
Phase 2: 500,000 GPD ADF

Data	Quantity				
Permitted Average Daily Flow	500,000	gpd	347	gpm	0.774 cfs
Peak 2-hour Flow	2,000,000	gpd	1389	gpm	3.095 cfs
BOD5 Loading	300	mg/l			
Maximum Aeration Zone Loading	25	lbs of BOD5 / 1,000 cf			
Minimum Aerobic Digester Loading	20	cf/lbs of BOD5/day			
Minimum SRT for Digester	40	days	@	1.5	% Concentration
Maximum Clarifier Surface Loading	1,200	gpd/sf (@ peak flow)			
Minimum Clarifier Detention Time	1.8	hr (@ peak flow)			
Minimum Disinfection Basin Detention Time	20	min (@ peak flow)			
Air Supply (Aeration Zone)	3,200	scfm/day/lb of BOD5			
Air Supply (Aerobic Digester)	30	scfm/1,000 cf of volume			
Air Supply (Disinfection)	20	scfm/1,000 cf of volume			

Calculations of Requirements

BOD5 Loading	1251.00	lbs/day

Unit Requirements	Quantity	
Aeration Zone Volume	50,040	cf
Aerobic Digester Volume at Minimum Loading	25,020	cf
Aerobic Digester Volume at Minimum SRT	15,012	cf
Clarifier Surface Area	1,667	sf
Clarifier Volume at Minimum Detention Time	20,053	cf
Disinfection Volume	3,714	cf

Air Supply Requirements	Quantity	
Aeration Process	2,611	scfm
Digester	799	scfm
Disinfection	87	scfm
Air Lift Pumps & Initial Mixing	326	scfm
Total Air Required	3,824	scfm

Note: The process calculation is based on 10' of submergence with a correction factor of 1.56 and clean water transfer efficiency of 0.85% per foot of submergence.

Proposed Unit Features

Proposed Units	Quantity	#Units	Length	Width	Height	SWD
Aeration Zone Volume	52,416 cf	8	52	12	12.17	10.50
Aerobic Digester Volume	26,632 cf	4	52	12	12.17	10.67
Clarifier Surface Area	2,036 sf	2		36	13.17	
Clarifier Volume	20,358 cf					10.00
Chlorine Contact Volume	4,356 cf	2	36	11	8.17	5.50
Blowers	975 scfm	5	50.0 hp			

CITY OF SAN MARCOS
Phase 3: 990,000 GPD ADF

Data	Quantity				
Permitted Average Daily Flow	990,000	gpd	688	gpm	1.532 cfs
Peak 2-hour Flow	3,960,000	gpd	2750	gpm	6.127 cfs
BOD5 Loading	300	mg/l			
Maximum Aeration Zone Loading	25	lbs of BOD5 / 1,000 cf			
Minimum Aerobic Digester Loading	20	cf/lbs of BOD5/day			
Minimum SRT for Digester	40	days	@	1.5	% Concentration
Maximum Clarifier Surface Loading	1,200	gpd/sf (@ peak flow)			
Minimum Clarifier Detention Time	1.8	hr (@ peak flow)			
Minimum Disinfection Basin Detention Time	20	min (@ peak flow)			
Air Supply (Aeration Zone)	3,200	scfm/day/lb of BOD5			
Air Supply (Aerobic Digester)	30	scfm/1,000 cf of volume			
Air Supply (Disinfection)	20	scfm/1,000 cf of volume			

Calculations of Requirements

BOD5 Loading	2476.98	lbs/day

Unit Requirements	Quantity	
Aeration Zone Volume	99,079	cf
Aerobic Digester Volume at Minimum Loading	49,540	cf
Aerobic Digester Volume at Minimum SRT	29,724	cf
Clarifier Surface Area	3,300	sf
Clarifier Volume at Minimum Detention Time	39,706	cf
Disinfection Volume	7,353	cf

Air Supply Requirements	Quantity	
Aeration Process	5,170	scfm
Digester	1,598	scfm
Disinfection	174	scfm
Air Lift Pumps & Initial Mixing	646	scfm
Total Air Required	7,589	scfm

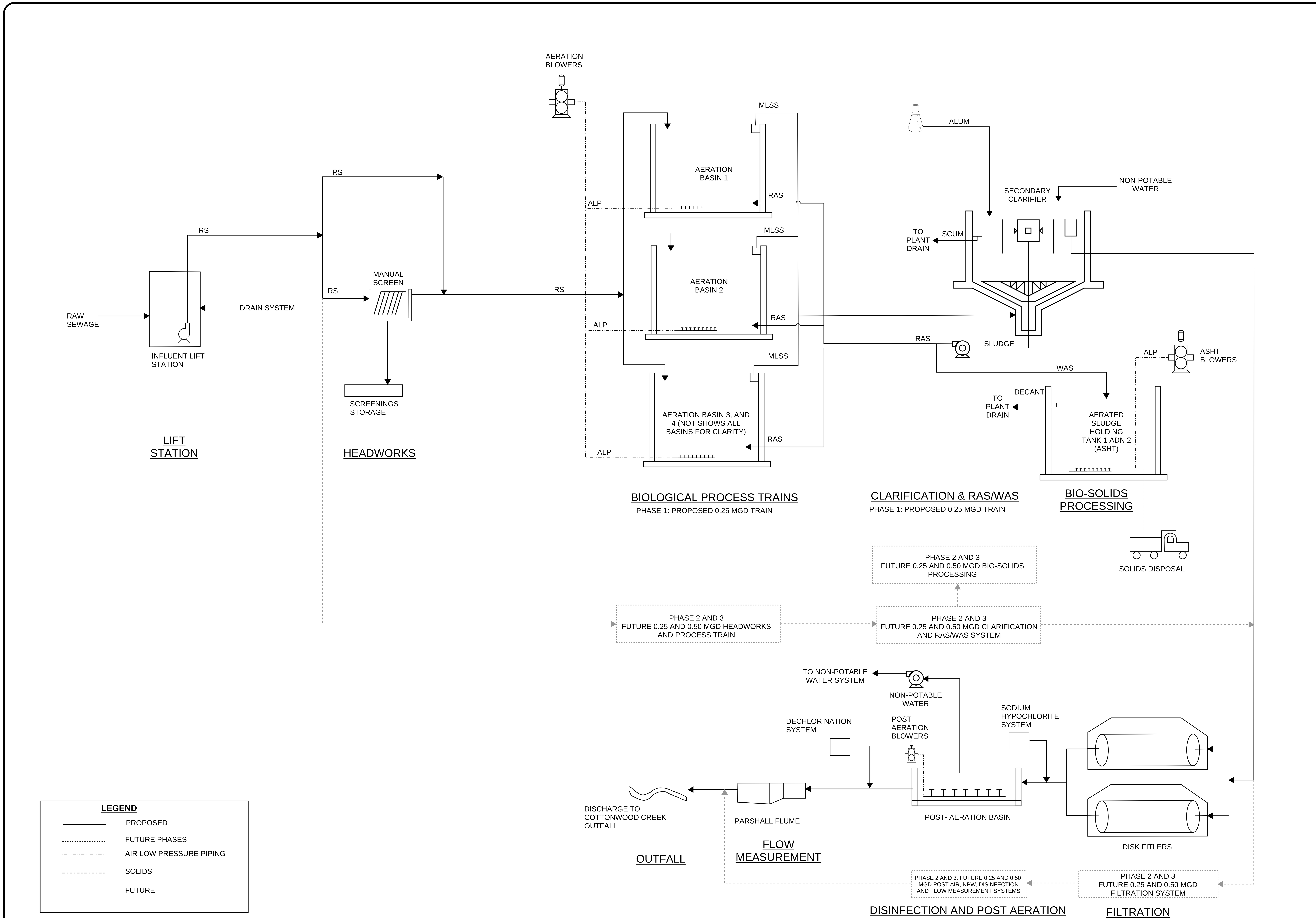
Note: The process calculation is based on 10' of submergence with a correction factor of 1.56 and clean water transfer efficiency of 0.85% per foot of submergence.

Proposed Unit Features

Proposed Units	Quantity		#Units	Length	Width	Height	SWD
Aeration Zone Volume	104,832	cf	16	52	12	12.17	10.50
Aerobic Digester Volume	53,265	cf	8	52	12	12.17	10.67
Clarifier Surface Area	4,072	sf	4		36	13.17	
Clarifier Volume	40,715	cf					10.00
Chlorine Contact Volume	8,712	cf	4	36	11	8.17	5.50
Blowers	975	scfm	9	50.0	hp		

ATTACHMENT TR-3

Process Flow Diagrams



Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

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Suite 1150
San Marcos, Texas 78666
Phone - (512) 213-3200
Web - www.freese.com

CITY OF SAN MARCOS
PACKAGE WASTEWATER TREATMENT PLANT
GENERAL
PROCESS FLOW DIAGRAM

F&N JOB NO.	SAM24085
DATE	7/19/2024
DESIGNED	EK
DRAWN	MGA
REVISED	
CHECKED	EK
FILE NAME	G-6.dwg

NO.	ISSUE	BY	DATE

VERIFY SCALE 0 1
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

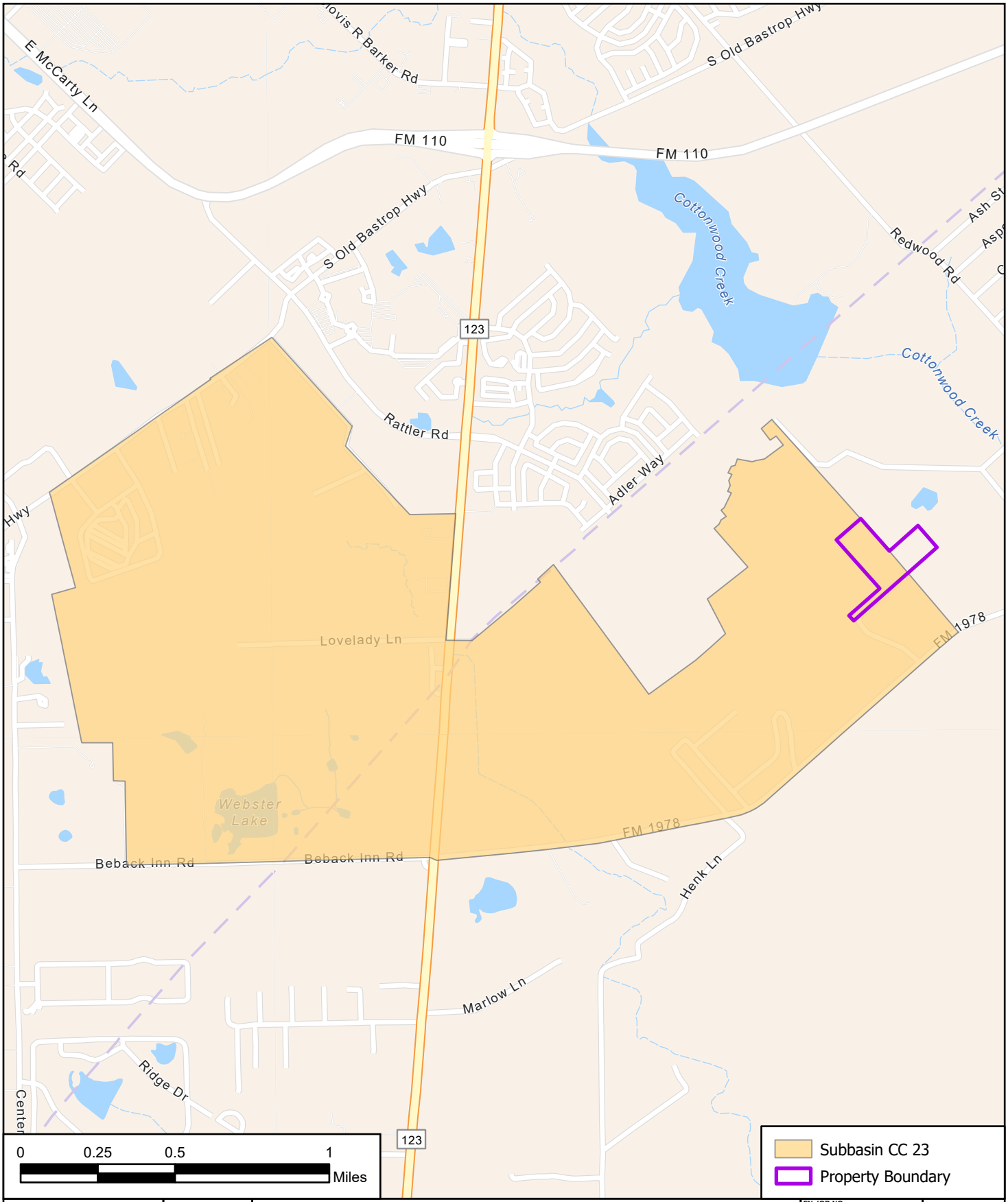
SHEET G-6
SEQ.

ACAD Rel: 24.2s (LMS Tech)
Filename: N:\WW\Drawings\G-1.dwg
Last Saved: 7/22/2024 3:41 PM Saved By: 02651

Plot Date: 7/22/2024 4:59 PM Plot By: 02651 Filename: N:\WW\Drawings\G-1.dwg

ATTACHMENT TR-4

Site Drawing



FREESE AND NICHOLS
FREESE AND NICHOLS, INC
801 Cherry Street, Suite 2800
Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF SAN MARCOS

TPDES Permit Major Amendment

Site Drawing

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	27,041
DESIGNED	CLV
DRAFTED	08245

6

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx

ATTACHMENT TR-5

Justification of Permit Need

Permit Justification

In April of 2024, the City of San Marcos contracted Freese and Nichols, Inc. (FNI) to provide planning, design, and construction phase services for the Package Wastewater Treatment Plant Project (package plant). The package plant will provide wastewater services for the surrounding developments until a larger, permanent plant, FM 1978 Water Reclamation Facility (WRF), is designed and built.

The package plant will be decommissioned once the future FM 1978 WRF is operational. To comply with the contractual obligation to receive wastewater flows by September 2025, the assumption is that there will be a minimum six-to-12-month period where the City will pump and haul sewage until both the TPDES permit is granted, and the influent flow reaches approximately 20% of the facility's initial design capacity (0.05 MGD). The duration of pump and haul operations will be dependent on the construction timeline for the temporary WWTP and issuance of the TPDES permit.

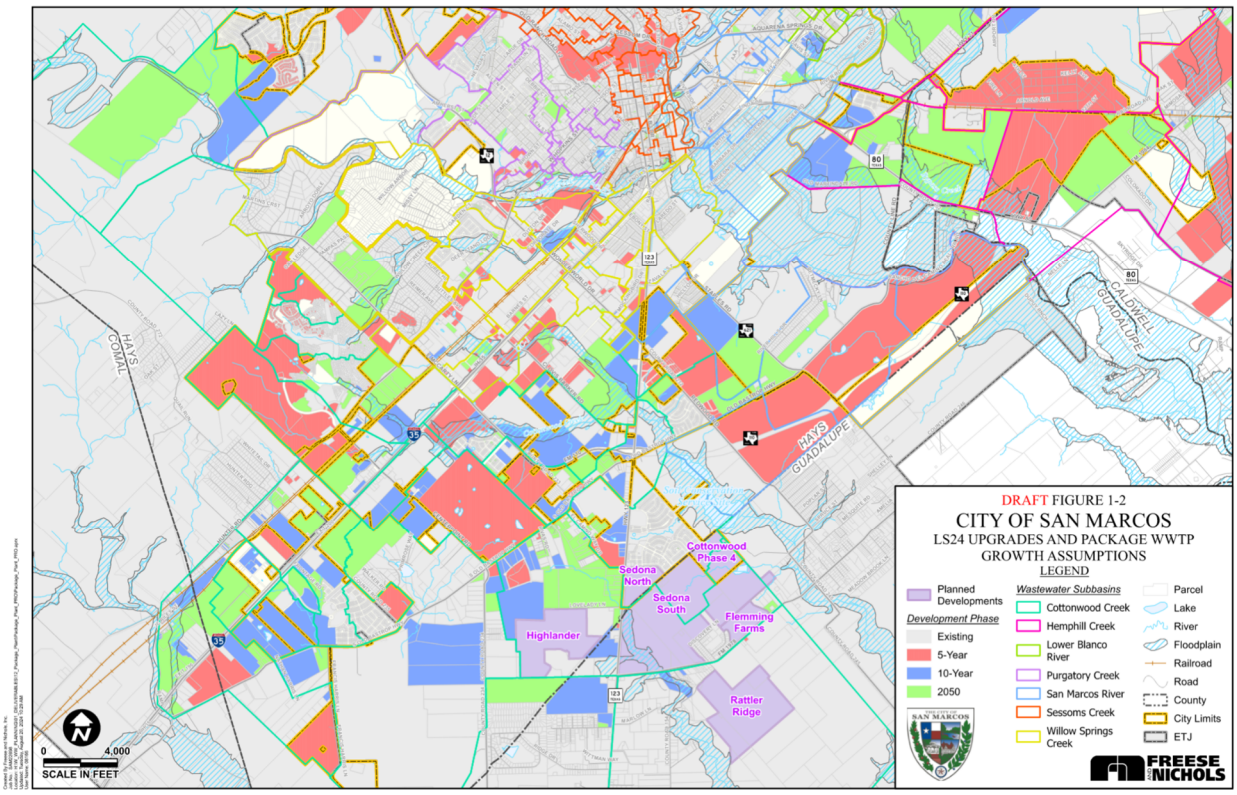
FNI utilized criteria from the City's Wastewater Master Plan for projecting the average and peak wet weather wastewater flows for the anticipated growth within the wastewater service area. Projected development and wastewater flows for the temporary WWTP are shown in **Table 1**. Projected flows in excess of the design capacity of the package facility trigger the need for the permanent FM 1978 WRF, anticipated no later than the 2031 planning period. This TPDES application is for the package plant, and another amendment will be submitted in the future for the FM 1978 WRF.

Table 1: Package Wastewater Treatment Plant Growth and Flow Projections

Planning Year	Living Unit Equivalents	Average Flow (gpm)	Average Flow (MGD)
2024	0	0.0	0.00
2025	197	23.9	0.03
2026	666	81.0	0.12
2027	1,206	146.6	0.21
2028	1,777	216.0	0.31
2029	2,140	260.1	0.37
2030	2,525	306.8	0.44
2031	2,926	355.6	0.51
2032	3,440	418.1	0.60
2033	3,917	476.1	0.69
2034	4,498	546.6	0.79
2035	4,810	584.5	0.84

Future collection system loading assumptions for the developable properties in the areas surrounding the proposed FM 1978 WRF were determined based on developer information

provided to the City, including the number of lots, construction schedule, and phasing. These developments include Cottonwood, Sedona North and South, Highland, Flemming Farms, and Rattler Ridge. Specifically, the temporary WWTP is anticipated to provide service to the Cottonwood Creek Phase 4 Units 2, 3 and 4, and the initial phases of Highlander, Flemming Farms, and Rattler Ridge. LS24 will serve the first 750 units of Sedona South, with the remaining units served by the permanent FM 1978 WRF. System-wide growth was projected through 2050 as part of the ongoing WWMP, which includes existing and future customers that may be served by the FM 1978 WRF. The projected development for the FM 1978 WRF service area is shown below.



Source: Freese and Nichols. 2024. Package Wastewater Treatment Plant Project, Preliminary Design Report. Prepared for City of San Marcos, DRAFT.

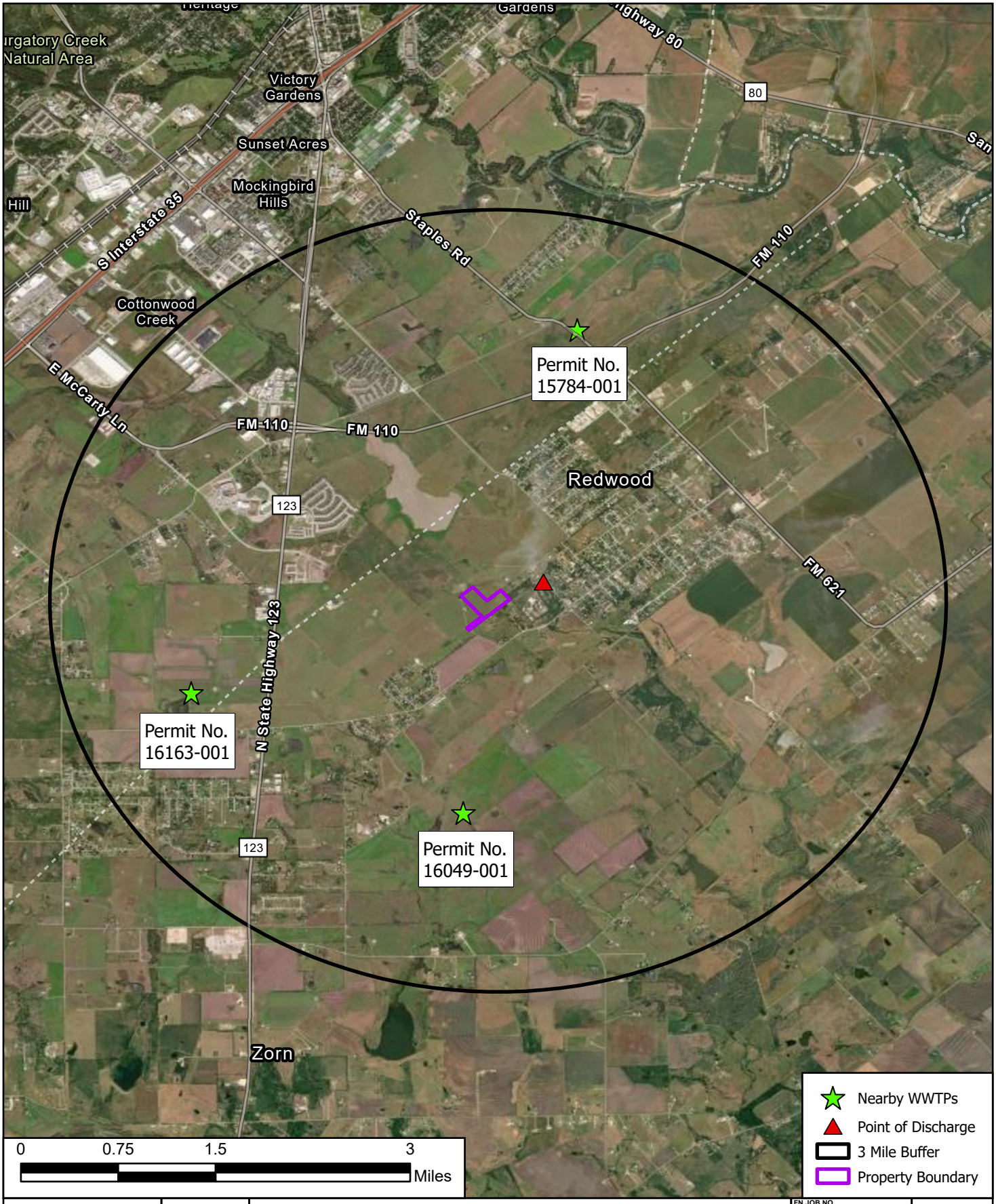
ATTACHMENT TR-6

Nearby WWTPs

Nearby WWTPs

There are three inactive facilities within a 3-mile radius, as listed below. Only one facility has an active TPDES permit, and the final permitted flow is 0.4 MGD, which is not sufficient capacity to accommodate the requested flows. Additionally, the City of San Marcos, Clint Jones, Rattler Ridge, LP, JLBC 710 Investments, LLC, and Highlander SM Two, LLC have signed a Regional Wastewater Services and Facilities Cost Sharing Agreement (attached). See pages 16-17 of the Cost Sharing Agreement for further information.

Permit Number	RN Number	Facility Name	Customer Name	Permit Status
WQ0015784001	RN110750833	RIVERBEND RANCH WWTP	HK REAL ESTATE DEVELOPMENT LLC	PENDING
WQ0016163001	RN111497012	WARNER TRACT WWTP	HIGHLANDER REAL ESTATE PARTNERS LLC	ACTIVE
WQ0016049001	RN111346813	RATTLER RIDGE WWTP	RATTLER RIDGE LLC	PENDING



FREESE AND NICHOLS
FREESE AND NICHOLS, INC
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Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF SAN MARCOS

TPDES Permit Major Amendment

Nearby WWTPs

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	12/16/2024
SCALE	1:63,561
DESIGNED	CLV
DRAFTED	08245

7

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx

REGIONAL

WASTEWATER SERVICES AND FACILITIES

COST SHARING AGREEMENT

This **REGIONAL WASTEWATER SERVICES AND FACILITIES COST SHARING AGREEMENT** (this "Agreement") is effective as of May 14th, 2024 (the "Effective Date"), by and among the City of San Marcos, Texas, a home rule municipality (the "City"); Clint Jones, in his individual capacity as landowner of the Fleming Farms Tract (as hereinafter defined) ("Jones"); Rattler Ridge, LP, a Texas limited partnership ("Rattler"); JLBC 710 Investments, LLC, a Texas limited liability company ("JLBC"); and Highlander SM Two, LLC, a Texas limited liability company ("Highlander").

Following confirmation of the creation of Guadalupe County Municipal Utility District No. 9 (as hereinafter defined), Sedona South Municipal Utility District (as hereinafter defined), and Hays-Guadalupe County Municipal Utility District No. 1 (as hereinafter defined) by the voters within each of the respective Districts, each District will join in and agree to be bound by certain provisions of this Agreement by executing a joinder to this Agreement in substantially the same form as set forth on Exhibit A attached hereto.

Jones, Rattler, JLBC, and Highlander are referred to individually by name or as the "Developer" or collectively as the "Developers."

Guadalupe County Municipal Utility District No. 9, Sedona South Municipal Utility District, and Hays-Guadalupe County Municipal Utility District No. 1 are referred to individually by name or as a "District" or "Districts."

The Developers, the City, and the Districts are referred to individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, the Parties desire to enter into this Agreement to provide for regionalization of Wastewater Services (as hereinafter defined), including the construction of a regional Wastewater Treatment Plant (as hereinafter defined), which, upon completion, is intended to serve Customers (as hereinafter defined) within the

Tracts (as hereinafter defined) and the Districts as generally shown in Exhibit B, and additional lands within or outside the City's existing service area; and,

WHEREAS, the City is willing to be the coordinating entity to provide Wastewater Services by owning, operating, and maintaining the Wastewater Collection System (as hereinafter defined) and the Wastewater Treatment Plant, together with whatever additional facilities may be reasonably necessary to serve Customers within the Districts and the Tracts; and,

WHEREAS, the Developers and the City have agreed to share in the costs of construction of the Facilities (as hereinafter defined), which includes the Wastewater Collection System, the Wastewater Treatment Plant, and any other necessary facilities, and which cost-sharing the Developers may fund on behalf of the Districts; and,

WHEREAS, the Parties desire to set forth their respective obligations to share in the costs of the Main Lift Station, the Wastewater Treatment Plant, and any other necessary Facilities (excluding the Improvements, as hereinafter defined); to set forth the City's obligations for financing, permitting, and constructing the Wastewater Treatment Plant; to provide for the terms of the City's provision of interim and permanent Wastewater Services to Customers within the Tracts and the Districts; to set forth the Developers' obligations for conveying certain property and easements, making payments to the City, permitting, designing, and constructing the Improvements, and amending and assigning certain TPDES Discharge Permits; to set forth the self-help remedies if the City elects not to permit, design, or construct the Main Lift Station, the Wastewater Treatment Plant, and any other necessary Facilities (excluding the Improvements, as hereinafter defined) to provide permanent Wastewater Services in a timely fashion; and to set forth the remedies if one or more of the Parties defaults.

AGREEMENT

NOW, THEREFORE, for and in consideration of the mutual promises, covenants, obligations, and benefits in this Agreement, including the above recitals, the Parties agree as follows:

I. DEFINITIONS

1. "Agreement" shall mean this Agreement, including any amendments hereto, between the Parties.

2. "Absorption Schedule" shall mean the LUEs reserved for and allocated to each Tract and District on an annual basis, which is attached hereto as Exhibit D.

3. "Bonds" shall mean any or all bonds, notes, certificates of obligation, or other obligations issued by the District or District(s) to finance the Facilities, or any portions thereof.

4. "CCN" shall mean Certificate of Convenience and Necessity, granted by the Public Utility Commission of Texas, which grants CCN holders the exclusive right to provide retail sewer utility service to a bounded certificated service area.

5. "City Standards" shall mean those design standards applicable to public wastewater facilities published and in effect as of the Effective Date, except as otherwise required by state or federal law or regulation, and as may be amended from time to time subject to the terms in this Section. Unless a change to the City Standards is required by state or federal law or regulation more frequently, the City Standards in effect on the Effective Date and on each fifth (5th) anniversary of the Effective Date hereafter shall control the design standards applicable to the Improvements. Upon each fifth (5th) anniversary of the Effective Date, the City shall notify the Developers and/or Districts of any changes in the City Standards applicable to the Improvements prior to the fifth (5th) anniversary and such amended standards shall take effect on the fifth (5th) anniversary date. In the event any change to the City Standards included in the notice from the City will increase the costs of the Improvements for the Developers and/or Districts in an amount exceeding 10% of the costs of the immediately prior effective City Standards, the Developers and/or Districts shall notify the City within thirty (30) days of their receipt of the notice from the City of any intent to challenge the application of the change to the Tracts on this basis that it is not reasonable, providing the City with written documentation demonstrating the cost differential and the basis for claiming the change is unreasonable. If the Developers and the City cannot agree on the reasonableness and justification for such change(s), the Parties shall attempt in good faith to reach a mutually agreeable resolution.

6. "Commission" or "TCEQ" means the Texas Commission on Environmental Quality or any successor agency with jurisdiction over the subject matter of this Agreement.

7. "Customers" shall mean the City's retail Wastewater Services customers located within the Tracts and the Districts.

8. "Discharge Permit" shall mean a final unappealable Texas Pollutant Discharge Elimination System Permit issued by the Commission to the City for the Plant, which shall initially be sufficient to treat up to 2.0 MGD of wastewater delivered from the Tracts and Districts.

9. "Facilities" shall mean collectively all facilities, including without limitation the Wastewater Collection System, the Interim Plant (if constructed by the City, at the City's sole election), the Plant, the Main Lift Station, the Improvements, and any components or parts thereof and other appurtenances constructed by the Developers, the Districts and/or the City, all of which shall be owned by the City and utilized for the provision of Wastewater Services to Customers pursuant to this Agreement and additional lands within or outside the City's existing service area.

10. "Fleming Easements" shall mean: (i) if necessary, a non-exclusive 20-foot-wide wastewater line easement to be granted by JLBC to the City of a form and content and in a location in, to, under, and across a portion of the Sedona South Tract reasonably acceptable to JLBC and consistent with JLBC's plan for development of the Sedona South Tract and within which portions of the Wastewater Collection System connecting the Fleming Farms Tract (as hereinafter defined) to the Main Lift Station may be located and (ii) if necessary, a 40-foot-wide temporary construction easement to be granted by JLBC to Jones of a form and content reasonably acceptable to JLBC and adjacent to and overlapping the easement described in item (i) above to facilitate Jones's construction and installation of the portions of the Wastewater Collection System described in item (i) above.

11. "Fleming Farms Tract" shall mean that certain approximately 65 acres of land owned by Jones in his individual capacity, shown more particularly on Exhibit B, attached hereto.

12. "Fleming Farms Discharge Permit" shall mean Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015817001, the application for which was submitted by Regal, LLC and has been approved by the Commission. Any amendments to the Fleming Farms Discharge Permit as referenced in this Agreement include such minor or major amendments to plant location, sizing, discharge location, and volume of discharge capacity, as necessary, to enable the City to provide Wastewater Services to Customers temporarily to serve the Tracts and the Districts consistent with each Tract's and District's contemplated Wastewater Services requirements and the terms of this Agreement until the Plant is operational, or to allow the Developers and/or the Districts to use the Fleming Farms Discharge Permit in the event of a default as described in Article VI.

13. "Guadalupe County Municipal Utility District No. 9" or "GC MUD 9" shall mean a conservation and reclamation district and body politic and governmental agency of the State of Texas, and currently includes a portion of the Rattler Tract within its boundaries.

14. "Highlander Discharge Permit" shall mean Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0016163001.

15. "Hays-Guadalupe County Municipal Utility District No. 1" or "HGC MUD 1" shall mean a proposed conservation and reclamation district and body politic and governmental agency of the State of Texas that is anticipated to include the Highlander Tract within its boundaries.

16. "Highlander Easements" shall mean: (i) two (2) non-exclusive 20-foot-wide wastewater line/force main/lift-station easements to be granted by JLBC to the City, each of a form and content and in a location in, to, under, and across a portion of the Sedona South Tract reasonably acceptable to JLBC and consistent with JLBC's plan for development of the Sedona South Tract and within which portions of the Wastewater Collection System connecting the Highlander Tract to the Main Lift Station may be located; and (ii) two (2) 40-foot-wide temporary construction easements to be granted by JLBC to Highlander and/or HGC MUD 1, each of a form and content reasonably acceptable to JLBC and adjacent to and overlapping the easements described in item (i) above to facilitate Highlander's construction and installation of the portions of the Wastewater Collection System described in item (i) above.

17. "Highlander Tract" shall mean that certain approximately 327 acres of land owned by Scott Mann, Loretta Mann, and Raquel Werner and in which Highlander holds an equitable interest pursuant to a written purchase agreement as of the Effective Date, shown more particularly on Exhibit B, attached hereto.

18. "Interim Plant" shall mean the temporary wastewater treatment plant constructed by the City and located on the Plant Site for the City to provide Wastewater Services to Customers temporarily until the Plant is constructed and operational.

19. "Improvements" shall mean the Internal Improvements (as hereinafter defined) and Offsite Improvements (as hereinafter defined).

20. "LUE" shall mean a living unit equivalent, which is an estimation of the typical wastewater flow produced by a single-family residence in a typical subdivision, being 200 gallons per day.

21. "LUE Fee" shall mean: (i) the $8,300 per LUE that Jones, Rattler and Highlander agree to pay, or cause to be paid, to the City in accordance with the Payment Schedule (as hereinafter defined); and (ii) the $7,550 per LUE that JLBC agrees to pay, or cause to be paid, to the City in accordance with the Payment Schedule. The LUE Fees shall be the only fees required by the City to be paid for a unit to be

connected to the Facilities, except for new account charges or deposits that are standard for retail Wastewater utility service customers of the City.

22. "MGD" shall mean 1,000,000 gallons per day average daily flow.

23. "Main Lift Station" shall mean the wastewater collection facility or lift station on the Plant Site identified on Exhibit C, attached hereto, capable of receiving all Wastewater generated by and received from the Customers in accordance with the Absorption Schedule, in addition to any other City connections from areas outside of the Tracts and the Districts.

24. "Payment Schedule" shall mean the payment schedule, attached hereto as Exhibit E, which provides the annual amounts of LUE Fees the Developers shall pay to the City, which payments may be made on behalf of the Districts, and upon the payment of which the City shall reserve and allocate corresponding capacity within the Facilities to serve the Customers within each Developer's respective Tract.

25. "Proportionate Share" shall mean each Developer's share, calculated as a fractional share based on the Developer's anticipated reserved and allocated number of LUEs shown on the Absorption Schedule, divided by the total number of LUEs reserved and allocated to all of the Tracts and Districts in the Absorption Schedule, and shown below:

$$\frac{\text{Tract LUEs}}{\text{Total LUEs}} = \text{Proportionate Share}$$

26. "Rattler Discharge Permit" shall mean Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0016049001, the application for which was submitted by Rattler Ridge, LLC and is still pending issuance by the Commission.

27. "Rattler Easements" shall mean: (i) if necessary, a non-exclusive 20-foot-wide wastewater line easement(s) to be granted by JLBC and Jones to the City of a form and content and in a location in, to, under, and across a portion of the Sedona South Tract and a portion of the Fleming Farms Tract reasonably acceptable to JLBC and Jones and consistent with JLBC's and Jones' respective plans for development of the Sedona South Tract and the Fleming Tract and within which portions of the Wastewater Collection System connecting the Rattler Tract to the Main Lift Station may be located and (ii) if necessary, a 40-foot-wide temporary construction easement(s) to be granted by JLBC and Jones to Rattler, and/or GC MUD 9 of a form and content reasonably acceptable to JLBC and Jones and adjacent to and overlapping the easement described in item (i) above to facilitate

Rattler's and/or GC MUD 9's construction and installation of the portions of the Wastewater Collection System described in item (i) above.

28. "Rattler Tract" shall mean that certain approximately 425 acres of land owned by Rattler, shown more particularly on Exhibit B, attached hereto.

29. "Regulatory Requirements" shall mean the requirements and provisions of any state or federal law, and any permits, rules, orders, or regulations issued or adopted from time to time by any regulatory authority, state, federal or other, having jurisdiction over the Tracts and the Districts and the provision of Wastewater Services to the Customers.

30. "Right of Entry Agreement" shall mean an agreement to be entered into by and between JLBC and the City that shall be entered into within thirty (30) days of the Effective Date for the purpose of allowing the City temporary non-exclusive access across the Sedona South Tract to the Plant Site at a location(s) to be mutually determined by JLBC and the City until (i) a permanent public right-of-way exists that permits the City access to the Plant Site and (ii) a public road has been constructed within such right-of-way, as well as temporary non-exclusive access to the Plant Site until either the "Temporary Plant Site Easement" (as defined herein) is granted or the Plant Site is conveyed to the City.

31. "Sedona South Municipal Utility District" or "Sedona South MUD" shall mean, whether one or two, at JLBC's sole election, proposed conservation and reclamation district(s) and body politic(s) and governmental agency(ies) of the State of Texas that is (are) anticipated to include the Sedona South Tract (or a portion thereof) within its (their) boundaries.

32. "Sedona South Tract" shall mean that certain approximately 645 acres of land owned by JLBC, shown more particularly on Exhibit B, attached hereto.

33. "Tract" or "Tracts" means singularly and collectively the Fleming Farms Tract, the Highlander Tract, the Rattler Tract and the Sedona South Tract, which land will be benefitted by the Facilities, as more particularly shown on Exhibit B, attached hereto.

34. "Wastewater" or "wastewater" shall mean liquid and water-carried sanitary sewage discharged from commercial or residential buildings connected to the Wastewater Collection System and all other sources while in the Wastewater Collection System, commonly known as inflow and infiltration.

35. "Wastewater Collection System" shall mean the Wastewater collection system owned or to be constructed or acquired by the City, including the Improvements

and any sanitary sewers (excluding privately-owned wastewater laterals), manholes, intercepting sewers, lift stations, pumping works and all other plants, works and equipment for the collection and transmission of Wastewater from the Customers, in addition to any other City connections from areas outside of the Tracts and the Districts, to the City's interim and permanent treatment facilities, which may include the Wastewater Treatment Plant, together with all extensions thereof and additions thereto.

36. "Wastewater Services" shall mean Wastewater collection, transmission, treatment, disposal and related services provided in compliance with all Regulatory Requirements utilizing the Facilities.

37. "Wastewater Treatment Plant" or "Plant" shall mean all or any component of the permanent treatment system(s) or facilities located on the Plant Site, whether or not physically interconnected, which are constructed or acquired or provided by the City for treatment and disposing of Wastewater collected from the Tracts and the Districts, and any real estate and any Discharge Permit rights acquired in connection with such treatment system or facilities; together with any such expansions, modifications, or regulatory upgrades as may be required in the future or as may be necessary to comply with any Regulatory Requirements; all or any part of any permanent treatment systems whether on the Plant Site or physically connected from which Wastewater treatment services are or will be furnished or made available to the Tracts and the Districts or physically connected from which Wastewater treatment services are or may be furnished to areas outside the Tracts and the Districts including appurtenances or facilities used in connection therewith, such as biological treatment and filter basins, effluent structures, reuse systems, temporary wastewater treatment facilities (not otherwise referenced herein), electrical and administrative building(s), blower building(s), alum feed building(s), lift stations (not otherwise referenced herein), clarifiers, splitter boxes, pump stations, solids handling stations, roads or access facilities on the Plant Site, all as more particularly shown on Exhibit C attached hereto and any other Plant Site improvements required to meet Regulatory Requirements.

38. "Wastewater Treatment Plant Site" or "Plant Site" shall mean the 24.4 acres, more or less, located on the Sedona South Tract, as more particularly shown on Exhibit C attached hereto.

II. WASTEWATER FACILITIES

1. Construction, Design, and Financing of the Wastewater Facilities. The City, at its cost and expense, shall permit, design, and construct the Facilities (excluding the Improvements) necessary to provide Wastewater Services to the Customers. The

City's obligation to make Wastewater Services available to the Customers within each Tract and District shall be in the amounts reflected in the Absorption Schedule attached hereto and such obligation is explicitly not conditioned upon the construction and completion of the Interim Plant, Main Lift Station or the Plant. The City is obligated to make Wastewater Services available to the Customers within each Tract and District in accordance with the Absorption Schedule, commencing on September 1, 2025 and continuing thereafter, increasing the number of LUEs of available Wastewater Services annually until the total number of LUEs allocated to each Tract and District, per the Absorption Schedule, are provided. Notwithstanding the foregoing, the City shall not be obligated to provide Wastewater Services to the Customers within each Tract or District until such time as such Developer or District has constructed the Improvements, in accordance with the Regulatory Requirements, necessary to connect such Tract or District to the then-existing Wastewater Collection System or the Main Lift Station in accordance with City Standards.

2. City's Discharge Permit. The City shall file applications with the Commission for (i) the Discharge Permit within one (1) year and (ii) the Fleming Farms Discharge Permit amendment within six (6) months of the Effective Date and shall use all reasonable efforts to obtain the Discharge Permit and the amended Fleming Farms Discharge Permit within six (6) years of the Effective Date. The City shall bear all costs and expenses arising under this Section. The Parties agree not to protest, cause any protests, or otherwise act or cause any actions that may be construed to prevent, frustrate, delay, or obstruct the City's pursuit of the Discharge Permit or the amendment to the Fleming Farms Discharge Permit.

3. City's Main Lift Station or Collection Facility. The City shall construct the Main Lift Station or some other collection facility at the Plant Site on or before September 1, 2025, for the Developers and Districts to connect their respective Improvements to such facility.

4. Developer or District Improvements.

    a. Each Developer or District will be responsible, at its sole cost and expense, for permitting, designing, and constructing all portions of the Wastewater Collection System located within the respective Developer's Tract or the respective District ("Internal Improvements") in accordance with the City Standards. Further, each Developer or District will be responsible, at its sole cost and expense, but subject to any cost-sharing by and among any of the Developers or the Districts, for the permitting, designing, and constructing all portions of the Wastewater Collection System that are not located within the respective Developer's Tract or respective District or the Plant Site to connect the Developer's Tract or the District to the Main Lift

Station, except as otherwise provided in Section 5 below ("Offsite Improvements"). The final locations of the Offsite Improvements shall be determined by the Developers, except for those portions of the Facilities to be located within the Plant Site which shall be determined by the City. Each Developer is responsible for the acquisition of all necessary offsite easements to connect that Developer's Tract or District to the Main Lift Station. Provided, however, in the event a Developer demonstrates that it has been unable to acquire a necessary easement(s) after making reasonable offers, the City agrees to use its eminent domain powers to condemn and acquire the offsite easement(s) to allow for the Offsite Improvements to be installed. Each Developer shall reimburse the City for all related costs pertaining to acquiring such offsite easements necessary to serve such Developer's Tract. The Improvements shall be designed to the City Standards. The City will be provided access and may inspect the Improvements during construction to determine whether such Improvements meet the City Standards, in the City's sole discretion. Once the Improvements are completed, inspected, and determined to meet the City Standards, the Developers or Districts shall convey the Improvements to the City and the City shall accept the Improvements for ownership, maintenance, and operation in accordance with Regulatory Requirements.

b. The Developers and Districts shall design and construct the Improvements necessary to connect to the then-existing Wastewater Collection System or the Main Lift Station in accordance with Regulatory Requirements and the City Standards. The City shall have no obligation to provide Wastewater Services to the Customers within a Developer's Tract or District until such time as such Developer or District has constructed the Improvements, in accordance with the Regulatory Requirements, necessary to connect to the City's system or the Main Lift Station in accordance with City Standards. If during its review of each Developer's plans for its Improvements the City determines that the Improvements to be constructed by such Developer should be oversized to accommodate the City's future needs to provide Wastewater Services to other customers within or outside the City's existing service area, the City, at its own cost and expense, shall pay the Developer or District such additional costs and expenses associated with oversizing such Improvements prior to such Developer's, or District's, commencement of construction of such Improvements.

5. City Review of Plans. Upon making a complete initial or updated submittal, the City's comments to Subdivision Construction Plans/Public Improvement Construction Plans ("PICPs") will be issued within thirty (30) business days. If the City fails to provide comments to such PICPs within said thirty (30) business days, such PICPs shall be deemed approved. If the Tract is located outside the City

limits and ETJ, no additional permits beyond PICPs and any permits/inspections necessary for residential or commercial wastewater service connections shall be required.

6. Initial Wastewater Services to Sedona South. The City acknowledges and agrees that, as of the Effective Date, it has unreserved capacity for 750 LUEs in the City's existing Wastewater Collection System, including the City's existing wastewater treatment plant. As of the Effective Date, the City hereby allocates and reserves for the Customers within the Sedona South Tract and Sedona South MUD a total of 750 LUEs of Wastewater Services in the City's existing Wastewater Collection System or such other Wastewater treatment facilities as the City may elect, reflected as the initial 750 LUEs of Wastewater Services available to the Sedona South Tract in the Absorption Schedule attached hereto as Exhibit D (the "Sedona Initial Wastewater Services Commitment"). Such 750 LUEs shall remain allocated and reserved so long as the City has not terminated this Agreement as to JLBC for an uncured Major Default in accordance with Article VI. In exchange for JLBC's payment of the initial 750 LUE Fees for the Sedona South Tract in accordance with the Payment Schedule attached hereto as Exhibit E, the City agrees to make available Wastewater Services to the Customers within the Sedona South Tract (the "Sedona Initial Wastewater Services") as the LUE Fees are paid. The Sedona Initial Wastewater Services shall be the first Wastewater Services paid for and used for the Sedona South Customers. Notwithstanding any contrary provision of this Agreement, the Sedona Initial Wastewater Services Commitment shall survive any termination of this Agreement, in whole or in part, by any Party—other than the City's termination of this Agreement as to JLBC for an uncured Major Default in accordance with Article VI— until such time as JLBC is obligated to pay all of the initial 750 LUE Fees for the Sedona South Tract pursuant to the Payment Schedule. Furthermore, even if there is a termination of this Agreement, in whole or in part, by any Party, so long as the City has not terminated this Agreement as to JLBC for an uncured Major Default in accordance with Article IV, JLBC shall be provided the opportunity and the time allotted under the Payment Schedule within which to timely pay the LUE Fees for those 750 LUEs; and, upon payment of the applicable LUE Fees for the Sedona Initial Wastewater Services, JLBC shall have until the first business day in February 2033 to utilize those LUEs that have been acquired, and the City shall provide the Sedona Initial Wastewater Services at the Out-of-City Rates (defined below). The connection point to which JLBC will install the Improvements necessary to receive the Sedona Initial Wastewater Services is generally shown on Exhibit H, attached hereto.

7. Total Capacity Reserved. In exchange for the payment of LUE Fees and construction and conveyance of the Improvements, the City agrees to provide 6,248 LUEs of Wastewater Services to the Customers and allocate and reserve to the Tracts and the Districts a total of 6,248 LUEs of Wastewater treatment capacity

in the Plant, as reflected in the Absorption Schedule, and the number of LUEs to each respective Tract and District reflected in the Absorption Schedule. The Parties agree that the Absorption Schedule, attached hereto as Exhibit D, represents each Tract's and/or District's projected and maximum annual Wastewater Services requirements in LUEs, beginning no sooner than September 1, 2025. In exchange for the payment of LUE Fees, the City shall allocate and reserve the total annual amount of LUEs of Wastewater Services to the Customers within each Tract and District in accordance with the Absorption Schedule each year, regardless of the active or proposed connections that may exist on any Tract in any given calendar year.

8. City Wastewater Services Commitment. The City's obligation to provide, annually in accordance with the Absorption Schedule, the Customers within each Tract and District with continuous and adequate Wastewater Services is expressly not conditioned upon the completion of the Plant; the City is obligated to provide such Customers with continuous and adequate Wastewater Services in accordance with the annual allocations set forth in the Absorption Schedule through any alternative methods sufficient to provide the Wastewater Services at the same level as if the Plant had been constructed, completed, and placed in service, and such obligation shall only be limited by Article VI, Section 4.

9. Additional LUEs. Once the Plant is completed and operational, the Developers or the Districts may request the City to reserve and allocate additional LUEs of Wastewater Services to the Customers within such Tracts or Districts above and beyond the 6,248 LUEs required to be provided under the Absorption Schedule. The City may, at its sole discretion, provide or decline to provide the additional capacity to the requesting Developers or the Districts. The fee(s) for the additional capacity requested for a Tract or District will be the City's existing impact fee being assessed to other customers at the time of the request.

10. Out of City Wastewater Utilities. Out of City Wastewater Utility rates shall be applicable to the Districts and Tracts, as set forth in Article VII, Section 3, and will apply to any additional LUEs provided by the City. All Customers will be bound by applicable City ordinances, resolutions, and regulations governing rules and regulations for Wastewater Services, including construction standards, connections and disconnections, deposits and billing, and rates for Wastewater Services and related matters. Other than applicable City ordinances, resolutions, and regulations governing rules and regulations for Wastewater Services, there shall not be any other City ordinances, resolutions or regulations pertaining to the Tracts or Districts that are located outside the City's limits and ETJ. Furthermore, for the Developer(s) or District(s) that opt out of the City's ETJ, the City shall not pass or enforce an ordinance, resolution, or regulation that requires such Developer(s) or District (s) to consent to, or apply for, annexation into the City's

limits or ETJ as a condition to receive Wastewater Services for its respective Tract(s).

III. PAYMENT

1. LUE Fees. The LUE Fees shall be paid to the City annually in two equal installments in accordance with the Payment Schedule attached hereto as Exhibit E. One-half of the annual LUE Fees is due on the first business day in February and the other one-half of the annual LUE Fees is due on the first business day in August in each calendar year ("Payment Dates"). Certain of the annual installments of LUE Fee payments commence on February 3, 2025.

2. District Payment. The Developers, on behalf of the Districts, will pay the LUE Fees to the City in accordance with the Payment Schedule unless the District makes the payment to the City. A District payment to the City of a designated Tract's LUE Fees in accordance with the Payment Schedule shall be considered a payment by that Tract's Developer for the purposes of this Agreement. If any Developer fails to pay its LUE Fees by one of the Payment Dates, such failure shall constitute a default under this Agreement and the default provisions and remedies set forth in Article VI, Section 5 shall apply.

IV. EASEMENTS AND CONVEYANCE OF PLANT SITE

1. Right of Entry Agreement. Within thirty (30) days of the Effective Date, JLBC and the City shall enter into a Right of Entry Agreement for the purpose of allowing the City temporary non-exclusive access across the Sedona South Tract to the Plant Site at a location(s) to be mutually determined by JLBC and the City, and such access to continue until (i) a permanent public right-of-way exists that permits the City access to the Plant Site and (ii) a public road has been constructed within such right-of-way. The City shall pay nothing for this Right of Entry Agreement.

2. Temporary Plant Site Easement. Within the same Right of Entry Agreement referenced in Section 1, JLBC shall also provide temporary non-exclusive access to the City over the Plant Site while a survey (with associated metes and bounds description) of the Plant Site is obtained so that the City shall have rights to access the Plant Site to conduct surveys and obtain soil samples. The City shall procure and pay for the costs of the survey of the Plant Site; provided, however, that if the City fails to obtain and provide such survey to the other Parties within forty-five (45) days after the effective date of the Right of Entry Agreement, JLBC may, at its sole election and expense, obtain such survey. Once the survey of the Plant Site is obtained, JLBC shall grant the City a "Temporary Plant Site Easement" in a form and content reasonably acceptable to JLBC in, to, under and across the Plant Site

so that the City shall have rights to be on the Plant Site to conduct surveys and obtain soil samples until the Plant Site is conveyed to the City in fee simple in accordance with Article IV, Section 3 below. The City shall pay nothing for the aforementioned temporary right of entry or the Temporary Plant Site Easement.

3. Conveyance of Plant Site to City. Within ninety (90) days of the City obtaining a survey of the Plant Site, at its sole cost, and providing same to JLBC, JLBC shall grant and convey the Plant Site in fee simple to the City pursuant to one or more instruments containing a right of reversion exercisable by JLBC in the event the City is in Major Default (as herein defined) and fails to cure in accordance with Article VI of this Agreement. The instruments containing the right of reversion shall clearly reflect that the reversion is only triggered by a Major Default by the City under this Agreement and, prior to exercising its right of reversion in the event of a Major Default, JLBC agrees to provide the City with sixty (60) days prior written notice, during which period, if the City disputes a Major Default has occurred, the Parties shall negotiate in good faith a potential resolution of the disagreement regarding the occurrence of a Major Default. If the re-conveyance of the Plant Site conflicts with Article VI, Sections 1 - 4 in that the Plant Site should be re-conveyed to the District's Designee as opposed to JLBC, that Section shall control. Jones, Rattler, Highlander, and JLBC shall be responsible for their respective Proportionate Share for 20% of the Plant Site, valued at $2,500,000. Within thirty (30) days of the City obtaining the Discharge Permit, Jones, Rattler, and Highlander shall pay JLBC their Proportionate Share of such Plant Site land costs in the amounts set forth in Exhibit F. Following the conveyance of the Plant Site, the City may annex the Plant Site any time, provided, however, the City agrees to de-annex the Plant Site within thirty (30) days of request by JLBC if the City is in Major Default under this Agreement.

4. Fleming Easements and Rattler Easements. Within thirty (30) days of a request by Jones and/or Rattler, JLBC agrees to grant the Fleming Easements and Rattler Easements. Jones and Rattler shall pay nothing for the Fleming Easements and Rattler Easements, but shall bear their respective costs of surveys of the Fleming Easements and Rattler Easements, which shall be provided to JLBC for review and approval, which shall not be unreasonably withheld or delayed.

5. Highlander Easements. Within thirty (30) days of a request by Highlander, JLBC agrees to grant the Highlander Easements. Highlander shall pay nothing for the Highlander Easements, but shall bear the cost of a survey(s) of the Highlander Easements, which shall be provided to JLBC for review and approval, which shall not be unreasonably withheld or delayed.

6. Public Utility Easements. Each Developer and/or District shall dedicate, by plat or by separate instrument, all necessary easements for the operation and maintenance of the Improvements to the City.

V. INTERIM WASTEWATER SERVICE

1. Temporary WWTP & Fleming Farms Discharge Permit.

(a) Within thirty (30) days of the Effective Date, the City and Jones (acting for Regal, LLC) shall commence using all due diligence to pursue completion of the following tasks in the following order with respect to the Fleming Farms Discharge Permit. The City and Jones acknowledge that the timing of the (i) dismissal of the appeal, (ii) procuring a survey for the Fleming Farms Plant Easement (herein defined), and (iii) causing the Commission to approve the assignment of the Fleming Farms Discharge Permit to the City will be partially dependent on the actions of third-parties and agree not to hold each other in default so long as both the City and Jones are working diligently to accomplish these tasks.

(i) The City shall dismiss with prejudice, its protests, hearing requests, or appeals with the Commission, the State Office of Administrative Hearings ("SOAH"), or the Travis County District Courts concerning the Fleming Farms Discharge Permit;

(ii) Jones shall grant a temporary easement to the City on the Fleming Farms Tract in the location where the wastewater plant was planned to be constructed (the "Fleming Farms Plant Easement") for the purposes of the City to pursue amendment(s) to the Fleming Farms Discharge Permit, such Fleming Farms Plant Easement to expire on its own terms at the earlier of (a) a City Major Default under this Agreement, or (b) the City being issued the amendment to the Fleming Farms Discharge Permit; and,

(iii) Jones shall cause Regal, LLC to assign to the City the Fleming Farms Discharge Permit and to provide whatever documentation is required by the Commission to effectuate such assignment.

(b) The City agrees that the Fleming Farms Discharge Permit shall be amended, as set forth herein, and assumes the obligation at its sole cost to pursue the approval of such amendment until the earlier of (i) the Commission issues the amended Fleming Farms Discharge Permit or (ii) a Major Default by the City under this Agreement. Following approval of the amended Fleming Farms Discharge Permit, the City agrees to use the amended Fleming Farms Discharge Permit to provide Wastewater Services to the Customers until the

Discharge Permit is obtained and the Plant is constructed and in operation, in accordance with this Agreement. Once the City obtains the Discharge Permit, constructs the Plant, and places the Plant in operation, the City will ensure the Fleming Farms Discharge Permit, and all rights pertaining thereto, is terminated with the Commission.

(c) The Parties further agree not to protest, cause any protests, or otherwise act or cause any actions that may be construed to prevent, frustrate, delay, or obstruct, the City's pursuit of an amendment to the Fleming Farms Discharge Permit to increase the wastewater treatment capacity under the Fleming Farms Discharge Permit to 0.82 MGD and changing the permitted discharge location to the anticipated Plant Site discharge point.

2. Highlander Discharge Permit and Rattler Discharge Permit.

(a) Highlander Discharge Permit. Highlander shall retain the Highlander Discharge Permit until the permanent Plant is constructed and operational and providing continuous and adequate Wastewater Services to the Customers within the Highlander Tract and Hays-Guadalupe County Municipal Utility District No. 1. Highlander, however, agrees not to use the Highlander Discharge Permit unless (i) there is a Major Default (as herein defined) by the City and the City fails to cure in accordance with Article VI of this Agreement, or (ii) JLBC defaults in its obligation to Highlander to grant an easement or convey the Plant Site. Within thirty (30) days of the completion of construction of the permanent Plant and commencement of operation, Highlander agrees to submit necessary documentation to the TCEQ to terminate the Highlander Discharge Permit. Notwithstanding anything herein to the contrary, in the event JLBC and Highlander do not execute an easement agreement for the facilities and easements referenced herein within six months of the signing of this Agreement, Highlander shall have the right, in its sole discretion, to terminate its participation in this Agreement. Upon such termination, Highlander shall have no further obligations or liability under this Agreement or to any of the other parties of this Agreement. In the event Highlander elects to terminate this Agreement, (i) such termination shall not affect the rights, duties, or obligations of the remaining parties under the Agreement and the Agreement shall remain in full force and effect as to all other parties of the Agreement, (ii) all references, or provisions of the Agreement, pertaining to Highlander or Hays Guadalupe County Municipal Utility District No. 1 shall be deemed deleted from the Agreement, without the need for further amendment or consent from the remaining parties, and (iii) any provision of the Agreement purporting to survive termination of the Agreement shall not apply to Highlander or Hays Guadalupe County Municipal Utility District No. 1.

(b) Rattler Discharge Permit. Promptly following the Effective Date of this Agreement, Rattler and the City will jointly request the State Office of Administrative Hearings ("SOAH") to abate the current proceedings involving the Rattler Discharge Permit indefinitely until the amended Fleming Farms Discharge Permit is issued. If SOAH refuses to grant an indefinite abatement, the Parties will request in the alternative a twelve (12) month abatement. If SOAH grants either abatement and the amended Fleming Farms Discharge Permit is issued during such abatement, the City and Rattler will jointly request the dismissal of the SOAH case and Rattler will withdraw its permit application for the Rattler Discharge Permit with the Commission. If the amended Fleming Farms Discharge Permit is not obtained within the abatement period, the Parties will seek another abatement and will continue to do so until the amended Fleming Farms Discharge Permit is issued.

If SOAH refuses to grant any abatement, the Parties agree that the City will withdraw its protest of the Rattler Discharge Permit application so that the SOAH case can be dismissed and the Rattler Discharge Permit may be issued, in exchange for Rattler agreeing to in writing to withhold any use of the Rattler Discharge Permit until the earlier of (i) a Major Default by the City under the Agreement, or (ii) the issuance of the amended Fleming Farms Discharge Permit. Upon the issuance of the amended Fleming Farms Discharge Permit, Rattler will file the appropriate documents with the Commission to have the Rattler Discharge Permit terminated.

VI. DEFAULT

1. City's Failure to Commence and Continue Provision of Wastewater Services. If the City fails to abide by the Absorption Schedule either through (i) a failure to commence making the Wastewater Services available to the Tracts and the Districts, or any of them or portion of them as set forth in the Absorption Schedule, on September 1, 2025, or (ii) a failure to provide continuous Wastewater Services to the Tracts and the Districts, or any of them or portion of them, in accordance with the Absorption Schedule (whether under the City's existing permit, the amended Fleming Farms Discharge Permit, or the Discharge Permit), and fails to: (i) cure such default within sixty (60) days after receipt of written notice of default from the Developers, the City shall be in default. If such a default occurs and the City has not obtained the amended Fleming Farms Discharge Permit, the City shall promptly commence the process of (and diligently pursue to completion) reassigning the Fleming Farms Discharge Permit to Jones. In the event the Developers terminate this Agreement, in whole, under this Section 1, the City shall have no further obligation under this Agreement, except for (i) the City's

obligation to continue to provide the Sedona South Initial Wastewater Services for which the LUEs have been paid for to the Customers in Sedona South, and (ii) the City's obligations set forth in Article VI, Section 7, and the Developers will not pursue any other additional recourse. In accordance with Article II, Section 3, the City shall timely construct the Main Lift Station; provided, however, if the City has met that obligation, the City shall not be obligated to provide Wastewater Services to a Developer's Tract or District until such time as such Developer or District has constructed the Improvements, in accordance with the Regulatory Requirements, necessary to connect such Developer's Tract or District to the City's system or the Main Lift Station in accordance with City Standards.

2. City's Failure to Obtain Discharge Permit. If the City obtains the amended Fleming Farms Discharge Permit, but fails to obtain the Discharge Permit in accordance with this Agreement, the City shall continue to provide Wastewater Services to the Customers until the earlier to occur of (i) the date that is three (3) years after the date on which the City is obligated to obtain the Discharge Permit hereunder, or (ii) the date on which a new treatment plant is constructed and operational on the Plant Site. During the aforementioned period in which the City will continue to provide Wastewater Services to the Customers, the City agrees (i) to be a co-applicant on an application to the Commission with a District designated by the Developers under a separate agreement (the "District Designee") to further amend the amended Fleming Farms Discharge Permit to increase its overall capacity to a capacity sufficient to serve all of the Tracts and Districts in accordance with the Absorption Schedule and to execute such applications or other documents necessary to be a co-applicant within thirty (30) days of a written request by the District Designee; (ii) to cooperate with the District Designee in its filing of construction plans with the Commission for the new treatment plant to be built by the Developers or Districts on the Plant Site; and, (iii) if necessary, lease a portion of the Plant Site to the Developers or Districts on which they will construct the new treatment plant. The City shall not protest, cause any protests, or otherwise act or cause any actions that may be construed to prevent, frustrate, delay, or obstruct the District Designee's efforts to further amend the amended Fleming Farms Discharge Permit. After the new amendment to the amended Fleming Farms Discharge Permit is issued by the Commission, and within sixty (60) days of a written request from the District Designee, the City agrees to withdraw in writing as a co-permittee under the newly amended Fleming Farms Discharge Permit and to file such paperwork that is required with the Commission to withdraw as a co-permittee. Further, within sixty (60) days of a written request from the District Designee, the City agrees to convey the Plant Site to the District Designee. In such event, the District Designee agrees to use or cause the use of wastewater treatment capacity approved under the newly amended Fleming Farms Discharge Permit to provide wholesale wastewater treatment service to the Tracts and Districts pursuant to the terms of the separate agreement(s) among the

Developers and/or the Districts that shall fairly allocate the wastewater capacity under the newly amended Fleming Farms Discharge Permit to each Tract and District in accordance with the Absorption Schedule and the costs associated with the provision of such wholesale wastewater treatment in accordance with their respective Proportionate Share. Once the new plant is operational, the City agrees to convey all Facilities then-owned by the City as part of the Wastewater Collection System to each of the respective Districts within thirty (30) days after receipt of written notice from the Developers or the Districts, at no additional cost to the Developers and/or Districts

3. City's Failure to Construct the Plant. If the City obtains the Discharge Permit, but fails to commence construction of the Main Lift Station and Plant in accordance with this Agreement, the City agrees to assign the Discharge Permit to the District Designee for the District Designee to be the wholesale wastewater service provider to the Tracts' and the Districts in the total capacity for each such Tract and District provided in the Absorption Schedule. In such event, the District Designee agrees to use or cause the use of wastewater treatment capacity approved under the Discharge Permit to provide wholesale wastewater treatment service to the Tracts and the Districts pursuant to the terms of a separate agreement(s) among the Developers and/or the Districts. In the event of a City default under this Section, the City agrees to convey all Facilities constructed by the Developers and/or the Districts and/or the City to the respective Developers or Districts on or before the earlier of (i) the date on which the Developers or Districts have constructed a wastewater treatment plant on the Plant Site, or (ii) the third (3rd) anniversary of the City's failure to commence construction of the Main Lift Station and Plant. The City will use reasonable diligence to effect these conveyances within sixty (60) days after receipt of written notice from the Developers or the Districts, at no additional cost to the Developers and/or Districts.

4. Deadline for Permit and Construction Commencement. Notwithstanding any provision of this Agreement to the contrary (other than Article II, Section 6 and subject to the provisions providing for the City to take or execute corrective or curative measures in this Article VI, Sections 1, 2 and 3 above), if the City fails to obtain the Discharge Permit and commence construction of the Plant within six (6) years of the Effective Date, the City shall refund all LUE Fees paid by the Developers or the Districts, with the exception of, with respect to JLBC, any LUE Fees used to secure Sedona Initial Wastewater Services less any and all costs incurred by the City to provide Wastewater Services to Customers prior to the City's default, within sixty (60) calendar days after the sixth (6th) anniversary of this Agreement. Provided, however, in such event, the City shall continue to provide Wastewater Services to the Customers within each of the Districts and the Tracts, until such time one or more of the Developers and/or the Districts construct wastewater treatment plant(s) sufficient to permanently serve the Tracts'

and Districts' ultimate wastewater treatment capacity requirements set forth in the Absorption Schedule. During this time, the City may continue its normal billing processes and revenue collection from all Customers in Districts and Tracts receiving Wastewater Services by the City. In such an event, the Developers and/or the Districts agree to use reasonable diligence to construct a wastewater treatment plant(s) and, if such plant(s) is not constructed and operational within three (3) years of the date of the City's Major Default under this Section 4, due to no fault of, or interference or delay caused by, the City, the Developers and/or the Districts shall procure a licensed operator to operate whatever temporary plant the City has placed on the Plant Site and the City shall have no further obligation to provide Wastewater Services to the Customers under this Agreement, except for the City's obligations to the Sedona South Customers under Article II, Section 6.

5. Developer's Failure to Pay LUE Fees. If a Developer fails to pay its LUE Fees by the Payment Dates, and fails to cure such default within thirty (30) days after receipt of written notice of default from the City, the Developer shall be in default and the City's sole remedy for such default shall be to partially terminate this Agreement as to any remaining areas of such defaulting Developer's Tract or applicable District for which no LUE Fees have been paid. In the event of such a default by a Developer, the City will be released from its obligation to reserve Wastewater treatment capacity in the Plant and provide Wastewater Services to the Customers within that Developer's Tract and District beyond any such LUEs for which that Developer has previously paid LUE Fees and reserved for the benefit of the Developer's Tract and District. Notwithstanding the foregoing, a Developer's failure to pay its LUE Fees in accordance with the Payment Schedule shall not affect the City's obligations to reserve Wastewater treatment capacity in the Plant and provide Wastewater Services to Customers within any non-defaulting Developers' Tract and District. If a defaulting Developer subsequently requests to pay its outstanding LUE Fees plus reasonable interest, the City may, but shall not be obligated to, provide Wastewater Services to Customers within that Developer's Tract and District for the unpaid LUEs.

6. Developer's Failure to Provide Easements and Land Conveyances. If a Developer fails to provide an easement and/or a land conveyance as required in this Agreement and fails to cure such default within thirty (30) days after receipt of written notice of default from a non-defaulting Party, the Developer shall be in default and any of the non-defaulting Parties shall first seek to enforce specific performance against the defaulting Developer. If none of the non-defaulting Parties are able to secure specific performance against the defaulting Developer, then: (i) if such default only prevents the City from providing continuous and adequate Wastewater Services to Customers within the defaulting Developer's Tract and District in accordance with the terms of this Agreement, then the City

shall have the option to partially terminate this Agreement as to any remaining areas of such defaulting Developer's Tract and District to which the City is not then providing Wastewater Services and the City shall have no further obligations hereunder to the defaulting Developer's Tract and District, except as set forth herein; or (ii) if such default prevents the City from providing continuous and adequate Wastewater Services to Customers within any non-defaulting Developer's Tract and District in accordance with the terms of this Agreement, then the City and/or the non-defaulting Districts may pursue and acquire the easement and/or land conveyance at issue by eminent domain, the reasonable costs of which shall be funded by the non-defaulting Developers, and the City and such non-defaulting Developers shall have the right to recover from the defaulting Developer their actual damages resulting from the Developer's default hereunder.

7. "Major Defaults". Defaults by a Party under Sections 1-6 above shall constitute "Major Defaults" by such defaulting Party and shall afford the non-defaulting Party (ies) the applicable rights and remedies set forth above. In the event of a Major Default by the City, the Developers may, in addition to the other remedies set forth in Sections 1-4 for such default, terminate, or partially terminate, this Agreement and the Developers shall be refunded the LUE Fees for all LUEs paid for, for which Wastewater Services have not been provided, less any and all costs incurred by the City to provide Wastewater Services to the Customers within the applicable Tracts and the Districts prior to default. Moreover, if the City has a Major Default, it shall not in any way protest or challenge, or cause same to occur, the Developers using the Fleming Farms Discharge Permit, the amended Fleming Farms Discharge Permit, the Discharge Permit, the Highlander Discharge Permit, the Rattler Discharge Permit, or Sedona South's pursuit of its own discharge permit, as may be applicable, to construct wastewater treatment facilities, or other improvements necessary to provide wholesale wastewater treatment service to the Tracts and the Districts pursuant to the terms of a separate agreement(s) among the Developers and/or the Districts. Other defaults that are minor in nature are to be addressed as set forth in Section 8 below.

8. Other Defaults and Remedies. The terms of this Section 8 shall apply to any Party's failure to perform any obligation under this Agreement that is not expressly and specifically addressed above and for which a remedy is not otherwise specified in this Agreement.

    a. Notice of Default; Opportunity to Cure. If a Party defaults in the performance of any obligation under this Agreement, a non-defaulting Party may give written notice to the other Parties to this Agreement specifying the alleged event of default and extending to the defaulting Party thirty (30) days from the date of the notice in order to cure the default complained of or, if the curative action cannot reasonably be completed

within thirty (30) days, thirty (30) days to commence the curative action and a reasonable additional period to diligently pursue the curative action to completion.

b. Dispute Resolution**.** If any default is not cured within the curative period specified above, the Parties agree to use good faith, reasonable efforts to resolve any dispute among them by agreement, including engaging in mediation or other non-binding alternative dispute resolution methods, before initiating any lawsuit to enforce their respective rights under this Agreement. The Parties will share the costs of any mediation equally.

c. Other Legal or Equitable Remedies**.** If the Parties are unable to resolve their dispute through mediation, a non-defaulting Party shall have the right to enforce the terms and provisions of this Agreement by a suit seeking specific performance or any other legal or equitable relief to which the non-defaulting Party may be entitled. Any remedy or relief described in this Agreement shall be cumulative of, and in addition to, any other remedies and relief available to such Party.

d. Default Related to Regulatory Requirements. No Party shall be deemed to be in non-compliance with a Regulatory Requirement until the Party: (i) it has received written notice of non-compliance from either a Party or any federal, state or local agency or government; (ii) has failed to commence corrective measures within thirty (30) days of receipt of such notice from a Party or within the time frame specified in such notice from a federal, state or local agency or government; and (iii) fails to pursue completion of the corrective measures with commercially reasonable diligence.

e. Default Related to Temporary Interruptions in Service. For the avoidance of doubt, the City shall not be in default as to any obligation to provide continuous and adequate service to the Developers arising from any temporary interruptions in service: (i) due to repair, maintenance or replacement of Facilities or parts of Facilities; (ii) due to system failures that are caused by design or construction defects, age, unexpected damage to the Facilities, weather events or natural phenomena, provided the City promptly pursues remedial measures to fix such system failures; or (iii) necessary to come into compliance with a Regulatory Requirement.

VII. MISCELLANEOUS

1. Invalidity of LUE Fees. If the payment obligations for LUE Fees to be paid to the City pursuant to the Payment Schedule are determined to be void, illegal, or

unenforceable by final unappealable order or judgment by a court or tribunal of competent jurisdiction for any reason, then the City may terminate this Agreement and shall have no further obligations under this Agreement for provision of service to that portion of any Developer's Tract or District for which the LUE fees have not been paid, or for which the City is required to refund any portion of the fees paid. In such an event, the City shall not be considered at default; however, the Developers shall be entitled to the remedies under this Agreement that are available to the Developers in the event of a Major Default. Neither the Developers, jointly or singularly, or the Districts, jointly or singularly, may take any action to directly or indirectly challenge or seek to invalidate the LUE Fees in any court or tribunal of competent jurisdiction.

2. Annual Wastewater Projections. Unless the City says otherwise, each Developer shall provide the City with a projected Wastewater Services LUE demand for such Developer's Tract for such calendar year on or before each February 1st until the Wastewater Treatment Plant has been constructed and is operational.

3. City's CCN Application. The Developers agree not to protest, cause any protests, or otherwise act or cause any actions that may be construed to prevent, frustrate, delay, or obstruct the City's CCN expansion application to provide Wastewater Services to the Customers pursuant to this Agreement and additional lands to which the City elects to provide Wastewater Services. Notwithstanding the foregoing, in the event a Tract is included in the City's CCN and the City defaults as set forth in this Agreement, the applicable remedy for which is the termination or partial termination of this Agreement as to such Tract, or a portion thereof, the City will decertify such Tract, or applicable portion thereof, from its CCN to enable the Districts to provide Wastewater utility service to their respective Tracts. In such event, the City shall submit an application to the Public Utilities Commission ("PUC") for decertification no later than thirty (30) days following such default and diligently pursue approval thereof.

4. Retail Wastewater Rates. Because the Tracts and Districts are not within the City's corporate limits, the Developers and Districts agree to pay or cause to be paid to the City the wastewater rates paid by residents or businesses receiving City utilities in similarly situated out-of-city developments ("Out-of-City Rates"), which does not include any special Out-of-City Rates that are agreed to by the City for another development due to some special benefit given by that development to the City. Notwithstanding anything to the contrary, the Developers and Districts agree they will not protest the Out-of-City Rates if such rates do not exceed one-hundred and twenty-five (125%) percent of the City's in-city utility rates.

5. City Consent to Districts. If any Developer elects not to opt out of the City's ETJ and is required by State law to obtain the City's consent to create a municipal utility district ("MUD") within which such Developer's Tract is to be located, in whole or in part, or to annex adjacent property into an existing District (or in the case of Fleming to be annexed into any existing District that is not adjacent), and the Developer's petition for such consent submitted to the City meets the requirements of Section 54.016(a) of the Texas Water Code, the City agrees to provide such consent, by ordinance or resolution, and without conditions or contingencies, within sixty (60) days after receipt of such petition for such consent from the Developer. The City's consent ordinance or resolution furnished to a Developer under this Section 5 shall: (i) be duly approved by the City's City Council; (ii) meet all requirements of Section 54.016(a) of the Texas Water Code and Section 42.042 of the Local Government Code; and (iii) consent to the District's issuance of bonds for any and all purposes authorized by law, including water, sewer, drainage and road facilities and improvements.

6. Contractual Capacity Right. In accordance with Title 30, Section 293.44(b)(3) and (b)(7) of the Texas Administrative Code, (i) the Parties acknowledge and agree that the LUE Fees paid under the terms of this Agreement constitute payment for the proportionate share of the costs of developing a regional wastewater collection and treatment system to serve the Districts and the Tracts, and obtaining or reserving a contractual capacity right in the Facilities. The City agrees the payment of the LUE Fees entitles the Developers, on behalf of the Districts, to hold and maintain the contractual capacity rights in the Facilities to provide service to the Districts and the Tracts. As such, each of the Developers shall have the right to seek reimbursement from the respective Districts for the costs of all such contractual capacity right financed by Tracts or Districts consistent with the Absorption Schedule. It is specifically acknowledged and agreed that the foregoing contractual capacity right shall in no manner give the Developers or the Districts any right to own or operate the Facilities, or to impair or limit in any manner whatsoever the City's right to own and operate the Facilities in its sole and absolute discretion. The City does not object to the Developers seeking reimbursement from the Districts for any eligible costs incurred by the Developers under this Agreement, including, but not limited to, LUE Fees, costs associated with the design and construction of the Improvements, and all land and easement acquisition costs, including the Developers' Proportionate Share of the cost of the Plant Site, all as paid by Developers for and on behalf of the Districts pursuant to this Agreement. This Section 6 shall survive the termination of this Agreement; provided however, that this Section 6 shall terminate on the date the bonds issued by the Districts to pay for or finance the construction of the Facilities, LUE Fees, and other eligible costs, or to reimburse Developers for eligible costs, or both, are retired in full by the District.

7. Reservation. The City agrees to reserve for and allocate the number of LUEs of wastewater treatment capacity for each Tract and District in accordance with the Absorption Schedule until the later of (i) December 31, 2040, or (ii) the bonds issued by the Districts to pay for or finance the Facilities or LUE Fees are retired in full by the Districts. All unused LUEs (and corresponding wastewater treatment capacity) reverts back to the City after the later of (i) or (ii) above. Except as otherwise provided in this Agreement, the City's obligation to provide continuous and adequate Wastewater Services to Customers shall survive this Agreement.

8. Assignability. The Developers shall have the right to assign their respective rights and obligations under this Agreement, in whole or in part, to any third-party provided they give written notice to the City of such assignment.

9. Successors-In-Interest. This Agreement shall be binding upon and inure to the benefit of Developers' successors-in-interest to the Tracts. Each Developer and their successors-in-interests shall be obligated to provide actual, prior written notice of the Agreement, together with a true and complete copy of the Agreement, to their respective immediate successor-in-interest to the Tract, or any portion thereof, such that its successor-in-interest shall take title to the Tract, or portion thereof, subject to this Agreement and shall be bound by the terms of this Agreement.

10. Certain Developer Obligations Survive. The Developers' obligations to the other Developers or Districts referenced herein, including without limitation those referenced in Articles V and VI, shall survive the City's removal as a Party and shall remain binding on such Developer or Developers (or Districts).

11. Law and Venue. This Agreement shall be governed under the laws of the State of Texas and any legal challenge that is filed under this Agreement shall be filed in the courts of Guadalupe County, Texas.

12. Amendments. No amendment of this Agreement shall be valid unless executed by all Parties to this Agreement. This Agreement represents the entire agreement amongst all of the Parties pertaining to the City's provision of Wastewater Services to the Customers. If the City is removed as a Party because of a default or failure to perform, then this Agreement may be amended by the Developers without execution by the City. If a Developer defaults and the remaining Parties desire to amend this Agreement, the remaining non-defaulting Parties may execute any such amendment to be bound thereby. Notwithstanding the foregoing, any amendment by the remaining non-defaulting Parties shall not remove the rights held by the defaulting Developer for the LUEs the defaulting Developer has already acquired under this Agreement.

13. Severability. The provisions of this Agreement are severable and, if any provision or part of this Agreement or the application thereof to any person or circumstance shall ever be held by any court of competent jurisdiction to be invalid or unconstitutional for any reason, the remainder of this Agreement and the application of such provision or part of this Agreement to other persons or circumstances shall not be affected thereby except as otherwise stated in this Agreement.

14. Developers'/Districts' Cooperation. The Developers and Districts agree to fully cooperate with each other and to grant all necessary easements to the other Developers/Districts (of a form and content reasonably acceptable to the grantor, Developer, or District and consistent with the Developer's plan for development of the applicable Tract), share proportionately in shared facilities and costs, and to collectively and jointly take whatever actions are necessary in order for each Developer's Tract or District to obtain the requisite Wastewater Services for the Customers within the respective Tracts and Districts.

15. Cooperation; Approvals. Each Party agrees to execute such further documents or instruments as may be necessary to evidence its agreements hereunder. In the event of any third-party lawsuit or other claim relating to the validity of this Agreement or any actions taken hereunder, the Parties agree to cooperate in the defense of such suit or claim, and to use their respective best efforts to resolve the suit or claim without diminution in their respective rights and obligations under this Agreement. Whenever the term "approve" or "approval" is used in this Agreement, the Party whose approval is required will not unreasonably withhold, deny, or delay it. Where approval is necessary, the Party seeking approval may request approval in writing. If the Party whose approval is requested fails to either approve the submittal or provide written comments specifically identifying the required changes within thirty (30) days, the submittal, as submitted by the requesting Party, will be deemed to have been approved by the Party whose approval is requested.

16. No Third-Party Beneficiaries. This Agreement shall be for the sole and exclusive benefit of the Parties signatory hereto and the Districts and does not confer any benefit to any third party. No third-party beneficiary shall have standing to sue to enforce this Agreement.

17. Non-Appropriation of Funds. Until bonds or certificates of obligation are issued for purposes of paying for any of City's obligations under this Agreement, any obligations of the City requiring the expenditure of funds beyond the fiscal year of the City in which this Agreement was entered shall be subject to the City's appropriation of lawfully available funds as part of its budget process during the fiscal year in which the financial obligation arises.

18. Waiver. Failure to enforce or the waiver of any provision of this Agreement or any breach or nonperformance by either Party shall not be deemed a waiver by the other Party of the right in the future to demand strict compliance and performance of any provision of this Agreement. No officer or agent of the City is authorized to waive or modify any provision of this Agreement. No modifications to or recession of this Agreement may be made except by a written document signed by the Parties' authorized representatives.

19. Exhibits, Headings, Construction, and Counterparts. All schedules and exhibits referred to in or attached to this Agreement are incorporated into and made a part of this Agreement for all purposes. The various article, section, and paragraph headings contained in this Agreement are for convenience only and do not enlarge or limit the scope or meaning of the paragraphs. Wherever appropriate, words of the masculine gender may include the feminine or neuter, and the singular may include the plural, and vice versa. As used in this Agreement, the term "including" means "including without limitation" and the term "days" means calendar days, not business days. The Parties acknowledge that each of them has been actively and equally involved in the negotiation of this Agreement. Accordingly, the rule of construction that any ambiguities are to be resolved against the drafting party will not be employed in interpreting this Agreement or any exhibits hereto. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, and all of which will together constitute the same instrument.

20. Time. Time is of the essence of this Agreement. In computing the number of days for purposes of this Agreement, all days will be counted, including Saturdays, Sundays, and legal holidays; however, if the final day of any time period falls on a Saturday, Sunday, or legal holiday, then the final day will be deemed to be the next day that is not a Saturday, Sunday, or legal holiday.

21. Authority for Execution. The City certifies, represents, and warrants that the execution of this Agreement has been duly authorized and adopted in conformity with applicable law and City ordinances. The Developers each hereby certify, represent, and warrant that the execution of this Agreement has been duly authorized and adopted in conformity with the constituent documents of each person or entity executing on its behalf.

22. Force Majeure. If, by reason of force majeure, any Party is rendered unable, in whole or in part, to carry out its obligations under this Agreement, the Party whose performance is so affected must give notice and the full particulars of such force majeure to the other Parties within a reasonable time after the occurrence of the event or cause relied upon, and the obligation of the Party giving such notice, will,

to the extent it is affected by such force majeure, be suspended during the continuance of the inability but for no longer period. The Party claiming force majeure must endeavor to remove or overcome such inability with all reasonable dispatch. The term "force majeure" means Acts of God, pandemics, strikes, lockouts, or other industrial disturbances, acts of the public enemy, orders of any kind of the government of the United States or the State of Texas, or of any court or agency of competent jurisdiction or any civil or military authority, insurrection, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraints of government and people, civil disturbances, vandalism, explosions, breakage or accidents to machinery, pipelines or canals, or inability on the part of a Party to perform due to any other causes not reasonably within the control of the Party claiming such inability.

23. Notice. Any notice required or permitted hereunder shall be in writing. All notices shall be deemed to be delivered (a) on the date received if delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent via a nationally recognized overnight courier (receipt requested); (c) on the date sent by e-mail of a PDF document (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next business day if sent after normal business hours of the recipient; or (d) if deposited in the mail, whether actually received or not, on the third business day after having been deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, addressed to the Parties, as appropriate, at the addresses shown hereinafter:

For the City:	Director of Utilities 630 E. Hopkins San Marcos, TX 78666 E-mail: waterwastewaterinfo@sanmarcostx.gov
For Jones:	Clint E. Jones Regal Land Development 6 Gruene Wald New Braunfels, TX 78130 E-mail: clint@regallanddevelopment.com
For Rattler:	Rattler Ridge, LP Attn: Clint E. Jones 6 Gruene Wald New Braunfels, TX 78130 E-mail: clint@regallanddevelopment.com
For JLBC:	JLBC 710 Investments, LLC Attn: John S. Lloyd & Bruce Cash 6504 W. Courtyard Drive Austin, TX 78730 E-mail: jslloyd@me.com and bruce.cash@cashconstruction.com
with copy to:	Armbrust & Brown, PLLC Attn: Kevin M. Flahive 100 Congress Avenue, Suite 1300 Austin, Texas 78701 E-mail: kflahive@abaustin.com
For Highlander:	Highlander Real Estate Partners, LLC Attn: John Maberry, Manager PO Box 470249 Fort Worth, TX 76147 Email: jmaberry@highlanderrep.com
For GC MUD 9:	Guadalupe County Municipal Utility District No. 9 c/o Allen Boone Humphries Robinson LLP Attn: D. Ryan Harper 919 Congress Avenue, Suite 1500 Austin, TX 78701 Email: rharper@abhr.com

For Sedona South MUD:

Sedona South Municipal Utility District
c/o Armbrust & Brown, PLLC
Attn: Kevin M. Flahive
100 Congress Avenue, Suite 1300
Austin, Texas 78701
E-mail: kflahive@abaustin.com

For HGC MUD 1:

Hays Guadalupe County Municipal Utility District No. 1
c/o Allen Boone Humphries Robinson LLP
Attn: D. Ryan Harper, Partner
919 Congress Avenue, Suite 1500
Austin, TX 78701
Email: rharper@abhr.com

24. Payments. All LUE Fee payments required by and made pursuant to this Agreement shall be sent to the below address, unless directed otherwise by the City's Finance Department:

Accounts Receivable
City of San Marcos, TX
630 E. Hopkins
San Marcos, TX 78666

25. Required Statutory Provisions Addendum. The Required Statutory Provisions Addendum attached as Exhibit "G" is hereby incorporated into this Agreement by reference.

26. Exhibits. The following exhibits are attached to this Agreement, and made a part hereof for all purposes:

Exhibit "A"	-	Form of District Joinder
Exhibit "B"	-	Developers' Tracts
Exhibit "C"	-	Plant Site and Access Road
Exhibit "D"	-	Absorption Schedule
Exhibit "E"	-	Payment Schedule
Exhibit "F"	-	Developer Proportional Sharing
Exhibit "G"	-	Required Statutory Provisions Addendum
Exhibit "H"	-	Cottonwood 4 Connection

IN WITNESS WHEREOF, the undersigned Parties have executed this Agreement on the dates indicated below to be effective as of the Effective Date.

[COUNTERPART SIGNATURE PAGES FOLLOW]

COUNTERPART SIGNATURE PAGE TO
REGIONAL WASTEWATER SERVICES AND FACILITIES AGREEMENT

THE CITY:

THE CITY OF SAN MARCOS, TEXAS,
a Texas home rule municipality

By:_____
Stephanie Reyes, City Manager

Date: May 8, 2024

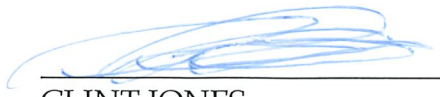
ATTEST:

By:_____
Elizabeth Trevino,
City Clerk

Date: May 8, 2024

COUNTERPART SIGNATURE PAGE TO
REGIONAL WASTEWATER SERVICES AND FACILITIES AGREEMENT

JONES:



CLINT JONES

Date: MAY 7, 2024

COUNTERPART SIGNATURE PAGE TO
REGIONAL WASTEWATER SERVICES AND FACILITIES AGREEMENT

RATTLER:

RATTLER RIDGE, LP,
a Texas limited partnership

By: REGAL, LLC,
a Texas limited liability company
Its general partner

By: _____
Clint Jones, President

Date: May 7, 2024

COUNTERPART SIGNATURE PAGE TO
REGIONAL WASTEWATER SERVICES AND FACILITIES AGREEMENT

JLBC:

JLBC 710 INVESTMENTS, LLC,
a Texas limited liability company

By:_____
John S. Lloyd, Manager

Date: MAY 9, 2024

COUNTERPART SIGNATURE PAGE TO
REGIONAL WASTEWATER SERVICES AND FACILITIES AGREEMENT

HIGHLANDER:

HIGHLANDER SM TWO, LLC,
a Texas limited liability company

By: _____
John Maberry, Manager

Date: May 14, 2024

EXHIBIT "A"

FORM OF DISTRICT JOINDER

JOINDER AGREEMENT

THIS JOINDER AGREEMENT (this "Joinder Agreement"), dated as of _____, 20__, is executed by _____, a conservation and reclamation district and body politic and governmental agency of the State of Texas (the "District"), in connection with that certain Regional Wastewater Services and Facilities Agreement (the "Agreement") entered into by and among the City of San Marcos, Texas, a home rule municipality; Clint Jones; Rattler Ridge, LP, a Texas limited partnership; JLBC 710 Investments, LLC, a Texas limited liability company; and Highlander SM Two, LLC, a Texas limited liability company; and _____ _____, dated effective _____, 2024. Capitalized terms used herein but not otherwise defined herein shall have the definitions provided in the Development Agreement.

In accordance with the introductory paragraphs of the Agreement, a copy of which is attached hereto as Exhibit "A" and incorporated herein for all purposes, the District executes this Joinder Agreement in order to become a Party to the Agreement. Accordingly, the District hereby agrees as follows with the other Parties to the Agreement:

1. The District acknowledges and confirms that it has received a copy of the Agreement and the schedules and exhibits thereto.

2. The District hereby acknowledges, agrees, and confirms that, by its execution of this Joinder Agreement, the District shall automatically be deemed to be a Party to the Agreement, and shall have all of the rights and obligations of _____ _____, specifically (excluding payment obligations set forth in the Agreement, which shall remain the obligation of _____), and of a District with regard to property within the District, generally, thereunder as if it had originally executed the Agreement. The District hereby ratifies, as of the date hereof, and agrees to be bound by all of the terms, provisions and conditions contained in the Agreement applicable to it to the same effect as if it were an original Party thereto.

3. This Joinder Agreement shall be governed by and construed and interpreted in accordance with the laws of the State of Texas.

IN WITNESS WHEREOF, the District has caused this Joinder Agreement to be duly executed by its authorized officer as of the day and year first above written.

THE DISTRICT:

_____,
a conservation and reclamation district and body politic and governmental agency of the State of Texas

By:_____
_____, President
Board of Directors

Date:_____, 202__

ATTEST:

By:_____
_____, Secretary
Board of Directors

Date:_____, 202__

EXHIBIT "B"

DEVELOPERS' TRACTS

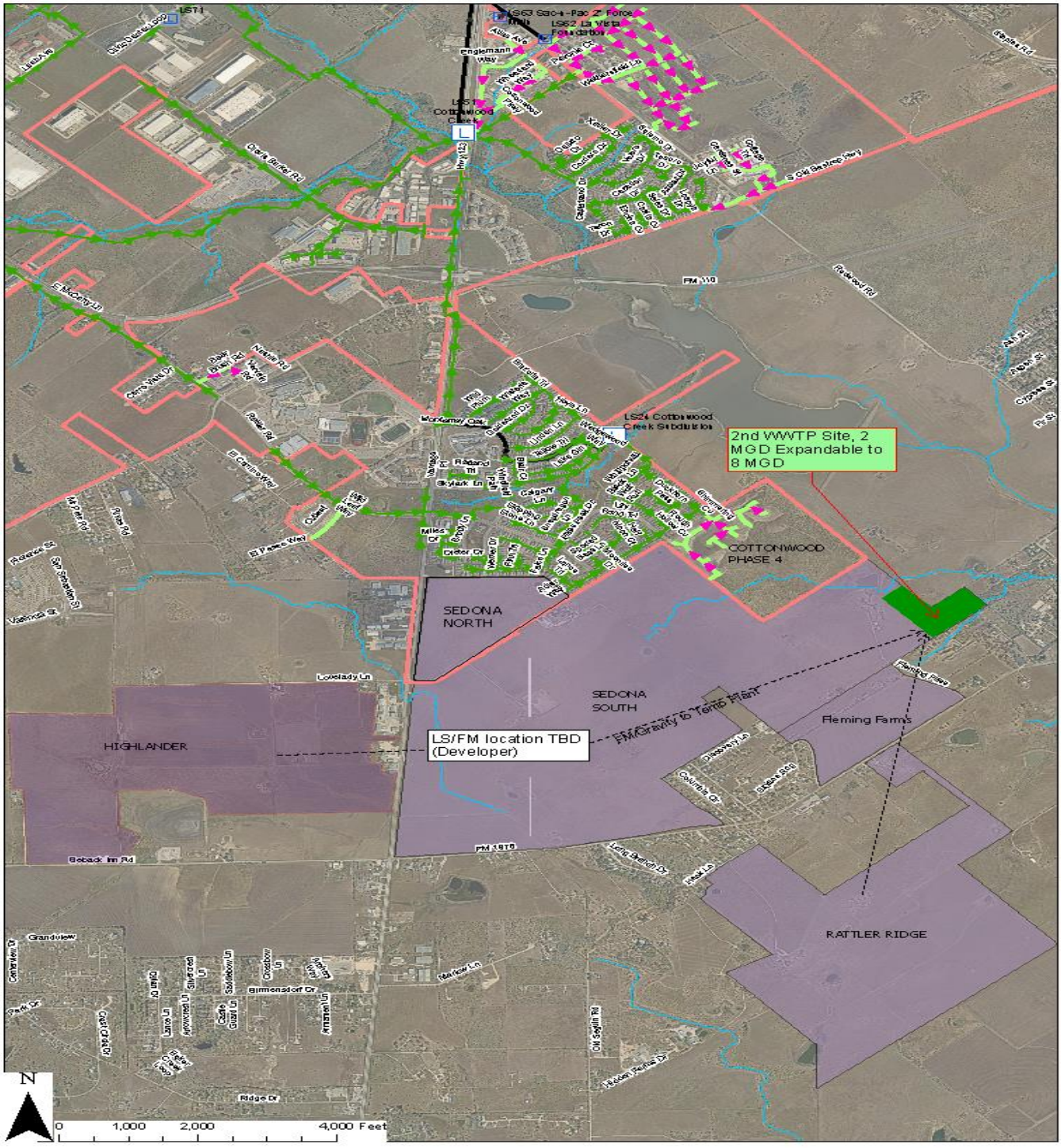


EXHIBIT "C"

PLANT SITE

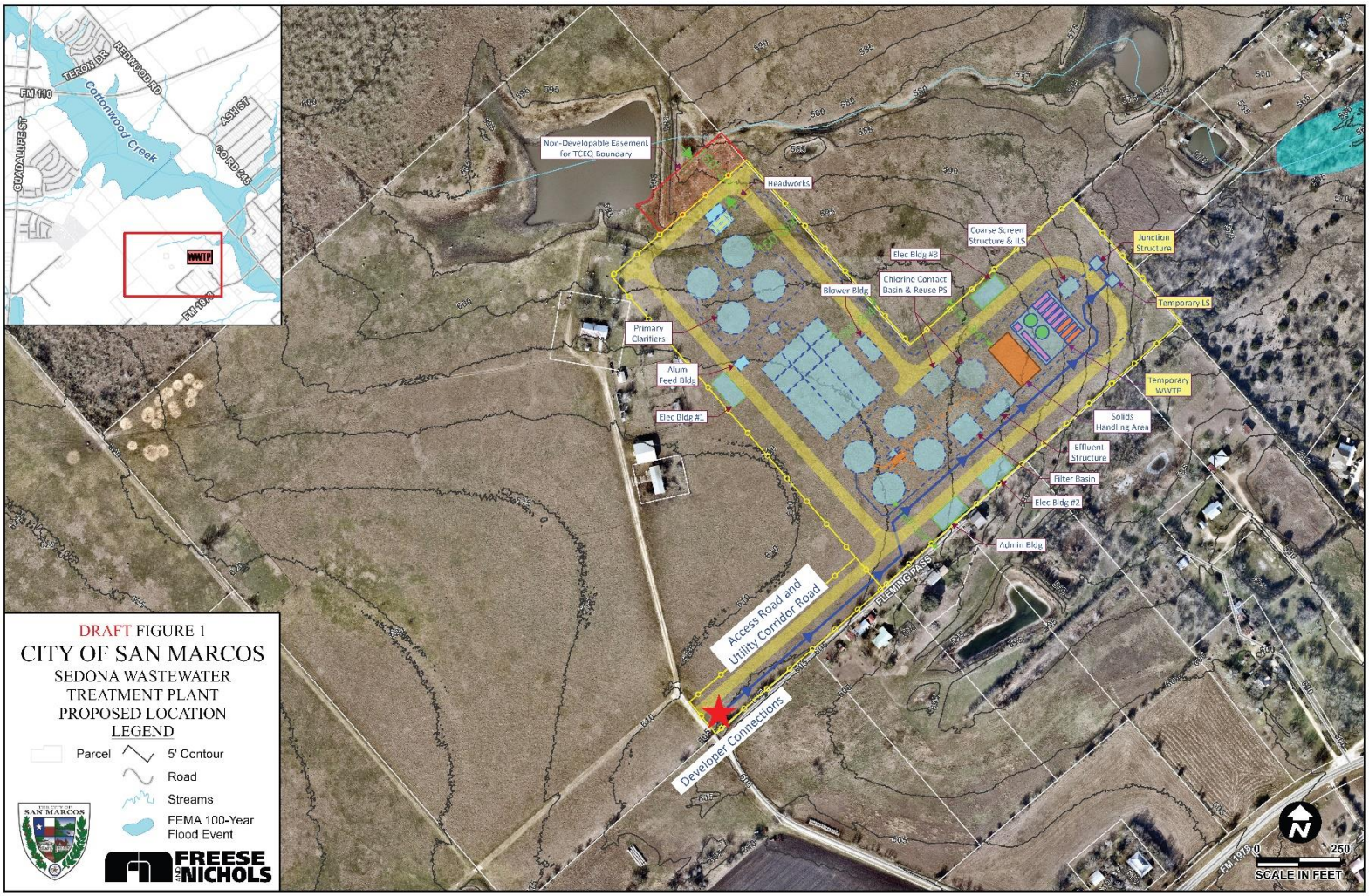


EXHIBIT "D"

ABSORPTION SCHEDULE

TOTAL NUMBER OF LUEs					
DEVELOPMENT / YEAR	Sedona South	Highlander	Fleming Farms	Rattler Ridge	TOTAL LUEs
2024	0	0	0	0	0
2025	200	0	160	120	480
2026	440	150	320	360	1270
2027	690	330	334	600	1954
2028	990	530	334	840	2694
2029	1340	755	334	1080	3509
2030	1690	980	334	1320	4324
2031	2040	1205	334	1560	5139
2032	2390	1400	334	1800	5924
2033	2645	1400	334	1869	6248
TOTAL	2645	1400	334	1869	6248

TOTAL NEW LUEs					
DEVELOPMENT / YEAR	Sedona South	Highlander	Fleming Farms	Rattler Ridge	TOTAL LUEs
2024	0	0	0	0	0
2025	200	0	160	120	480
2026	240	150	160	240	790
2027	250	180	14	240	684
2028	300	200	0	240	740
2029	350	225	0	240	815
2030	350	225	0	240	815
2031	350	225	0	240	815
2032	350	195	0	240	785
2033	255	0	0	69	324
TOTAL	2645	1400	334	1869	6248

EXHIBIT "E"

PAYMENT SCHEDULE

DEVELOPMENT / YEAR	Sedona South	Highlander	Fleming Farms	Rattler Ridge	TOTAL LUE's
2024	$ -	$ -	$ -	$ -	$ -
2025	$ 1,510,000	$ -	$ 1,328,000	$ 996,000	$ 3,834,000
2026	$ 1,812,000	$ 1,245,000	$ 1,328,000	$ 1,992,000	$ 6,377,000
2027	$ 1,887,500	$ 1,494,000	$ 116,200	$ 1,992,000	$ 5,489,700
2028	$ 2,265,000	$ 1,660,000	$ -	$ 1,992,000	$ 5,917,000
2029	$ 2,642,500	$ 1,867,500	$ -	$ 1,992,000	$ 6,502,000
2030	$ 2,642,500	$ 1,867,500	$ -	$ 1,992,000	$ 6,502,000
2031	$ 2,642,500	$ 1,867,500	$ -	$ 1,992,000	$ 6,502,000
2032	$ 2,642,500	$ 1,618,500	$ -	$ 1,992,000	$ 6,253,000
2033	$ 1,925,250	$ -	$ -	$ 572,700	$ 2,497,950
TOTAL	$ 19,969,750	$ 11,620,000	$ 2,772,200	$ 15,512,700	$ 49,874,650

EXHIBIT "F"

DEVELOPER PROPORTIONAL SHARING

Special Consideration @ 20% of $2,500,000		
Fleming Farms	$	26,729
Highlander	$	112,036
Rattler Ridge	$	149,568
Sedona South	$	211,668

EXHIBIT "G"

REQUIRED STATUTORY PROVISIONS ADDENDUM

This Required Statutory Provisions Addendum (this "Addendum") is attached to and incorporated into that certain Regional Wastewater Services and Facilities Agreement (the "Agreement") entered into by and among the City of San Marcos, Texas, a home rule municipality (the "City"); Clint Jones ("Jones"); Rattler Ridge, LP, a Texas limited partnership ("Rattler"); JLBC 710 Investments, LLC, a Texas limited liability company ("JLBC"); Highlander SM Two, LLC, a Texas limited liability company ("Highlander"); upon its joinder, Guadalupe County Municipal Utility District No. 9, a conservation and reclamation district and body politic and governmental agency of the State of Texas ("GC MUD 9"); upon its joinder, Sedona South Municipal Utility District(s), each a conservation and reclamation district and body politic and governmental agency of the State of Texas ("Sedona South MUD"); and, upon its joinder, Hays-Guadalupe County Municipal Utility District No. 1, a conservation and reclamation district and body politic and governmental agency of the State of Texas ("HGC MUD 1"); dated effective _____, 2024. For purposes of this Addendum, Jones, Rattler, JLBC and Highlander are collectively referred to herein as "Contractor" and the City, GC MUD 9, Sedona South MUD and HGC MUD 1 are collectively referred to as the "Governmental Entities". If there is any conflict between the terms of the attached Agreement and this Addendum, the terms of this Addendum will control.

1. Interested Parties. Contractor acknowledges that Texas Government Code Section 2252.908 (as amended, "Section 2252.908") requires disclosure of certain matters by contractors entering into a contract with a local government entity such as the Governmental Entities. Contractor confirms that it has reviewed Section 2252.908 and, if required to do so, will (1) complete a Form 1295, using the unique identification number specified on page 1 of the Contract, and electronically file it with the Texas Ethics Commission ("TEC"); and (2) submit the signed Form 1295, including the certification of filing number of the Form 1295 with the TEC, to the Governmental Entities at the same time Contractor executes and submits the Agreement to the Governmental Entities. Form 1295s are available on the TEC's website at https://www.ethics.state.tx.us/filinginfo/1295/. The Agreement is not effective until the requirements listed above are satisfied and any approval or award of the Agreement by the Governmental Entities is expressly made contingent upon Contractor's compliance with these requirements. The signed Form 1295 may be submitted to the Governmental Entities in an electronic format.

2. Conflicts of Interest. Contractor acknowledges that Texas Local Government Code Chapter 176 (as amended, "Chapter 176") requires the disclosure of certain matters by contractors doing business with or proposing to do business with local government entities such as the Governmental Entities. Contractor confirms that it has

reviewed Chapter 176 and, if required to do so, will complete and return Form CIQ promulgated by the TEC, which is available on the TEC's website at https://www.ethics.state.tx.us/forms/conflict/, within seven days of the date of submitting the Agreement to the Governmental Entities or within seven days of becoming aware of a matter that requires disclosure under Chapter 176, whichever is applicable.

3. Verification Under Chapter 2271, Texas Government Code. If required under Chapter 2271 of the Texas Government Code (as amended, "Chapter 2271"), Contractor represents and warrants that, at the time of execution and delivery of the Agreement, neither Contractor, nor any wholly- or majority-owned subsidiary, parent company, or affiliate of Contractor that exists to make a profit, boycotts Israel or will boycott Israel during the term of the Agreement. The foregoing verification is made solely to comply with Chapter 2271, to the extent such Chapter does not contravene applicable Federal law. As used in the foregoing verification, "boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. Contractor understands "affiliate" to mean any entity that controls, is controlled by, or is under common control with Contractor.

4. Verification Under Subchapter F, Chapter 2252, Texas Government Code. For purposes of Subchapter F of Chapter 2252 of the Texas Government Code (as amended, "Subchapter F"), Contractor represents and warrants that, neither Contractor, nor any wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of Contractor that exists to make a profit, are companies identified on a list prepared and maintained by the Texas Comptroller of Public Accounts (the "Comptroller") described within Subchapter F and posted on the Comptroller's internet website at:

https://comptroller.texas.gov/purchasing/publications/divestment.php.

The foregoing representation is made solely to comply with Subchapter F, to the extent such subchapter does not contravene applicable Federal law, and excludes companies that the United States government has affirmatively declared to be excluded from its federal sanctions regime relating to Sudan, Iran, or a foreign terrorist organization. Contractor understands "affiliate" to mean any entity that controls, is controlled by, or is under common control with Contractor.

5. Verification Under Chapter 2274, Texas Government Code, Relating to Contracts with Companies that Discriminate Against the Firearm and Ammunition Industries. If required under Chapter 2274 of the Texas Government Code (as amended, "Chapter 2274"), Contractor represents and warrants that, at the time of execution and

delivery of the Agreement, neither Contractor, nor any wholly- or majority-owned subsidiary, parent company, or affiliate of Contractor that exists to make a profit, has a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association or will discriminate during the term of the Agreement against a firearm entity or firearm trade association. The foregoing verification is made solely to comply with Chapter 2274. As used in the foregoing verification, the terms "discriminate against a firearm entity," "firearm entity," and "firearm trade association" have the meanings ascribed to them in Section 2274.001 of the Texas Government Code.

6. Verification Under Chapter 2276, Texas Government Code, Relating to Contracts With Companies Boycotting Certain Energy Companies. If required under Chapter 2276 of the Texas Government Code (as amended, "Chapter 2276"), Contractor represents and warrants that, at the time of execution and delivery of the Agreement, neither Contractor, nor any wholly- or majority-owned subsidiary, parent company, or affiliate of Contractor that exists to make a profit, boycotts energy companies or will boycott energy companies during the term of the Agreement. The foregoing verification is made solely to comply with Chapter 2276. As used in the foregoing verification, "boycott energy companies" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (1) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law or (2) does business with a company described in the preceding section (1).

REGIONAL

WASTEWATER SERVICES AND FACILITIES

COST SHARING AGREEMENT

This **REGIONAL WASTEWATER SERVICES AND FACILITIES COST SHARING AGREEMENT** (this "Agreement") is effective as of May 14th, 2024 (the "Effective Date"), by and among the City of San Marcos, Texas, a home rule municipality (the "City"); Clint Jones, in his individual capacity as landowner of the Fleming Farms Tract (as hereinafter defined) ("Jones"); Rattler Ridge, LP, a Texas limited partnership ("Rattler"); JLBC 710 Investments, LLC, a Texas limited liability company ("JLBC"); and Highlander SM Two, LLC, a Texas limited liability company ("Highlander").

Following confirmation of the creation of Guadalupe County Municipal Utility District No. 9 (as hereinafter defined), Sedona South Municipal Utility District (as hereinafter defined), and Hays-Guadalupe County Municipal Utility District No. 1 (as hereinafter defined) by the voters within each of the respective Districts, each District will join in and agree to be bound by certain provisions of this Agreement by executing a joinder to this Agreement in substantially the same form as set forth on Exhibit A attached hereto.

Jones, Rattler, JLBC, and Highlander are referred to individually by name or as the "Developer" or collectively as the "Developers."

Guadalupe County Municipal Utility District No. 9, Sedona South Municipal Utility District, and Hays-Guadalupe County Municipal Utility District No. 1 are referred to individually by name or as a "District" or "Districts."

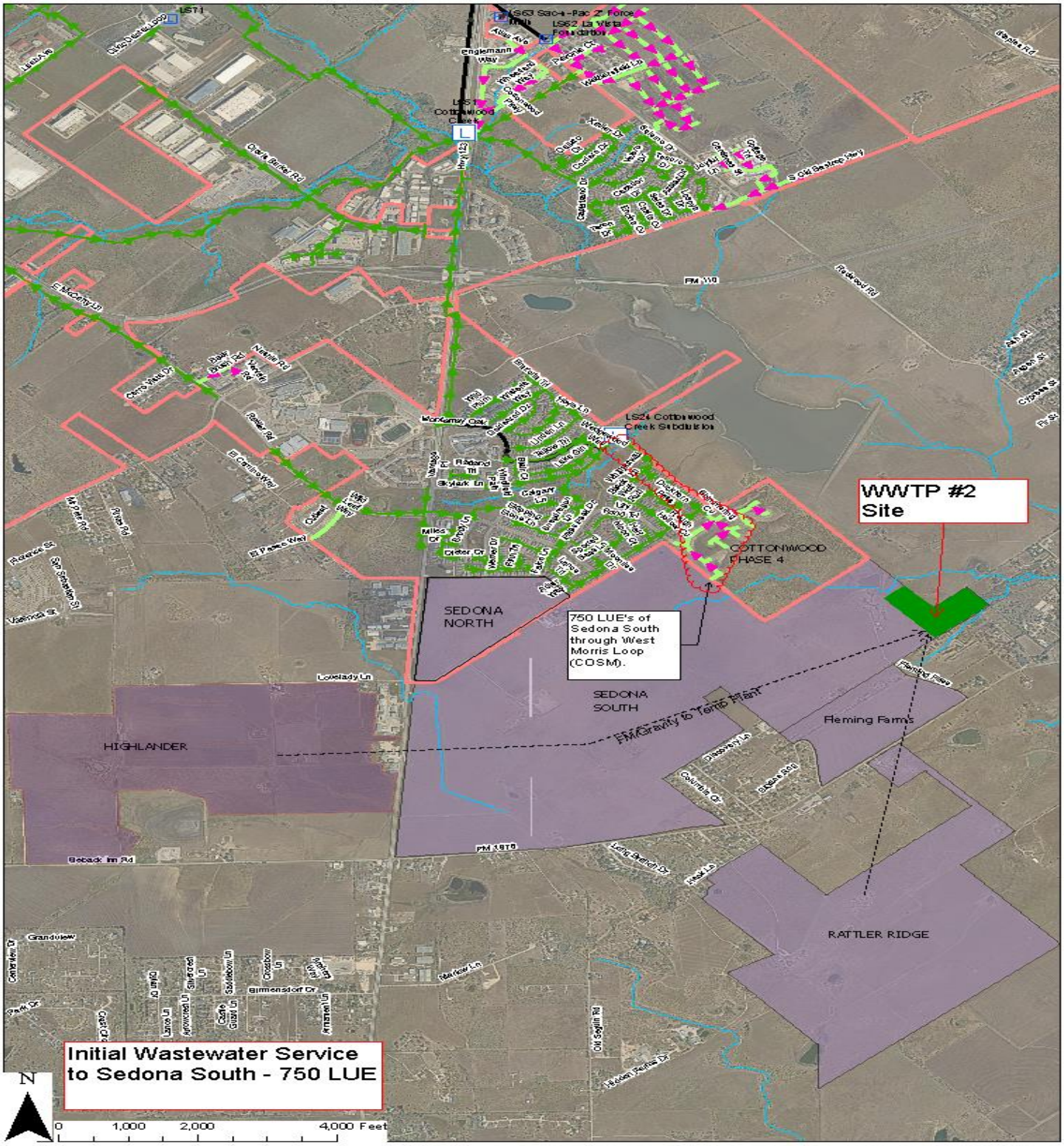
The Developers, the City, and the Districts are referred to individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, the Parties desire to enter into this Agreement to provide for regionalization of Wastewater Services (as hereinafter defined), including the construction of a regional Wastewater Treatment Plant (as hereinafter defined), which, upon completion, is intended to serve Customers (as hereinafter defined) within the

EXHIBIT "H"

COTTONWOOD 4 CONNECTION



ATTACHMENT TR-7

Design Calculations

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Design Parameters

Influent Flow Characteristics - The hydraulic design of the facility must ensure that the plant will operate under the most extreme conditions anticipated. The plant process and hydraulic design for this facility are as follows:

Average Design Flow		0.25	MGD	Influent BOD_5	300	mg / l
Peaking Factor		4			626	lbs / day
Peak Flow		1	MGD	Influent TSS	300	mg/L
		694	gpm		626	lbs / day
Effluent Characteristics				Influent NH3-N	42	mg/L
BOD_5	S_e	10	mg/L		88	lbs / day
				Influent TKN	60	mg/L
TSS	TSS_e	15	mg/L	Influent Phospho	10	mg/L
NH_3-N	N_e	3	mg/L	Reactor temp	15	°C
P	P_e		mg/L	Elevation	620	feet ASL

Process Design - In order to achieve the required removal efficiencies, activated sludge process operated in the single stage nitrification mode has been chosen.

Aeration Basin

	Value		*Regulation*
TCEQ Maximum Organic Loading	25	lbs BOD / day / 1000 cu. ft.	217.154(b)(Table F.1)
Aeration Volume Required	25,020	cu. ft.	
MLSS	3,000	mg/L	
MLVSS/MLSS	0.7		
MLVSS	2,100	mg/L	

Tanks

Length	52	ft
Width	12	ft
Height	12.17	
SWD	10.50	ft
# Tanks	4	
Volume	26,208	cu. ft.
Capacity	0.262	MGD Average Flow

Peaking factor of 4

Total Volume	26,208	cu. ft.
Volume greater than required	YES	
Organic Loading	23.87	lbs BOD5/day
Hydraulic Retention time, τ	18.82	hours
Solids Retention Time, SRT	10.3	days
f:m	0.18	lbs BOD5/lbs MLVSS/day

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Clarifier

	Value		*Regulation*
TCEQ Maximum surface Loading (Qpk)	1200	gal / day / sq. ft. at peak flow	217.154(c)(Table F.2)
TCEQ Minimum detention time (Qpk)	1.8	hours at peak flow	217.154(c)(Table F.2)
TCEQ Maximum weir Loading (Qpk)	20,000	gal/day/ft	217.152(c)(4)
TCEQ Minimum Side Water Depth (SWD)	10	feet	217.152(g)(2)(A)/(B)
TCEQ Maximum Stilling Well Velocity	0.15	feet/second	217.152(a)(4)

Surface area required	833	sq. ft.	32.6	ft. min. dia. for one clarifier
Volume required	10,027	cu. ft.	23.0	ft. min. dia. for two clarifiers

Stilling Well Diameter	6.0	feet	Typ. value is 15-20% of total tank diameter (M&E, p.401)
Stilling Well Velocity at Qpk	0.08	fps	Meets Requirement? YES

Clarifier(s) Provided:	1	tank(s)
Diameter	36	ft
Height	13.17	ft
Static WL	11.75	ft
SWD	10.00	ft
Surface area	1018	sq. ft.
Volume	10,179	cu. ft.
Capacity	0.254	MGD Average Flow
	1.01516	MGD Peak Flow

Total Surface Area	1,018	sq. ft.	Greater than required? YES
Total Volume	10,179	cu. ft.	Greater than required? YES

	Qaverage		Qpeak	
Clarifier Surface Loading	246	GPD/SF	982	GPD/SF
Clarifier Detention Time	7.31	Hours	1.83	Hours
Solids Loading Rate	0.67	lb/ft^2/hr	1.44	lb/ft^2/hr

Clarifier Wall to Weir Length	12	inches
Weir Length	106.8	Ft.
Weir Loading	9,362	GPD/LF

RAS/WAS Pumping & Piping

	Value				*Regulation*
TCEQ Minimum Sludge Pipe Diameter	4	inches			217.152(e)(2), 217.158(e)(3)
Clarifier Surface Area	1018	sq. ft.			
TCEQ Min. RAS Pumping Capacity @200	141	gpm	Qr/Q =	0.81	217.152(j)(3)
TCEQ Max. RAS Pumping Capacity @ 400	283	gpm	Qr/Q =	1.63	217.152(j)(3)
RAS/WAS Pipe Diameter	6	inches			
Velocity in RAS/WAS Pipe @ Min. Rate	1.60	fps			
Velocity in RAS/WAS Pipe @ Max. Rate	3.20	fps			
WAS Volume to Digester	6,412	gpd			
Number of WAS Cycles Per Day	1				
Duration of WAS Cycles	30	minutes			
WAS Flow Rate During Each Cycle	214	gpm			
WAS Pipe Diameter	6	inches			
Velocity in WAS Pipe	2.419	fps			

Scum Flow Rate

Launder Width	18	inches
Scum Flow Rate	71.38	gpm
Scum Collector Pipe Diameter	8	inches
Scum Airlift Diameter	4	inches
Water Height in Launder	4.68	inches

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Digesters

	Value		*Regulation*
TCEQ Minimum Sludge Retention Time	60	days	217.249(t)(4)(B)(Table J.2)
TCEQ Min. Volatile Solids Loading Rate	100	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)
TCEQ Max. Volatile Solids Loading Rate	200	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)

Influent BOD_5	626	lb/ day
Effluent BOD_5	21	lb/ day
BOD_5 to Digester	605	lb/ day

Volume Required from Metcalf and Eddy, "Wastewater Engineering," 4th Edition

Hydraulic Detention Time of the Aeration Basins

$$\theta\,(\text{Gal}) = \left(\frac{\text{Volume of Aeration Basins in Gallons}}{\text{Average Influent Flow in Gallons / Day}}\right) * 24\,\text{hrs/day}$$

BOD_5 *Utilized*

$$BOD_5 utilized\left(\text{lbs BOD}_5/\text{day}\right) = Q * (S_i - S_e)$$

NH_3-N *Utilized*

$$NH_3 utilized\left(\text{lbs NH}_3/\text{day}\right) = Q * (N_i - N_e)$$

Hydraulic Detention Time of Aeration Basin	18.82	Hours
BOD_5 *utilized*	605	lb BOD_5 / day
NH_3 *utilized*	81	lb NH_3-N / day

S	BOD_5 Concentration			
N	NH_3-N Concentration			
i	Influent (subscript)			
e	Effluent (subscript)			
Q	Average Design Flow			
Q_{design}	Peak Flow			
Q_W	Waste Sludge Flow to Digester			
X_W	Waste Sludge Concentration	8,500	mg/L	
Y	Yield Coefficient	0.6	VSS/lb BOD_5	
Y_n	Yield Coefficient (nitrification)	0.15	VSS/lb NH_3-N	
k_d	Endogenous Decay Coefficent	0.06	/day	
k_{dn}	Endogenous Decay Coeff. (nitrifica	0.30	/day	
P_n	Volatile Fraction of X	0.70		
	MLVSS/MLSS Ratio	0.70		
S_{sl}	Specific Gravity of Sludge	1.005		
X	Sludge Concentration in Digester	15,000	mg/L	
P_s	Percent Solids in Digester	1.5	%	
$TSS_{\%}$	% of TSS that is inert	50	%	
ρ_w	Specific Weight of Water	8.34	lbs / gallon	

Typical Values

Variable	Range		Source
X_W	0.8	2.5	M&E, 4th ed., pg. 1457
Y	0.4	0.8	M&E, 4th ed., pg. 585
Y_n	0.04	0.29	WEF MoP 8, Vol I, p. 53
k_d	0.06	0.15	M&E, 4th ed., pg. 585
k_{dn}	0.3	3.0	WEF MoP 8, Vol I, p. 53
P_n	0.59	0.88	M&E, 4th ed., pg. 1454
S_{sl}	1.005	1.005	M&E, 4th ed., pg. 1456
X	15,000	40,000	M&E, 4th ed., pg. 1457
P_s	1.5	4	M&E, 4th ed., pg. 1457

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Carbonaceous Yield Coefficient Observed M&E, 4th ed. Pg. 595

$$Y_{c,obs} = \left(\frac{Y}{1 + k_d * \theta}\right)$$

Nitrogenous Yield Coefficient M&E, 4th ed. Pg. 595

$$Y_{n,obs} = \left(\frac{Y_n}{1 + k_{dn} * \theta}\right)$$

Carbonaceous Sludge Production (MLVSS) M&E Pg. 681

$$P_{x,c}\left(\frac{lb}{day}\right) = Y_{c,obs} * Q * (S_i - S_e) = Y_{c,obs} * BOD_5 utilized$$

Nitrogenous Sludge Production (MLVSS) M&E, 4th ed. Pg. 681

$$P_{x,n}\left(\frac{lb}{day}\right) = Y_{n,obs} * Q * (N_i - N_e) = Y_{n,obs} * NH_3 utilized$$

Inert Sludge Production M&E, 4th ed. Pg. 681

$$P_{x,i}\left(\frac{lb}{day}\right) = Q_{design} * TSS_{\%} * (TSS_i - TSS_e) * 8.34$$

Total Sludge Production M&E, 4th ed. Pg. 682

$$P_x\left(\frac{lb}{day}\right) = P_{x,c} + P_{x,n} + P_{x,i}$$

Waste Sludge Flow to Dige M&E, 4th ed. Pg. 1458

$$Q_w = \frac{\text{Total Sludge Production, Dry Solids}}{\rho_W S_{sl} P_s}$$

Required Volume M&E, 4th ed. Pg. 1537

$$V\,(Gal) = \left(\frac{Q_W}{X}\right)\left(\frac{(X_W + Y * S_i)}{k_d * P_n + \frac{1}{SRT}}\right)$$

$Y_{c,obs}$	Carbonaceous Yield Coefficient	0.57	
$P_{x,c}$	Carbonaceous Sludge Production	346	lb / day (MLVSS)
		495	lb / day (MLSS)
$Y_{n,obs}$	Nitrogenous Yield Coefficient	0.12	
$P_{x,n}$	Nitrogenous Sludge Production	9.87	lb / day (MLVSS)
		14.11	lb / day (MLSS)
Inert Sludge Production (TSS), Dry Solids		297	lb / day
Total Sudge Production, Volatile Solids		356	lb / day
Volatile Solids Loading Rate		27	lb / day / 1,000 cu. ft.
Total Sudge Production, Dry Solids		806	lb / day
Q_W	Waste Sludge Flow to Digester	6,412	gallons / day
Digester Volume Required		63,250	gallons
		8,456	cu. ft.

Tank

Length	52	ft
Width	12	ft
Height	12.17	ft
SWD	10.67	ft
# Tanks	2	
Volume	13,312	cu. ft.

Total Digester Vol. available	13,312	cu. ft.
Volume greater than required	YES	

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Chlorine Contact Chamber

	Value		*Regulation*
TCEQ Minimum detention time (Qpk)	20	min	217.281(b)(1)
Volume required	1,857	cu. ft.	

Proposed Tank

Length	36.00	ft	
Width	11.00	ft	
Height	7.17	ft	
Static WL	4.75	ft	
SWD	5.50	ft	
# Tanks	1		
Volume	2,178	cu. ft.	
Capacity	0.293	MGD Average Flow	
Total Capacity	2,178	cu. ft.	
Detention Time	23.46	Minutes	Meets Capacity
Volume greater than required			YES

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Air Requirements

				Regulation
		Value		
Air requirements for Aeration basins $O_2R = \frac{1.2(BOD_5) + 4.3(NH_3 - N)}{BOD_5}$		1.80	lb oxygen per lb BOD	217.155(a)(3)(Equation F.2)
	Use	2.20	lb oxygen per lb BOD	
Air Requirements for Digesters		20	SCFM /1000 cu. ft.	217.249 (t)(7)(G)
	Use	30	SCFM /1000 cu. ft.	
Minimum Mixing Requirements for Aeration		20	SCFM / 1000 cu. ft.	217.155 (b)(3)(B)
Diffuser Transfer Efficiency		6.6%	(In wastewater)	217.155 (b)(2)(B)
Design Submergence		10.00	feet	

Table F.5 Diffuser Submergence Correction Factors

Diffuser Submergence Depth	Airflow Rate Correction Factor
feet	
8	1.82
10	1.56
12	1
15	0.91
18	0.73
20	0.64

Diffuser Submergence Correction Factor		1.56	@ design flow depth	217.155 (b)(2)(D)(Table F.5)
Aeration Basins: Corrected Air Flowrate @ Design Subme		1303	SCFM	
= {(lb BOD)*(lb Oxygen / lb BOD)} * Correction Factor				217.155 (b)(2)(C)
(T.E.) (lb Oxygen / lb air) (lb air / cu. ft.) (min / day)				
Verify Mixing Requirements for Aeration Basins:		50	OK	
Air Required for Digesters:		399	SCFM	
Air Required for Post Aeration - Chlorine Basin		44	SCFM	20 scfm/1000cf
Air Required for Air Lifts		50	SCFM	
Air for Initial Mixing		25	SCFM	
Total Air Required		1,821	SCFM	
Maximum Water Depth Over Diffuser		10.00	feet	
Pressure Loss in Piping		1.2	psi *	
Pressure @ Blowers		5.5	psi	
Air Flow per Blower @ Required Pressure		975	SCFM	
Blowers Required w/o Standby		1.9		
Total Blowers Required		3.0		

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Design Parameters

Influent Flow Characteristics - The hydraulic design of the facility must ensure that the plant will operate under the most extreme conditions anticipated. The plant process and hydraulic design for this facility are as follows:

Average Design Flow		0.5	MGD	Influent BOD_5	300	mg / l
Peaking Factor		4			1251	lbs / day
Peak Flow		2	MGD	Influent TSS	300	mg/L
		1389	gpm		1251	lbs / day
Effluent Characteristics				Influent NH3-N	42	mg/L
BOD_5	S_e	10	mg/L		175	lbs / day
				Influent TKN	60	mg/L
TSS	TSS_e	15	mg/L	Influent Phospho	10	mg/L
NH_3-N	N_e	3	mg/L	Reactor temp	15	°C
P	P_e		mg/L	Elevation	620	feet ASL

Process Design - In order to achieve the required removal efficiencies, activated sludge process operated in the single stage nitrification mode has been chosen.

Aeration Basin

	Value		*Regulation*
TCEQ Maximum Organic Loading	25	lbs BOD / day / 1000 cu. ft.	217.154(b)(Table F.1)
Aeration Volume Required	50,040	cu. ft.	
MLSS	3,000	mg/L	
MLVSS/MLSS	0.7		
MLVSS	2,100	mg/L	

Tanks

Length	52	ft
Width	12	ft
Height	12.17	
SWD	10.50	ft
# Tanks	8	
Volume	52,416	cu. ft.
Capacity	0.524	MGD Average Flow

Total Volume	52,416	cu. ft.
Volume greater than required	YES	
Organic Loading	23.87	lbs BOD5/day
Hydraulic Retention time, τ	18.82	hours
Solids Retention Time, SRT	10.3	days
f:m	0.18	lbs BOD5/lbs MLVSS/day

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Clarifier

	Value		*Regulation*
TCEQ Maximum surface Loading (Qpk)	1200	gal / day / sq. ft. at peak flow	217.154(c)(Table F.2)
TCEQ Minimum detention time (Qpk)	1.8	hours at peak flow	217.154(c)(Table F.2)
TCEQ Maximum weir Loading (Qpk)	20,000	gal/day/ft	217.152(c)(4)
TCEQ Minimum Side Water Depth (SWD)	10	feet	217.152(g)(2)(A)/(B)
TCEQ Maximum Stilling Well Velocity	0.15	feet/second	217.152(a)(4)

Surface area required	1,667	sq. ft.	46.1	ft. min. dia. for one clarifier
Volume required	20,053	cu. ft.	32.6	ft. min. dia. for two clarifiers

Stilling Well Diameter	6.0	feet	Typ. value is 15-20% of total tank diameter (M&E, p.401)
Stilling Well Velocity at Qpk	0.08	fps	Meets Requirement? YES

Clarifier(s) Provided:	2	tank(s)		
Diameter	36	ft		
Height	13.17	ft		
Static WL	11.75	ft		
SWD	10.00	ft		
Surface area	1018	sq. ft.		
Volume	10,179	cu. ft.		
Capacity	0.254	MGD Average Flow		
	1.01516	MGD Peak Flow		
Total Surface Area	2,036	sq. ft.	Greater than required?	YES
Total Volume	20,358	cu. ft.	Greater than required?	YES

	Qaverage		Qpeak	
Clarifier Surface Loading	246	GPD/SF	982	GPD/SF
Clarifier Detention Time	7.31	Hours	1.83	Hours
Solids Loading Rate	0.46	$lb/ft^2/hr$	1.23	$lb/ft^2/hr$

Clarifier Wall to Weir Length	12	inches	
Weir Length	106.8	Ft.	
Weir Loading	9,362	GPD/LF	

RAS/WAS Pumping & Piping

	Value				*Regulation*
TCEQ Minimum Sludge Pipe Diameter	4	inches			217.152(e)(2), 217.158(e)(3)
Clarifier Surface Area	1018	sq. ft.			
TCEQ Min. RAS Pumping Capacity @200	141	gpm	Qr/Q =	0.41	217.152(j)(3)
TCEQ Max. RAS Pumping Capacity @ 400	283	gpm	Qr/Q =	0.81	217.152(j)(3)
RAS/WAS Pipe Diameter	6	inches			
Velocity in RAS/WAS Pipe @ Min. Rate	1.60	fps			
Velocity in RAS/WAS Pipe @ Max. Rate	3.20	fps			
WAS Volume to Digester	6,412	gpd			
Number of WAS Cycles Per Day	1				
Duration of WAS Cycles	30	minutes			
WAS Flow Rate During Each Cycle	214	gpm			
WAS Pipe Diameter	6	inches			
Velocity in WAS Pipe	2.419	fps			

Scum Flow Rate

Launder Width	18	inches
Scum Flow Rate	71.38	gpm
Scum Collector Pipe Diameter	8	inches
Scum Airlift Diameter	4	inches
Water Height in Launder	4.68	inches

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Digesters

	Value		*Regulation*
TCEQ Minimum Sludge Retention Time	60	days	217.249(t)(4)(B)(Table J.2)
TCEQ Min. Volatile Solids Loading Rate	100	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)
TCEQ Max. Volatile Solids Loading Rate	200	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)

Influent BOD_5	1251	lb/ day
Effluent BOD_5	42	lb/ day
BOD_5 to Digester	1209	lb/ day

Volume Required from Metcalf and Eddy, "Wastewater Engineering," 4th Edition

Hydraulic Detention Time of the Aeration Basins

$$\theta\,(\text{Gal}) = \left(\frac{\text{Volume of Aeration Basins in Gallons}}{\text{Average Influent Flow in Gallons / Day}}\right) * 24\,\text{hrs/day}$$

BOD_5 *Utilized*

$$BOD_5 utilized\left(\text{lbs BOD}_5/\text{day}\right) = Q * (S_i - S_e)$$

NH_3-N *Utilized*

$$NH_3 utilized\left(\text{lbs NH}_3/\text{day}\right) = Q * (N_i - N_e)$$

Hydraulic Detention Time of Aeration Basin	18.82	Hours
BOD_5 *utilized*	1,209	lb BOD_5 / day
NH_3 *utilized*	163	lb NH_3-N / day

S	BOD_5 Concentration
N	NH_3-N Concentration
i	Influent (subscript)
e	Effluent (subscript)
Q	Average Design Flow
Q_{design}	Peak Flow
Q_W	Waste Sludge Flow to Digester

X_W	Waste Sludge Concentration	8,500	mg/L	
Y	Yield Coefficient	0.6	VSS/lb BOD_5	
Y_n	Yield Coefficient (nitrification)	0.15	VSS/lb NH_3-N	
k_d	Endogenous Decay Coefficent	0.06	/day	
k_{dn}	Endogenous Decay Coeff. (nitrifica	0.30	/day	
P_n	Volatile Fraction of X	0.70		
	MLVSS/MLSS Ratio	0.70		
S_{sl}	Specific Gravity of Sludge	1.005		
X	Sludge Concentration in Digester	15,000	mg/L	
P_s	Percent Solids in Digester	1.5	%	
$TSS_{\%}$	% of TSS that is inert	50	%	
ρ_w	Specific Weight of Water	8.34	lbs / gallon	

Typical Values

Variable	Range		Source
X_W	0.8	2.5	M&E, 4th ed., pg. 1457
Y	0.4	0.8	M&E, 4th ed., pg. 585
Y_n	0.04	0.29	WEF MoP 8, Vol I, p. 53
k_d	0.06	0.15	M&E, 4th ed., pg. 585
k_{dn}	0.3	3.0	WEF MoP 8, Vol I, p. 53
P_n	0.59	0.88	M&E, 4th ed., pg. 1454
S_{sl}	1.005	1.005	M&E, 4th ed., pg. 1456
X	15,000	40,000	M&E, 4th ed., pg. 1457
P_s	1.5	4	M&E, 4th ed., pg. 1457

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Carbonaceous Yield Coefficient Observed M&E, 4th ed. Pg. 595

$$Y_{c,obs} = \left(\frac{Y}{1 + k_d * \theta}\right)$$

Nitrogenous Yield Coefficient M&E, 4th ed. Pg. 595

$$Y_{n,obs} = \left(\frac{Y_n}{1 + k_{dn} * \theta}\right)$$

Carbonaceous Sludge Production (MLVSS) M&E Pg. 681

$$P_{x,c}\left(\frac{lb}{day}\right) = Y_{c,obs} * Q * (S_i - S_e) = Y_{c,obs} * BOD_5 utilized$$

Nitrogenous Sludge Production (MLVSS) M&E, 4th ed. Pg. 681

$$P_{x,n}\left(\frac{lb}{day}\right) = Y_{n,obs} * Q * (N_i - N_e) = Y_{n,obs} * NH_3 utilized$$

Inert Sludge Production M&E, 4th ed. Pg. 681

$$P_{x,i}\left(\frac{lb}{day}\right) = Q_{design} * TSS_{\%} * (TSS_i - TSS_e) * 8.34$$

Total Sludge Production M&E, 4th ed. Pg. 682

$$P_x\left(\frac{lb}{day}\right) = P_{x,c} + P_{x,n} + P_{x,i}$$

Waste Sludge Flow to Dige M&E, 4th ed. Pg. 1458

$$Q_w = \frac{\text{Total Sludge Production, Dry Solids}}{\rho_W S_{sl} P_s}$$

Required Volume M&E, 4th ed. Pg. 1537

$$V\,(Gal) = \left(\frac{Q_W}{X}\right)\left(\frac{(X_W + Y * S_i)}{k_d * P_n + \frac{1}{SRT}}\right)$$

$Y_{c,obs}$	Carbonaceous Yield Coefficient	0.57	
$P_{x,c}$	Carbonaceous Sludge Production	693	lb / day (MLVSS)
		990	lb / day (MLSS)
$Y_{n,obs}$	Nitrogenous Yield Coefficient	0.12	
$P_{x,n}$	Nitrogenous Sludge Production	19.75	lb / day (MLVSS)
		28.21	lb / day (MLSS)
Inert Sludge Production (TSS), Dry Solids		594	lb / day
Total Sudge Production, Volatile Solids		713	lb / day
Volatile Solids Loading Rate		27	lb / day / 1,000 cu. ft.
Total Sudge Production, Dry Solids		1612	lb / day
Q_W	Waste Sludge Flow to Digester	12,825	gallons / day
Digester Volume Required		126,499	gallons
		16,912	cu. ft.

Tank

Length	52	ft
Width	12	ft
Height	12.17	ft
SWD	10.67	ft
# Tanks	4	
Volume	26,624	cu. ft.

Total Digester Vol. available	26,624	cu. ft.
Volume greater than required	YES	

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Chlorine Contact Chamber

	Value		*Regulation*
TCEQ Minimum detention time (Qpk)	20	min	217.281(b)(1)
Volume required	3,714	cu. ft.	

Proposed Tank

Length	36.00	ft	
Width	11.00	ft	
Height	7.17	ft	
Static WL	4.75	ft	
SWD	5.50	ft	
# Tanks	2		
Volume	4,356	cu. ft.	
Capacity	0.586	MGD Average Flow	
Total Capacity	4,356	cu. ft.	
Detention Time	23.46	Minutes	Meets Capacity
Volume greater than required			YES

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Air Requirements

	Value		*Regulation*
Air requirements for Aeration basins $O_2R = \frac{1.2(BOD_5) + 4.3(NH_3 - N)}{BOD_5}$	1.80	lb oxygen per lb BOD	217.155(a)(3)(Equation F.2)
Use	2.20	lb oxygen per lb BOD	
Air Requirements for Digesters	20	SCFM /1000 cu. ft.	217.249 (t)(7)(G)
Use	30	SCFM /1000 cu. ft.	
Minimum Mixing Requirements for Aeration	20	SCFM / 1000 cu. ft.	217.155 (b)(3)(B)
Diffuser Transfer Efficiency	6.6%	(In wastewater)	217.155 (b)(2)(B)
Design Submergence	10.00	feet	

Table F.5 Diffuser Submergence Correction Factors

Diffuser Submergence Depth	Airflow Rate Correction Factor
feet	
8	1.82
10	1.56
12	1
15	0.91
18	0.73
20	0.64

Diffuser Submergence Correction Factor	1.56	@ design flow depth	217.155 (b)(2)(D)(Table F.5)

Aeration Basins: Corrected Air Flowrate @ Design Subme 2607 SCFM

$$= \frac{\{(\text{lb BOD}) * (\text{lb Oxygen / lb BOD})\} * \text{Correction Factor}}{(\text{T.E.})\ (\text{lb Oxygen / lb air})\ (\text{lb air / cu. ft.})\ (\text{min / day})}$$

217.155 (b)(2)(C)

Verify Mixing Requirements for Aeration Basins:	50	OK		
Air Required for Digesters:	799	SCFM		
Air Required for Post Aeration - Chlorine Basin	87	SCFM	20	scfm/1000cf
Air Required for Air Lifts	98	SCFM		
Air for Initial Mixing	25	SCFM		
Total Air Required	3,616	SCFM		
Maximum Water Depth Over Diffuser	10.00	feet		
Pressure Loss in Piping	1.2	psi *		
Pressure @ Blowers	5.5	psi		
Air Flow per Blower @ Required Pressure	975	SCFM		
Blowers Required w/o Standby	3.7			
Total Blowers Required	5.0			

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Design Parameters

Influent Flow Characteristics - The hydraulic design of the facility must ensure that the plant will operate under the most extreme conditions anticipated. The plant process and hydraulic design for this facility are as follows:

Average Design Flow		0.99	MGD	Influent BOD_5	300	mg / l
Peaking Factor		4			2477	lbs / day
Peak Flow		3.96	MGD	Influent TSS	300	mg/L
		2750	gpm		2477	lbs / day
Effluent Characteristics				Influent NH3-N	42	mg/L
BOD_5	S_e	10	mg/L		347	lbs / day
				Influent TKN	60	mg/L
TSS	TSS_e	15	mg/L	Influent Phospho	10	mg/L
NH_3-N	N_e	3	mg/L	Reactor temp	15	°C
P	P_e		mg/L	Elevation	620	feet ASL

Process Design - In order to achieve the required removal efficiencies, activated sludge process operated in the single stage nitrification mode has been chosen.

Aeration Basin

	Value		*Regulation*
TCEQ Maximum Organic Loading	25	lbs BOD / day / 1000 cu. ft.	217.154(b)(Table F.1)
Aeration Volume Required	99,079	cu. ft.	
MLSS	3,000	mg/L	
MLVSS/MLSS	0.7		
MLVSS	2,100	mg/L	

Tanks

Length	52	ft
Width	12	ft
Height	12.17	
SWD	10.50	ft
# Tanks	16	
Volume	104,832	cu. ft.
Capacity	1.047	MGD Average Flow

Total Volume	104,832	cu. ft.
Volume greater than required	YES	
Organic Loading	23.63	lbs BOD5/day
Hydraulic Retention time, τ	19.01	hours
Solids Retention Time, SRT	10.4	days
f:m	0.18	lbs BOD5/lbs MLVSS/day

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Clarifier

	Value		*Regulation*
TCEQ Maximum surface Loading (Qpk)	1200	gal / day / sq. ft. at peak flow	217.154(c)(Table F.2)
TCEQ Minimum detention time (Qpk)	1.8	hours at peak flow	217.154(c)(Table F.2)
TCEQ Maximum weir Loading (Qpk)	20,000	gal/day/ft	217.152(c)(4)
TCEQ Minimum Side Water Depth (SWD)	10	feet	217.152(g)(2)(A)/(B)
TCEQ Maximum Stilling Well Velocity	0.15	feet/second	217.152(a)(4)

Surface area required	3,300	sq. ft.	64.8	ft. min. dia. for one clarifier
Volume required	39,706	cu. ft.	45.8	ft. min. dia. for two clarifiers

Stilling Well Diameter	6.0	feet	Typ. value is 15-20% of total tank diameter (M&E, p.401)
Stilling Well Velocity at Qpk	0.08	fps	Meets Requirement? YES

Clarifier(s) Provided:	4	tank(s)	
Diameter	36	ft	
Height	13.17	ft	
Static WL	11.75	ft	
SWD	10.00	ft	
Surface area	1018	sq. ft.	
Volume	10,179	cu. ft.	
Capacity	0.254	MGD Average Flow	
	1.01516	MGD Peak Flow	

Total Surface Area	4,072	sq. ft.	Greater than required?	YES
Total Volume	40,715	cu. ft.	Greater than required?	YES

	Qaverage		Qpeak	
Clarifier Surface Loading	243	GPD/SF	973	GPD/SF
Clarifier Detention Time	7.38	Hours	1.85	Hours
Solids Loading Rate	0.36	lb/ft^2/hr	1.12	lb/ft^2/hr

Clarifier Wall to Weir Length	12	inches	
Weir Length	106.8	Ft.	
Weir Loading	9,268	GPD/LF	

RAS/WAS Pumping & Piping

	Value				*Regulation*
TCEQ Minimum Sludge Pipe Diameter	4	inches			217.152(e)(2), 217.158(e)(3)
Clarifier Surface Area	1018	sq. ft.			
TCEQ Min. RAS Pumping Capacity @200 (	141	gpm	Qr/Q =	0.21	217.152(j)(3)
TCEQ Max. RAS Pumping Capacity @ 400	283	gpm	Qr/Q =	0.41	217.152(j)(3)
RAS/WAS Pipe Diameter	6	inches			
Velocity in RAS/WAS Pipe @ Min. Rate	1.60	fps			
Velocity in RAS/WAS Pipe @ Max. Rate	3.20	fps			
WAS Volume to Digester	6,346	gpd			
Number of WAS Cycles Per Day	1				
Duration of WAS Cycles	30	minutes			
WAS Flow Rate During Each Cycle	212	gpm			
WAS Pipe Diameter	6	inches			
Velocity in WAS Pipe	2.394	fps			

Scum Flow Rate

Launder Width	18	inches
Scum Flow Rate	71.38	gpm
Scum Collector Pipe Diameter	8	inches
Scum Airlift Diameter	4	inches
Water Height in Launder	4.64	inches

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Digesters

	Value		*Regulation*
TCEQ Minimum Sludge Retention Time	60	days	217.249(t)(4)(B)(Table J.2)
TCEQ Min. Volatile Solids Loading Rate	100	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)
TCEQ Max. Volatile Solids Loading Rate	200	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)

Influent BOD_5	2477	lb/ day
Effluent BOD_5	83	lb/ day
BOD_5 to Digester	2394	lb/ day

Volume Required from Metcalf and Eddy, "Wastewater Engineering," 4th Edition

Hydraulic Detention Time of the Aeration Basins

$$\theta\,(\mathrm{Gal}) = \left(\frac{\text{Volume of Aeration Basins in Gallons}}{\text{Average Influent Flow in Gallons / Day}}\right) * 24\,\mathrm{hrs/day}$$

BOD_5 *Utilized*

$$BOD_5 utilized\left(\mathrm{lbs\ BOD_5/day}\right) = Q * (S_i - S_e)$$

NH_3-N *Utilized*

$$NH_3 utilized\left(\mathrm{lbs\ NH_3/day}\right) = Q * (N_i - N_e)$$

Hydraulic Detention Time of Aeration Basin	19.01	Hours
BOD_5 *utilized*	2,394	lb BOD_5 / day
NH_3 *utilized*	322	lb NH_3-N / day

S	BOD_5 Concentration			
N	NH_3-N Concentration			
i	Influent (subscript)			
e	Effluent (subscript)			
Q	Average Design Flow			
Q_{design}	Peak Flow			
Q_W	Waste Sludge Flow to Digester			
X_W	Waste Sludge Concentration	8,500	mg/L	
Y	Yield Coefficient	0.6	VSS/lb BOD_5	
Y_n	Yield Coefficient (nitrification)	0.15	VSS/lb NH_3-N	
k_d	Endogenous Decay Coefficent	0.06	/day	
k_{dn}	Endogenous Decay Coeff. (nitrifica	0.30	/day	
P_n	Volatile Fraction of X	0.70		
	MLVSS/MLSS Ratio	0.70		
S_{sl}	Specific Gravity of Sludge	1.005		
X	Sludge Concentration in Digester	15,000	mg/L	
P_s	Percent Solids in Digester	1.5	%	
$TSS_{\%}$	% of TSS that is inert	50	%	
ρ_w	Specific Weight of Water	8.34	lbs / gallon	

Typical Values

Variable	Range		Source
X_W	0.8	2.5	M&E, 4th ed., pg. 1457
Y	0.4	0.8	M&E, 4th ed., pg. 585
Y_n	0.04	0.29	WEF MoP 8, Vol I, p. 53
k_d	0.06	0.15	M&E, 4th ed., pg. 585
k_{dn}	0.3	3.0	WEF MoP 8, Vol I, p. 53
P_n	0.59	0.88	M&E, 4th ed., pg. 1454
S_{sl}	1.005	1.005	M&E, 4th ed., pg. 1456
X	15,000	40,000	M&E, 4th ed., pg. 1457
P_s	1.5	4	M&E, 4th ed., pg. 1457

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Carbonaceous Yield Coefficient Observed M&E, 4th ed. Pg. 595

$$Y_{c,obs} = \left(\frac{Y}{1 + k_d * \theta}\right)$$

Nitrogenous Yield Coefficient M&E, 4th ed. Pg. 595

$$Y_{n,obs} = \left(\frac{Y_n}{1 + k_{dn} * \theta}\right)$$

Carbonaceous Sludge Production (MLVSS) M&E Pg. 681

$$P_{x,c}\left(\frac{lb}{day}\right) = Y_{c,obs} * Q * (S_i - S_e) = Y_{c,obs} * BOD_5 utilized$$

Nitrogenous Sludge Production (MLVSS) M&E, 4th ed. Pg. 681

$$P_{x,n}\left(\frac{lb}{day}\right) = Y_{n,obs} * Q * (N_i - N_e) = Y_{n,obs} * NH_3 utilized$$

Inert Sludge Production M&E, 4th ed. Pg. 681

$$P_{x,i}\left(\frac{lb}{day}\right) = Q_{design} * TSS_{\%} * (TSS_i - TSS_e) * 8.34$$

Total Sludge Production M&E, 4th ed. Pg. 682

$$P_x\left(\frac{lb}{day}\right) = P_{x,c} + P_{x,n} + P_{x,i}$$

Waste Sludge Flow to Dige M&E, 4th ed. Pg. 1458

$$Q_w = \frac{\text{Total Sludge Production, Dry Solids}}{\rho_W S_{sl} P_s}$$

Required Volume M&E, 4th ed. Pg. 1537

$$V\,(Gal) = \left(\frac{Q_W}{X}\right)\left(\frac{(X_W + Y * S_i)}{k_d * P_n + \frac{1}{SRT}}\right)$$

$Y_{c,obs}$	Carbonaceous Yield Coefficient	0.57	
$P_{x,c}$	Carbonaceous Sludge Production	1,371	lb / day (MLVSS)
		1,959	lb / day (MLSS)
$Y_{n,obs}$	Nitrogenous Yield Coefficient	0.12	
$P_{x,n}$	Nitrogenous Sludge Production	39.03	lb / day (MLVSS)
		55.75	lb / day (MLSS)
Inert Sludge Production (TSS), Dry Solids		1177	lb / day
Total Sudge Production, Volatile Solids		1410	lb / day
Volatile Solids Loading Rate		26	lb / day / 1,000 cu. ft.
Total Sudge Production, Dry Solids		3192	lb / day
Q_W	Waste Sludge Flow to Digester	25,385	gallons / day
Digester Volume Required		250,390	gallons
		33,475	cu. ft.

Tank

Length	52	ft
Width	12	ft
Height	12.17	ft
SWD	10.67	ft
# Tanks	8	
Volume	53,248	cu. ft.

Total Digester Vol. available	53,248	cu. ft.
Volume greater than required	YES	

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Chlorine Contact Chamber

	Value		*Regulation*
TCEQ Minimum detention time (Qpk)	20	min	217.281(b)(1)
Volume required	7,353	cu. ft.	

Proposed Tank

Length	36.00	ft	
Width	11.00	ft	
Height	7.17	ft	
Static WL	4.75	ft	
SWD	5.50	ft	
# Tanks	4		
Volume	8,712	cu. ft.	
Capacity	1.173	MGD Average Flow	
Total Capacity	8,712	cu. ft.	
Detention Time	23.70	Minutes	Meets Capacity
Volume greater than required			YES

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Air Requirements

		Value		*Regulation*
Air requirements for Aeration basins $O_2R = \frac{1.2(BOD_5) + 4.3(NH_3 - N)}{BOD_5}$		1.80	lb oxygen per lb BOD	217.155(a)(3)(Equation F.2)
	Use	2.20	lb oxygen per lb BOD	
Air Requirements for Digesters		20	SCFM /1000 cu. ft.	217.249 (t)(7)(G)
	Use	30	SCFM /1000 cu. ft.	
Minimum Mixing Requirements for Aeration		20	SCFM / 1000 cu. ft.	217.155 (b)(3)(B)
Diffuser Transfer Efficiency		6.6%	(In wastewater)	217.155 (b)(2)(B)
Design Submergence		10.00	feet	

Table F.5 Diffuser Submergence Correction Factors

Diffuser Submergence Depth	Airflow Rate Correction Factor
feet	
8	1.82
10	1.56
12	1
15	0.91
18	0.73
20	0.64

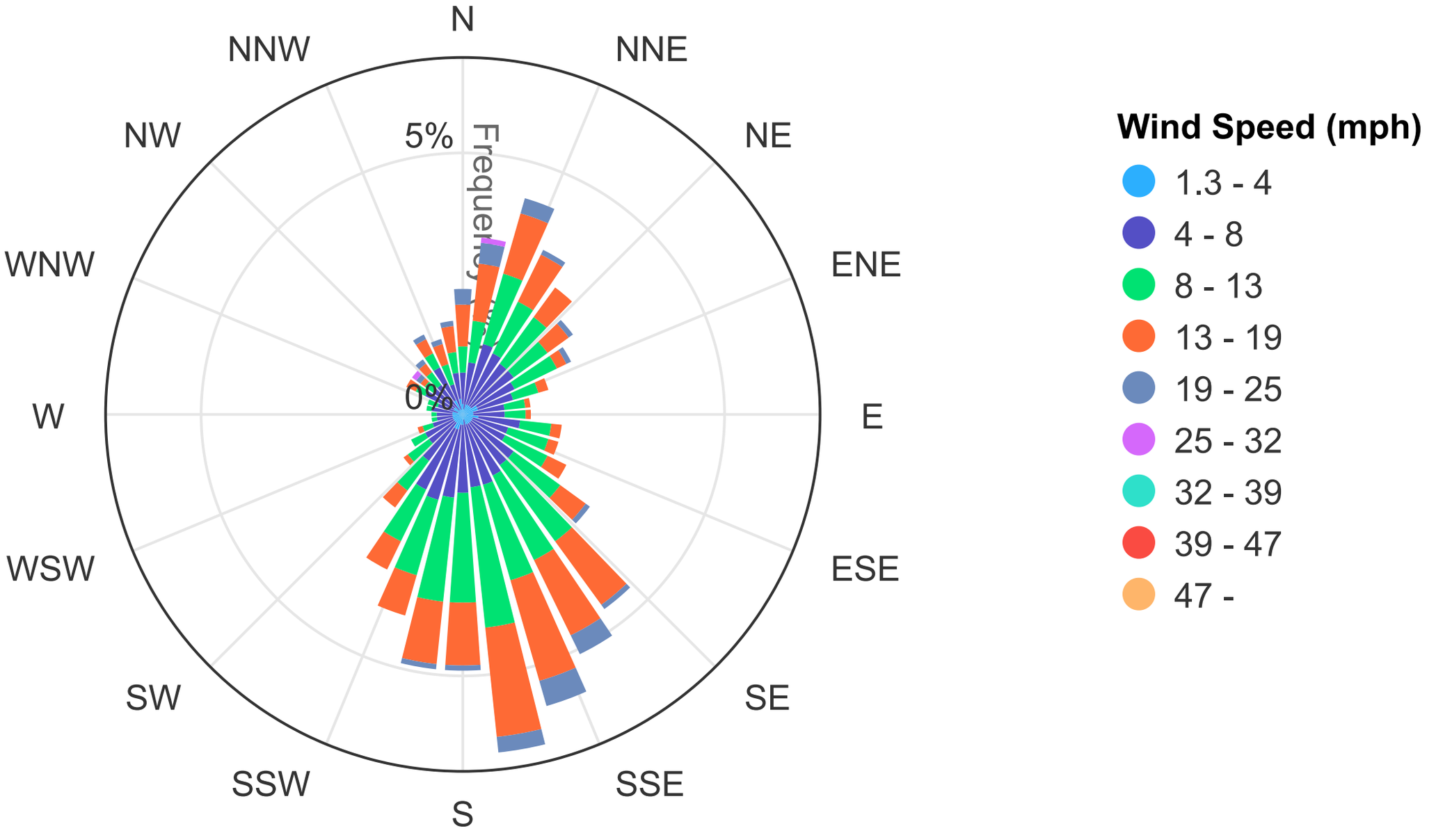
Diffuser Submergence Correction Factor		1.56	@ design flow depth	217.155 (b)(2)(D)(Table F.5)
Aeration Basins: Corrected Air Flowrate @ Design Subme		5162	SCFM	
= {(lb BOD)*(lb Oxygen / lb BOD)} * Correction Factor				217.155 (b)(2)(C)
(T.E.) (lb Oxygen / lb air) (lb air / cu. ft.) (min / day)				
Verify Mixing Requirements for Aeration Basins:		49	OK	
Air Required for Digesters:		1597	SCFM	
Air Required for Post Aeration - Chlorine Basin		174	SCFM	20 scfm/1000cf
Air Required for Air Lifts		194	SCFM	
Air for Initial Mixing		50	SCFM	
Total Air Required		7,177	SCFM	
Maximum Water Depth Over Diffuser		10.00	feet	
Pressure Loss in Piping		1.2	psi *	
Pressure @ Blowers		5.5	psi	
Air Flow per Blower @ Required Pressure		975	SCFM	
Blowers Required w/o Standby		7.4		
Total Blowers Required		9.0		

ATTACHMENT TR-8

Wind Rose

NEW BRAUNFELS MUNICIPAL AP (TX) Wind Rose

August 01, 2023 - August 20, 2024
Sub-Interval: January 1 - December 31, 0 - 24



Click and drag to zoom

ATTACHMENT TR-9

Sewage Sludge Solids

Management Plan

Domestic Technical Report 1.1 - 7
Sewage Sludge Solids Management Plan

Planning Considerations

Influent Design Flow	0.25 MGD
Total Sludge Holding Tank Volume	13,316 cubic feet
Dimensions (2 Basins)	52' L x 12' W x 10.67' SWD
Aeration Basin MLSS (mg/L)	1,500 to 3,000 mg/l

BOD_5 Removal	Influent Concentration =	300	mg/l
	Effluent Concentration =	5	mg/l
	Net Removal =	295	mg/l

Solids Generated	100% Flow	75% Flow	50% Flow	25% Flow
Pounds BOD_5/day Removed	615	461	308	154
Pounds/Day of Dry Sludge Produced	194	145	97	48
Pounds/Day of Wet Sludge Produced	12,917	9,687	6,458	3,229
Gallons/Day of Wet Sludge Produced	1,549	1,162	774	387

Sludge will stay in the digester; clear liquor will be decanted off the digester and returned to the aeration basin. Sludge is wasted from the final clarifier to the aerobic digester. Some sludge from the clarifier is also returned to the aeration basin.

Removal Schedule

Days Between of Sludge Removal	64	86	129	257

Assumptions
(1) Assumed 0.315 pounds of dry sludge produced per pound of BOD5 removed
(2) Assumed solids concentration in the tank 1.5%
(3) Assumed stablized sludge density = water density 8.34 lb/gal

Domestic Technical Report 1.1 - 7
Sewage Sludge Solids Management Plan

Planning Considerations

Influent Design Flow	0.5	MGD
Total Sludge Holding Tank Volume	26,632	cubic feet
Dimensions (4 Basins)	52' L x 12' W x 10.67' SWD	
Aeration Basin MLSS (mg/L)	1,500 to 3,000	mg/l

BOD_5 Removal	Influent Concentration =	300	mg/l
	Effluent Concentration =	5	mg/l
	Net Removal =	295	mg/l

Solids Generated	100% Flow	75% Flow	50% Flow	25% Flow
Pounds BOD_5/day Removed	1,230	923	615	308
Pounds/Day of Dry Sludge Produced	387	291	194	97
Pounds/Day of Wet Sludge Produced	25,833	19,375	12,917	6,458
Gallons/Day of Wet Sludge Produced	3,098	2,323	1,549	774

Sludge will stay in the digester; clear liquor will be decanted off the digester and returned to the aeration basin. Sludge is wasted from the final clarifier to the aerobic digester. Some sludge from the clarifier is also returned to the aeration basin.

Removal Schedule

Days Between of Sludge Removal	64	86	129	257

Assumptions
(1) Assumed 0.315 pounds of dry sludge produced per pound of BOD5 removed
(2) Assumed solids concentration in the tank 1.5%
(3) Assumed stablized sludge density = water density 8.34 lb/gal

AUC GROUP, INC.
A Seven Seas Water company

SAN MARCOS WWTP
Phase III: 990,000 GPD ADF

Domestic Technical Report 1.1 - 7
Sewage Sludge Solids Management Plan

Planning Considerations

Influent Design Flow		0.99	MGD
Total Sludge Holding Tank Volume		53,265	cubic feet
Dimensions (8 Basins)		52' L x 12' W x 10.67' SWD	
Aeration Basin MLSS (mg/L)		1,500 to 3,000	mg/l
BOD_5 Removal	Influent Concentration =	300	mg/l
	Effluent Concentration =	5	mg/l
	Net Removal =	295	mg/l

Solids Generated	100% Flow	75% Flow	50% Flow	25% Flow
Pounds BOD_5/day Removed	2,436	1,827	1,218	609
Pounds/Day of Dry Sludge Produced	767	575	384	192
Pounds/Day of Wet Sludge Produced	51,150	38,362	25,575	12,787
Gallons/Day of Wet Sludge Produced	6,133	4,600	3,067	1,533

Sludge will stay in the digester; clear liquor will be decanted off the digester and returned to the aeration basin. Sludge is wasted from the final clarifier to the aerobic digester. Some sludge from the clarifier is also returned to the aeration basin.

Removal Schedule

Days Between of Sludge Removal	65	87	130	260

Assumptions
(1) Assumed 0.315 pounds of dry sludge produced per pound of BOD5 removed
(2) Assumed solids concentration in the tank 1.5%
(3) Assumed stablized sludge density = water density 8.34 lb/gal

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Design Parameters

Influent Flow Characteristics - The hydraulic design of the facility must ensure that the plant will operate under the most extreme conditions anticipated. The plant process and hydraulic design for this facility are as follows:

Average Design Flow		0.25	MGD	Influent BOD_5	300	mg / l
Peaking Factor		4			626	lbs / day
Peak Flow		1	MGD	Influent TSS	300	mg/L
		694	gpm		626	lbs / day
Effluent Characteristics				Influent NH3-N	42	mg/L
BOD_5	S_e	10	mg/L		88	lbs / day
				Influent TKN	60	mg/L
TSS	TSS_e	15	mg/L	Influent Phospho	10	mg/L
NH_3-N	N_e	3	mg/L	Reactor temp	15	°C
P	P_e		mg/L	Elevation	620	feet ASL

Process Design - In order to achieve the required removal efficiencies, activated sludge process operated in the single stage nitrification mode has been chosen.

Aeration Basin

	Value		*Regulation*
TCEQ Maximum Organic Loading	25	lbs BOD / day / 1000 cu. ft.	217.154(b)(Table F.1)
Aeration Volume Required	25,020	cu. ft.	
MLSS	3,000	mg/L	
MLVSS/MLSS	0.7		
MLVSS	2,100	mg/L	

Tanks

Length	52	ft
Width	12	ft
Height	12.17	
SWD	10.50	ft
# Tanks	4	
Volume	26,208	cu. ft.
Capacity	0.262	MGD Average Flow

Total Volume	26,208	cu. ft.
Volume greater than required	YES	
Organic Loading	23.87	lbs BOD5/day
Hydraulic Retention time, τ	18.82	hours
Solids Retention Time, SRT	10.3	days
f:m	0.18	lbs BOD5/lbs MLVSS/day

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Clarifier

	Value		*Regulation*
TCEQ Maximum surface Loading (Qpk)	1200	gal / day / sq. ft. at peak flow	217.154(c)(Table F.2)
TCEQ Minimum detention time (Qpk)	1.8	hours at peak flow	217.154(c)(Table F.2)
TCEQ Maximum weir Loading (Qpk)	20,000	gal/day/ft	217.152(c)(4)
TCEQ Minimum Side Water Depth (SWD)	10	feet	217.152(g)(2)(A)/(B)
TCEQ Maximum Stilling Well Velocity	0.15	feet/second	217.152(a)(4)

Surface area required	833	sq. ft.	32.6	ft. min. dia. for one clarifier
Volume required	10,027	cu. ft.	23.0	ft. min. dia. for two clarifiers

Stilling Well Diameter	6.0	feet	Typ. value is 15-20% of total tank diameter (M&E, p.401)
Stilling Well Velocity at Qpk	0.08	fps	Meets Requirement? YES

Clarifier(s) Provided:	1	tank(s)
Diameter	36	ft
Height	13.17	ft
Static WL	11.75	ft
SWD	10.00	ft
Surface area	1018	sq. ft.
Volume	10,179	cu. ft.
Capacity	0.254	MGD Average Flow
	1.01516	MGD Peak Flow

Total Surface Area	1,018	sq. ft.	Greater than required? YES
Total Volume	10,179	cu. ft.	Greater than required? YES

	Qaverage		Qpeak	
Clarifier Surface Loading	246	GPD/SF	982	GPD/SF
Clarifier Detention Time	7.31	Hours	1.83	Hours
Solids Loading Rate	0.67	lb/ft^2/hr	1.44	lb/ft^2/hr

Clarifier Wall to Weir Length	12	inches
Weir Length	106.8	Ft.
Weir Loading	9,362	GPD/LF

RAS/WAS Pumping & Piping

	Value				*Regulation*
TCEQ Minimum Sludge Pipe Diameter	4	inches			217.152(e)(2), 217.158(e)(3)
Clarifier Surface Area	1018	sq. ft.			
TCEQ Min. RAS Pumping Capacity @200	141	gpm	Qr/Q =	0.81	217.152(j)(3)
TCEQ Max. RAS Pumping Capacity @ 400	283	gpm	Qr/Q =	1.63	217.152(j)(3)
RAS/WAS Pipe Diameter	6	inches			
Velocity in RAS/WAS Pipe @ Min. Rate	1.60	fps			
Velocity in RAS/WAS Pipe @ Max. Rate	3.20	fps			
WAS Volume to Digester	6,412	gpd			
Number of WAS Cycles Per Day	1				
Duration of WAS Cycles	30	minutes			
WAS Flow Rate During Each Cycle	214	gpm			
WAS Pipe Diameter	6	inches			
Velocity in WAS Pipe	2.419	fps			

Scum Flow Rate

Launder Width	18	inches
Scum Flow Rate	71.38	gpm
Scum Collector Pipe Diameter	8	inches
Scum Airlift Diameter	4	inches
Water Height in Launder	4.68	inches

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Digesters

	Value		*Regulation*
TCEQ Minimum Sludge Retention Time	60	days	217.249(t)(4)(B)(Table J.2)
TCEQ Min. Volatile Solids Loading Rate	100	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)
TCEQ Max. Volatile Solids Loading Rate	200	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)

Influent BOD_5	626	lb/ day
Effluent BOD_5	21	lb/ day
BOD_5 to Digester	605	lb/ day

Volume Required from Metcalf and Eddy, "Wastewater Engineering," 4th Edition

Hydraulic Detention Time of the Aeration Basins

$$\theta\,(\text{Gal}) = \left(\frac{\text{Volume of Aeration Basins in Gallons}}{\text{Average Influent Flow in Gallons / Day}}\right) * 24\,\text{hrs/day}$$

BOD_5 *Utilized*

$$BOD_5 utilized\left(\text{lbs BOD}_5/\text{day}\right) = Q * (S_i - S_e)$$

NH_3-N *Utilized*

$$NH_3 utilized\left(\text{lbs NH}_3/\text{day}\right) = Q * (N_i - N_e)$$

Hydraulic Detention Time of Aeration Basin	18.82	Hours
BOD_5 *utilized*	605	lb BOD_5 / day
NH_3 *utilized*	81	lb NH_3-N / day

S	BOD_5 Concentration			
N	NH_3-N Concentration			
i	Influent (subscript)			
e	Effluent (subscript)			
Q	Average Design Flow			
Q_{design}	Peak Flow			
Q_W	Waste Sludge Flow to Digester			
X_W	Waste Sludge Concentration	8,500	mg/L	
Y	Yield Coefficient	0.6	VSS/lb BOD_5	
Y_n	Yield Coefficient (nitrification)	0.15	VSS/lb NH_3-N	
k_d	Endogenous Decay Coefficent	0.06	/day	
k_{dn}	Endogenous Decay Coeff. (nitrifica	0.30	/day	
P_n	Volatile Fraction of X	0.70		
	MLVSS/MLSS Ratio	0.70		
S_{sl}	Specific Gravity of Sludge	1.005		
X	Sludge Concentration in Digester	15,000	mg/L	
P_s	Percent Solids in Digester	1.5	%	
$TSS_{\%}$	% of TSS that is inert	50	%	
ρ_w	Specific Weight of Water	8.34	lbs / gallon	

Typical Values

Variable	Range		Source
X_W	0.8	2.5	M&E, 4th ed., pg. 1457
Y	0.4	0.8	M&E, 4th ed., pg. 585
Y_n	0.04	0.29	WEF MoP 8, Vol I, p. 53
k_d	0.06	0.15	M&E, 4th ed., pg. 585
k_{dn}	0.3	3.0	WEF MoP 8, Vol I, p. 53
P_n	0.59	0.88	M&E, 4th ed., pg. 1454
S_{sl}	1.005	1.005	M&E, 4th ed., pg. 1456
X	15,000	40,000	M&E, 4th ed., pg. 1457
P_s	1.5	4	M&E, 4th ed., pg. 1457

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Carbonaceous Yield Coefficient Observed M&E, 4th ed. Pg. 595

$$Y_{c,obs} = \left(\frac{Y}{1 + k_d * \theta}\right)$$

Nitrogenous Yield Coefficient M&E, 4th ed. Pg. 595

$$Y_{n,obs} = \left(\frac{Y_n}{1 + k_{dn} * \theta}\right)$$

Carbonaceous Sludge Production (MLVSS) M&E Pg. 681

$$P_{x,c}\left(\frac{lb}{day}\right) = Y_{c,obs} * Q * (S_i - S_e) = Y_{c,obs} * BOD_5 utilized$$

Nitrogenous Sludge Production (MLVSS) M&E, 4th ed. Pg. 681

$$P_{x,n}\left(\frac{lb}{day}\right) = Y_{n,obs} * Q * (N_i - N_e) = Y_{n,obs} * NH_3 utilized$$

Inert Sludge Production M&E, 4th ed. Pg. 681

$$P_{x,i}\left(\frac{lb}{day}\right) = Q_{design} * TSS_{\%} * (TSS_i - TSS_e) * 8.34$$

Total Sludge Production M&E, 4th ed. Pg. 682

$$P_x\left(\frac{lb}{day}\right) = P_{x,c} + P_{x,n} + P_{x,i}$$

Waste Sludge Flow to Dige M&E, 4th ed. Pg. 1458

$$Q_w = \frac{\text{Total Sludge Production, Dry Solids}}{\rho_W S_{sl} P_s}$$

Required Volume M&E, 4th ed. Pg. 1537

$$V\,(Gal) = \left(\frac{Q_W}{X}\right)\left(\frac{(X_W + Y * S_i)}{k_d * P_n + \frac{1}{SRT}}\right)$$

$Y_{c,obs}$	Carbonaceous Yield Coefficient	0.57	
$P_{x,c}$	Carbonaceous Sludge Production	346	lb / day (MLVSS)
		495	lb / day (MLSS)
$Y_{n,obs}$	Nitrogenous Yield Coefficient	0.12	
$P_{x,n}$	Nitrogenous Sludge Production	9.87	lb / day (MLVSS)
		14.11	lb / day (MLSS)
Inert Sludge Production (TSS), Dry Solids		297	lb / day
Total Sudge Production, Volatile Solids		356	lb / day
Volatile Solids Loading Rate		27	lb / day / 1,000 cu. ft.
Total Sudge Production, Dry Solids		806	lb / day
Q_W	Waste Sludge Flow to Digester	6,412	gallons / day
Digester Volume Required		63,250	gallons
		8,456	cu. ft.

Tank

Length	52	ft
Width	12	ft
Height	12.17	ft
SWD	10.67	ft
# Tanks	2	
Volume	13,312	cu. ft.

Total Digester Vol. available	13,312	cu. ft.
Volume greater than required	YES	

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Chlorine Contact Chamber

	Value		*Regulation*
TCEQ Minimum detention time (Qpk)	20	min	217.281(b)(1)
Volume required	1,857	cu. ft.	

Proposed Tank

Length	36.00	ft	
Width	11.00	ft	
Height	7.17	ft	
Static WL	4.75	ft	
SWD	5.50	ft	
# Tanks	1		
Volume	2,178	cu. ft.	
Capacity	0.293	MGD Average Flow	
Total Capacity	2,178	cu. ft.	
Detention Time	23.46	Minutes	Meets Capacity
Volume greater than required			YES

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase I - 0.25 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Air Requirements

				Regulation
		Value		
Air requirements for Aeration basins $O_2R = \frac{1.2(BOD_5) + 4.3(NH_3 - N)}{BOD_5}$		1.80	lb oxygen per lb BOD	217.155(a)(3)(Equation F.2)
	Use	2.20	lb oxygen per lb BOD	
Air Requirements for Digesters		20	SCFM /1000 cu. ft.	217.249 (t)(7)(G)
	Use	30	SCFM /1000 cu. ft.	
Minimum Mixing Requirements for Aeration		20	SCFM / 1000 cu. ft.	217.155 (b)(3)(B)
Diffuser Transfer Efficiency		6.6%	(In wastewater)	217.155 (b)(2)(B)
Design Submergence		10.00	feet	

Table F.5 Diffuser Submergence Correction Factors

Diffuser Submergence Depth	Airflow Rate Correction Factor
feet	
8	1.82
10	1.56
12	1
15	0.91
18	0.73
20	0.64

Diffuser Submergence Correction Factor		1.56	@ design flow depth	217.155 (b)(2)(D)(Table F.5)
Aeration Basins: Corrected Air Flowrate @ Design Subme		1303	SCFM	
= {(lb BOD)*(lb Oxygen / lb BOD)} * Correction Factor				217.155 (b)(2)(C)
(T.E.) (lb Oxygen / lb air) (lb air / cu. ft.) (min / day)				
Verify Mixing Requirements for Aeration Basins:		50	OK	
Air Required for Digesters:		399	SCFM	
Air Required for Post Aeration - Chlorine Basin		44	SCFM	20 scfm/1000cf
Air Required for Air Lifts		50	SCFM	
Air for Initial Mixing		25	SCFM	
Total Air Required		1,821	SCFM	
Maximum Water Depth Over Diffuser		10.00	feet	
Pressure Loss in Piping		1.2	psi *	
Pressure @ Blowers		5.5	psi	
Air Flow per Blower @ Required Pressure		975	SCFM	
Blowers Required w/o Standby		1.9		
Total Blowers Required		3.0		

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Design Parameters

Influent Flow Characteristics - The hydraulic design of the facility must ensure that the plant will operate under the most extreme conditions anticipated. The plant process and hydraulic design for this facility are as follows:

Average Design Flow		0.5	MGD	Influent BOD_5	300	mg / l
Peaking Factor		4			1251	lbs / day
Peak Flow		2	MGD	Influent TSS	300	mg/L
		1389	gpm		1251	lbs / day
Effluent Characteristics				Influent NH3-N	42	mg/L
BOD_5	S_e	10	mg/L		175	lbs / day
				Influent TKN	60	mg/L
TSS	TSS_e	15	mg/L	Influent Phospho	10	mg/L
NH_3-N	N_e	3	mg/L	Reactor temp	15	°C
P	P_e		mg/L	Elevation	620	feet ASL

Process Design - In order to achieve the required removal efficiencies, activated sludge process operated in the single stage nitrification mode has been chosen.

Aeration Basin

	Value		*Regulation*
TCEQ Maximum Organic Loading	25	lbs BOD / day / 1000 cu. ft.	217.154(b)(Table F.1)
Aeration Volume Required	50,040	cu. ft.	
MLSS	3,000	mg/L	
MLVSS/MLSS	0.7		
MLVSS	2,100	mg/L	

Tanks

Length	52	ft
Width	12	ft
Height	12.17	
SWD	10.50	ft
# Tanks	8	
Volume	52,416	cu. ft.
Capacity	0.524	MGD Average Flow

Total Volume	52,416	cu. ft.
Volume greater than required	YES	
Organic Loading	23.87	lbs BOD5/day
Hydraulic Retention time, τ	18.82	hours
Solids Retention Time, SRT	10.3	days
f:m	0.18	lbs BOD5/lbs MLVSS/day

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Clarifier

	Value		*Regulation*
TCEQ Maximum surface Loading (Qpk)	1200	gal / day / sq. ft. at peak flow	217.154(c)(Table F.2)
TCEQ Minimum detention time (Qpk)	1.8	hours at peak flow	217.154(c)(Table F.2)
TCEQ Maximum weir Loading (Qpk)	20,000	gal/day/ft	217.152(c)(4)
TCEQ Minimum Side Water Depth (SWD)	10	feet	217.152(g)(2)(A)/(B)
TCEQ Maximum Stilling Well Velocity	0.15	feet/second	217.152(a)(4)

Surface area required	1,667	sq. ft.	46.1	ft. min. dia. for one clarifier
Volume required	20,053	cu. ft.	32.6	ft. min. dia. for two clarifiers

Stilling Well Diameter	6.0	feet	Typ. value is 15-20% of total tank diameter (M&E, p.401)
Stilling Well Velocity at Qpk	0.08	fps	Meets Requirement? YES

Clarifier(s) Provided:	2	tank(s)		
Diameter	36	ft		
Height	13.17	ft		
Static WL	11.75	ft		
SWD	10.00	ft		
Surface area	1018	sq. ft.		
Volume	10,179	cu. ft.		
Capacity	0.254	MGD Average Flow		
	1.01516	MGD Peak Flow		
Total Surface Area	2,036	sq. ft.	Greater than required?	YES
Total Volume	20,358	cu. ft.	Greater than required?	YES

	Qaverage		Qpeak	
Clarifier Surface Loading	246	GPD/SF	982	GPD/SF
Clarifier Detention Time	7.31	Hours	1.83	Hours
Solids Loading Rate	0.46	$lb/ft^2/hr$	1.23	$lb/ft^2/hr$

Clarifier Wall to Weir Length	12	inches	
Weir Length	106.8	Ft.	
Weir Loading	9,362	GPD/LF	

RAS/WAS Pumping & Piping

	Value				*Regulation*
TCEQ Minimum Sludge Pipe Diameter	4	inches			217.152(e)(2), 217.158(e)(3)
Clarifier Surface Area	1018	sq. ft.			
TCEQ Min. RAS Pumping Capacity @200	141	gpm	Qr/Q =	0.41	217.152(j)(3)
TCEQ Max. RAS Pumping Capacity @ 400	283	gpm	Qr/Q =	0.81	217.152(j)(3)
RAS/WAS Pipe Diameter	6	inches			
Velocity in RAS/WAS Pipe @ Min. Rate	1.60	fps			
Velocity in RAS/WAS Pipe @ Max. Rate	3.20	fps			
WAS Volume to Digester	6,412	gpd			
Number of WAS Cycles Per Day	1				
Duration of WAS Cycles	30	minutes			
WAS Flow Rate During Each Cycle	214	gpm			
WAS Pipe Diameter	6	inches			
Velocity in WAS Pipe	2.419	fps			

Scum Flow Rate

Launder Width	18	inches
Scum Flow Rate	71.38	gpm
Scum Collector Pipe Diameter	8	inches
Scum Airlift Diameter	4	inches
Water Height in Launder	4.68	inches

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Digesters

	Value		*Regulation*
TCEQ Minimum Sludge Retention Time	60	days	217.249(t)(4)(B)(Table J.2)
TCEQ Min. Volatile Solids Loading Rate	100	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)
TCEQ Max. Volatile Solids Loading Rate	200	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)

Influent BOD_5	1251	lb/ day
Effluent BOD_5	42	lb/ day
BOD_5 to Digester	1209	lb/ day

Volume Required from Metcalf and Eddy, "Wastewater Engineering," 4th Edition

Hydraulic Detention Time of the Aeration Basins

$$\theta\,(\text{Gal}) = \left(\frac{\text{Volume of Aeration Basins in Gallons}}{\text{Average Influent Flow in Gallons / Day}}\right) * 24\,\text{hrs/day}$$

BOD_5 *Utilized*

$$BOD_5 utilized\left(\text{lbs BOD}_5/\text{day}\right) = Q * (S_i - S_e)$$

NH_3-N *Utilized*

$$NH_3 utilized\left(\text{lbs NH}_3/\text{day}\right) = Q * (N_i - N_e)$$

Hydraulic Detention Time of Aeration Basin	18.82	Hours
BOD_5 *utilized*	1,209	lb BOD_5 / day
NH_3 *utilized*	163	lb NH_3-N / day

S	BOD_5 Concentration
N	NH_3-N Concentration
i	Influent (subscript)
e	Effluent (subscript)
Q	Average Design Flow
Q_{design}	Peak Flow
Q_W	Waste Sludge Flow to Digester

X_W	Waste Sludge Concentration	8,500	mg/L	
Y	Yield Coefficient	0.6	VSS/lb BOD_5	
Y_n	Yield Coefficient (nitrification)	0.15	VSS/lb NH_3-N	
k_d	Endogenous Decay Coefficent	0.06	/day	
k_{dn}	Endogenous Decay Coeff. (nitrifica	0.30	/day	
P_n	Volatile Fraction of X	0.70		
	MLVSS/MLSS Ratio	0.70		
S_{sl}	Specific Gravity of Sludge	1.005		
X	Sludge Concentration in Digester	15,000	mg/L	
P_s	Percent Solids in Digester	1.5	%	
$TSS_{\%}$	% of TSS that is inert	50	%	
ρ_w	Specific Weight of Water	8.34	lbs / gallon	

Typical Values

Variable	Range		Source
X_W	0.8	2.5	M&E, 4th ed., pg. 1457
Y	0.4	0.8	M&E, 4th ed., pg. 585
Y_n	0.04	0.29	WEF MoP 8, Vol I, p. 53
k_d	0.06	0.15	M&E, 4th ed., pg. 585
k_{dn}	0.3	3.0	WEF MoP 8, Vol I, p. 53
P_n	0.59	0.88	M&E, 4th ed., pg. 1454
S_{sl}	1.005	1.005	M&E, 4th ed., pg. 1456
X	15,000	40,000	M&E, 4th ed., pg. 1457
P_s	1.5	4	M&E, 4th ed., pg. 1457

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Carbonaceous Yield Coefficient Observed M&E, 4th ed. Pg. 595

$$Y_{c,obs} = \left(\frac{Y}{1 + k_d * \theta}\right)$$

Nitrogenous Yield Coefficient M&E, 4th ed. Pg. 595

$$Y_{n,obs} = \left(\frac{Y_n}{1 + k_{dn} * \theta}\right)$$

Carbonaceous Sludge Production (MLVSS) M&E Pg. 681

$$P_{x,c}\left(\frac{lb}{day}\right) = Y_{c,obs} * Q * (S_i - S_e) = Y_{c,obs} * BOD_5 utilized$$

Nitrogenous Sludge Production (MLVSS) M&E, 4th ed. Pg. 681

$$P_{x,n}\left(\frac{lb}{day}\right) = Y_{n,obs} * Q * (N_i - N_e) = Y_{n,obs} * NH_3 utilized$$

Inert Sludge Production M&E, 4th ed. Pg. 681

$$P_{x,i}\left(\frac{lb}{day}\right) = Q_{design} * TSS_{\%} * (TSS_i - TSS_e) * 8.34$$

Total Sludge Production M&E, 4th ed. Pg. 682

$$P_x\left(\frac{lb}{day}\right) = P_{x,c} + P_{x,n} + P_{x,i}$$

Waste Sludge Flow to Dige M&E, 4th ed. Pg. 1458

$$Q_w = \frac{\text{Total Sludge Production, Dry Solids}}{\rho_W S_{sl} P_s}$$

Required Volume M&E, 4th ed. Pg. 1537

$$V\,(Gal) = \left(\frac{Q_W}{X}\right)\left(\frac{(X_W + Y * S_i)}{k_d * P_n + \frac{1}{SRT}}\right)$$

$Y_{c,obs}$	Carbonaceous Yield Coefficient	0.57	
$P_{x,c}$	Carbonaceous Sludge Production	693	lb / day (MLVSS)
		990	lb / day (MLSS)
$Y_{n,obs}$	Nitrogenous Yield Coefficient	0.12	
$P_{x,n}$	Nitrogenous Sludge Production	19.75	lb / day (MLVSS)
		28.21	lb / day (MLSS)
Inert Sludge Production (TSS), Dry Solids		594	lb / day
Total Sudge Production, Volatile Solids		713	lb / day
Volatile Solids Loading Rate		27	lb / day / 1,000 cu. ft.
Total Sudge Production, Dry Solids		1612	lb / day
Q_W	Waste Sludge Flow to Digester	12,825	gallons / day
Digester Volume Required		126,499	gallons
		16,912	cu. ft.

Tank

Length	52	ft
Width	12	ft
Height	12.17	ft
SWD	10.67	ft
# Tanks	4	
Volume	26,624	cu. ft.

Total Digester Vol. available	26,624	cu. ft.
Volume greater than required	YES	

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Chlorine Contact Chamber

	Value		*Regulation*
TCEQ Minimum detention time (Qpk)	20	min	217.281(b)(1)
Volume required	3,714	cu. ft.	

Proposed Tank

Length	36.00	ft	
Width	11.00	ft	
Height	7.17	ft	
Static WL	4.75	ft	
SWD	5.50	ft	
# Tanks	2		
Volume	4,356	cu. ft.	
Capacity	0.586	MGD Average Flow	
Total Capacity	4,356	cu. ft.	
Detention Time	23.46	Minutes	Meets Capacity
Volume greater than required			YES

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase II - 0.50 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Air Requirements

	Value		*Regulation*
Air requirements for Aeration basins $O_2R = \frac{1.2(BOD_5) + 4.3(NH_3 - N)}{BOD_5}$	1.80	lb oxygen per lb BOD	217.155(a)(3)(Equation F.2)
Use	2.20	lb oxygen per lb BOD	
Air Requirements for Digesters	20	SCFM /1000 cu. ft.	217.249 (t)(7)(G)
Use	30	SCFM /1000 cu. ft.	
Minimum Mixing Requirements for Aeration	20	SCFM / 1000 cu. ft.	217.155 (b)(3)(B)
Diffuser Transfer Efficiency	6.6%	(In wastewater)	217.155 (b)(2)(B)
Design Submergence	10.00	feet	

Table F.5 Diffuser Submergence Correction Factors

Diffuser Submergence Depth	Airflow Rate Correction Factor
feet	
8	1.82
10	1.56
12	1
15	0.91
18	0.73
20	0.64

Diffuser Submergence Correction Factor	1.56	@ design flow depth	217.155 (b)(2)(D)(Table F.5)

Aeration Basins: Corrected Air Flowrate @ Design Subme 2607 SCFM

$$= \frac{\{(\text{lb BOD}) * (\text{lb Oxygen / lb BOD})\} * \text{Correction Factor}}{(\text{T.E.})\ (\text{lb Oxygen / lb air})\ (\text{lb air / cu. ft.})\ (\text{min / day})}$$

217.155 (b)(2)(C)

Verify Mixing Requirements for Aeration Basins:	50	OK		
Air Required for Digesters:	799	SCFM		
Air Required for Post Aeration - Chlorine Basin	87	SCFM	20	scfm/1000cf
Air Required for Air Lifts	98	SCFM		
Air for Initial Mixing	25	SCFM		
Total Air Required	3,616	SCFM		
Maximum Water Depth Over Diffuser	10.00	feet		
Pressure Loss in Piping	1.2	psi *		
Pressure @ Blowers	5.5	psi		
Air Flow per Blower @ Required Pressure	975	SCFM		
Blowers Required w/o Standby	3.7			
Total Blowers Required	5.0			

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Design Parameters

Influent Flow Characteristics - The hydraulic design of the facility must ensure that the plant will operate under the most extreme conditions anticipated. The plant process and hydraulic design for this facility are as follows:

Average Design Flow		0.99	MGD	Influent BOD_5	300	mg / l
Peaking Factor		4			2477	lbs / day
Peak Flow		3.96	MGD	Influent TSS	300	mg/L
		2750	gpm		2477	lbs / day
Effluent Characteristics				Influent NH3-N	42	mg/L
BOD_5	S_e	10	mg/L		347	lbs / day
				Influent TKN	60	mg/L
TSS	TSS_e	15	mg/L	Influent Phospho	10	mg/L
NH_3-N	N_e	3	mg/L	Reactor temp	15	°C
P	P_e		mg/L	Elevation	620	feet ASL

Process Design - In order to achieve the required removal efficiencies, activated sludge process operated in the single stage nitrification mode has been chosen.

Aeration Basin

	Value		*Regulation*
TCEQ Maximum Organic Loading	25	lbs BOD / day / 1000 cu. ft.	217.154(b)(Table F.1)
Aeration Volume Required	99,079	cu. ft.	
MLSS	3,000	mg/L	
MLVSS/MLSS	0.7		
MLVSS	2,100	mg/L	

Tanks

Length	52	ft
Width	12	ft
Height	12.17	
SWD	10.50	ft
# Tanks	16	
Volume	104,832	cu. ft.
Capacity	1.047	MGD Average Flow

Total Volume	104,832	cu. ft.
Volume greater than required	YES	
Organic Loading	23.63	lbs BOD5/day
Hydraulic Retention time, τ	19.01	hours
Solids Retention Time, SRT	10.4	days
f:m	0.18	lbs BOD5/lbs MLVSS/day

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Clarifier

	Value		*Regulation*
TCEQ Maximum surface Loading (Qpk)	1200	gal / day / sq. ft. at peak flow	217.154(c)(Table F.2)
TCEQ Minimum detention time (Qpk)	1.8	hours at peak flow	217.154(c)(Table F.2)
TCEQ Maximum weir Loading (Qpk)	20,000	gal/day/ft	217.152(c)(4)
TCEQ Minimum Side Water Depth (SWD)	10	feet	217.152(g)(2)(A)/(B)
TCEQ Maximum Stilling Well Velocity	0.15	feet/second	217.152(a)(4)

Surface area required	3,300	sq. ft.	64.8	ft. min. dia. for one clarifier
Volume required	39,706	cu. ft.	45.8	ft. min. dia. for two clarifiers

Stilling Well Diameter	6.0	feet	Typ. value is 15-20% of total tank diameter (M&E, p.401)
Stilling Well Velocity at Qpk	0.08	fps	Meets Requirement? YES

Clarifier(s) Provided:	4	tank(s)	
Diameter	36	ft	
Height	13.17	ft	
Static WL	11.75	ft	
SWD	10.00	ft	
Surface area	1018	sq. ft.	
Volume	10,179	cu. ft.	
Capacity	0.254	MGD Average Flow	
	1.01516	MGD Peak Flow	

Total Surface Area	4,072	sq. ft.	Greater than required?	YES
Total Volume	40,715	cu. ft.	Greater than required?	YES

	Qaverage		Qpeak	
Clarifier Surface Loading	243	GPD/SF	973	GPD/SF
Clarifier Detention Time	7.38	Hours	1.85	Hours
Solids Loading Rate	0.36	lb/ft^2/hr	1.12	lb/ft^2/hr

Clarifier Wall to Weir Length	12	inches	
Weir Length	106.8	Ft.	
Weir Loading	9,268	GPD/LF	

RAS/WAS Pumping & Piping

	Value				*Regulation*
TCEQ Minimum Sludge Pipe Diameter	4	inches			217.152(e)(2), 217.158(e)(3)
Clarifier Surface Area	1018	sq. ft.			
TCEQ Min. RAS Pumping Capacity @200 (	141	gpm	Qr/Q =	0.21	217.152(j)(3)
TCEQ Max. RAS Pumping Capacity @ 400	283	gpm	Qr/Q =	0.41	217.152(j)(3)
RAS/WAS Pipe Diameter	6	inches			
Velocity in RAS/WAS Pipe @ Min. Rate	1.60	fps			
Velocity in RAS/WAS Pipe @ Max. Rate	3.20	fps			
WAS Volume to Digester	6,346	gpd			
Number of WAS Cycles Per Day	1				
Duration of WAS Cycles	30	minutes			
WAS Flow Rate During Each Cycle	212	gpm			
WAS Pipe Diameter	6	inches			
Velocity in WAS Pipe	2.394	fps			

Scum Flow Rate

Launder Width	18	inches
Scum Flow Rate	71.38	gpm
Scum Collector Pipe Diameter	8	inches
Scum Airlift Diameter	4	inches
Water Height in Launder	4.64	inches

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Digesters

	Value		*Regulation*
TCEQ Minimum Sludge Retention Time	60	days	217.249(t)(4)(B)(Table J.2)
TCEQ Min. Volatile Solids Loading Rate	100	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)
TCEQ Max. Volatile Solids Loading Rate	200	lb / day / 1,000 cu. ft.	217.249(t)(7)(D)

Influent BOD_5	2477	lb/ day
Effluent BOD_5	83	lb/ day
BOD_5 to Digester	2394	lb/ day

Volume Required from Metcalf and Eddy, "Wastewater Engineering," 4th Edition

Hydraulic Detention Time of the Aeration Basins

$$\theta\,(\mathrm{Gal}) = \left(\frac{\text{Volume of Aeration Basins in Gallons}}{\text{Average Influent Flow in Gallons / Day}}\right) * 24\,\mathrm{hrs/day}$$

BOD_5 *Utilized*

$$BOD_5 utilized\left(\mathrm{lbs\ BOD_5/day}\right) = Q * (S_i - S_e)$$

NH_3-N *Utilized*

$$NH_3 utilized\left(\mathrm{lbs\ NH_3/day}\right) = Q * (N_i - N_e)$$

Hydraulic Detention Time of Aeration Basin	19.01	Hours
BOD_5 *utilized*	2,394	lb BOD_5 / day
NH_3 *utilized*	322	lb NH_3-N / day

S	BOD_5 Concentration			
N	NH_3-N Concentration			
i	Influent (subscript)			
e	Effluent (subscript)			
Q	Average Design Flow			
Q_{design}	Peak Flow			
Q_W	Waste Sludge Flow to Digester			
X_W	Waste Sludge Concentration	8,500	mg/L	
Y	Yield Coefficient	0.6	VSS/lb BOD_5	
Y_n	Yield Coefficient (nitrification)	0.15	VSS/lb NH_3-N	
k_d	Endogenous Decay Coefficent	0.06	/day	
k_{dn}	Endogenous Decay Coeff. (nitrifica	0.30	/day	
P_n	Volatile Fraction of X	0.70		
	MLVSS/MLSS Ratio	0.70		
S_{sl}	Specific Gravity of Sludge	1.005		
X	Sludge Concentration in Digester	15,000	mg/L	
P_s	Percent Solids in Digester	1.5	%	
$TSS_{\%}$	% of TSS that is inert	50	%	
ρ_w	Specific Weight of Water	8.34	lbs / gallon	

Typical Values

Variable	Range		Source
X_W	0.8	2.5	M&E, 4th ed., pg. 1457
Y	0.4	0.8	M&E, 4th ed., pg. 585
Y_n	0.04	0.29	WEF MoP 8, Vol I, p. 53
k_d	0.06	0.15	M&E, 4th ed., pg. 585
k_{dn}	0.3	3.0	WEF MoP 8, Vol I, p. 53
P_n	0.59	0.88	M&E, 4th ed., pg. 1454
S_{sl}	1.005	1.005	M&E, 4th ed., pg. 1456
X	15,000	40,000	M&E, 4th ed., pg. 1457
P_s	1.5	4	M&E, 4th ed., pg. 1457

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Carbonaceous Yield Coefficient Observed M&E, 4th ed. Pg. 595

$$Y_{c,obs} = \left(\frac{Y}{1 + k_d * \theta}\right)$$

Nitrogenous Yield Coefficient M&E, 4th ed. Pg. 595

$$Y_{n,obs} = \left(\frac{Y_n}{1 + k_{dn} * \theta}\right)$$

Carbonaceous Sludge Production (MLVSS) M&E Pg. 681

$$P_{x,c}\left(\frac{lb}{day}\right) = Y_{c,obs} * Q * (S_i - S_e) = Y_{c,obs} * BOD_5 utilized$$

Nitrogenous Sludge Production (MLVSS) M&E, 4th ed. Pg. 681

$$P_{x,n}\left(\frac{lb}{day}\right) = Y_{n,obs} * Q * (N_i - N_e) = Y_{n,obs} * NH_3 utilized$$

Inert Sludge Production M&E, 4th ed. Pg. 681

$$P_{x,i}\left(\frac{lb}{day}\right) = Q_{design} * TSS_{\%} * (TSS_i - TSS_e) * 8.34$$

Total Sludge Production M&E, 4th ed. Pg. 682

$$P_x\left(\frac{lb}{day}\right) = P_{x,c} + P_{x,n} + P_{x,i}$$

Waste Sludge Flow to Dige M&E, 4th ed. Pg. 1458

$$Q_w = \frac{\text{Total Sludge Production, Dry Solids}}{\rho_W S_{sl} P_s}$$

Required Volume M&E, 4th ed. Pg. 1537

$$V\,(Gal) = \left(\frac{Q_W}{X}\right)\left(\frac{(X_W + Y * S_i)}{k_d * P_n + \frac{1}{SRT}}\right)$$

$Y_{c,obs}$	Carbonaceous Yield Coefficient	0.57	
$P_{x,c}$	Carbonaceous Sludge Production	1,371	lb / day (MLVSS)
		1,959	lb / day (MLSS)
$Y_{n,obs}$	Nitrogenous Yield Coefficient	0.12	
$P_{x,n}$	Nitrogenous Sludge Production	39.03	lb / day (MLVSS)
		55.75	lb / day (MLSS)
Inert Sludge Production (TSS), Dry Solids		1177	lb / day
Total Sudge Production, Volatile Solids		1410	lb / day
Volatile Solids Loading Rate		26	lb / day / 1,000 cu. ft.
Total Sudge Production, Dry Solids		3192	lb / day
Q_W	Waste Sludge Flow to Digester	25,385	gallons / day
Digester Volume Required		250,390	gallons
		33,475	cu. ft.

Tank

Length	52	ft
Width	12	ft
Height	12.17	ft
SWD	10.67	ft
# Tanks	8	
Volume	53,248	cu. ft.

Total Digester Vol. available	53,248	cu. ft.
Volume greater than required	YES	

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

Chlorine Contact Chamber

	Value		*Regulation*
TCEQ Minimum detention time (Qpk)	20	min	217.281(b)(1)
Volume required	7,353	cu. ft.	

Proposed Tank

Length	36.00	ft	
Width	11.00	ft	
Height	7.17	ft	
Static WL	4.75	ft	
SWD	5.50	ft	
# Tanks	4		
Volume	8,712	cu. ft.	
Capacity	1.173	MGD Average Flow	
Total Capacity	8,712	cu. ft.	
Detention Time	23.70	Minutes	Meets Capacity
Volume greater than required			YES

Project:	CoSM	Description:	Process Calculations
Job Number:	W0000		Phase III - 0.99 MGD
Design By:	HES		
Checked By:	HES		
Date:	7/16/2024		

Preliminary Process Calculations (Based on TCEQ Criteria Only)

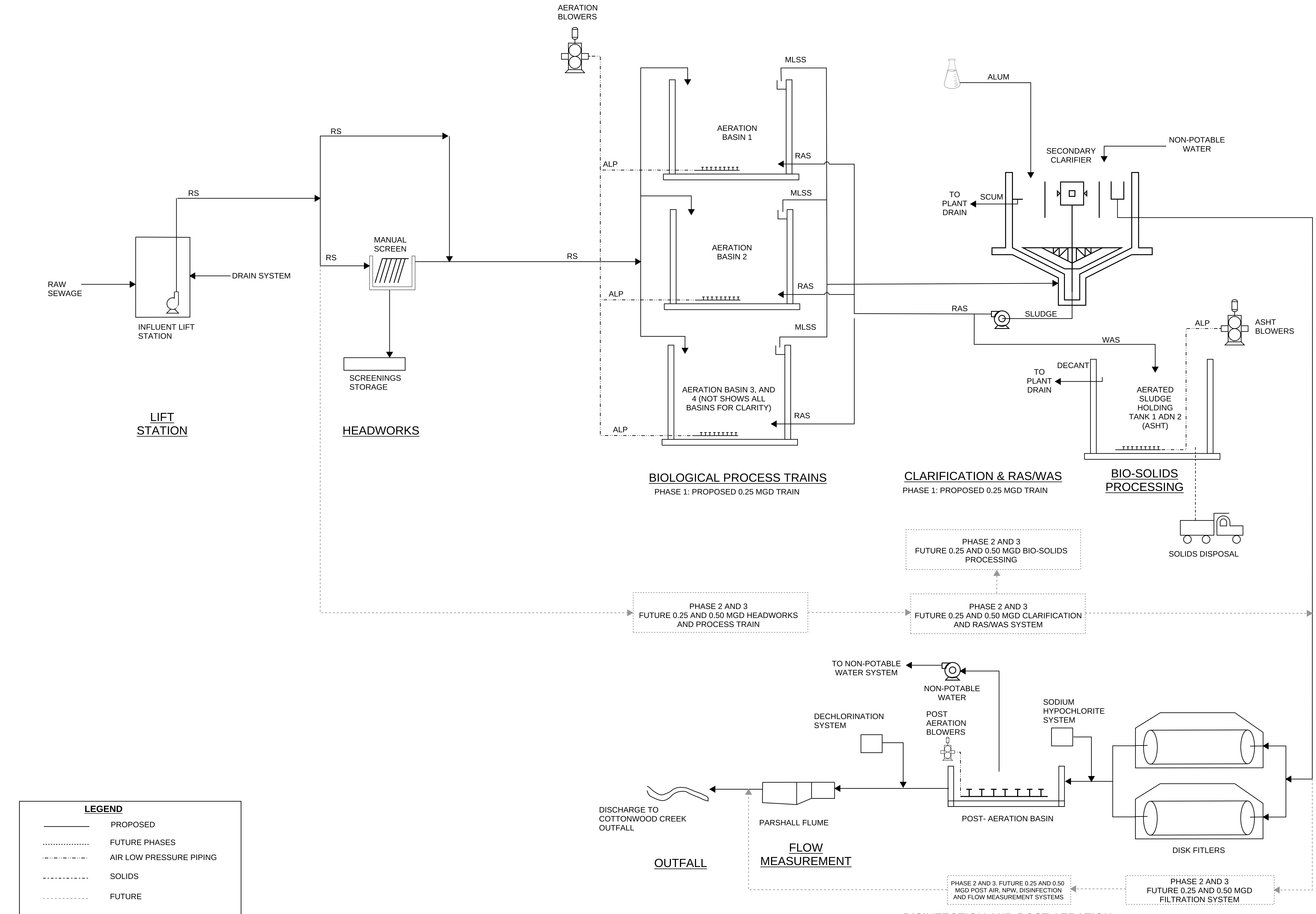
Air Requirements

		Value		*Regulation*
Air requirements for Aeration basins $O_2R = \frac{1.2(BOD_5) + 4.3(NH_3 - N)}{BOD_5}$		1.80	lb oxygen per lb BOD	217.155(a)(3)(Equation F.2)
	Use	2.20	lb oxygen per lb BOD	
Air Requirements for Digesters		20	SCFM /1000 cu. ft.	217.249 (t)(7)(G)
	Use	30	SCFM /1000 cu. ft.	
Minimum Mixing Requirements for Aeration		20	SCFM / 1000 cu. ft.	217.155 (b)(3)(B)
Diffuser Transfer Efficiency		6.6%	(In wastewater)	217.155 (b)(2)(B)
Design Submergence		10.00	feet	

Table F.5 Diffuser Submergence Correction Factors

Diffuser Submergence Depth	Airflow Rate Correction Factor
feet	
8	1.82
10	1.56
12	1
15	0.91
18	0.73
20	0.64

Diffuser Submergence Correction Factor		1.56	@ design flow depth	217.155 (b)(2)(D)(Table F.5)
Aeration Basins: Corrected Air Flowrate @ Design Subme		5162	SCFM	
= {(lb BOD)*(lb Oxygen / lb BOD)} * Correction Factor				217.155 (b)(2)(C)
(T.E.) (lb Oxygen / lb air) (lb air / cu. ft.) (min / day)				
Verify Mixing Requirements for Aeration Basins:		49	OK	
Air Required for Digesters:		1597	SCFM	
Air Required for Post Aeration - Chlorine Basin		174	SCFM	20 scfm/1000cf
Air Required for Air Lifts		194	SCFM	
Air for Initial Mixing		50	SCFM	
Total Air Required		7,177	SCFM	
Maximum Water Depth Over Diffuser		10.00	feet	
Pressure Loss in Piping		1.2	psi *	
Pressure @ Blowers		5.5	psi	
Air Flow per Blower @ Required Pressure		975	SCFM	
Blowers Required w/o Standby		7.4		
Total Blowers Required		9.0		



Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

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FREESE AND NICHOLS
1251 Sadler Drive, Building 1
Suite 1150
San Marcos, Texas 78666
Phone - (512) 213-3200
Web - www.freese.com

CITY OF SAN MARCOS
PACKAGE WASTEWATER TREATMENT PLANT
GENERAL
PROCESS FLOW DIAGRAM

NO.	ISSUE	BY	DATE

F&N JOB NO. SAM24085
DATE 7/19/2024
DESIGNED EK
DRAWN MGA
REVISED
CHECKED EK
FILE NAME G-6.dwg

VERIFY SCALE 0 1
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET G-6
SEQ.

ACAD Rel: 24.2s (LMS Tech)
Filename: N:\WW\Drawings\G-1.dwg
Last Saved: 7/22/2024 3:41 PM Saved By: 02651

Plot Date: 7/22/2024 4:59 PM Plot By: 02651 Filename: N:\WW\Drawings\G-1.dwg

Domestic Technical Report 1.1 - 7
Sewage Sludge Solids Management Plan

Planning Considerations

Influent Design Flow	0.25 MGD
Total Sludge Holding Tank Volume	13,316 cubic feet
Dimensions (2 Basins)	52' L x 12' W x 10.67' SWD
Aeration Basin MLSS (mg/L)	1,500 to 3,000 mg/l

BOD_5 Removal	Influent Concentration =	300	mg/l
	Effluent Concentration =	5	mg/l
	Net Removal =	295	mg/l

Solids Generated	100% Flow	75% Flow	50% Flow	25% Flow
Pounds BOD_5/day Removed	615	461	308	154
Pounds/Day of Dry Sludge Produced	194	145	97	48
Pounds/Day of Wet Sludge Produced	12,917	9,687	6,458	3,229
Gallons/Day of Wet Sludge Produced	1,549	1,162	774	387

Sludge will stay in the digester; clear liquor will be decanted off the digester and returned to the aeration basin. Sludge is wasted from the final clarifier to the aerobic digester. Some sludge from the clarifier is also returned to the aeration basin.

Removal Schedule

Days Between of Sludge Removal	64	86	129	257

Assumptions
(1) Assumed 0.315 pounds of dry sludge produced per pound of BOD5 removed
(2) Assumed solids concentration in the tank 1.5%
(3) Assumed stablized sludge density = water density 8.34 lb/gal

Domestic Technical Report 1.1 - 7
Sewage Sludge Solids Management Plan

Planning Considerations

Influent Design Flow	0.5	MGD
Total Sludge Holding Tank Volume	26,632	cubic feet
Dimensions (4 Basins)	52' L x 12' W x 10.67' SWD	
Aeration Basin MLSS (mg/L)	1,500 to 3,000	mg/l

BOD_5 Removal	Influent Concentration =	300	mg/l
	Effluent Concentration =	5	mg/l
	Net Removal =	295	mg/l

Solids Generated	100% Flow	75% Flow	50% Flow	25% Flow
Pounds BOD_5/day Removed	1,230	923	615	308
Pounds/Day of Dry Sludge Produced	387	291	194	97
Pounds/Day of Wet Sludge Produced	25,833	19,375	12,917	6,458
Gallons/Day of Wet Sludge Produced	3,098	2,323	1,549	774

Sludge will stay in the digester; clear liquor will be decanted off the digester and returned to the aeration basin. Sludge is wasted from the final clarifier to the aerobic digester. Some sludge from the clarifier is also returned to the aeration basin.

Removal Schedule

Days Between of Sludge Removal	64	86	129	257

Assumptions
(1) Assumed 0.315 pounds of dry sludge produced per pound of BOD5 removed
(2) Assumed solids concentration in the tank 1.5%
(3) Assumed stablized sludge density = water density 8.34 lb/gal

AUC GROUP, INC.
A Seven Seas Water company

SAN MARCOS WWTP
Phase III: 990,000 GPD ADF

Domestic Technical Report 1.1 - 7
Sewage Sludge Solids Management Plan

Planning Considerations

Influent Design Flow		0.99	MGD
Total Sludge Holding Tank Volume		53,265	cubic feet
Dimensions (8 Basins)		52' L x 12' W x 10.67' SWD	
Aeration Basin MLSS (mg/L)		1,500 to 3,000	mg/l
BOD_5 Removal	Influent Concentration =	300	mg/l
	Effluent Concentration =	5	mg/l
	Net Removal =	295	mg/l

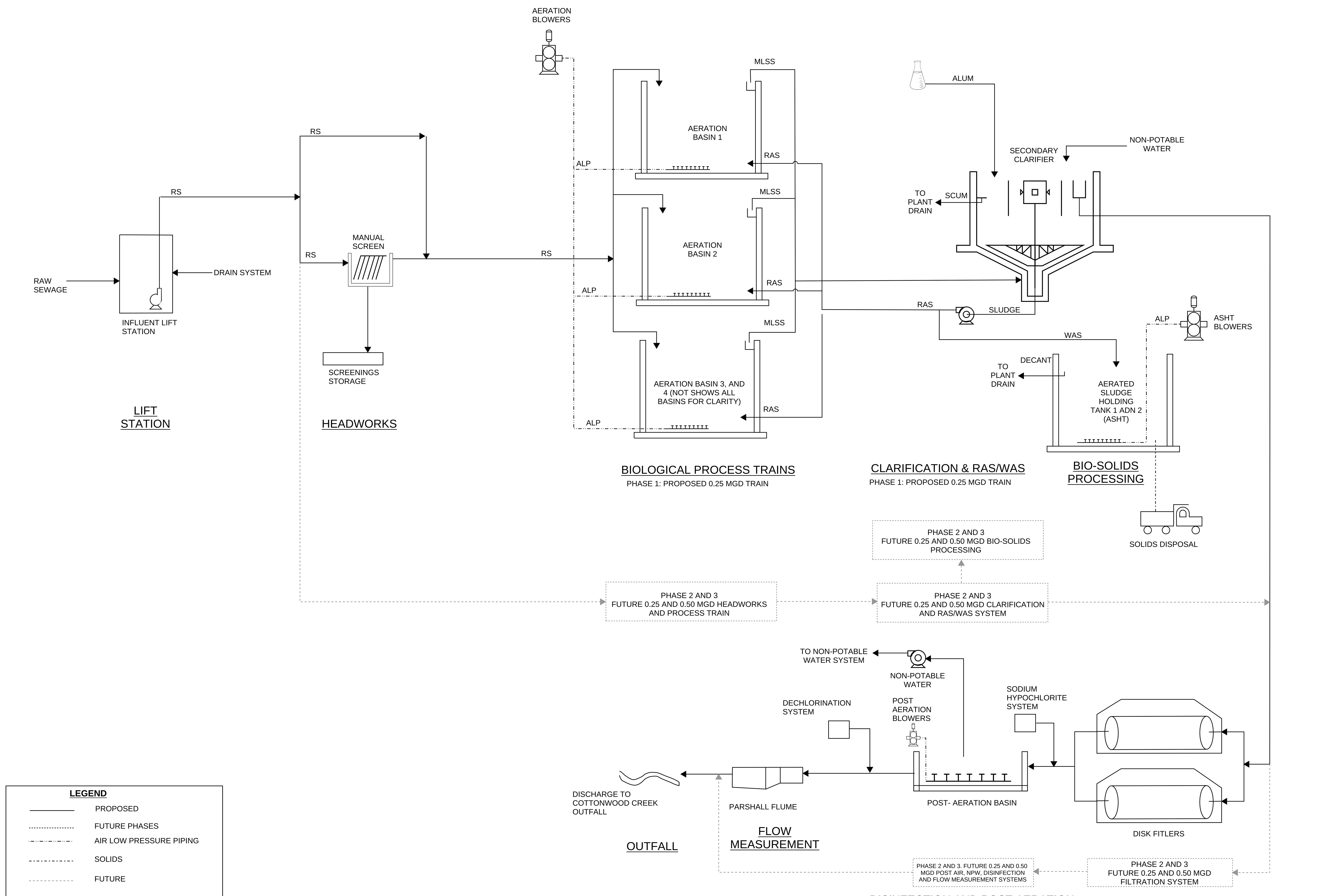
Solids Generated	100% Flow	75% Flow	50% Flow	25% Flow
Pounds BOD_5/day Removed	2,436	1,827	1,218	609
Pounds/Day of Dry Sludge Produced	767	575	384	192
Pounds/Day of Wet Sludge Produced	51,150	38,362	25,575	12,787
Gallons/Day of Wet Sludge Produced	6,133	4,600	3,067	1,533

Sludge will stay in the digester; clear liquor will be decanted off the digester and returned to the aeration basin. Sludge is wasted from the final clarifier to the aerobic digester. Some sludge from the clarifier is also returned to the aeration basin.

Removal Schedule

Days Between of Sludge Removal	65	87	130	260

Assumptions
(1) Assumed 0.315 pounds of dry sludge produced per pound of BOD5 removed
(2) Assumed solids concentration in the tank 1.5%
(3) Assumed stablized sludge density = water density 8.34 lb/gal



Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

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FREESE NICHOLS
1251 Sadler Drive, Building 1
Suite 1150
San Marcos, Texas 78666
Phone - (512) 213-3200
Web - www.freese.com

CITY OF SAN MARCOS
PACKAGE WASTEWATER TREATMENT PLANT
GENERAL
PROCESS FLOW DIAGRAM

F&N JOB NO.	SAM24085
DATE	7/19/2024
DESIGNED	EK
DRAWN	MGA
REVISED	
CHECKED	EK
FILE NAME	G-6.dwg

NO.	ISSUE	BY	DATE

VERIFY SCALE 0 1
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET G-6
SEQ.

ACAD Rel: 24.2s (LMS Tech)
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Plot Date: 7/22/2024 4:59 PM Plot By: 02651 Filename: N:\WW\Drawings\G-1.dwg

Leah Whallon

From: Katie Leatherwood <Katie.Leatherwood@freese.com>
Sent: Thursday, January 30, 2025 5:47 PM
To: Leah Whallon
Cc: Naiser, Marcus; Payam Bahadorani; Jacqueline McMahon; Kite, Paul
Subject: RE: [EXTERNAL] Application to Amend Permit No. WQ0015817001; City of San Marcos; FM 1978 WRF
Attachments: City of San Marcos NOD Response - WQ0015817001.pdf; Municipal Discharge Amendment Spanish NORI_WQ0015817001.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Ms. Whallon,

On behalf of the City of San Marcos, Freese and Nichols provides the attached response to the Notice of Deficiency and Spanish-translated NORI.

Feel free to contact Marcus Naiser or me if you have any questions. Andreana Alexander is not a permit contact for this permit application.

Thank you,
Katie Leatherwood

Katie Leatherwood, P.G. | Environmental Science | Freese and Nichols, Inc. | 817-735-7503 office | 817-291-8615 mobile | www.freese.com

FREESE AND NICHOLS

Malcolm Baldrige National Quality Award Recipient **2010** & **2024**

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Friday, January 17, 2025 12:53 PM
To: Kite, Paul <PKite@sanmarcostx.gov>
Cc: Naiser, Marcus <MNaiser@sanmarcostx.gov>; andreana.alexander@jacobs.com
Subject: [EXTERNAL] Application to Amend Permit No. WQ0015817001; City of San Marcos; FM 1978 WRF

Good Afternoon,

Please see the attached Notice of Deficiency letter dated January 17, 2025 requesting additional information needed to declare the application administratively complete. Please send the complete response by January 31, 2025.

Please let me know if you have any questions.

Thank you,

Leah Whallon
Texas Commission on Environmental Quality
Water Quality Division
512-239-0084
leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

FREESE AND NICHOLS
Innovative approaches
Practical results
Outstanding service
801 Cherry Street, Suite 2800 + Fort Worth, Texas 76102 + 817-735-7300 + FAX 817-735-7491
www.freese.com

January 30, 2025

Ms. Leah Whallon
Applications Review and Processing Team (MC-148)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711

Re: Response to Notice of Deficiency
Application to Amend Permit No.: WQ0015817001 (EPA I.D. No. TX0139521)
Applicant Name: City of San Marcos (CN600521272)
Site Name: FM 1978 WRF (RN110842184)
Type of Application: Major amendment with renewal

Dear Ms. Whallon:

The City of San Marcos received a letter from the Texas Commission on Environmental Quality (TCEQ) dated January 17, 2025, that requested a written response to the following items in order to declare the application administratively complete. On Behalf of the applicant, City of San Marcos, FNI offers the following responses to the TCEQ NOD:

Comment 1. Core Data Form (TCEQ-10400), Section III, Item 25
To update the facility's physical location description, please provide a revised core data form with the new description in item 25.

Attached is a revised Core Data Form providing a new description in item 25.

Comment 2. Public Involvement Plan (PIP) Form (TCEQ-20960), Section 2
Section 2 indicates the facility is not within one of the listed geographical regions. The PIP instructions show Guadalupe County is within the San Antonio-New Braunfels-Pearsall MSA. Please revise and provide an updated and completed PIP form.

Attached is a revised and complete Public Involvement Plan.

Comment 3. USGS Topographic Map
The USGS map is not fully legible. Please provide a higher resolution electronic copy of the USGS Topographic Quadrangle Map that clearly shows and labels all required items.

Attached is a high resolution USGS Topographic Quadrangle Map.

Comment 4. The following is a portion of the NORI which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete. ***[NORI portion omitted for brevity.]***

The NORI portion has been reviewed, and the proposed location should be revised to: "The domestic wastewater treatment facility will be located approximately ~~1.2~~ 1.75 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123, near the city of San Marcos, in Guadalupe County, Texas 78666.".

Comment 5. The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.

A Microsoft Word document of the Spanish-translated NORI is attached to the response email.

Please feel free to contact Mr. Marcus Naiser, City of San Marcos, or me for additional information, as necessary.

Sincerely,

Katie Leatherwood

Katie Leatherwood, P.G.
Freese and Nichols, Inc.

cc: Mr. Marcus Naiser, City of San Marcos
Mr. Paul Kite, City of San Marcos
File SAM24085

Attachments

TCEQ Use Only

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 **Major Amendment**

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 600521272		**RN 110842184**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	12/9/2024

☐ 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)

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).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
City of San Marcos	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*

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
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant
☐ Other:

15. Mailing Address:	603 E Hopkins St						
	City	San Marcos	**State**	TX	**ZIP**	78666	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	pkite@sanmarcostx.gov

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(512) 393-8376		( ) -

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

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).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Flemming Farms WWTP (current name), FM 1978 Water Reclamation Facility (new name

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	N/A							
	City	San Marcos	**State**	TX	**ZIP**	78666	**ZIP + 4**	
24. County	Hays							

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

25. Description to Physical Location:	1.75 miles east of the intersection of Farm-to-Market Road 1978 and State Highway 123

26. Nearest City	**State**	**Nearest ZIP Code**
San Marcos	TX	78666

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).

27. Latitude (N) In Decimal:	29.810975		**28. Longitude (W) In Decimal:**	-97.919444	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	48	39.5	97	55	10.0

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		221320	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Wastewater treatment

34. Mailing Address:	**630 E Hopkins St**							
	City	**San Marcos**	**State**	**TX**	**ZIP**	**78666**	**ZIP + 4**	

35. E-Mail Address:	**pkite@sanmarcostx.gov**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 393-8003		( ) -

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:
	WQ0015817001			

SECTION IV: Preparer Information

40. Name:	Katie Leatherwood	**41. Title:**	Enviornmental Scientist

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(817 **)** 735-7503		**( ) -**	katie.leatherwood@freese.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:	Freese and Nichols, Inc.	**Job Title:**	Environmental Scientist
Name *(In Print):*	Katie Leatherwood	**Phone:**	**(** 817 **)** 735- **7503**
Signature:	Katie Leatherwood	**Date:**	1/28/2025

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☐ New Permit or Registration Application

☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☒ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

Location is not located in geographical locations listed above. PIP not applicable.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☒ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

(City)

(County)

(Census Tract)
Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☐ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☐ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☐ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

Legend

- Facility Boundary
- Property Boundary
- Point of Discharge
- Effluent Line
- Discharge Route (3 mi)
- Water Well Locations
- 1 Mile Buffer
- NHD Flowline

N W E S

1:12,000

0 500 1,000 2,000 3,000 Feet

Coordinate System: GCS North American 1983

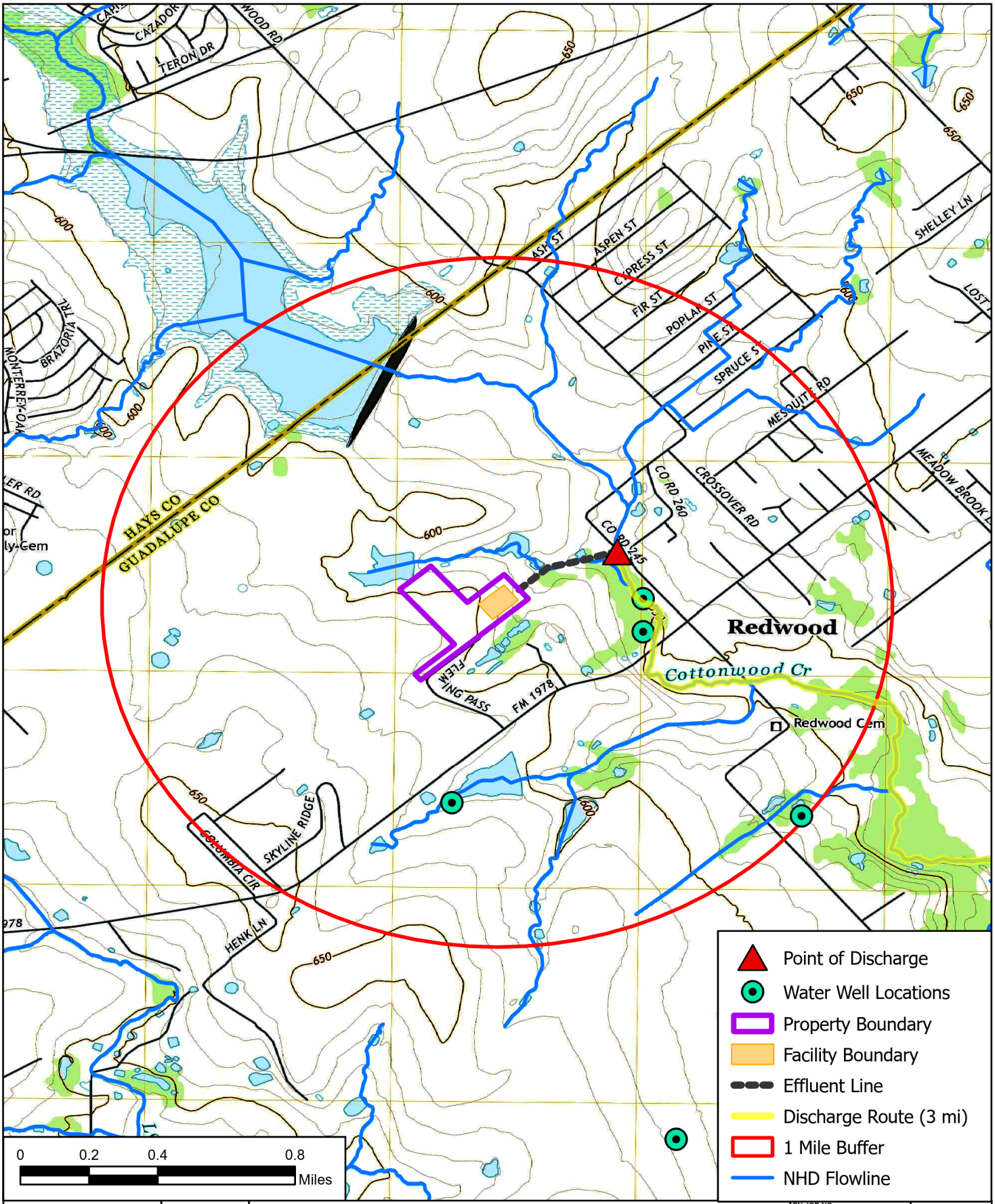
CITY OF SAN MARCOS
TPDES Permit Major Amendment

1 FIGURE

USGS Topographic Map
Quad Name: San Marcos South

FREESE AND NICHOLS, INC
4055 International Plaza, Suite 200
Fort Worth, TX 76109 - 4895
Phone - (817) 735 - 7300

Document Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx



FREESE AND NICHOLS
FREESE AND NICHOLS, INC
801 Cherry Street, Suite 2800
Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF SAN MARCOS

TPDES Permit Major Amendment

USGS Topographic Map

Quad Name: San Marcos South

FN JOB NO	SAM24085
FILE NAME	SAM Package Plant TPDES.aprx
DATE	1/30/2025
SCALE	402,151
DESIGNED	CLV
DRAFTED	08684

1b

FIGURE

Path: H:\ENVIRONMENTAL\Working\SAM Package Plant TPDES\SAM Package Plant TPDES.aprx

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
MODIFICACION

PERMISO NO. WQoo_____

SOLICITUD. La ciudad de San Marcos, 630 East Hopkins Street, San Marcos, TX 78666, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0015817001 (EPA I.D. No. TX0139521) 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 990,000 galones por día. La planta está ubicada aproximadamente 1.75 millas al este de la intersección de Farm-to-Market Road 1978 y State Highway 123, cerca de la ciudad de San Marcos, en el Condado de Guadalupe, Texas. La ruta de descarga es del sitio de la planta a través de una tubería a Cottonwood Creek, de allí al York Creek, de allí al Lower San Marcos River (pendiente de RWA). La TCEQ recibió esta solicitud el 7 de enero de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Pública de Seguin, 313 West Nolte Street, Seguin, en el Condado de Guadalupe, Texas antes de la fecha de publicación de este aviso en el periódico. 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=-97.318888,30.102777&level=18

[Include the following non-italicized sentence if the facility is located in the Coastal Management Program boundary and is an application for a major amendment which will increase the pollutant loads to coastal waters or would result in relocation of an outfall to a critical areas, or a renewal with such a major amendment. The Coastal Management Program boundary is the area along the Texas Coast of the Gulf of México as depicted on the map in 31 TAC §503.1 and includes part or all of the following counties: Cameron, Willacy, Kenedy, Kleberg, Nueces, San Patricio, Aransas, Refugio, Calhoun, Victoria, Jackson, Matagorda, Brazoria, Galveston, Harris, Chambers, Jefferson y Orange. If the application is for amendment that does ot meet the above description, do not include the sentence: El Director Ejecutivo de la TCEQ ha revisado esta medida para ver si está de acuerdo con los objetivos y las regulaciones del Programa de Administración Costero de Texas (CMP) de acuerdo con las regulaciones del Consejo Coordinador de la Costa (CCC) y ha determinado que la acción es conforme con las metas y regulaciones pertinentes del CMP.

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.

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. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas 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 especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. 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. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del la Ciudad de San Marcos a la dirección indicada arriba o llamando a Sr. Paul Kite al 512-393-8003.

Fecha de emisión _____ *[Date notice issued]*