# CLARA VISTA
# LIFT STATION & FORCE MAIN
## ABOVEGROUND STORAGE TANK APPLICATION

**PREPARED BY:**
**PAPE-DAWSON CONSULTING ENGINEERS, LLC.**
**TBPE FIRM REGISTRATION #470**
**10801 N MoPac Expy., Bldg. 3, Suite 200**
**AUSTIN, TEXAS 78759**


8/29/25

**August 2025**

PAPE-DAWSON

PAPE-DAWSON.COM

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PAPE-DAWSON

PAPE-DAWSON

August 20, 2025

Ms. Lori Wilson
Texas Commission on Environmental Quality
Region 11
12100 Park 35 Circle, Bldg. A
Austin, Texas 78753

Re: Clara Vista Lift Station & Force Main
Aboveground Storage Tank Application

Dear Ms. Wilson:

Please find attached one (1) electronic copy of the Clara Vista Lift Station & Force Main Aboveground Storage Tank Application. This Aboveground Storage Tank Application has been prepared in accordance with the Texas Administrative Code (30 TAC 213), and current policies for development over the Edwards Aquifer Contributing Zone within the Transition Zone.

This Aboveground Storage Tank Application applies to one (1) aboveground storage tank included in the project. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

If you have any questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Consulting Engineers, LLC

Aimee Chavez, P.E.
Associate Vice President

H:\PROJECTS\514\56\10\302 CONSTRUCTION DOCUMENTS\DOCUMENTS\REPORTS\AST\CZP COVER LETTER.DOCX

# EDWARDS AQUIFER APPLICATION COVER PAGE (TCEQ-20705)

## Texas Commission on Environmental Quality

# Edwards Aquifer Application Cover Page

### Our Review of Your Application

**The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.**

### Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

### Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

**Mid-Review Modifications**

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **1. Regulated Entity Name:** Clara Vista Lift Station & Force Main | | | | | | **2. Regulated Entity No.:** 112094636 | | | | |
| **3. Customer Name:** Toll Southwest LLC. | | | | | | **4. Customer No.:** CN605682475 | | | | |
| **5. Project Type:** **(Please circle/check one)** | New | | Modification | | | Extension | | Exception | | |
| **6. Plan Type:** **(Please circle/check one)** | WPAP | CZP | SCS | UST | AST | EXP | EXT | Technical Clarification | | |
| **7. Land Use:** **(Please circle/check one)** | Residential | | Non-residential | | | **8. Site (acres):** | | | 1.79 acres | |
| **9. Application Fee:** | $650.00 | | **10. Permanent BMP(s):** | | | N/A | | | | |
| **11. SCS (Linear Ft.):** | N/A | | **12. AST/UST (No. Tanks):** | | | N/A | | | | |
| **13. County:** | Hays | | **14. Watershed:** | | | Blanco River | | | | |

# Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

| **Austin Region** | | | |
|---|---|---|---|
| **County:** | **Hays** | **Travis** | **Williamson** |
| Original (1 req.) | ✓ | ___ | ___ |
| Region (1 req.) | ✓ | ___ | ___ |
| County(ies) | ✓ | ___ | ___ |
| Groundwater Conservation District(s) | ___Edwards Aquifer Authority<br>✓ Barton Springs/ Edwards Aquifer<br>___Hays Trinity<br>___Plum Creek | ___Barton Springs/ Edwards Aquifer | ___ |
| City(ies) Jurisdiction | ___Austin<br>___Buda<br>___Dripping Springs<br>✓Kyle<br>___Mountain City<br>___San Marcos<br>___Wimberley<br>___Woodcreek | ___Austin<br>___Bee Cave<br>___Pflugerville<br>___Rollingwood<br>___Round Rock<br>___Sunset Valley<br>___West Lake Hills | ___Austin<br>___Cedar Park<br>___Florence<br>___Georgetown<br>___Jarrell<br>___Leander<br>___Liberty Hill<br>___Pflugerville<br>___Round Rock |

| **San Antonio Region** | | | | | |
|---|---|---|---|---|---|
| **County:** | **Bexar** | **Comal** | **Kinney** | **Medina** | **Uvalde** |
| Original (1 req.) | ___ | ___ | ___ | ___ | ___ |
| Region (1 req.) | ___ | ___ | ___ | ___ | ___ |
| County(ies) | ___ | ___ | ___ | ___ | ___ |
| Groundwater Conservation District(s) | ___ Edwards Aquifer Authority<br>___Trinity-Glen Rose | ___Edwards Aquifer Authority | ___Kinney | ___EAA<br>___Medina | ___EAA<br>___Uvalde |
| City(ies) Jurisdiction | ___Castle Hills<br>___Fair Oaks Ranch<br>___Helotes<br>___Hill Country Village<br>___Hollywood Park<br>___San Antonio (SAWS)<br>___Shavano Park | ___Bulverde<br>___Fair Oaks Ranch<br>___Garden Ridge<br>___New Braunfels<br>___Schertz | NA | ___San Antonio ETJ (SAWS) | NA |

| I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. |
|---|
| Aimee Chavez, P.E. |
| Print Name of Customer/Authorized Agent |
| aimee 8/29/25 |
| Signature of Customer/Authorized Agent Date |

| **FOR TCEQ INTERNAL USE ONLY** | | | | |
|---|---|---|---|---|
| Date(s)Reviewed: | | Date Administratively Complete: | | |
| Received From: | | Correct Number of Copies: | | |
| Received By: | | Distribution Date: | | |
| EAPP File Number: | | Complex: | | |
| Admin. Review(s) (No.): | | No. AR Rounds: | | |
| Delinquent Fees (Y/N): | | Review Time Spent: | | |
| Lat./Long. Verified: | | SOS Customer Verification: | | |
| Agent Authorization Complete/Notarized (Y/N): | | Fee Check: | Payable to TCEQ (Y/N): | |
| Core Data Form Complete (Y/N): | | | Signed (Y/N): | |
| Core Data Form Incomplete Nos.: | | | Less than 90 days old (Y/N): | |

# GENERAL INFORMATION FORM (TCEQ-0587)

# General Information Form

**Texas Commission on Environmental Quality**

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

***To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.***

***Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.***

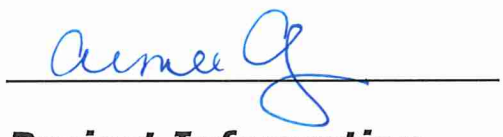
## *Signature*

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Aimee Chavez

Date: 8/29/25

Signature of Customer/Agent:



## *Project Information*

1. Regulated Entity Name: Clara Vista Lift Station & Force Main
2. County: Hays
3. Stream Basin: Blanco River
4. Groundwater Conservation District (If applicable): barton Springs/Edwards Aquifer
5. Edwards Aquifer Zone:

   ☐ Recharge Zone
   ☒ Transition Zone

6. Plan Type:

   ☐ WPAP
   ☐ SCS
   ☐ Modification
   ☒ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: Kyle Ninness
   Entity: Toll Southwest, LLC.
   Mailing Address: 1320 Arrow Point Dr., Suite 401
   City, State: Cedar Park, Texas Zip: _____
   Telephone: 303-263-7132 FAX: _____
   Email Address: kninness@tollbrothers.com

8. Agent/Representative (If any):

   Contact Person: Aimee Chavez
   Entity: Pape-Dawson Consulting Engineers, LLC
   Mailing Address: 10801 N Mopac Expy., Bldg. 3, Ste. 200
   City, State: Austin, Texas Zip: _____
   Telephone: 512-454-8711 FAX: _____
   Email Address: AChavez@pape-dawson.com

9. Project Location:

   ☒ The project site is located inside the city limits of Kyle, Texas.
   ☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
   ☐ The project site is not located within any city's limits or ETJ.

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

    From TCEQ's Regional Office, travel south along the IH-35 frontage road for approximately 0.7 miles. Merge onto IH-35 S and continue for approximately 26.8 miles. Take exit 215 toward FM 1626 & Kyle Parkway. In approximately 0.3 miles turn right onto Kohlers Crossing. Continue approximately 2.6 miles and then turn left onto Jack C Hays Trail. In 1.1 miles continue onto N Old Stagecoach Rd. Then in 0.5 miles turn right onto 6 Creeks Blvd and continue for approximately 1 mile before reaching the site.

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

    ☒ Project site boundaries.
    ☒ USGS Quadrangle Name(s).
    ☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
    ☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☐ Survey staking will be completed by this date: _____

14. ☒ **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

☒ Area of the site
☒ Offsite areas
☒ Impervious cover
☒ Permanent BMP(s)
☒ Proposed site use
☒ Site history
☒ Previous development
☒ Area(s) to be demolished

15. Existing project site conditions are noted below:

☐ Existing commercial site
☐ Existing industrial site
☐ Existing residential site
☒ Existing paved and/or unpaved roads
☒ Undeveloped (Cleared)
☒ Undeveloped (Undisturbed/Uncleared)
☐ Other: _____

## *Prohibited Activities*

16. ☒ I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

## *Administrative Information*

18. The fee for the plan(s) is based on:

☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☒ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
☐ A request for an extension to a previously approved plan.

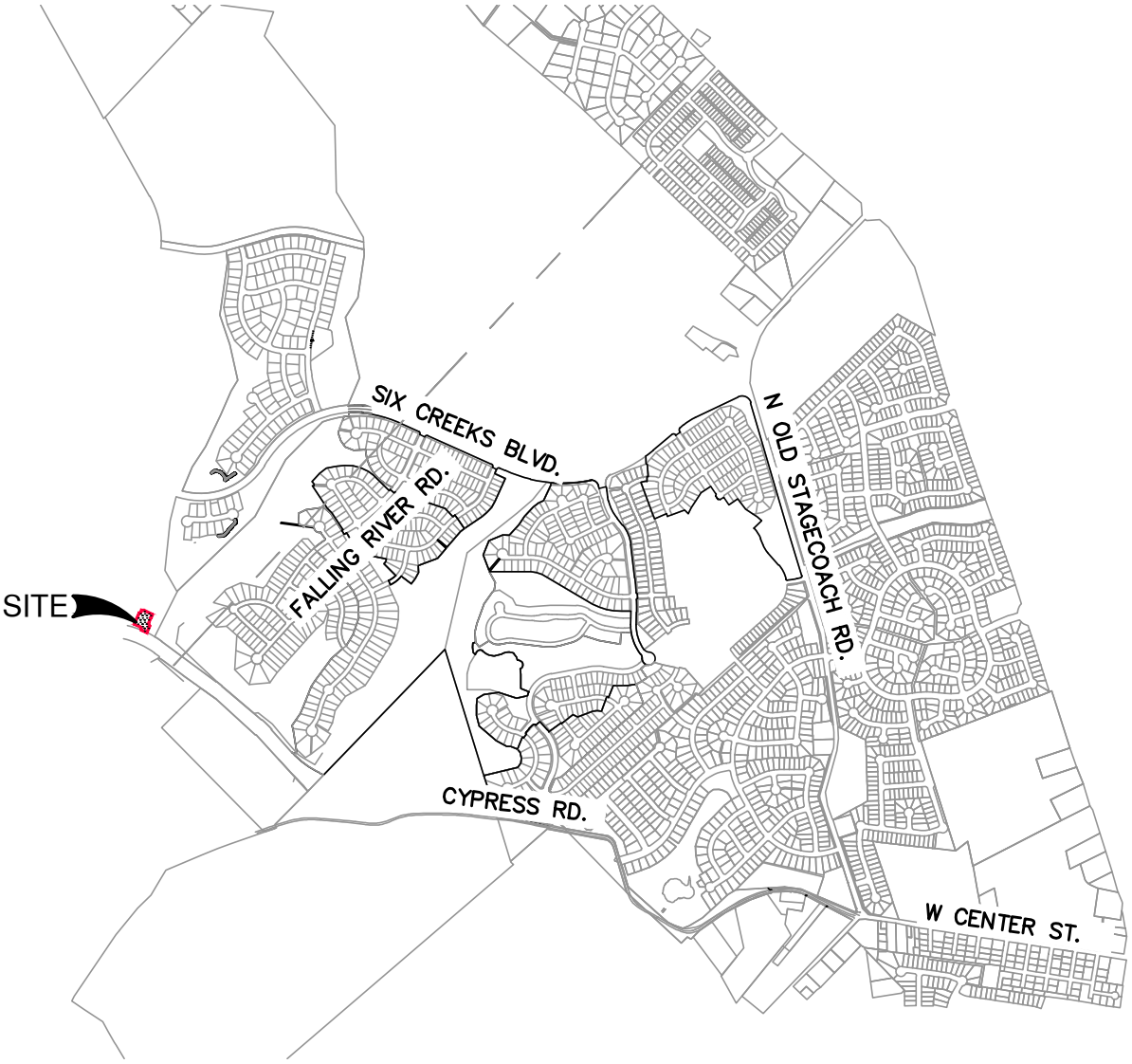
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

☐ TCEQ cashier
☐ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

# ATTACHMENT A




SCALE: 1"= 2,000'

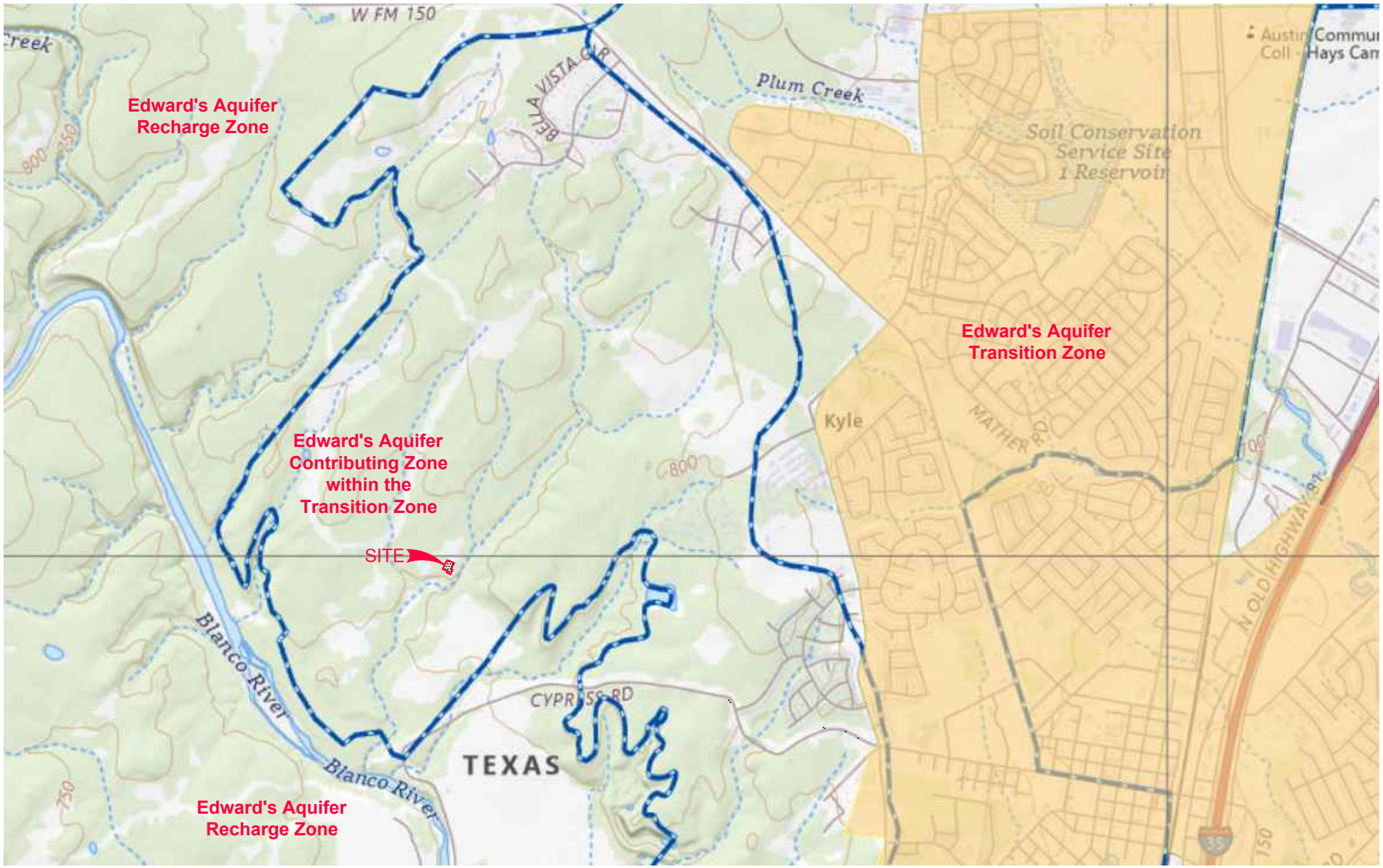
2,000' 0' 1,000' 2,000'

JOB NO. 51456-10
DATE AUGUST 2025
DESIGNER
CHECKED AC DRAWN CK
SHEET 1 of 1

# CLARA VISTA LIFT STATION & FORCE MAIN
## KYLE, TEXAS
## ATTACHMENT A - ROAD MAP

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

# ATTACHMENT B




SCALE: 1"= 2,000'

2,000' 0' 1,000' 2,000'

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

# CLARA VISTA LIFT STATION & FORCE MAIN

KYLE, TEXAS

ATTACHMENT B - USGS QUAD MAP

JOB NO. 51456-10
DATE AUGUST 2025
DESIGNER
CHECKED AC
DRAWN CK
SHEET 1 of 1

# ATTACHMENT C

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

January 10, 2025

Mr. Mike Boswell
Toll Southwest LLC
1320 Arrow Point Dr., Suite 401
Cedar Park, Texas 78613

Re: Approval of a Contributing Zone Plan (CZP)
Clara Vista Lift Station & Force Main; Located west of Falling River Road and Seaside Sparrow Way; Kyle, Hays County, Texas
Edwards Aquifer Protection Program ID: 11004250, Regulated Entity No. RN112094636

Dear Mr. Boswell:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Pape-Dawson Consulting Engineers, LLC on behalf of the applicant, Toll Southwest LLC on December 3, 2025. Final review of the application was completed after additional material was received on January 8, 2025.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213. The permanent best management practices (BMPs) and measures represented in the application were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are **approved,** subject to applicable state rules and the conditions in this letter.

**This approval expires two years from the date of this letter**, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this contributing zone plan or modification to a plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

## PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 1.79-acres. The project will include construction of gravity sewer main and force main, manhole installation, excavation for and construction of a lift station and installation of five engineered vegetative filter strips. The impervious cover will be 0.60-acres (33.52-percent). No wastewater will be generated at the Lift Station site. Project wastewater pumped by the lift station will be disposed of by conveyance to the existing Kyle Wastewater Treatment Plant.

## PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, five engineered vegetative filter strips, designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 526-pounds of TSS generated from the 0.60-acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

**The permanent BMPS shall be operational prior to occupancy or use of the proposed project.** Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

## STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.

2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. The plan holder of any approved contributing zone plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.

4. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. The application must indicate the placement of permanent aboveground storage tanks facilities for static hydrocarbons and hazardous substances with cumulative storage capacity of 500 gallons or more. Subsequent permanent storage tanks on this project site require a modification to be submitted and approved prior to installation.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

8. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

9. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

11. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE **must certify** in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.

12. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

The holder of the approved contributing zone plan is responsible for compliance with Chapter §213 subchapter B and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 subchapter B and is subject to administrative rule or orders and penalties as provided under §213.25 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved contributing zone plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Don Vandertulip, PE, BCEE of the Edwards Aquifer Protection Program at 210-403-4057 or the regional office at 512-339-2929.

Sincerely,

Monica Reyes

Monica Reyes, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

MR/dv

# GEOLOGIC ASSESSMENT FORM (TCEQ-0585)

# Geologic Assessment

**Texas Commission on Environmental Quality**

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

***To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.***

***Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.***

## *Signature*

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: **Henry E. Stultz III, P.G.** Telephone: **210-375-9000**

Date: May 7, 2024 Fax: **210-375-9090**

Representing: **Pape-Dawson Engineers, Inc., TBPG registration number 50351**

Signature of Geologist:


**Regulated Entity Name:** **Clara Vista – Force Main**

## *Project Information*

1. Date(s) Geologic Assessment was performed: **April 3, 2024**
2. Type of Project:

   ☐ WPAP ☐ AST
   ☒ SCS ☐ UST
3. Location of Project:

   ☒ Recharge Zone
   ☐ Transition Zone
   ☒ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

**Table 1 - Soil Units, Infiltration Characteristics and Thickness**

| Soil Name | Group* | Thickness(feet) |
|---|---|---|
| Austin-Castephen complex, 1 to 3 % slopes (AuB) | C | 2-3 |
| Lewisville silty clay, 1 to 3 % slopes (LeB) | C | 3-6 |
| Real gravelly loam, 1 to 8 % slopes (RaD) | D | 1-3 |

** Soil Group Definitions (Abbreviated)*

*A. Soils having a high infiltration rate when thoroughly wetted.*

*B. Soils having a moderate infiltration rate when thoroughly wetted.*

*C. Soils having a slow infiltration rate when thoroughly wetted.*

D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = **200'**
   Site Geologic Map Scale: 1" = **200'**
   Site Soils Map Scale (if more than 1 soil type): 1" = **1500'**

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection:_____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are ____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

    ☒ There are no wells or test holes of any kind known to exist on the project site.

## *Administrative Information*

15. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

# ATTACHMENT A
# Geologic Assessment Table

| GEOLOGIC ASSESSMENT TABLE | | | PROJECT NAME: Clara Vista – Force Main | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | | | FEATURE CHARACTERISTICS | | | | | | | | | | | | EVALUATION | | | PHYSICAL SETTING | | |
| 1A | 1B * | 1C* | 2A | 2B | 3 | 4 | | | 5 | 5A | 6 | 7 | 8A | 8B | 9 | 10 | | 11 | | 12 |
| FEATURE ID | LATITUDE | LONGITUDE | FEATURE TYPE | POINTS | FORMATION | DIMENSIONS (FEET) | | | TREND (DEGREES) | DOM | DENSITY (NO/FT) | APERTURE (FEET) | INFILL | RELATIVE INFILTRATION RATE | TOTAL | SENSITIVITY | | CATCHMENT AREA (ACRES) | | TOPOGRAPHY |
| | | | | | | X | Y | Z | | 10 | | | | | | <40 | ≥40 | <1.6 | ≥1.6 | |
| S-1 | 29.99103 | -97.89238 | MB | 30 | Kau | | | | | | | | F,C | 5 | 35 | 35 | | X | | Hillside |
| | | | | | | | | | | | | | | | | | | | | |
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** DATUM: NAD 83

| 2A TYPE | TYPE | 2B POINTS |
|---|---|---|
| C | Cave | 30 |
| SC | Solution cavity | 20 |
| SF | Solution-enlarged fracture(s) | 20 |
| F | Fault | 20 |
| O | Other natural bedrock features | 5 |
| MB | Manmade feature in bedrock | 30 |
| SW | Swallow hole | 30 |
| SH | Sinkhole | 20 |
| CD | Non-karst closed depression | 5 |
| Z | Zone, clustered or aligned features | 30 |

| 8A INFILLING | |
|---|---|
| N | None, exposed bedrock |
| C | Coarse - cobbles, breakdown, sand, gravel |
| O | Loose or soft mud or soil, organics, leaves, sticks, dark colors |
| F | Fines, compacted clay-rich sediment, soil profile, gray or red colors |
| V | Vegetation. Give details in narrative description |
| FS | Flowstone, cements, cave deposits |
| X | Other materials |

| 12 TOPOGRAPHY |
|---|
| Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed |

STATE OF TEXAS
HENRY STULTZ III
GEOLOGY
12121
LICENSED
PROFESSIONAL GEOSCIENTIST

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists.
The information presented here complies with that document and is a true representation of the conditions observed in the field.
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date May 7, 2024



TCEQ-0585-Table (Rev. 10-01-04)

**ATTACHMENT A**

# ATTACHMENT B
# Stratigraphic Column

# Clara Vista – Force Main
# Geologic Assessment (TCEQ-0585)

## Attachment B – Stratigraphic Column

| Period | Epoch | Group | Formation | Maximum Thickness | Lithology | Hydrologic Unit |
|---|---|---|---|---|---|---|
| Cretaceous | Gulfian | Austin | **Austin Chalk (Kau)** | 325-420 | **Austin Chalk**, chalk and marl; chalk mostly microgranular calcite with minor Foraminifera tests and Inoceramus prisms, average about 85 percent calcium carbonate, ledge forming grayish white to white; alternates with marl, bentonitic seams locally recessive, medium gray; pyrete nodules common, weather to limonite. | Confining |
| | Comanchean | Washita | **Eagle Ford Group and Buda Limestone (undivided) (Keb)** | 25-65 | **Eagle Ford Group**, shale and limestone. Upper part-shale, compact, silty, contains fossil fish teeth and bones, 10 feet or more thick; middle part-silty limestone grading to calcareous siltstone, flaggy, medium gray, weathers pale yellowish brown, 5 feet thrick. Lower part-shale, calcareous, dark gray, 7-50 feet thick. | Confining |
| | | | | 45 | **Buda Limestone**, fine grained bioclastic, commonly glauconitic, pyritiferous, hard, massice, poorly bedded to nodular, thinner bedded and argillacrous near upper contact, light gray to pasle orange; weathers dark gray to brown; burrows filled with chalky marl, abundant pelecypods. | Confining |
| | | | **Del Rio Clay and Georgetown Formation (undivided) (Kdg)** | 40–60 | **Del Rio Clay**, mostly clay, calcareous and gypsiferous, becoming less calcareous and more gypsiferous upward, pyrity common, blocky, medium gray, weather light gray to yellowish gray; some thin lenticular beds of hightly calcareous siltstone; some thin limestone beds composed of pelecypods. | Confining |
| | | | | 10-45 | **Georgetown Formation**, mostly limestone, fine grained, argillaceous, nodular, moderalty indurated, light gray; some limestone, hard brittle, thick bedded, white; some shale, calcareous, soft, light gray to yellowish gray. | Edwards Aquifer |
| | | Fredricksburg | **Fredricksburg Group (undivided) (Kfr)** | 60-350 | **Edwards Limestone**, limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid biostromes, much miliolid biosparite; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert, nodules and plates common, varies in amount from bed o bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerably recrystallized, “honeycombed,” and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60-350 feet, thins northward. | |
| | | | | 80 | **Comanche Peak Limestone**, fine to very fine grained, fairly hard, nodular, light gray, weathers white, extensively burrowed, burrow fillings slightly coarser and darker, typically outcrops in scarp face beneath Edwards Limestone; feathers out southward near Williamson-Travis County line. | |
| | | | | 50 | **Keys Valley Marl**, soft, white; marine megafossils include Exogyra texana, Gryphaea mucronate, and other pelecypods, ammonites, gastropods, and echinoids; feathers out southward near Williamson-Travis County line. | Confining |
| | | | | 40 | **Cedar Park Limestone**, Kcp, lithologically and faunally similar to Comanche Peak Limestone; south of Williamson-Travis County line upper part interfingers with Edwards Limestone and lower part is mapped with Bee Cave Marl. | Aquifer |
| | | | | 25-40 | **Bee Cave Marl**, Kbc lithologically and faunally similar to Keys Valley Marl, except Exogyra texana are more abundant and ammonites are scarce. | Confining |

# ATTACHMENT C
# Site Geology

**Attachment C – Site Geology**

## SUMMARY

The Clara Vista – Force Main project site is primarily located along Cypress Road, west of Old Stagecoach Road in the City of Kyle, Hays County, Texas. The remaining portions of the project site are located south of the Clara Vista subdivision.

Based on the results of the field survey conducted in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions),* no naturally occurring sensitive features were identified on site. No springs were identified on site. Three tributaries of the Lower Blanco River were identified on site. The overall potential for fluid migration to the Edwards Aquifer for the site is low.

## SITE GEOLOGY

As observed through field evidence, the geologic formations which outcrop at the surface within the project limits are the Austin Chalk (Kau), the Eagle Ford Group and Buda Limestone (undivided) (Keb), and the Del Rio Clay and Georgetown Formation (undivided) (Kdg). These formations are described in further detail below.

- The Kau is comprised of limestone, argillaceous chalky limestone and calcareous shale, and is locally bentonitic. Karst development within the Kau is commonly related to geologic structure within the formation.

- The Keb is comprised of undivided units of the Eagle Ford Group and the Buda Limestone. Portions of the formation exhibiting geologic settings of the Eagle Ford Group are characterized by brown, flaggy shale and argillaceous limestone. Karst development in the Eagle Ford Group is uncommon and generally minor. Portions of the formation exhibiting geologic settings of the Buda Limestone are characterized by buff, light gray, dense mudstone. Karst development in the Buda Limestone is generally minor.

- The Kdg is comprised of undivided units of the Del Rio Clay and Georgetown Formations. Portions of the formation exhibiting geologic settings of the Del Rio Clay characterized by blue-green to yellow-brown waxy clay. Karst development within the Del Rio Clay does not occur. Portions of the formation exhibiting geologic settings of the Georgetown Formation are characterized by reddish-brown to light tan marly limestone. Karst development within the Georgetown Formation generally does not occur.

The predominant trend of faults in the vicinity of the site is approximately N40°E, based on faults identified during the previous mapping of the area.

## FEATURE DESCRIPTIONS:

A description of the features observed onsite is provided below:

Feature S-1

Feature S-1 is an existing sewer line that is located beneath pavement. The probability of rapid infiltration is low.

## REFERENCES

Barnes, V.E., Humble Oil and Refining Co., Shell Oil Co., Mobile Oil Co., Proctor, C.V., Brown, T.E., Waechter, N.B., Aronow, Saul, Tobin, Edward, Eargle, D.H., Baker, E.T., Peckham, R.C., Bluntzer, R.L., Hinds, G.W., LeBlanc, R.J., and Solliday, J., 1974, Geologic atlas of Texas, Seguin sheet, University of Texas at Austin, Bureau of Economic Geology, Geologic Atlas of Texas 30, 1:250,000.

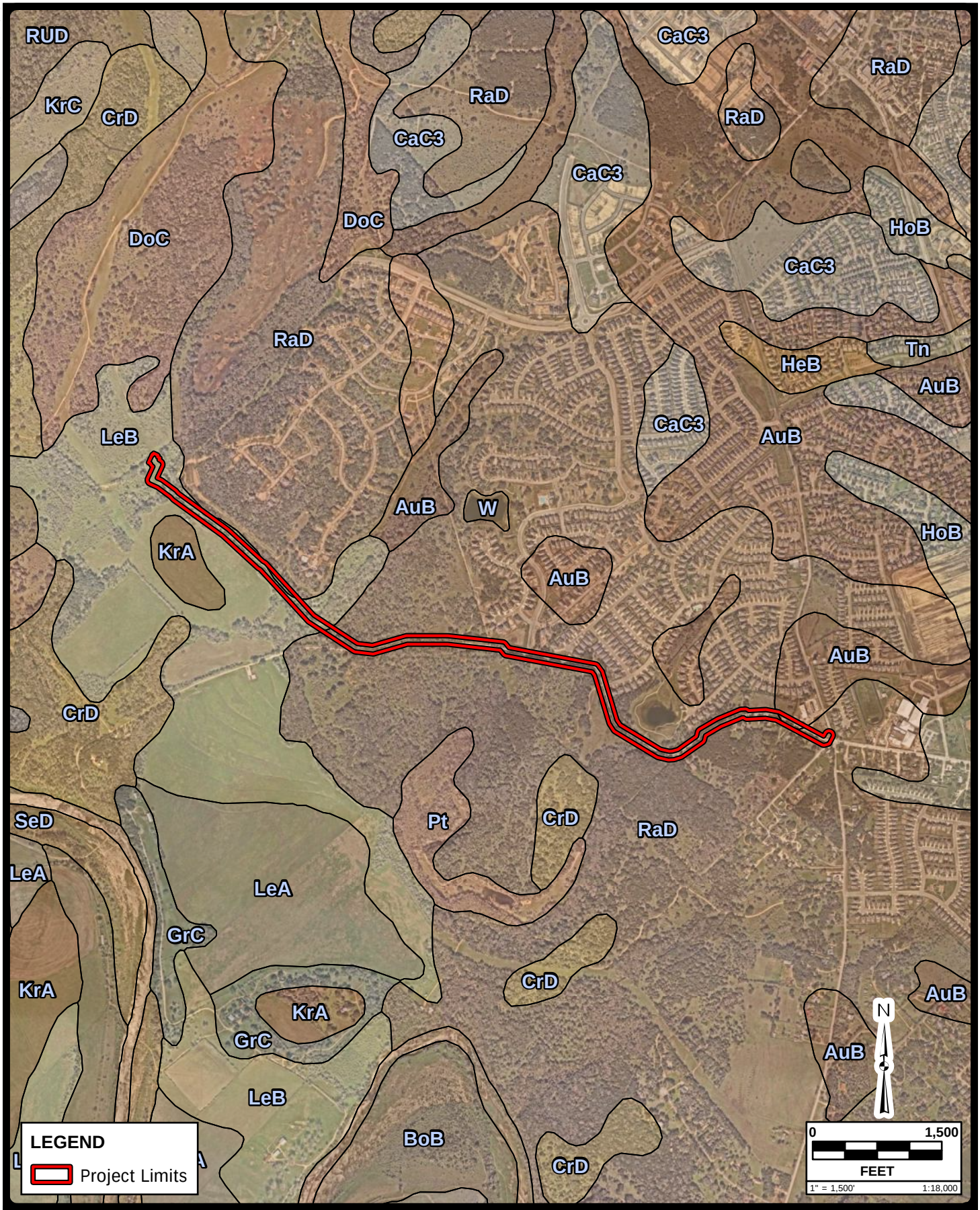
Nationwide Environmental Title Research, LLC. Historical Aerials, HistoricAerials.com. https://www.historicaerials.com/viewer, May 10, 2021.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/, May 10, 2021.

Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer, May 10, 2021.

U.S. Geological Survey, National Water Information System: Mapper, https://maps.waterdata.usgs.gov/mapper/index.html, May 10, 2021. May 7, 2024.

# ATTACHMENT D
# Site Geologic Map(s)




AERIAL IMAGERY PROVIDED BY GOOGLE © UNLESS OTHERWISE NOTED. Imagery ©2024, CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency

Date: Apr 25, 2024 2:19 PM User: HSultz
File: H:\Projects\51432\01\Environmental\ENV\GIA\GIS\Working aprx

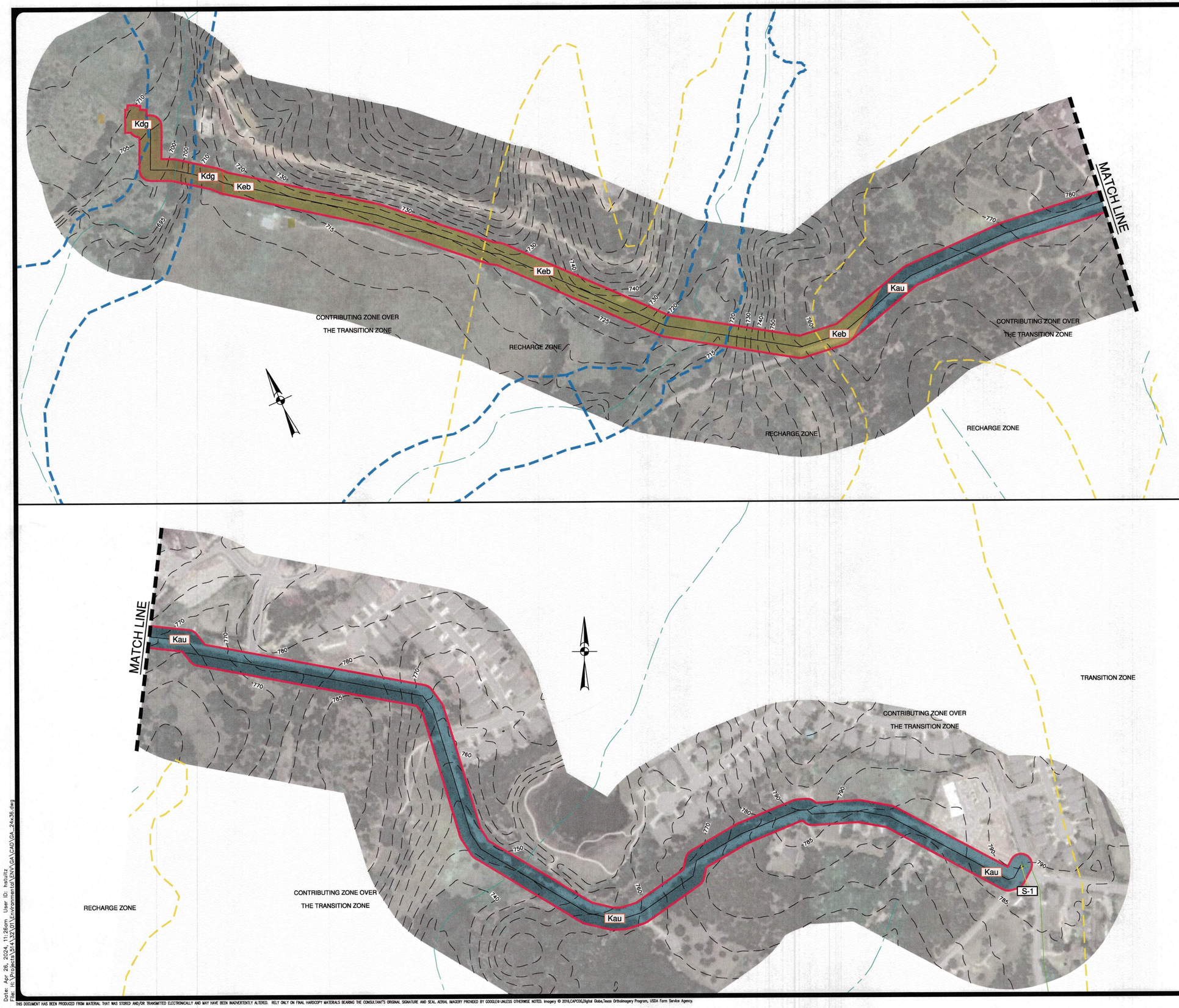
| | |
|---|---|
| JOB NO. | 51432-01 |
| DATE | Apr 2024 |
| DESIGNER | HS |
| CHECKED | HDJ |
| SHEET | ATTACHMENT D |

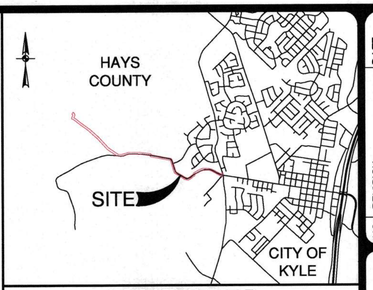
# CLARA VISTA - FORCE MAIN

## HAYS COUNTY, TEXAS

## SITE SOILS MAP

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800




LOCATION MAP
NOT-TO-SCALE

SCALE: 1"= 200'
0' 200' 400' 600'

## LEGEND

- PROJECT LIMITS
- RECHARGE ZONE
- EXISTING CONTOUR LINE — 760
- 100 YEAR FLOODPLAIN
- STREAM

GEOLOGIC FORMATIONS

- Kdr — PECAN GAP
- Kau — AUSTIN CHALK
- Keb — EAGLE FORD BUDA (UNDIV.)
- Kdg — DEL RIO CLAY GEORGETOWN (UNDIV.)
- Ked — EDWARDS LS.
- Kfr — FREDRICKSBURG GROUP (UNDIV.)

SYMBOLS AND LINES

- S-1 — POTENTIAL RECHARGE FEATURE
- CONTACT, LOCATED APPROXIMATELY
- CONTACT, INFERRED
- FAULT, LOCATED APPROXIMATELY (D, DOWNTHROWN SIDE; U, UPTHROWN SIDE)
- FAULT, EXTRAPOLATED
- FAULT, INFERRED
- STRIKE AND DIP OF BEDDING
- STRIKE AND DIP OF JOINTS
- STRIKE OF VERTICAL JOINTS
- CAVE
- SOLUTION CAVITY
- SOLUTION ENLARGED FRACTURE
- SWALLOW HOLE
- SINKHOLE
- NON-KARST CLOSED DEPRESSION
- ZONE
- OTHER NATURAL BEDROCK FEATURES
- SPRING/SEEP
- MB — MAN-MADE FEATURE IN BEDROCK
- W — WATER WELL
- SANITARY SEWER LINE
- STORM DRAIN LINE

NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

DATE

NO. REVISION

STATE OF TEXAS
HENRY STULTZ III
GEOLOGY
12121
LICENSED
PROFESSIONAL GEOSCIENTIST
May 7, 2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPG FIRM REGISTRATION #50351

# CLARA VISTA - FORCE MAIN
## HAYS COUNTY, TEXAS
## SITE GEOLOGIC MAP
## ORGANIZED SEWAGE COLLECTION SYSTEM

JOB NO. 51432-32
DATE APRIL 2024
DESIGNER HS
CHECKED HDJ DRAWN HS

ATTACHMENT D

Date: Apr 26, 2024, 11:26am User ID: hstultz
File: H:\Projects\514.32\01\Environmental\ENV\GA\CAD\GA_24x36.dwg

# ABOVEGROUND STORAGE TANK FACILITY PLAN (TCEQ-0575)

# Aboveground Storage Tank Facility Plan Application

**Texas Commission on Environmental Quality**

For Permanent Storage on The Edwards Aquifer Recharge and Transition Zones And Relating to 30 TAC §213.5(e), Effective June 1, 1999

***To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.***

***Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.***

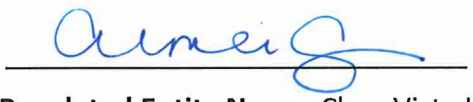
## *Signature*

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Aboveground Storage Tank Facility Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Aimee Chavez

Date: 8/29/25

Signature of Customer/Agent:



**Regulated Entity Name**: Clara Vista Lift Station & Force Main

## *Aboveground Storage Tank (AST) Facility Information*

1. Tanks and substance stored:

**Table 1 - Tank and Substance Storage**

| *AST Number* | *Size (Gallons)* | *Substance to be Stored* | *Tank Material* |
|---|---|---|---|
| 1 | 777 | Diesel Fuel | Steel |
| 2 | | | |
| 3 | | | |
| 4 | | | |

| *AST Number* | *Size (Gallons)* | *Substance to be Stored* | *Tank Material* |
|---|---|---|---|
| 5 | | | |

**Total x 1.5 =** 1166 **Gallons**

2. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

   ☒ **Attachment A - Alternative Methods of Secondary Containment**. Alternative methods for providing secondary containment are proposed. Specifications that show equivalent protection for the Edwards Aquifer are attached.

3. Inside dimensions and capacity of containment structure(s):

**Table 2 - Secondary Containment**

| *Length (L) (Ft.)* | *Width (W) (Ft.)* | *Height (H) (Ft.)* | *L x W x H = (Ft3)* | *Gallons* |
|---|---|---|---|---|
| 10.03 | 3.11 | 3.73 | 116.30 | 870 |
| | | | | |
| | | | | |

**Total:** 870 **Gallons**

4. ☒ All piping, hoses, and dispensers will be located inside the containment structure.

   ☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
   - ☐ The piping will be aboveground
   - ☐ The piping will be underground

5. ☒ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of Steel.

6. ☒ **Attachment B - Scaled Drawing(s) of Containment Structure**. A scaled drawing of the containment structure that shows the following is attached:

   - ☒ Interior dimensions (length, width, depth and wall and floor thickness).
   - ☒ Internal drainage to a point convenient for the collection of any spillage.
   - ☒ Tanks clearly labeled.
   - ☐ Piping clearly labeled.
   - ☐ Dispenser clearly labeled.

## *Site Plan Requirements*

***Items 7 - 18 must be included on the Site Plan.***

7. ☒ The Site Plan must have a minimum scale of 1" = 400'.

   Site Plan Scale: 1" = 40'.

8. 100-year floodplain boundaries:

   ☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

   ☐ No part of the project site is located within the 100-year floodplain.

   ☒ The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): NFHL DFIRM for Hays County, Texas panel #48209C0385G (1/17/2025) & #48209C0270G (1/17/2025).

9. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.

   ☐ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

10. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply):

    ☐ The wells are not in use and have been properly abandoned.

    ☐ The wells are not in use and will be properly abandoned.

    ☐ The wells are in use and comply with 16 TAC § 76.

    ☒ There are no wells or test holes of any kind known to exist on the project site.

11. Geologic or manmade features which are on the site:

    ☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

    ☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

    ☐ **Attachment C - Exception to the Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

12. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

13. ☒ Areas of soil disturbance and areas which will not be disturbed.

14. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

15. ☒ Locations where soil stabilization practices are expected to occur.

16. ☐ Surface waters (including wetlands).

    ☒ N/A

17. ☐ Locations where stormwater discharges to surface water or sensitive features.

    ☒ There will be no discharges to surface water or sensitive features.

18. ☒ Legal boundaries of the site are shown.

## *Best Management Practices*

19. ☒ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

    ☒ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

    ☒ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

20. ☒ All stormwater accumulating inside the containment structure will be disposed of through an authorized waste disposal contractor.

    ☐ Containment area will be covered by a roof.

    ☒ Containment area will not be covered by a roof.

    ☐ A description of the alternate method of stormwater disposal is submitted for the executive director's review and approval and is attached.

21. ☒ **Attachment D - Spill and Overfill Control**. A site-specific description of the methods to be used at the facility for spill and overfill control is attached.

22. ☒ **Attachment E - Response Actions to Spills**. A site-specific description of the planned response actions to spills that will take place at the facility is attached.

## *Administrative Information*

23. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

    ☐ The WPAP application for this project was approved by letter dated _____. A copy of the approval letter is attached at the end of this application.

    ☐ The WPAP application for this project was submitted to the TCEQ on _____, but has not been approved.

    ☐ A WPAP application is required for an associated project, but it has not been submitted.

☐ There will be no building or structure associated with this project. In the event a building or structure is needed in the future, the required WPAP will be submitted to the TCEQ.

☒ The proposed AST is located on the Transition Zone and a WPAP is not required. Information requested in 30 TAC 213.5 subsection (b) (4)(B) and (C) and (5) is provided with this application. (Forms TCEQ-0600 Permanent Stormwater Section and TCEQ-0602 Temporary Stormwater Section or Stormwater Pollution Prevention Plan/SW3P).

24. ☒ This facility is subject to the requirements for the reporting and cleanup of surface spills and overfills pursuant to 30 TAC 334 Subchapter D relating to Release Reporting and Corrective Action.

25. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

26. ☒ Any modification of this AST Facility Plan application will require executive director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

# ATTACHMENT A

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

**Attachment A – Alternative Methods of Secondary Containment**

This Clara Vista Lift Station and Force Main Aboveground Storage Tank (AST) Facility Plan proposes one (1) base-mounted, double-wall, steel construction tanks for storage of 777 gallons of diesel fuel to service lift station machinery in the event of an emergency.

Fuel Tank Description

This 777-gallon tank is located on a 1.79-acre site within an overall fenced and gated 0.086-acre lift station. The tank will be located on a 112 square foot concrete pad above 3727 square feet of concrete pavement. The tank will be surrounded by removable bollards.

The tank is constructed of materials that are compatible with the liquids stored (diesel) within and have the appropriate safety equipment, such as primary and emergency venting, overfill protection, and fuel level sensors with low-level and high-level alarms.

The primary tank is wholly contained within the secondary tank, and the interstitial space between the tanks is hollow. If failure occurs in the primary tank, all fuel will be trapped within the 870-gallon secondary tank. Additionally, the tank will be regularly maintained by qualified personnel.

# ATTACHMENT B

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# Enclosure

*Picture shown may not reflect actual configuration*

# Weather Protective and Sound Attenuated Enclosures

D40 to D60
D80 to D100
D125 to D200

## Features

### Highly Corrosion Resistant construction

- Stainless steel flush fitting latches and hinges tested and proven to withstand extreme conditions of corrosion
- Zinc plated or stainless steel fastener

### Excellent Access

- Single side access for service and controls
- All non-service sides have removable doors and/or panels
- Radiator fill access
- Lube oil and coolant drains piped to the exterior of the enclosure base
- Large cable entry area for installation ease
- Double doors on both sides
- Vertically hinged doors with solid bar door stays to hold doors in place when open

### Security and Safety

- Lockable access doors which give full access to control panel and breaker
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill, and battery can only be reached via lockable access
- Stub-up area is rodent proof

### Transportability

- These enclosures are of extremely rugged construction to withstand outdoor exposure and rough handling common on many construction sites. The sound deadening material is of a self-extinguishing design
- This range of enclosures are designed on modular principles with many interchangeable components permitting on site repair

### Options

- Weather Protective - constructed with 16 gauge steel; industrial silencer mounted within the main enclosure body
- Sound Attenuated Level 1 - constructed with 16 gauge steel; weather protective with critical silencer - silencer mounted in separate upward discharging radiator hood
- Sound Attenuated Level 2 - constructed with 16 gauge steel; weather protective with critical silencer and 100% lined with sound deadening material – silencer mounted in separate upward discharging radiator hood
- Sound Attenuated Aluminum constructed with 14 gauge Aluminum 5052 grade. Weather protective with critical silencer and 100% lined with sound deadening material – silencer mounted in separate upward discharging radiator hood
- Caterpillar white paint
- UL Listed sub base tanks
- Externally mounted emergency stop button
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010
- IBC certification for 180 mph wind loading

*Not available with Aluminium enclosures

## Enclosure Sound Pressure Levels (SPL) at 100%

| SA Level 2 Enclosure | | Cooling Air Flow Rate | | SPL @7m (23ft) |
|---|---|---|---|---|
| Model | Standby eKW | $m^3/s$ | cfm | dBA |
| D80-8 | 80 | 3.2 | 6696 | 75 |
| D100-8 | 100 | 3.2 | 6696 | 76 |
| D125-8 | 125 | 4.2 | 8899 | 74 |
| D150-10 | 150 | 4.2 | 8899 | 74 |
| D175-4 | 175 | 5.2 | 11018 | 74 |
| D200-2 | 200 | 5.1 | 10806 | 75 |

## Enclosure Dimensions and Weights

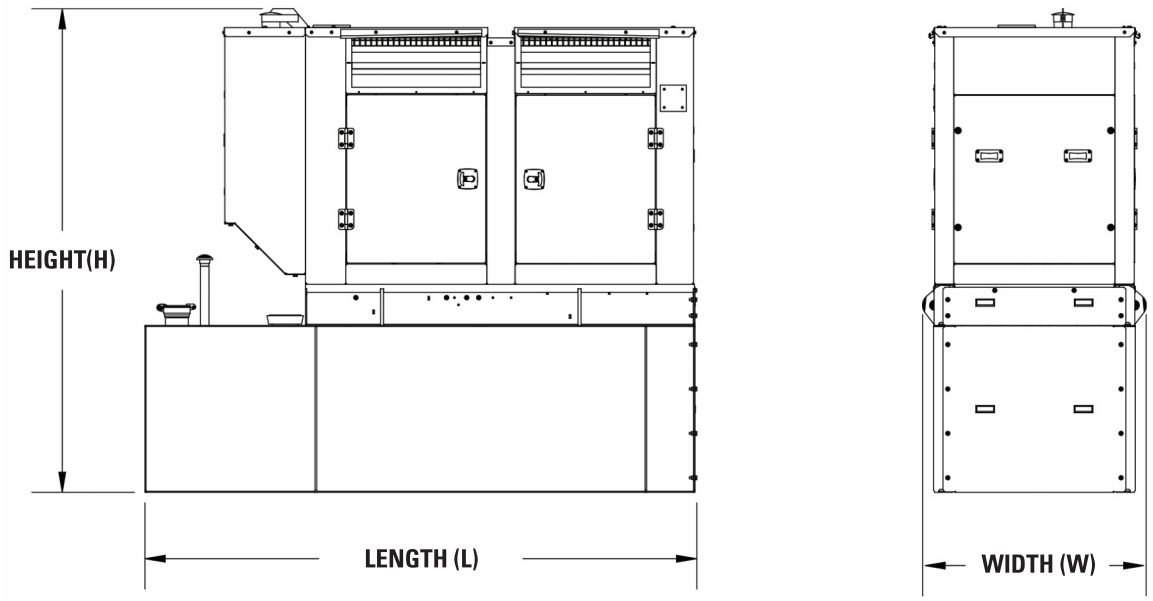


Image represents SA Level 1, SA Level 2 and SA Aluminum enclosures mounted on optional UL listed sub base tank

| Model | Standby eKW | WP Industrial | | SA Level 1 | | SA Level 2 | | SA Aluminum | |
|---|---|---|---|---|---|---|---|---|---|
| | | kg | lb | kg | lb | kg | lb | kg | lb |
| D40-2 | 40 | 121 | 267 | 137 | 302 | NA | NA | NA | NA |
| D50-2 | 50 | | | | | | | | |
| D60-2 | 60 | | | | | | | | |
| D80-8 | 80 | 263 | 580 | 313 | 690 | 321 | 708 | 142 | 312 |
| D100-8 | 100 | | | | | | | | |
| D125-8 | 125 | 348 | 768 | 393 | 867 | 406 | 896 | 176 | 387 |
| D150-10 | 150 | | | | | | | | |
| D175-4 | 175 | | | | | | | | |
| D200-2 | 200 | | | | | | | | |

Enclosure weights (includes muffler)

*PLEASE REFER TO DRAWING FOR ENCLOSURE DIMENSION*

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# Fuel System

# Attachments

Image shown may not reflect actual configuration

## C4.4 and C7.1
## Sub-base Fuel Tanks

Diesel Generator Set
80 – 200 kW 60 Hz

## Features

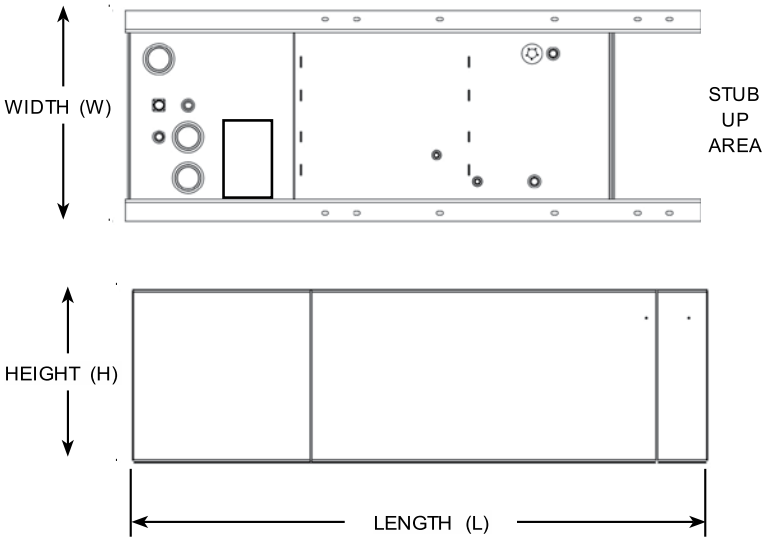
- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitate compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code and B139-09 standard
- Welded, heavy steel gauge construction with a containment basin sized as a minimum 110% of the tank
- Gloss black polyester triglycidyl isocyanurate (TGIC) powder coating
- Dedicated external customer interface area with access to the 4" (101.6 mm) fuel fill, visual level gauge, normal and emergency vents
- Rear electrical stub-up area with removable access panel
- Removable engine supply and return dip tubes
- Two additional 1" (25.4 mm) ports for customer use
- Tanks are rated to safely support the weight of the generator
- 8 gal (30.3 L) drip pan for oil and coolant (for generator sets up to 60 ekW only)
- Standard NPT tank fittings
- UL listed emergency vents sized as per UL standards 3" (76.2 mm), 4" (101.6 mm), and 5" (127 mm) NPT
- Normal atmospheric vent 1-1/4" (31.75 mm)
- Top-mounted fuel level sensor with control panel alarms
- Top-mounted leak detection switch
- Lockable fuel fill cap, 4" (101.6 mm) NPT

**Description**

- Dual wall, secondary containment
- Pressure tested to UL requirements
- Fuel tank mounts directly below generator skid base
- Modular tank design is compatible with all factory units open and enclosed

## C4.4, and C7.1 Sub-base Fuel Tank Dimensions and Capacities

| Engine Model | Tank Feature Code | Generator Set Rating ekW | Est. Run Time hrs | Fillable Capacity | | Usable Capacity | | Vent | Length 'L' | | Width 'W' | | Height 'H' | | Weight (Dry) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | gal | L | gal | in | mm | in | mm | in | mm | in | kg | lb |
| C4.4 | FSBTC24 | 80<br>100 | 30<br>25 | 793 | 209 | 733 | 194 | 3 | 3447 | 135.7 | 1000 | 39.4 | 485 | 19.1 | 526 | 1160 |
| | FSBTD48 | 80<br>100 | 58<br>49 | 1492 | 394 | 1432 | 378 | 4 | | | | | 835 | 32.9 | 739 | 1629 |
| C7.1 | FSBTI24 | 125<br>150<br>175<br>200 | 40<br>35<br>29<br>27 | 1520 | 402 | 1495 | 395 | 4 | 4035 | 158.9 | | | 647 | 25.5 | 720 | 1587 |
| | | 125<br>150 | 78<br>68 | | | | | | | | | | | | | |
| | FSBTJ48 | 175 | 57 | 2940 | 777 | 2918 | 771 | 5 | 5035 | 198.2 | | | 933 | 36.7 | 1145 | 2524 |
| | | 200 | 52 | | | | | | | | | | | | | |




**Note:** For reference only – do not use for installation design. Please contact your local dealer for exact dimensions.

Tanks are UL Listed and constructed in accordance with UL Standard for Safety UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and Canada CAN/ULC S601, Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids.

Fuel tanks facilitate compliance with the following United States NFPA Code and Standards:

- NFPA 30: Flammable and Combustible Liquids Code
- NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
- NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks facilitate compliance with the following Canadian Standard and Code:

- CSA C282 – Emergency Electrical Power Supply for Buildings
- CSA B139-09 – Installation Code for Oil-Burning Equipment

# FUEL LEVEL ALARMS - FSS

## CRITICAL LOW FUEL LEVEL SHUTDOWN AND LOW FUEL LEVEL ALARM

These options provide an alarm on low fuel level and a shutdown on critical low fuel level. This warning is reported by an indicator light on the control panel with an audible alarm also available as an option. This warning can additionally be relayed to a remote annunciator.

Note: Standard Fuel Fill, UL Rated Emergency-vent, Standard vent, Fuel Sender & Leak Detection Probe are included as standard on generator sets fitted with UL Listed fuel tanks.

## CRITICAL HIGH FUEL LEVEL ALARM

This option provides an alarm on critical high fuel level. This warning is reported by an indicator light on the control panel with an audible alarm also available as an option. This warning can additionally be relayed to a remote annunciator.

# Dip Charts

## C7.1 Sub-Base Tank FSBTJ48

| Inches of Fuel on Dipstick | Measured Gallons | Inches of Fuel on Dipstick | Measured Gallons |
|---|---|---|---|
| 0.5 | 11.3 | 24.0 | 541.9 |
| 1.0 | 22.6 | 24.5 | 553.1 |
| 1.5 | 33.9 | 25.0 | 564.4 |
| 2.0 | 45.2 | 25.5 | 575.7 |
| 2.5 | 56.4 | 26.0 | 587.0 |
| 3.0 | 67.7 | 26.5 | 598.3 |
| 3.5 | 79.0 | 27.0 | 609.6 |
| 4.0 | 90.3 | 27.5 | 620.9 |
| 4.5 | 101.6 | 28.0 | 632.2 |
| 5.0 | 112.9 | 28.5 | 643.5 |
| 5.5 | 124.2 | 29.0 | 654.7 |
| 6.0 | 135.5 | 29.5 | 666.0 |
| 6.5 | 146.8 | 30.0 | 677.3 |
| 7.0 | 158.0 | 30.5 | 688.6 |
| 7.5 | 169.3 | 31.0 | 699.9 |
| 8.0 | 180.6 | 31.5 | 711.2 |
| 8.5 | 191.9 | 32.0 | 722.5 |
| 9.0 | 203.2 | 32.5 | 733.8 |
| 9.5 | 214.5 | 33.0 | 745.0 |
| 10.0 | 225.8 | 33.5 | 756.3 |
| 10.5 | 237.1 | 34.0 | 767.6 |
| 11.0 | 248.3 | 34.5 | 778.9 |
| 11.5 | 259.6 | 35.0 | 790.2 |
| 12.0 | 270.9 | 35.5 | 801.5 |
| 12.5 | 282.2 | | |
| 13.0 | 293.5 | | |
| 13.5 | 304.8 | | |
| 14.0 | 316.1 | | |
| 14.5 | 327.4 | | |
| 15.0 | 338.7 | | |
| 15.5 | 349.9 | | |
| 16.0 | 361.2 | | |
| 16.5 | 372.5 | | |
| 17.0 | 383.8 | | |
| 17.5 | 395.1 | | |
| 18.0 | 406.4 | | |
| 18.5 | 417.7 | | |
| 19.0 | 429.0 | | |
| 19.5 | 440.3 | | |
| 20.0 | 451.5 | | |
| 20.5 | 462.8 | | |
| 21.0 | 474.1 | | |
| 21.5 | 485.4 | | |
| 22.0 | 496.7 | | |
| 22.5 | 508.0 | | |
| 23.0 | 519.3 | | |
| 23.5 | 530.6 | | |
| 24.0 | 541.9 | | |

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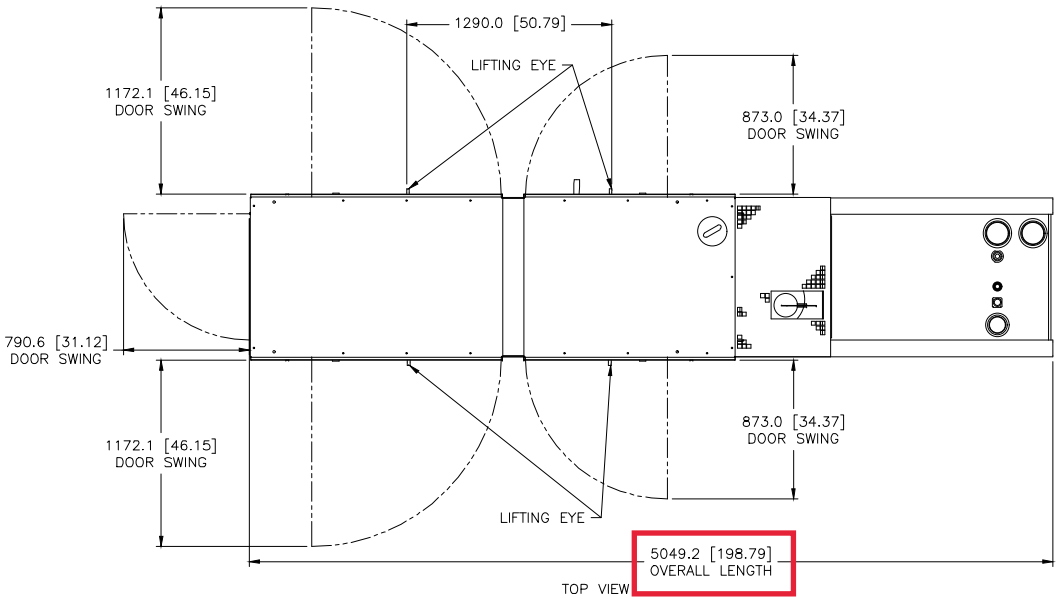
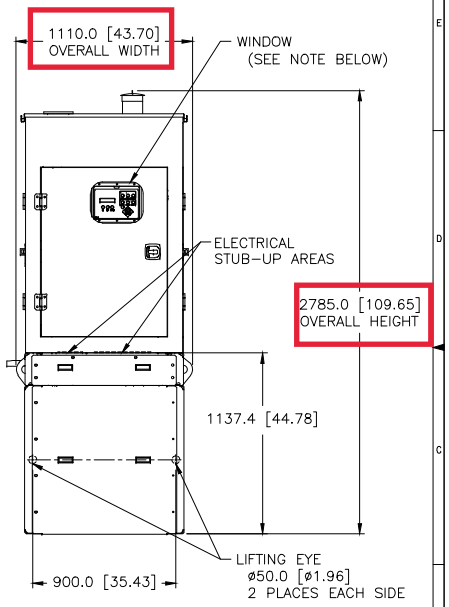
# MECHANICAL DRAWINGS

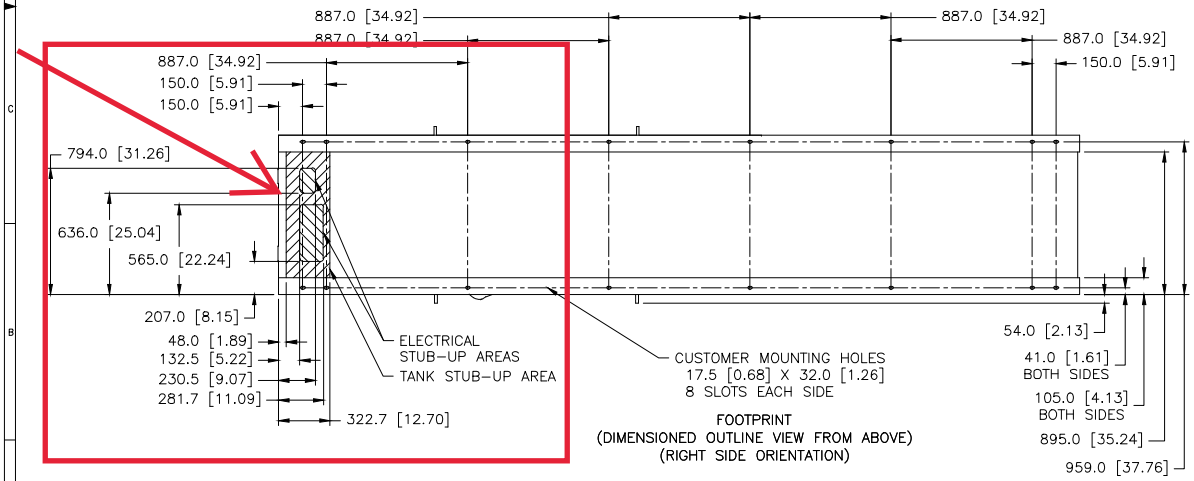
METRIC 596-8535

| QTY | ENGINE CONNECTIONS | SIZE | SHEET |
|---|---|---|---|
| 1 | COOLANT DRAIN | 13/16-16 THD | 2 |
| 1 | EXHAUST | ø123.7 [ø4.87] OD | 2 |
| 1 | OIL DRAIN | 3/4-16 THD | 2 |

| QTY | POSSIBLE TANK CONNECTIONS | SIZE | SHEET |
|---|---|---|---|
| 1 | FUEL FILLER | 4" NPT THD | 2 |
| 1 | FUEL LEVEL GAUGE | 1 1/4" NPT THD | 2 |
| 1 | NORMAL VENT | 1 1/4" NPT THD | 2 |
| 1 | RUPTURE BASIN ALARM | 1" NPT THD | 2 |
| 2 | SPARE PORT | 1" NPT THD | 2 |
| 1 | MAIN TANK EMERGENCY VENT | 5" NPT THD | 3 |
| 1 | BASIN TANK EMERGENCY VENT | 5" NPT THD | 3 |




FOOTPRINT
(DIMENSIONED OUTLINE VIEW FROM ABOVE)
(RIGHT SIDE ORIENTATION)

| MODEL | TYPE | PRICING AR | ENCLOSURE | TANK |
|---|---|---|---|---|
| C7.1 | Y | LS-2090 CHG 06 | LS-1037 CHG 03 | LS-3811 CHG 01 |
| | | LS-2091 CHG 06 | | |
| | | LS-2092 CHG 06 | LS-1041 CHG 03 | |
| | | LS-2093 CHG 06 | | |
| | | LS-2604 CHG 06 | LS-1047 CHG 04 | |
| | | LS-2605 CHG 06 | LS-1051 CHG 03 | |
| | | LS-2606 CHG 06 | LS-2482 CHG 00 | |
| | | LS-2607 CHG 06 | | |

| MODEL | TYPE | PRICING AR | ENCLOSURE | TANK |
|---|---|---|---|---|
| C7.1 | Y | LS-2095 CHG 05 | LS-1036 CHG 03 | LS-3811 CHG 01 |
| | | LS-2096 CHG 05 | | |
| | | LS-2608 CHG 05 | LS-1040 CHG 03 | |
| | | LS-2611 CHG 05 | | |
| | | LS-2609 CHG 05 | LS-1046 CHG 04 | |
| | | LS-2612 CHG 06 | | |
| | | LS-2610 CHG 05 | LS-1050 CHG 03 | |
| | | LS-2613 CHG 06 | LS-2481 CHG 00 | |

NOTE:
WINDOW IS NOT INCLUDED ON LS-1036, LS-1037, LS-1046, LS-1047, LS-2481, LS-2482

PACKAGE LIFTED IN 4 PLACES

PACKAGE SHOWN WITH MORE DETAIL ON SHEET 2

1E2966B IDENT
1E2733 DRAWING-AUTOCAD
1E0198W BRAND MARKINGS
1E0013G CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTER & TOL

| SPEC NO. | NAME |
|---|---|
| DRN | H.ZHAO |
| CHK | M.J. SWIFT |
| APVD | N.P. MOUNTJOY |

| CODE | CHP | ENGG | PROG |
|---|---|---|---|
| STAGE | RECORDS | | |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM (INCH)
DIMENSIONS W/O TOL ARE BASIC
SCALE 1 = 10
INTERPRETATION PER
SHEET 1 OF 2
THIRD ANGLE PROJECTION
CHG 00 15APR20
DATE

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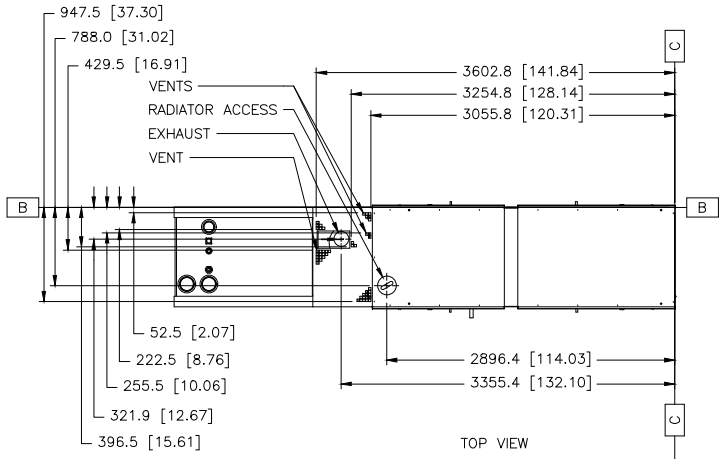
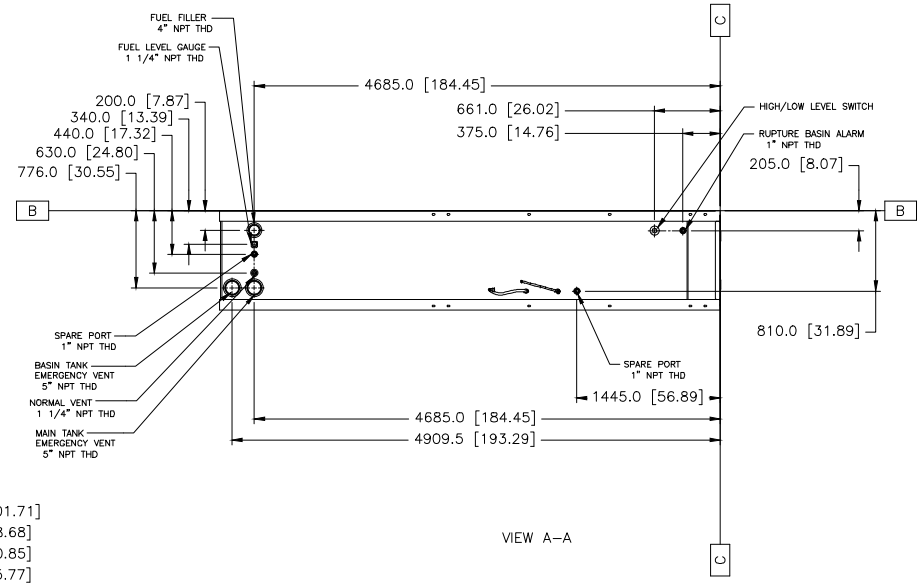
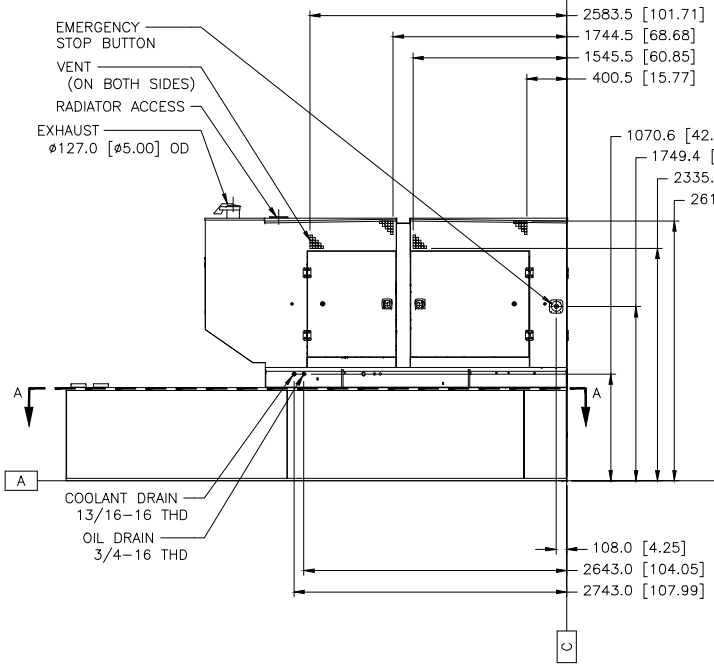
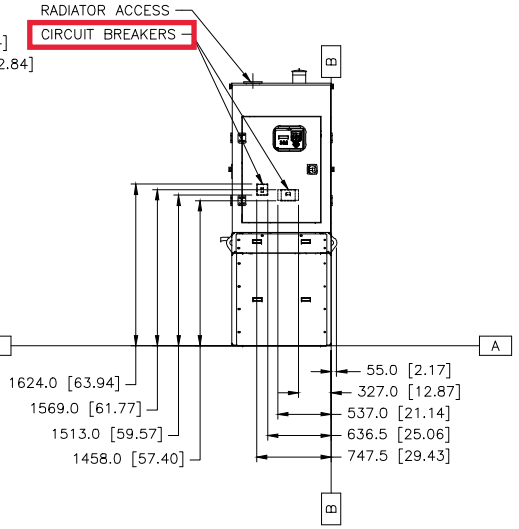
INSTALLATION-COMPOSITE
C7.1 ENCL SA 784G TNK
596-8535 - DOS 24 SUB 1 WD98 E

METRIC 596-8535




1E2966B IDENT
1E2733 DRAWING-AUTOCAD
1E0198W BRAND MARKINGS
1E0013G CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTER & TOL

| | SPEC NO. | NAME |
|---|---|---|
| DRN | H.ZHAO | |
| CHK | M.J. SWIFT | |
| APVD | N.P. MOUNTJOY | |

RECORDS IX

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM [INCH] DIMENSIONS W/O TOL ARE BASIC

SCALE 1 - 16 | WEIGHT KG | SHEET 2 OF 2 | THIRD ANGLE PROJECTION | 00 15APR20 DATE

CATERPILLAR INC.



INSTALLATION-COMPOSITE
C7.1 ENCL SA 784G TNK

596-8535 - | DOC ID | SUB | WEB | E

# ATTACHMENT D

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

## Attachment D – Spill and Overfill Control

The Clara Vista Lift Station and Force Main Aboveground Storage Tank (AST) Facility Plan proposes one (1) fuel tanks for storage of diesel fuel to service lift station machinery in the event of an emergency. This 777-gallon tank is located within an overall fenced and gated 0.086-acre lift station. The tank will be located on a 112 square foot concrete pad above 3727 square feet of concrete pavement. The tank will be surrounded by removable bollards.

Fuel Tank Description

The proposed aboveground storage tank will be used to store diesel to fuel lift station machinery for the Clara Vista Lift Station in the event of an emergency. The double-walled steel tanks are both constructed to the UL-142 standard. The tank is constructed of materials that are compatible with the liquids stored (diesel) within and have the appropriate safety equipment, such as primary and emergency venting and overfill protection.

The primary tank is wholly contained within the 870-gallon secondary tank, and the interstitial space between the tanks is hollow. If failure occurs in the primary tank, all fuel will be trapped within the secondary tank. Additionally, the tank will be regularly maintained by qualified personnel.

Holt-CAT C7.1 Sub-base fuel tank includes the following features:

a. Double-wall, steel construction tanks
b. Top-mounted fuel level sensor with control panel alarms
c. Top-mounted leak detection switch
d. Manual shut-off
e. Emergency vents on primary and secondary tanks in accordance with NFPA 30

AST Filling

Spill prevention for the AST filling will be achieved at the fuel filling with a lockable cap. This system includes all valves and fittings necessary for hose connection from the pumper truck. Human presence and observation of the filling process is another means to prevent spills and overfills. There shall be an experienced, trained person at the fill point at all times that a fill operation is taking place. The refueling tanker trucks are equipped with fuel spill containment kits for minor spills.

# ATTACHMENT E

## Attachment E – Response Actions to Spills

General Measures:

- To the extent that the work product can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Develop an inventory of potentially polluting materials, including their estimated quantities and size and number of storage containers. Use inventory to determine the size and type of spill kits that should be present at the site.
- Store hazardous materials and wastes in covered containers and prevent form vandalism.
- Provide spill-cleanup kits at locations where spills are most likely to occur, such as fueling and maintenance areas. Kits are available from several manufacturers or may be prepared by the facility owner. Each spill kit should have sufficient adsorbent capacity to handle a spill of the largest movable container at that location.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater run-on during rainfall to the extent that it does not compromise clean-up activities.
- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup and spill reporting instructions for hazardous materials stored or used on the site in an open, conspicuous, and accessible location.

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.

- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.

- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.

- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

The contractor will be required to report significant or hazardous spills in reportable quantities to:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site. https://www.tceq.texas.gov/response/spills/spill_rq.html

- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

- Notification should first be made by telephone and followed up with a written report.

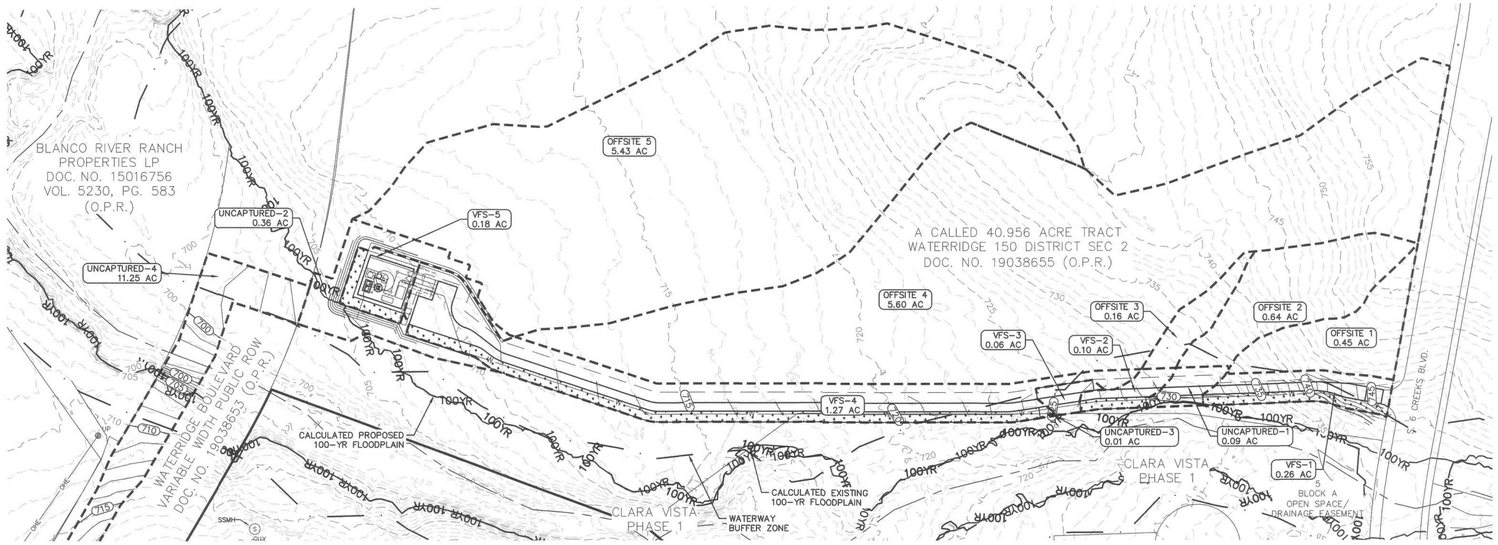
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

# SITE PLAN




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- PROPOSED WATERSHED
- OFFSITE 3A 3.92 AC — WATERSHED ACREAGE
- FLOW DIRECTION
- WATERWAY BUFFER ZONE
- 100YR — CALCULATED EXISTING 100-YR FLOODPLAIN
- 100YR — CALCULATED PROPOSED 100-YR FLOODPLAIN

## NOTES

1. NO ADDITIONAL IMPERVIOUS COVER IS PROPOSED TO BE ADDED IN DRAINAGE AREA UNCAPTURED 4.

Treatment Summary Table
Current Application - Hawkes Landing North Phase 1

| Watershed | Watershed Area (acres) | Total Existing Impervious Cover (acres) | Total Proposed Impervious Cover (acres) | Total Net Impervious Cover (acres) | BMP | Required TSS Removal (lbs./yr.) | Designed TSS Removal (lbs./yr.) |
|---|---|---|---|---|---|---|---|
| VFS 1 | 0.26 | 0.01 | 0.09 | 0.08 | ENGINEERED VFS 1 | 71 | 71 |
| VFS 2 | 0.10 | 0.00 | 0.03 | 0.03 | ENGINEERED VFS 2 | 27 | 27 |
| VFS 3 | 0.06 | 0.00 | 0.02 | 0.02 | ENGINEERED VFS 3 | 14 | 14 |
| VFS 4 | 1.27 | 0.00 | 0.33 | 0.33 | ENGINEERED VFS 4 | 292 | 310 |
| VFS 5 | 0.18 | 0.00 | 0.12 | 0.12 | ENGINEERED VFS 5 | 104 | 104 |
| UNCAPTURED 1 | 0.09 | 0.00 | 0.02 | 0.02 | OVER TREATMENT BY ENGINEERED VFS 4 | 18 | 0 |
| UNCAPTURED 2 | 0.36 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| UNCAPTURED 3 | 0.00 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| UNCAPTURED 4 | 11.25 | 2.50 | 2.50 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| | | | | | | | |
| OFFSITE 1 | 0.45 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 2 | 0.64 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 3 | 0.16 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 4 | 5.60 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 5 | 5.43 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| | | | | | | | |
| Total | 25.86 | 2.50 | 3.10 | 0.59 | | 526 | 526 |

NO. REVISION DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/25

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

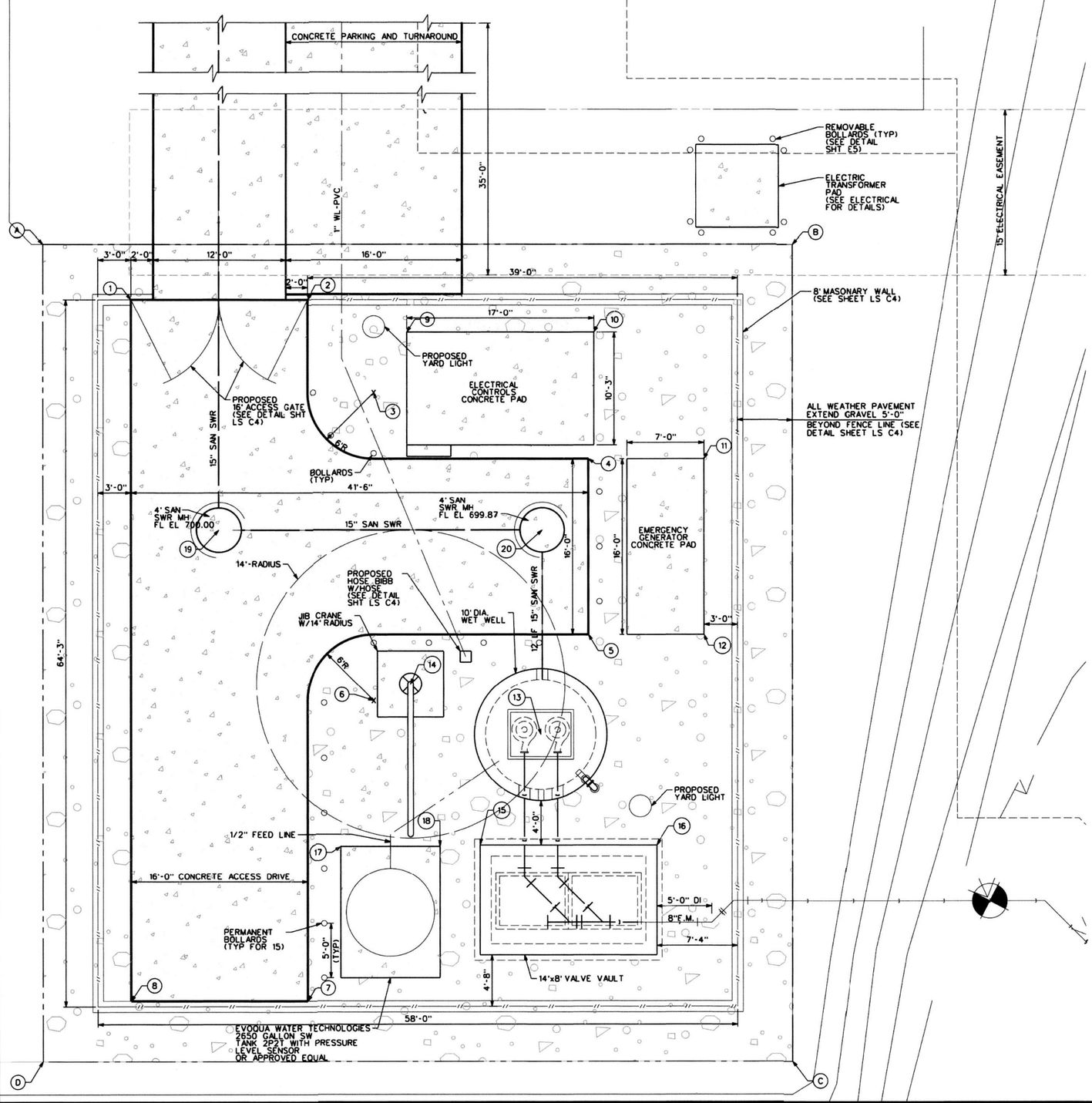
# CLARA VISTA
## LIFT STATION & FORCE MAIN
## WATER QUALITY DRAINAGE MAP

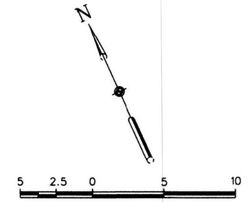
CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 12 OF 54

Date: Apr 11, 2025, 12:01pm User ID: andrewdook
File: H:\Projects\51456\10\302 Construction Documents\Civil\WQS1456-10_FM.dwg



CP-22-0144




**LEGEND**

CONCRETE

ALL WEATHER PAVEMENT

| SITE COORDINATES | | | |
|---|---|---|---|
| POINT | NORTH | EAST | PROP. ELEV. |
| A | 13912819.56 | 2311253.23 | 711.00 |
| B | 13912791.45 | 2311315.15 | 711.00 |
| C | 13912723.81 | 2311284.45 | 711.00 |
| D | 13912753.17 | 2311231.88 | 711.00 |

| FACILITY COORDINATES | | | |
|---|---|---|---|
| POINT | NORTH | EAST | PROP. ELEV. |
| 1 | 13912811.70 | 2311258.45 | 711.50 |
| 2 | 13912805.09 | 2311273.02 | 711.50 |
| 3 | 13912794.87 | 2311274.97 | NA |
| 4 | 13912781.34 | 2311290.24 | 711.50 |
| 5 | 13912766.77 | 2311283.63 | 711.50 |
| 6 | 13912769.37 | 2311263.39 | NA |
| 7 | 13912746.55 | 2311246.45 | 711.50 |
| 8 | 13912753.17 | 2311231.88 | 711.50 |
| 9 | 13912798.63 | 2311279.97 | 711.50 |
| 10 | 13912791.61 | 2311295.45 | 711.50 |
| 11 | 13912777.01 | 2311299.79 | 711.50 |
| 12 | 13912762.44 | 2311293.17 | 711.50 |
| 13 | 13912760.30 | 2311275.93 | 711.50 |
| 14 | 13912769.36 | 2311267.05 | 711.50 |
| 15 | 13912753.46 | 2311266.79 | 711.50 |
| 16 | 13912746.85 | 2311281.36 | 711.50 |
| 17 | 13912758.59 | 2311255.21 | 711.50 |
| 18 | 13912754.87 | 2311263.40 | 711.50 |
| 19 | 13912789.29 | 2311257.02 | MATCH PAVEMENT |
| 20 | 13912777.16 | 2311283.72 | MATCH PAVEMENT |

**NOTE:**

1. LIFT STATION ACCESS GATE MUST BE SUBMITTED FOR APPROVAL TO THE CITY OF KYLE PRIOR TO INSTALLATION

| NO. | REVISION | DATE |
|---|---|---|
| | | |

09-23-2024

HARRY B. WALKER 82788 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS


PAPE-DAWSON ENGINEERS
10350 RICHMOND AVE. SITE 200 | HOUSTON, TX. 77042 | 713.428.2400
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10193974


# CLARA VISTA

LIFT STATION & FORCE MAIN

CIVIL

LIFT STATION PLAN

SITE PLAN

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE MAY 2024
DESIGNER HBW
CHECKED HBW DRAWN LDH
SHEET 31 OF 54

LS C1

CP-22-0144



1/23/2025 7:02:10 AM
F:\Civil\Kyle\Plan\CLARA VISTA LIFT STATION\DGN\20212231-LS1-DS_CLARA VISTA LIFT STATION\DGN\20212231-LS1-DS_29_LS SITE PLAN.dgn

# TEMPORARY STORMWATER SECTION (TCEQ-0602)

# Temporary Stormwater Section

**Texas Commission on Environmental Quality**

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

***To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.***

***Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.***

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Aimee Chavez, P.E.

Date: 8/29/25

Signature of Customer/Agent:

**Regulated Entity Name:** Clara Vista Lift Station & Force Main

## Project Information

## Potential Sources of Contamination

*Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.*

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☒ The following fuels and/or hazardous substances will be stored on the site: Diesel Fuel, Gasoline, etc.

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☒ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☐ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

## *Sequence of Construction*

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Blanco River

## *Temporary Best Management Practices (TBMPs)*

*Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.*

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

## *Soil Stabilization Practices*

*Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.*

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices**. A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

## *Administrative Information*

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

# ATTACHMENT A

## Spill Response Actions

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- Visit TCEQ's Reportable Quantities site: https://www.tceq.texas.gov/response/spills/spill_rq.html
- The contractor will be required to report significant or hazardous spills in reportable quantities as soon as possible and within 24 hours to:
  - the National Response Center at (800) 424-8802
  - the TCEQ Regional Office (512) 339-2929 (if during business hours: 8 AM to 5 PM) or
  - the State Emergency Response Center (800) 832-8224 (if after hours)

- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

# ATTACHMENT B

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

**POTENTIAL SOURCES OF CONTAMINATION**

Potential Source
- Asphalt products used on this project.

Preventative Measure
- After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.

Potential Source
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measure
- Vehicle maintenance when possible will be performed within the construction staging area.
- Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.

Potential Source
- Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.

Preventative Measure
- Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.
- Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.

- Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.
- A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.

Potential Source
- Miscellaneous trash and litter from construction workers and material wrappings.

Preventive Measure
- Trash containers will be placed throughout the site to encourage proper trash disposal.

Potential Source
- Construction debris.

Preventive Measure
- Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

Potential Source
- Spills/Overflow of waste from portable toilets

Preventative Measure
- Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.
- Portable toilets will be placed on a level ground surface.
- Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

# ATTACHMENT C

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

**SEQUENCE OF MAJOR ACTIVITIES**

The sequence of major activities which disturb soil during construction on this site are listed below.

1) Set erosion controls – approximately 1,912 LF of silt fence
2) Clear and grub – approximately 2.72 acres
3) Rough grade roadway – approximately 0.82 acres
4) Rough grade lift station – approximately 0.23 acres
5) Trench utilities – approximately 1,461 LF
6) Install water, wastewater, and storm – approximately 1,461 LF
7) Install sub base/base for road/parking areas – approximately 0.59 acres
8) Pave roadway/parking areas – approximately 0.46 acres
9) Site cleanup – approximately 2.72 acres
10) Remove erosion controls – approximately 1,912 LF of silt fence

# ATTACHMENT D

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

**TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES**

Please see the Erosion Control sheets included in the Construction Plans Section for TBMP layout and the responses below for more details.

Due to existing topography, upgradient stormwater from adjacent property north of the site enters the property and flows from north to south through the lift station project limits. As this upgradient area is currently undeveloped and undisturbed, sedimentation from off-site areas is not anticipated. All TBMPs utilized are adequate for the drainage areas served.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of rock berms downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (4) installation of construction staging area(s).

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activities on the project, may also disturb additional soil. The construction contractor will be responsible for the installation of all remaining on-site control measures that includes installation of the concrete truck washout pit(s), as construction phasing warrants.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter the aquifer, surface streams and/or sensitive features that may exist downstream of the site.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter the aquifer, surface streams and/or sensitive features that may exist downstream of the site.

## CLARA VISTA LIFT STATION & FORCE MAIN
## Aboveground Storage Tank Application

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site. Features discovered during construction will be reported and assessed in accordance with applicable regulations.

# ATTACHMENT F

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

**STRUCTURAL PRACTICES**

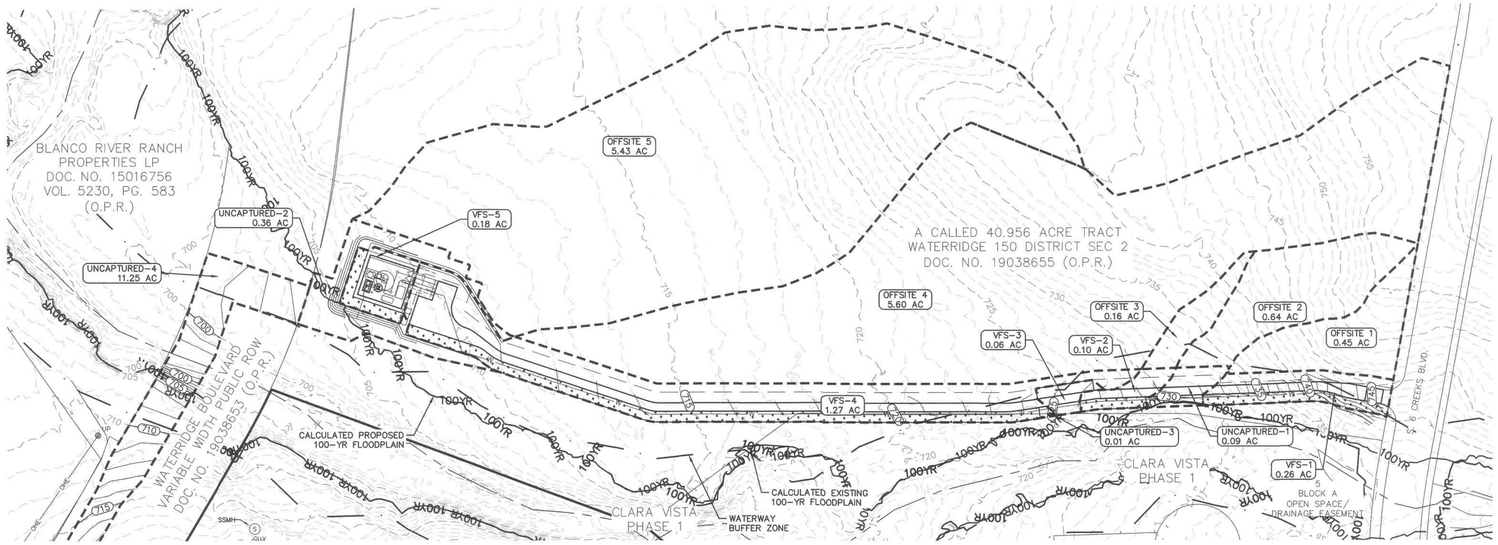
The following structural measures will be installed prior to the initiation of site preparation activities:

- Erection of silt fences along the downgradient boundary of construction activities and rock berms for secondary protection, as located on the Erosion Control sheets and illustrated on the Construction Details - Erosion Controls sheet.
- Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on the Erosion Control sheets and illustrated on the Construction Details - Erosion Controls sheet.

The following structural measures will be installed at the initiation of construction activities or as appropriate based on the construction sequencing:

- Installation of concrete truck washout pit(s), as required and located on the Erosion Control sheets and illustrated on the Construction Details - Erosion Controls sheet.
- Installation of rock berm, as required and located on the Erosion Control sheets and illustrated on the Construction Details – Erosion Controls sheet.

# ATTACHMENT G

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| | | | | | | | |
| OFFSITE 1 | 0.45 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 2 | 0.64 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 3 | 0.16 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 4 | 5.60 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 5 | 5.43 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| | | | | | | | |
| Total | 25.86 | 2.50 | 3.10 | 0.59 | | 526 | 526 |

NO. REVISION DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/25

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

# CLARA VISTA
## LIFT STATION & FORCE MAIN
## WATER QUALITY DRAINAGE MAP

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 12 OF 54

Date: Apr 11, 2025, 12:01pm User ID: andrewdook
File: H:\Projects\51456\10\302 Construction Documents\Civil\WQS1456-10_FM.dwg



CP-22-0144

# ATTACHMENT I

INSPECTIONS & MAINTENANCE

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection will be recorded and maintained as part of Storm Water TPDES data for a period of three years after the Notice of Termination (NOT) has been filed. A copy of the Inspection Report Form is provided in this Contributing Zone Plan.

**As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable. Temporary sediment basins and permanent basins will be inspected until final stabilization of 70% within the basin watershed is achieved.**

BMP inspection and maintenance requirements from sections 1.3 and 1.4 of TCEQ's Technical Guidance Manual are detailed below.

**Temporary Construction Entrance/Exit**

- The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

- All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
- When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
- When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

**Silt Fence**

- Inspect all fencing weekly, and after any rainfall.
- Remove sediment when buildup reaches 6 inches.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.
- Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

**Rock Berms**

- Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
- Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
- Repair any loose wire sheathing.
- The berm should be reshaped as needed during inspection.

- The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
- The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

| Pollution Prevention Measure | Inspected in Compliance | Corrective Action Required | |
|---|---|---|---|
| | | *Description* (use additional sheet if necessary) | Date Completed |
| *Best Management Practices* | | | |
| Natural vegetation buffer strips | | | |
| Temporary vegetation | | | |
| Permanent vegetation | | | |
| Sediment control basin | | | |
| Silt fences | | | |
| Rock berms | | | |
| Gravel filter bags | | | |
| Drain inlet protection | | | |
| Other structural controls | | | |
| Vehicle exits (off-site tracking) | | | |
| Material storage areas (leakage) | | | |
| Equipment areas (leaks, spills) | | | |
| Concrete washout pit (leaks, failure) | | | |
| General site cleanliness | | | |
| Trash receptacles | | | |
| Evidence of Erosion | | | |
| Site preparation | | | |
| Roadway or parking lot construction | | | |
| Utility construction | | | |
| Drainage construction | | | |
| Building construction | | | |
| Major Observations | | | |
| Sediment discharges from site | | | |
| BMPs requiring maintenance | | | |
| BMPs requiring modification | | | |
| Additional BMPs required | | | |

**_____ A brief statement describing the qualifications of the inspector is included in this SWP3.**

"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 I am an authorized signatory in accordance with the provisions of 30 TAC §305.128."

Inspector's Name _____ Inspector's Signature _____ Date _____

# CLARA VISTA LIFT STATION & FORCE MAIN
# Aboveground Storage Tank Application

PROJECT MILESTONE DATES

Date when major site grading activities begin:

| Construction Activity | *Date* |
|---|---|
| Installation of BMPs | |
| | |
| | |
| | |
| | |
| | |
| | |

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

| Construction Activity | Date |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

Dates when stabilization measures are initiated:

| Stabilization Activity | Date |
|---|---|
| | |
| | |
| | |
| | |
| | |
| Removal of BMPs | |

# ATTACHMENT J

## SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized via permanent revegetation. Details, such as installation, irrigation, and maintenance are provided below.

**Installation:**

- Final grading must be completed prior to seeding, minimizing all steep slopes. In addition, all necessary erosion structures such as dikes, swales, diversions, should also be installed.
- Seedbed should be well pulverized, loose, and uniform.
- Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet. Compost can be used instead of fertilizer and applied at the same time as the seed.

**Irrigation:**

- Temporary irrigation should be provided according to the schedule described below, or to replace moisture loss to evapotranspiration (ET), whichever is greater. Significant rainfall (on-site rainfall of ½" or greater) may allow watering to be postponed until the next scheduled irrigation.

| Time Period | Irrigation Amount and Frequency |
|---|---|
| Within 2 hours of installation | Irrigate entire root depth, or to germinate seed |
| During the next 10 business days | Irrigate entire root depth every Monday, Wednesday, and Friday |
| During the next 30 business days or until Substantial Completion | Irrigate entire root depth a minimum of once per week, or as necessary to ensure vigorous growth |
| During the next 4 months or until Final Acceptance of the Project | Irrigate entire root depth once every two weeks, or as necessary to ensure vigorous growth |

**Inspection and Maintenance Guidelines:**

- Permanent vegetation should be inspected weekly and after each rain event to locate and repair any erosion.

- Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
- If the vegetated cover is less than 80%, the area should be reseeded.

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14$^{th}$ day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

# PERMANENT STORMWATER

# Permanent Stormwater Section

**Texas Commission on Environmental Quality**

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(Ii), (E), and (5), Effective June 1, 1999

***To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.***

***Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.***

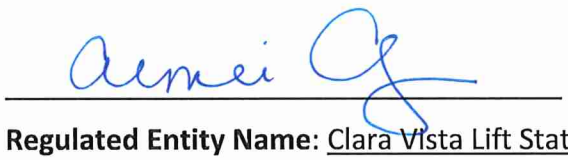
## *Signature*

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Aimee Chavez, P.E.

Date: August 22, 2025

Signature of Customer/Agent



**Regulated Entity Name**: Clara Vista Lift Station & Force Main

## *Permanent Best Management Practices (BMPs)*

***Permanent best management practices and measures that will be used during and after construction is completed.***

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____

☐ N/A

3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

   ☐ N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

☒ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☒ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☐ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☐ N/A

## *Responsibility for Maintenance of Permanent BMP(s)*

***Responsibility for maintenance of best management practices and measures after construction is complete.***

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

# ATTACHMENT B

## Attachment B – BMPs for Upgradient Stormwater

Fifteen-foot (15') wide Engineered Vegetative Strips (VFS) are proposed as the Permanent Best Management Practices (PBMPs) for all upgradient stormwater. All PBMPs have been designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 85% of the increase in Total Suspended Solids (TSS) from the site.

# ATTACHMENT C

## Attachment C – BMPs for On-Site Stormwater

Fifteen-foot (15') wide Engineered Vegetative Strips (VFS) are proposed as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs have been designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 85% of the increase in Total Suspended Solids (TSS) from the site.

# ATTACHMENT D

## Attachment D – BMPs for Surface Streams

Fifteen-foot (15') wide Engineered Vegetative Strips (VFS) are proposed as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs have been designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 85% of the increase in Total Suspended Solids (TSS) from the site.

# ATTACHMENT F

| Revision # | Description | Approval |
|---|---|---|
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REVIEWED BY:

Leon Barba, P.E., City Engineer — DATE 5/6/25
City of Kyle, Texas

Mike Murphy, Director of Water Utilities — DATE 5/5/25
City of Kyle, Texas

~~Will Atkinson~~, Planning Director Jason Lutz — DATE
City of Kyle, Texas

Hays County Commissioners Court — DATE
Hays County, Texas


ENGINEER/SURVEYOR:
PAPE-DAWSON CONSULTING ENGINEERS, LLC.
10801 N MOPAC EXPY., BLDG. 3, SUITE 200
AUSTIN, TEXAS 78759
(512) 454-8711
FAX (512) 459-8867

OWNER/DEVELOPER:
TOLL BROTHERS
1320 ARROW POINT DR., SUITE 401
CEDAR PARK, TX 78613
(412) 780-2312


SUBMITTAL DATE: MARCH 7, 2023
PROJECT NO. CP-23-0150
ZONING: R-1-1 SINGLE FAMILY RESIDENTIAL

DEVELOPMENT AGREEMENT: BLANCO RIVER RANCH
(PHASE TWO RESIDENTIAL-SAVANNAH DISTRICT) DEVELOPMENT AGREEMENT
FILED: RECORED 4/19/2022

THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, REGULATORY COMPLIANCE, AND ADEQUACY OF THESE PLANS AND/ OR SPECIFICATIONS WHETHER OR NOT THE PLANS AND/OR SPECIFICATIONS WERE REVIEWED BY THE CITY ENGINEER(S).

FLOODPLAIN:
THE TRACT SHOWN HEREON LIES WITHIN ZONE "AE" AND ZONE "A" AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, AS SHOWN ON MAP NO. 48209C0270F, DATED SEPTEMBER 02, 2005 FOR HAYS COUNTY, TEXAS AND INCORPORATED AREAS.

THIS FLOOD PLAIN NOTE DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

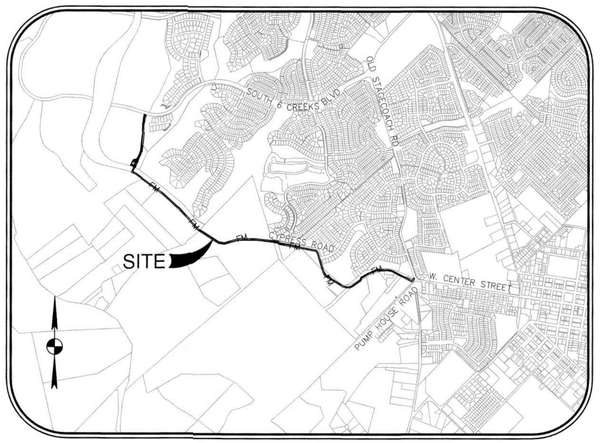
WATERSHED:
THIS SUBDIVISION IS LOCATED WITHIN THE BLANCO RIVER WATERSHED.

ENVIRONMENTAL:
THIS SUBDIVISION PROJECT IS LOCATED IN THE EDWARDS AQUIFER CONTRIBUTING ZONE WITHIN THE TRANSITION ZONE.

# CLARA VISTA
# LIFT STATION & FORCE MAIN

## PUBLIC IMPROVEMENTS CONSTRUCTION PLANS

## PROJECT NO. CP-22-0144
## CITY OF KYLE ETJ
## HAYS COUNTY, TEXAS




LOCATION MAP
1: 2000

| Sheet List Table | |
|---|---|
| Sheet Number | Sheet Title |
| 1 | COVER |
| 2 | GENERAL NOTES |
| 3 | TCEQ NOTES |
| 4 | EROSION AND SEDIMENTATION CONTROL PLAN 1 OF 7 |
| 5 | EROSION AND SEDIMENTATION CONTROL PLAN 2 OF 7 |
| 6 | EROSION AND SEDIMENTATION CONTROL PLAN 3 OF 7 |
| 7 | EROSION AND SEDIMENTATION CONTROL PLAN 4 OF 7 |
| 8 | EROSION AND SEDIMENTATION CONTROL PLAN 5 OF 7 |
| 9 | EROSION AND SEDIMENTATION CONTROL PLAN 6 OF 7 |
| 10 | EROSION AND SEDIMENTATION CONTROL PLAN 7 OF 7 |
| 11 | TREE PRESERVATION PLAN TREE LIST |
| 12 | WATER QUALITY DRAINAGE MAP |
| 13 | SEWERSHED PLAN |
| 14 | OVERALL LAYOUT |
| 15 | WASTEWATER PROFILES WW-1A 1 OF 2 |
| 16 | WASTEWATER PROFILES WW-1A 2 OF 2 |
| 17 | FORCE MAIN PROFILES FM-1A 1 OF 11 |
| 18 | FORCE MAIN PROFILES FM-1A 2 OF 11 |
| 19 | FORCE MAIN PROFILES FM-1A 3 OF 11 |
| 20 | FORCE MAIN PROFILES FM-1A 4 OF 11 |
| 21 | FORCE MAIN PROFILES FM-1A 5 OF 11 |
| 22 | FORCE MAIN PROFILES FM-1A 6 OF 11 |
| 23 | FORCE MAIN PROFILES FM-1A 7 OF 11 |
| 24 | FORCE MAIN PROFILES FM-1A 8 OF 11 |
| 25 | FORCE MAIN PROFILES FM-1A 9 OF 11 |
| 26 | FORCE MAIN PROFILES FM-1A 10 OF 11 |
| 27 | FORCE MAIN PROFILES FM-1A 11 OF 11 & WW-1B |
| 28 | TRAFFIC CONTROL PLAN |
| 29 | EROSION & SEDIMENTATION CONTROL DETAILS |
| 30 | WASTEWATER DETAILS |
| 31 | LIFT STATION SITE PLAN |
| 32 | LIFT STATION GRADING, PAVING & DRAINAGE |
| 33 | LIFT STATION CIVIL DETAILS |
| 34 | LIFT STATION MECHANICAL PLAN & SECTION |
| 35 | LIFT STATION MECHANICAL DETAILS |
| 36 | STRUCTUAL ELEVATION AND DETAILS |
| 37 | STRUCTURAL NOTES AND DISCHARGE PIPING DETAILS |
| 38 | STRUCTURAL VALVE VAULT PLAN AND DETAILS |
| 39 | MISCELLANEOUS STRUCTURAL DETAILS |
| 40 | ELECTRICAL LEGENDS SCHEDULES AND NOTES |
| 41 | ELECTRICAL SITE LAYOUT |
| 42 | ELECTRICAL ONE-LINE DIAGRAM |
| 43 | LIFT STATION ELECTRICAL DETAILS 1 OF 6 |
| 44 | LIFT STATION ELECTRICAL DETAILS 2 OF 6 |
| 45 | LIFT STATION ELECTRICAL DETAILS 3 OF 6 |
| 46 | LIFT STATION ELECTRICAL DETAILS 4 OF 6 |
| 47 | LIFT STATION ELECTRICAL DETAILS 5 OF 6 |
| 48 | LIFT STATION ELECTRICAL DETAILS 6 OF 6 |
| 49 | ODOR CONTROL ELECTRICAL NOTES SYMBOLS AND ABBREVIATIONS |
| 50 | ODOR CONTROL ELECTRICAL SPECIFICATIONS |
| 51 | ODOR CONTROL ELECTRICAL SITE PLAN |
| 52 | ODOR CONTROL ELECTRICAL SCHEDULES |
| 53 | ODOR CONTROL ELECTRICAL DETAILS 1 OF 2 |
| 54 | ODOR CONTROL ELECTRICAL DETAILS 2 OF 2 |

APPROVED

SUBMITTED BY:

I, MICHAEL S. FISHER, P.E. # 87704, DO HEREBY CERTIFY THAT THE ENGINEERING WORK BEING SUBMITTED HEREIN COMPLIES WITH ALL THE PROVISION OF THE TEXAS ENGINEERING PRACTICE ACT, INCLUDING 131.152 (e). I HEREBY ACKNOWLEDGE THAT ANY MISREPRESENTATION REGARDING THIS CERTIFICATION CONSTITUTES A VIOLATION OF THE ACT, AND MAY RESULT IN CRIMINAL, CIVIL AND/OR ADMINISTRATIVE PENALTIES AGAINST ME, AS AUTHORIZED BY THE ACT.

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER

4/11/25
PAPE-DAWSON CONSULTING ENGINEERS, LLC — DATE
MICHAEL S. FISHER, P.E. #87704
SENIOR VICE PRESIDENT


PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801




PD JOB NO. 51456-10 CLARA VISTA LIFT STATION & FORCE MAIN (CP-22-0144)

DATE: Apr 11, 2025, 11:56AM USER ID: ANDREWOAK
File: H:\PROJECTS\51456\10\302 CONSTRUCTION DOCUMENTS\CIVIL\TS51456-10_FMLDWG



CP-22-0144

CITY OF KYLE
GENERAL CONSTRUCTION NOTES
REVISED NOVEMBER 23, 2022

## GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE FOLLOWING REGULATIONS AND SPECIFICATIONS. THE FIRST LISTED WILL HAVE PRIORITY OVER THOSE LISTED BELOW:

   PERMITS ISSUED FOR PROJECT BY ANY REGULATORY AGENCIES.
   TEXAS COMMISSION ON ENVIRONMENTAL QUALITY REGULATIONS.
   CITY OF KYLE CONSTRUCTION STANDARDS.
   PLANS FOR THIS PROJECT.

2. PRIOR TO THE BEGINNING OF CONSTRUCTION, THE DEVELOPER SHALL ARRANGE A PRE-CONSTRUCTION CONFERENCE. PRE-CONSTURCTION SHALL BE SCHEDULED WITH THE PW OFFICE, 512-262-3024 AND HELD AT THE PW FACILITY LOCATED AT 520 E RR150, KYLE, TEXAS. EPRESENTATIVES FROM THE FOLLOWING ORGANIZATIONS SHALL BE INVITED:

   CITY OF KYLE STAFF INCLUDING THE DIRECTOR OF PUBLIC WORKS,
   CITY ENGINEER AND THE PUBLIC WORKS INSPECTOR.
   CONTRACTOR.
   DESIGN ENGINEER.
   ELECTRIC, GAS, PHONE AND CABLE UTILITY REPRESENTATIVES, IF APPROPRIATE.

3. PRIOR TO THE BEGINNING OF CONSTRUCTION, ALL PLAN REVIEW AND CONSTRUCTION INSPECTION FEES SHALL BE PAID TO THE CITY OF KYLE AND THE FOLLOWING PERMITS SHALL BE IN PLACE, IF NECESSARY:

   TEXAS DEPARTMENT OF TRANSPORTATION, ENTRY ONTO A HIGHWAY.
   CORPS OF ENGINEERS, SECTION 404, FOR CONSTRUCTION IN
   FLOOD PLAIN.
   COMPLIANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) CONSTRUCTION GENERAL PERMIT (TXR150000).
   TEXAS DEPARTMENT OF LICENSING AND REGULATION FOR ACCESSIBILITY.
   TCEQ FOR SIGNIFICANT WATER AND WASTEWATER FACILITIES, INCLUDING LIFT STATIONS.

4. BENCHMARKS FOR THIS PROJECT ARE DESCRIBED AS FOLLOWS:

5. ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALKS DAMAGED OR REMOVED SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE SUBDIVISION.

6. THE CONTRACTOR SHALL GIVE THE CITY OF KYLE (PHONE NO. 512-262-3024), 48 HOURS NOTICE PRIOR TO CONNECTING TO ANY EXISTING CITY UTILITY LINE.

7. SIDEWALKS FRONTING PUBLIC RIGHT-OF-WAY LAND OR INCLUDING ALL SIDEWALK RAMPS REQUIRED BY CITY ORDINANCE SHOWN ON THESE PLANS SHALL BE CONSTRUCTED WITH THIS PROJECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WARNING AND SAFETY SIGNS, BARRICADES AND TRAFFIC CONTROL DURING CONSTRUCTION. ALL ROAD SIGNAGE SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

9. CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE CITY OF KYLE FOR THE USE OF ALL WATER FOR CONSTRUCTION.

10. ALL FILL OR CUT ON LOTS WHICH IS GREATER THAN TWELVE (12) INCHES SHALL BE SHOWN ON THE PLANS AND SHALL CONFORM TO THE FOLLOWING:

    FILL MATERIAL SHALL NOT CONTAIN ANY ROCKS HAVING A MAXIMUM DIMENSION GREATER THAN SIX (6) INCHES.

    FILL MATERIAL SHALL HAVE AT LEAST FIFTY PERCENT (50%) PASSING THE NO. 4 SIEVE.

    FILL MATERIAL SHALL BE REASONABLY FREE OF ROOTS, TRASH, CONCRETE RUBBLE AND OTHER ORGANIC MATERIAL.

    COMPACTION SHALL BE TO NINETY-FIVE PERCENT (95%) OF MAXIMUM LABORATORY DENSITY DETERMINED IN ACCORDANCE WITH THE ASTM D 698. THE MATERIAL SHALL BE WITHIN THREE (3) PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT DURING COMPACTION.

    PLACEMENT SHALL BE IN LIFTS NOT EXCEEDING EIGHT (8) INCHES AFTER COMPACTION. EACH COMPACTED LIFT SHOULD BE INSPECTED AND/OR TESTED FOR DENSITY COMPLIANCE BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING THE NEXT LIFT. THE FILL AREA SHOULD EXTEND AT LEAST 24 INCHES (36 INCHES ON FILLS OVER SIX (6) FEET IN HEIGHT) BEYOND THE BACK OF CURB OR FOUNDATION LINE BEFORE SLOPING DOWNWARD ON NOT MORE THAN THREE (3) TO ONE (1) SLOPE TO NATURAL SOIL. BACKSLOPES SHALL BE WELL COMPACTED. MAXIMUM FILL HEIGHTS SHOULD NOT EXCEED TEN (10) FEET WITHOUT ENGINEERING CONSULTATION.

11. CONTRACTOR SHALL GIVE CITY INSPECTOR 36 HOURS NOTICE OF THE NEED FOR MATERIALS TESTING. ALL TESTING WILL BE ARRANGED AND PAID FOR BY THE CONTRACTOR. THE CITY SHALL RECEIVE A COPY OF TEST RESULTS.

12. CONTRACTOR OR THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND CUT SHEETS FOR PIPE LINES LAID ON GRADE AND ROAD CONSTRUCTION. CUT SHEETS SHALL BE DELIVERED TO THE CITY INSPECTOR 36 HOURS PRIOR TO CONSTRUCTION.

13. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND STABLE OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR.

15. NO TREES OVER 6 INCHES IN DIAMETER SHALL BE REMOVED UNLESS DESIGNATED TO BE REMOVED ON THE APPROVED PLANS. ALL TREE LIMBS REMOVED OR TRIMMED SHALL BE VERTICALLY CUT AND DRESSED.

16. ALL CONSTRUCTION ACTIVITIES SHALL BE CONFINED TO PROPERTY OWNED BY THE DEVELOPER OR PUBLIC RIGHT-OF-WAY AND EASEMENT UNLESS WRITTEN PERMISSION IS OBTAINED BY THE CONTRACTOR FROM THE PROPERTY OWNER AFFECTED.

17. THE CITY OF KYLE DOES NOT ALLOW ANY BLASTING WITHIN THE CITY LIMITS.

## TYPICAL SEQUENCE OF CONSTRUCTION

1. HOLD PRE-CONSTRUCTION CONFERENCE.
2. NO CLEARING OR ROUGH GRADING MAY BE DONE UNTIL THE APPROVED EROSION AND SEDIMENTATION CONTROLS ARE IN PLACE.
3. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND STABILIZATION CONSTRUCTION ENTRANCE, IF REQUIRED, IN THE APPROVED PLANS.
4. ROUGH GRADE STREETS.
5. INSTALL ALL UTILITIES IN RIGHTS-OF-WAY.
6. RE-GRADE AND COMPACT SUBGRADE. MEET WITH CITY INSPECTOR AND/DESIGN ENGINEER TO DETERMINE AREAS OF DIFFERING STREET SECTION THICKNESS OR SUBGRADE PREPARATION IF CALLED FOR IN THE GEOTECHNICAL REPORT.
7. INSURE ALL UNDERGROUND UTILITY CROSSINGS ARE IN PLACE INCLUDING SLEEVES FOR DRY UTILITIES AND INSTALL FIRST COURSE OF BASE.
8. INSTALL CURBS, RIP-RAP AND MISCELLANEOUS CONCRETE.

## TYPICAL SEQUENCE OF CONSTRUCTION CONTINUED

9. INSTALL SECOND COURSE OF BASE.
10. LAY ASPHALT.
11. FINAL GRADE ANY DITCHES AND PARKWAYS.
12. REVEGETATE ALL DISTURBED AREAS. DISPOSE OF SPOIL IN AN APPROVED MANNER.
13. SCHEDULE A FINAL INSPECTION WITH CITY.
14. AFTER ACCEPTANCE OF CONSTRUCTION, TEMPORARY EROSION CONTROLS MAY BE REMOVED.

## MINIMUM CRITERIA FOR ACCEPTANCE

1. ALL CONSTRUCTION IS COMPLETE INCLUDING DRY UTILITIES AND RESTORATION TO THE CRITERIA.
2. ALL CITY OF KYLE FEES PAID AND MAINTENANCE BOND POSTED.
3. ALL RECORDS OF CONSTRUCTION TESTING AND RECORD DRAWINGS SHOWING ANY CHANGES DURING CONSTRUCTION PROVIDED TO THE CITY OF KYLE.
4. ALL STREET LIGHTING, SIGNS AND PAVEMENT MARKINGS SHALL BE IN PLACE.

## WATER AND WASTEWATER NOTES

1. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, DR-14) OR DUCTILE IRON (AWWA C-151, CLASS 350).
2. PIPE MATERIAL FOR GRAVITY SEWER SHALL BE SDR-26 PVC IF LOCATED GREATER THAN 9 FEET FROM A WATERLINE, OTHERWISE SHALL BE PRESSURE RATED PIPE.
3. BEDDING FOR FLEXIBLE GRAVITY PIPE (I.E. SDR-26 PVC) SHALL CONFORM TO ASTM 2321 CLASS 1 MATERIAL, I.E., 3/4" - 1" CLEAN ANGULAR CRUSHED ROCK.
4. CITY INSPECTOR SHALL OBSERVE ALL TAPS TO CITY UTILITY LINES AND PRIOR TO ANY UTILITY RELOCATION.
5. CONTRACTOR SHALL DISINFECT AND PRESSURE TEST ALL WATER LINES AND PERFORM LEAK AND DEFLECTION TESTS ON GRAVITY WASTEWATER LINES AT HIS EXPENSE.
6. THE CITY INSPECTOR SHALL BE NOTIFIED 36 HOURS PRIOR TO ALL UTILITY LINE TESTING. CONTRACTOR, WITH CITY STAFF PRESENT, IS RESPONSIBLE FOR SAMPLING. CITY STAFF WILL TRANSPORT BACTERIOLOGICAL TEST SAMPLES TO THE STATE DEPARTMENT OF HEALTH. ALL TEST RESULTS, WHETHER PASSING OR FAILING, SHALL BE PROVIDED TO THE CONTRACTOR. MANDREL DEFLECTION TESTING SHALL NOT BE CONDUCTED UNTIL THE PIPES HAVE BEEN BACKFILLED FOR 30 DAYS.
7. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION OR APPROVED EQUAL.
8. THE CONTRACTOR SHALL SUBMIT TO THE DESIGN ENGINEER, DESCRIPTIVE INFORMATION FOR MATERIALS TO BE USED ON THE PROJECT FOR REVIEW. A COPY OF THE ACCEPTED MATERIAL SHALL ALSO BE PROVIDED TO THE CITY OF KYLE TEN DAYS PRIOR TO THE INSTALLATION OF UTILITIES.
9. PRESSURE TAPS SHALL BE IN ACCORDANCE WITH THE CITY OF KYLE. THE CONTRACTOR SHALL DO ALL EXCAVATION ETC., AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. A CITY OF KYLE INSPECTOR MUST BE PRESENT WHEN TAP IS MADE. 7/32 SIZE ON SIZE 9/32 TAPS WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE DIRECTOR OF PUBLIC WORKS. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES TWENTY-FOUR (24) HOURS PRIOR TO MAKING THE WET TAP.
10. ONE CALL NOTE - CONTRACTOR MUST CALL CITY OF KYLE (512-262-3024) FOR LOCATION OF CITY UTILITIES.
11. 200 PSI, BLACK, POLYETHYLENE TUBING SHALL BE USED ON WATER SERVICES.
12. ALL MANHOLES SHALL BE INTERNALLY COATED TO CITY OF AUSTIN SPECIFICATIONS, INCLUDING THE TIE-IN MANHOLE, UNLESS WAIVED BY THE DIRECTOR OF PUBLIC WORKS.
13. ALL PUBLIC MANHOLE COVERS WITHIN THE CITY LIMITS OF KYLE SHALL HAVE THE CITY OF KYLE LOGO.
14. ALL GATE VALVE OPERATING NUT OR VALVE EXTENTION NEEDS TO BE 24 9/32 TO FINAL GRADE.

## FIRE PREVENTION NOTES

1. THE CONTRACTOR SHALL PROVIDE COMPACTED FLEXIBLE BASE PAVEMENT PRIOR TO CONSTRUCTION OF COMBUSTIBLE MATERIALS AS AN 7/32 ALL WEATHER DRIVING SURFACE. 9/32
2. HYDRANTS MUST BE INSTALLED WITH THE CENTER OF THE 4 59/64 INCH OPENING AT LEAST EIGHTEEN (18) INCHES ABOVE FINISHED GRADE. THE 4 59/64 INCH OPENING MUST FACE THE DRIVEWAY OR STREET WITH 3' - 6" SETBACK FROM CURBLINE(S). NO OBSERVATION IS ALLOWED WITHIN THREE (3) FEET OF ANY HYDRANT AND THE 4 69/64 INCH OPENING MUST BE TOTALLY UNOBSTRUCTED FROM THE STREET (USE NST THREADS).
3. DESIGNATE NO PARKING - FIRE LANE WITH CURB PAINTED RED AND WHITE STENCIL IN 7/32 FIRE ZONE / TOW AWAY ZONE 9/32 IN LETTERING 3 INCHES IN HEIGHT IN PROXIMITY TO COMMERCIAL, INDUSTRIAL AND PUBLIC STRUCTURES.

## EROISON AND SEDIMENTATION CONTROL

1. AFTER THE PRECONSTRUCTION MEETING IS HELD, THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND FENCING FOR AREAS OUTSIDE OF THE CONSTRUCTION AREA PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS, AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
3. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
4. FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE CITY INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
5. PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:

   A.A MINIMUM OF FOUR (4) INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK), AND BETWEEN THE CURB AND RIGHT-OF-WAY.

   B. TRASH, WOOD, BRUSH, STUMPS, ROCKS OVER 1 59/64 INCHES IN SIZE AND OTHER OBJECTIONABLE MATERIAL ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER OR INSPECTOR PRIOR TO BEGINNING OF WORK REQUIRED BY THIS ITEM. GRASS AND OTHER HERBACEOUS PLANT MATERIALS MAY REMAIN. LARGE CLUMPS SHALL BE BROKEN UP.

   C. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS:

## BROADCAST SEEDING

(I) FROM OCTOBER TO FEBRUARY, SEEDING SHALL BE WITH ONE (1) POUND PER 1,000 SQUARE FEET OF UNHULLED BERMUDA OR THREE (3) POUNDS PER 1,000 SQUARE FEET OF WINTER RYE.

(II) FROM MARCH TO SEPTEMBER, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF ONE (1) POUND PER 1,000 SQUARE FEET.

FERTILIZER, IF USED, SHALL BE SLOW RELEASE GRANULAR OR PALETTE TYPE, AND SHALL HAVE AN ANALYSIS OF 15-15-15, AND SHALL BE APPLIED AT THE RATE OF ONE (1) POUND PER 1,000 SQUARE FEET, ONCE AT THE TIME OF PLANTING, AND AGAIN ONCE DURING THE TIME OF ESTABLISHMENT.

MULCH TYPE USED SHALL BE STRAW OR HAY APPLIED AT A RATE OF 45 POUNDS PER 1,000 SQUARE FEET.

## HYDRAULIC SEEDING

(I) FROM OCTOBER TO FEBRUARY, SEEDING SHALL BE WITH ONE (1) POUND PER 1,000 SQUARE FEET OF UNHULLED BERMUDA, OR THREE (3) POUNDS PER 1,000 SQUARE FEET OF WINTER RYE.

(II) FROM MARCH TO SEPTEMBER, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF ONE (1) POUND PER 1,000 SQUARE FEET.

FERTILIZER, IF USED, SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1,000 SQUARE FEET.

MULCH TYPE SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1,000 SQUARE FEET, WITH A SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1,000 SQUARE FEET.

D. THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK TO A DEPTH OF SIX (6) INCHES. THE IRRIGATION SHALL OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO (2) MONTHS. RAINFALL OCCURRENCES OF 59/64 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR TEN (10) DAYS.

E. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 INCH HIGH WITH 85% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 20 SQUARE FEET EXIST.

F. A SOIL RETENTION BLANKET SHALL BE PLACED ON ALL SLOPES EQUAL TO OR GREATER THAN 3:1. ALL SOIL RETENTION BLANKETS MUST BE LISTED ON THE TXDOT APPROVED PRODUCTS LIST OR APPROVED BY THE CITY.

DEVELOPER INFORMATION:

OWNER: TOLL BROTHERS

ADDRESS: 1320 ARROW POINT DRIVE, SUITE 401, CEDAR PARK, TX. 78613

PHONE: (412) 780-2312

REPRESENTATIVE: ADRIENNE DONATUCCI

DESIGN ENGINEER:REPRESENTATIVE RESPONSIBLE FOR PLAN CHANGES.

NAME: MICHAEL FISHER, P.E.

ADDRESS: 10801 N. MOPAC EXPY., BUILDING. 3, SUITE 200, AUSTIN, TX 78759

PHONE: (512) 454-8711

CITY OF KYLE:

DIRECTOR OF WATER UTILITIES: MIKE MURPHY (512) 262-3024

CITY ENGINEER: LEON BARBA, P.E. (512) 262-3958

## CITY OF KYLE WATER RESTRICTIONS

1. CITY OF KYLE WATERING RESTRICTIONS MUST BE ADHERED TO. THIS MAY INCLUDE RESTRICTION ON CONSTRUCTION WATER FROM CITY OF KYLE POTABLE WATER SYSTEM.

| NO. | REVISION | DATE |
|---|---|---|

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/25

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

CLARA VISTA
LIFT STATION & FORCE MAIN

GENERAL NOTES

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 2 OF 54

**Texas Commission on Environmental Quality**
**Organized Sewage Collection System**
**General Construction Notes**

**Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer**

*The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.*

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.
2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.
3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.
5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.
6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the



executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.
8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.
9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

   The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet __ of __.

   It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.
10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).
11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.

    Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.
12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.



If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet __ of __. (For potential future laterals).

The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet __ of __ and marked after backfilling as shown in the detail on Plan Sheet __ of __.

13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.
14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).
15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:
   (a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
      (1) *Low Pressure Air Test.*
         (A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
         (B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
            (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
            (ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3 $$T = \frac{0.085 \times D \times K}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches



L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

| Pipe Diameter *(inches)* | Minimum Time *(seconds)* | Maximum Length for Minimum Time *(feet)* | Time for Longer Length *(seconds/foot)* |
|---|---|---|---|
| 6 | 340 | 398 | 0.855 |
| 8 | 454 | 298 | 1.520 |
| 10 | 567 | 239 | 2.374 |
| 12 | 680 | 199 | 3.419 |
| 15 | 850 | 159 | 5.342 |
| 18 | 1020 | 133 | 7.693 |
| 21 | 1190 | 114 | 10.471 |
| 24 | 1360 | 100 | 13.676 |
| 27 | 1530 | 88 | 17.309 |
| 30 | 1700 | 80 | 21.369 |
| 33 | 1870 | 72 | 25.856 |

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

(2) *Infiltration/Exfiltration Test.*
(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce



the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
(A) *Mandrel Sizing.*
(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
(iii) All dimensions must meet the appropriate standard.
(B) *Mandrel Design.*
(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
(ii) A mandrel must have nine or more odd number of runners or legs.
(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
(iv) Each size mandrel must use a separate proving ring.
(C) *Method Options.*
(i) An adjustable or flexible mandrel is prohibited.
(ii) A test may not use television inspection as a substitute for a deflection test.
(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
(5) Gravity collection system pipe deflection must not exceed five percent (5%).
(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
(a) All manholes must pass a leakage test.
(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
(1) Hydrostatic Testing.



(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

(2) Vacuum Testing.
(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
(B) No grout must be placed in horizontal joints before testing.
(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
(G) A test does not begin until after the vacuum pump is off.
(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

| | |
|---|---|
| Austin Regional Office<br>12100 Park 35 Circle, Building A<br>Austin, Texas 78753-1808<br>Phone (512) 339-2929<br>Fax (512) 339-3795 | San Antonio Regional Office<br>14250 Judson Road<br>San Antonio, Texas 78233-4480<br>Phone (210) 490-3096<br>Fax (210) 545-4329 |

**THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.**



**Texas Commission on Environmental Quality**
**Contributing Zone Plan**
**General Construction Notes**

**Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer**

*The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation*

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil



stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

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**THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.**



**Texas Commission on Environmental Quality**
**Lift Station and Force Main**
**General Construction Notes**

**Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer**

*The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation*

1. This lift station and/or force main must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Rules, and any local government standard specifications.
2. Any modification to the activities described in the referenced Lift Station/Force Main (LSFM) System application following the date of approval may require the submittal of a LSFM System application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.
3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
4. Upon completion of any lift station excavation, a geologist must certify that the excavation has been inspected for the presence of sensitive features. The certification must be signed, sealed, and dated by the geologist preparing the certification. Certification that the excavation has been inspected must be submitted to the appropriate regional office.
   - If sensitive feature(s) are identified, all regulated activities near the sensitive feature must be suspended immediately and may not proceed until the executive director has reviewed and approved the methods proposed to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality from the lift station.
   - Construction may continue if the geologist certifies that no sensitive feature or features were present.
5. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovery. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing within two working days. The applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially



adverse impacts to water quality while maintaining the structural integrity of the line.
6. All force main lines must be tested in accordance with 30 TAC §217.68. Testing method will be:
   - A pressure test must use 50 pounds per square inch above the normal operating pressure of a force main;
   - A temporary valve for pressure testing may be installed near the discharge point of a force main and removed after a test is successfully completed.
   - A pump isolation valve may be used as an opposite termination point.
   - A test must involve filling a force main with water.
   - A pipe must hold the designated test pressure for a minimum of 4.0 hours.
   - The leakage rate must not exceed 10.0 gallons per inch diameter per mile of pipe per day.

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|---|---|
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**THESE LIFT STATION AND FORCE MAINS CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.**



NO. REVISION | DATE

STATE OF TEXAS
MICHAEL S. FISHER
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LICENSED
PROFESSIONAL ENGINEER
4/11/25

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

# CLARA VISTA
## LIFT STATION & FORCE MAIN
## TCEQ NOTES

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 3 OF 54

Date: Apr 11, 2025, 11:56am User ID: andrewdook
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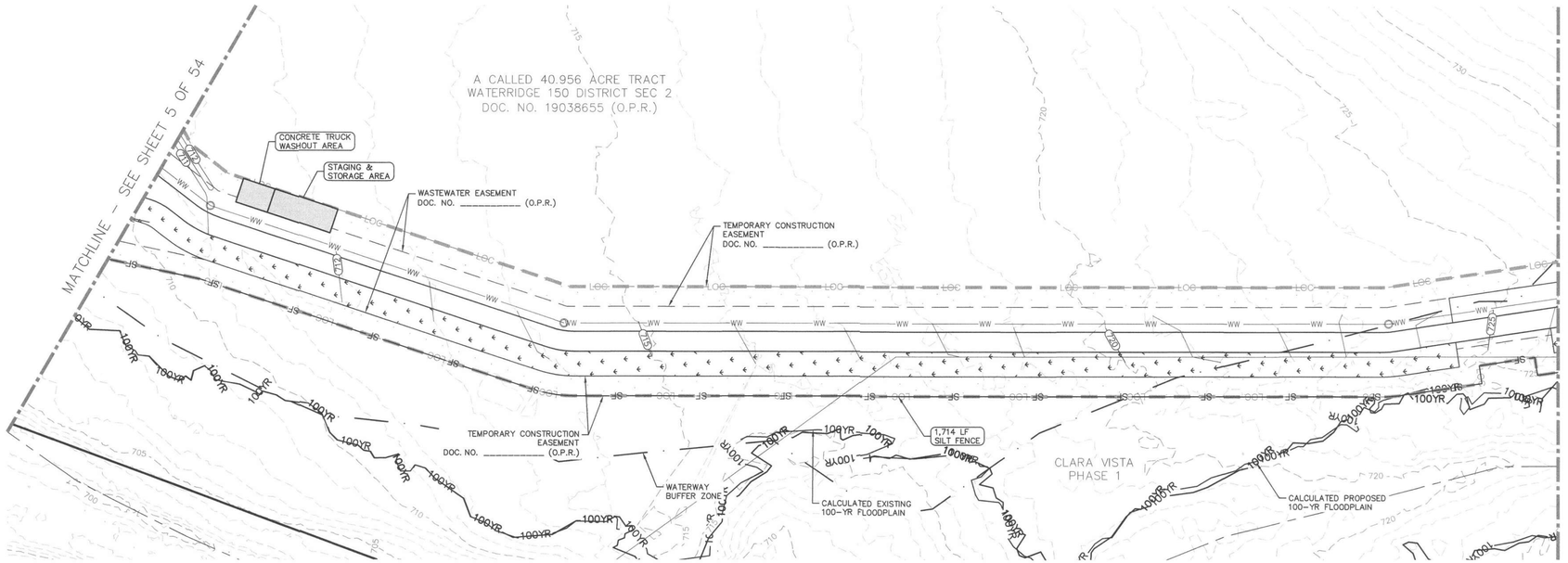
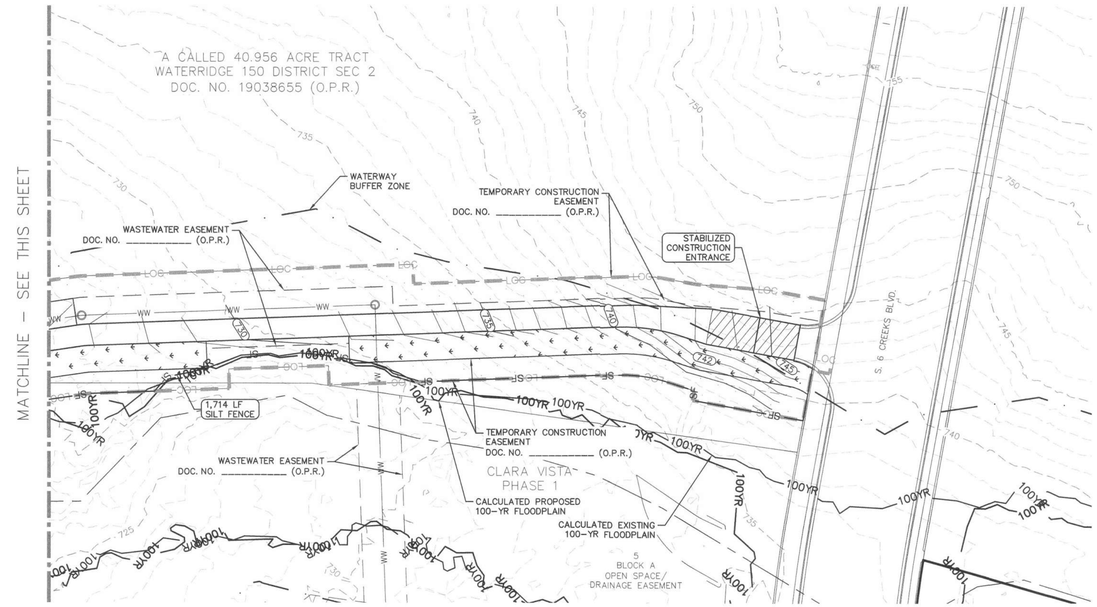
CP-22-0144




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- TP TP TP — TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- ENGINEERED VEGETATIVE FILTER STRIP
- IP — INLET PROTECTION
- 720 — PROPOSED CONTOUR LINE
- 716 — EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED

SCALE: 1"= 40'

0' 40' 80' 120'

## NOTES

1. CONTRACTOR TO REPAIR ALL FENCES AND PAVEMENT DISTURBED DURING CONSTRUCTION TO EQUIVALENT OR BETTER STATE THAN THE EXISTING CONDITION. A 16' GATE SHALL BE INSTALLED AT EACH PROPERTY LINE WHERE FENCE REMOVAL IS REQUIRED FOR FORCE MAIN INSTALLATION.

| NO. | REVISION | DATE |
|---|---|---|

STATE OF TEXAS
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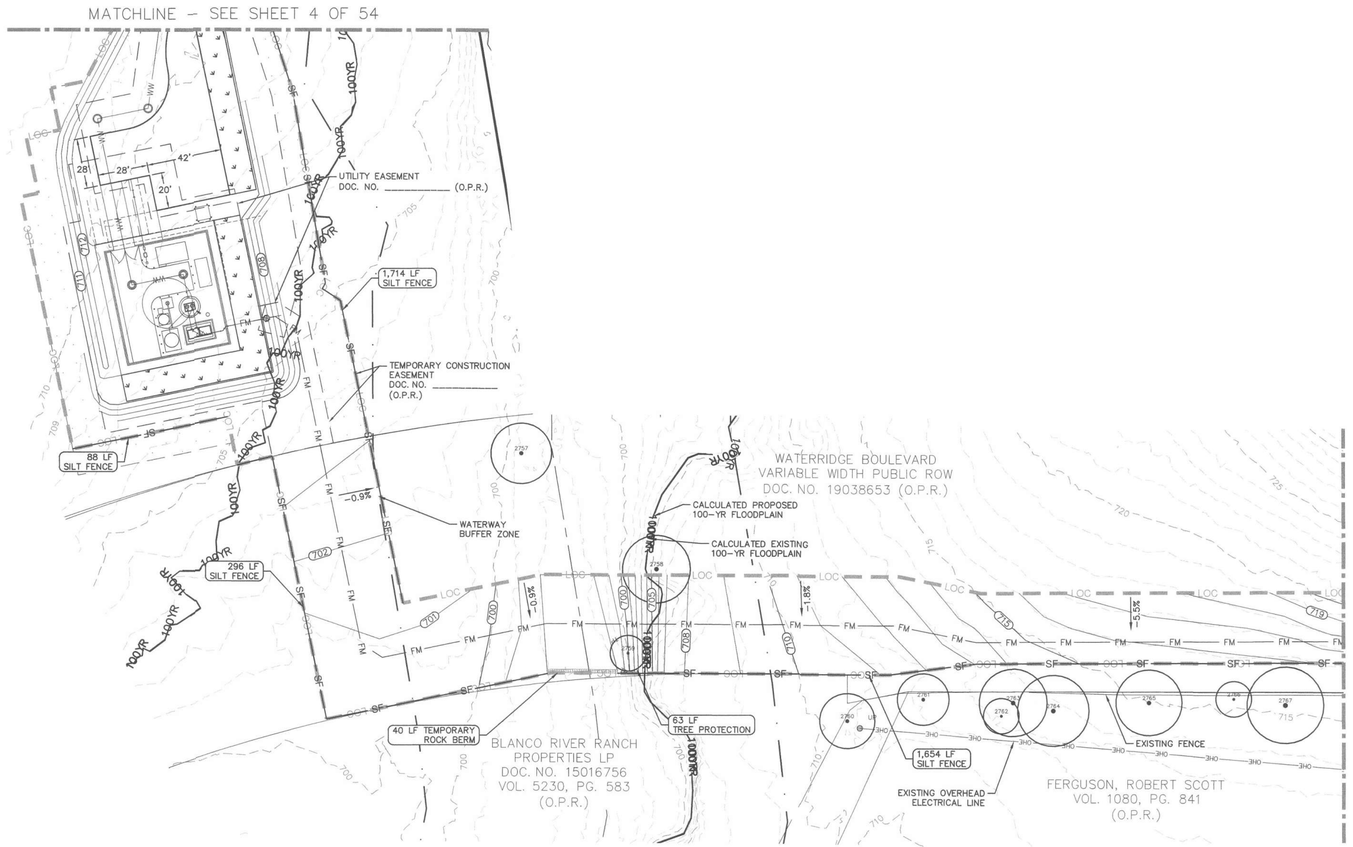
# CLARA VISTA

## LIFT STATION & FORCE MAIN
## EROSION AND SEDIMENTATION CONTROL PLAN 1 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 4 OF 54

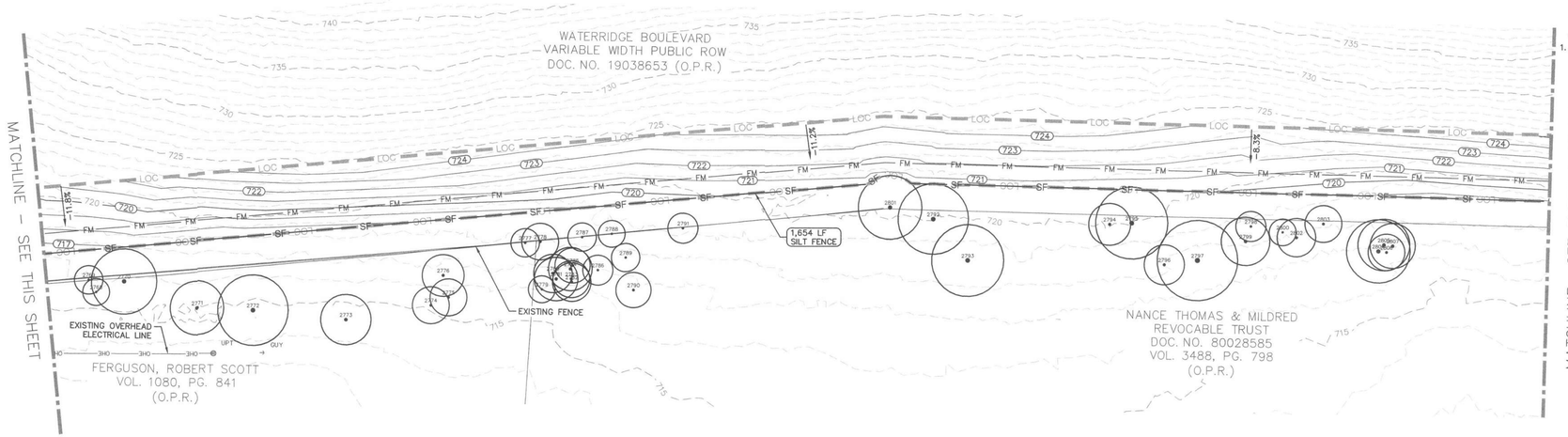


CP-22-0144




## LEGEND

- LIMITS OF CONSTRUCTION (LOC)
- SILT FENCE (SF)
- TREE PROTECTION (TP)
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- ENGINEERED VEGETATIVE FILTER STRIP
- INLET PROTECTION (IP)
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED




## NOTES

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| NO. | REVISION | DATE |
|---|---|---|

STATE OF TEXAS
MICHAEL S. FISHER
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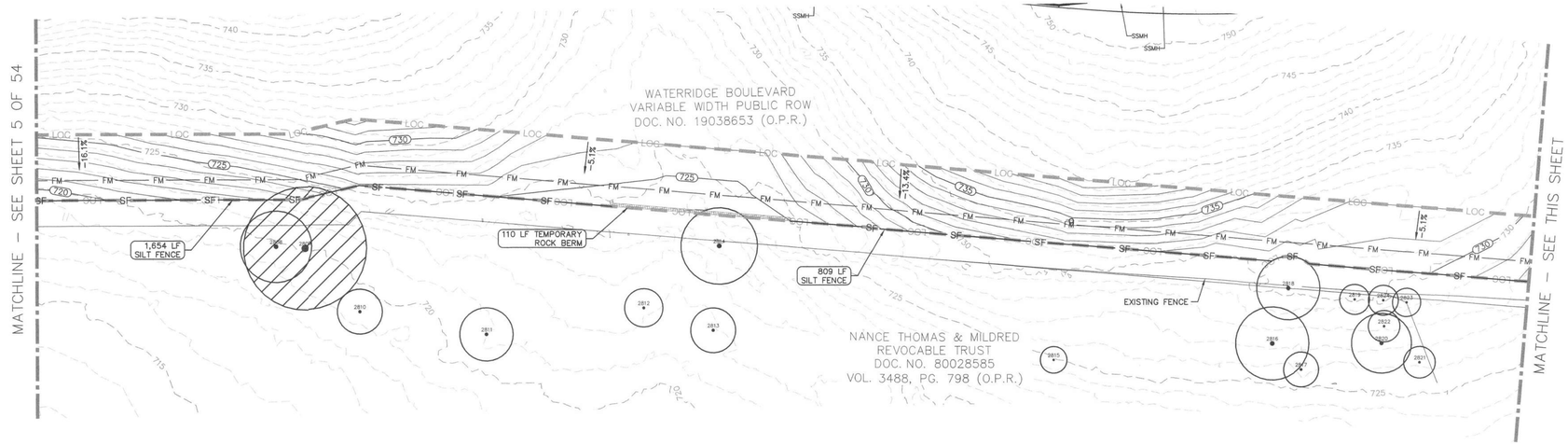
# CLARA VISTA

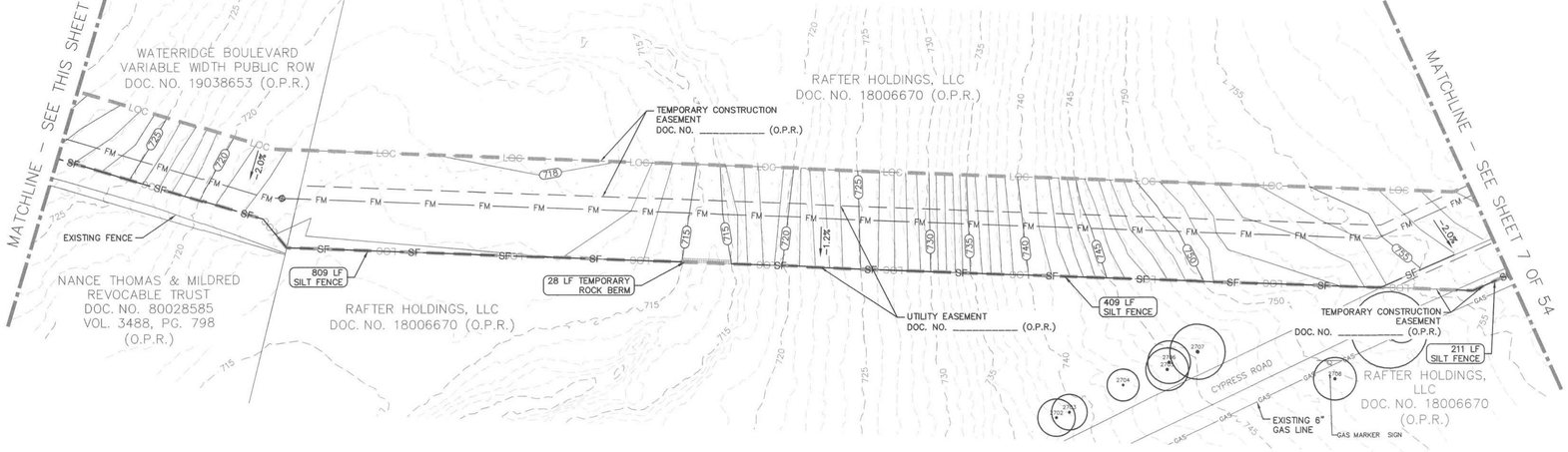
LIFT STATION & FORCE MAIN
EROSION AND SEDIMENTATION
CONTROL PLAN 2 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 5 OF 54



CP-22-0144




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- TP — TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- IP — INLET PROTECTION
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED

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## NOTES

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# CLARA VISTA

LIFT STATION & FORCE MAIN
EROSION AND SEDIMENTATION CONTROL PLAN 3 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 6 OF 54

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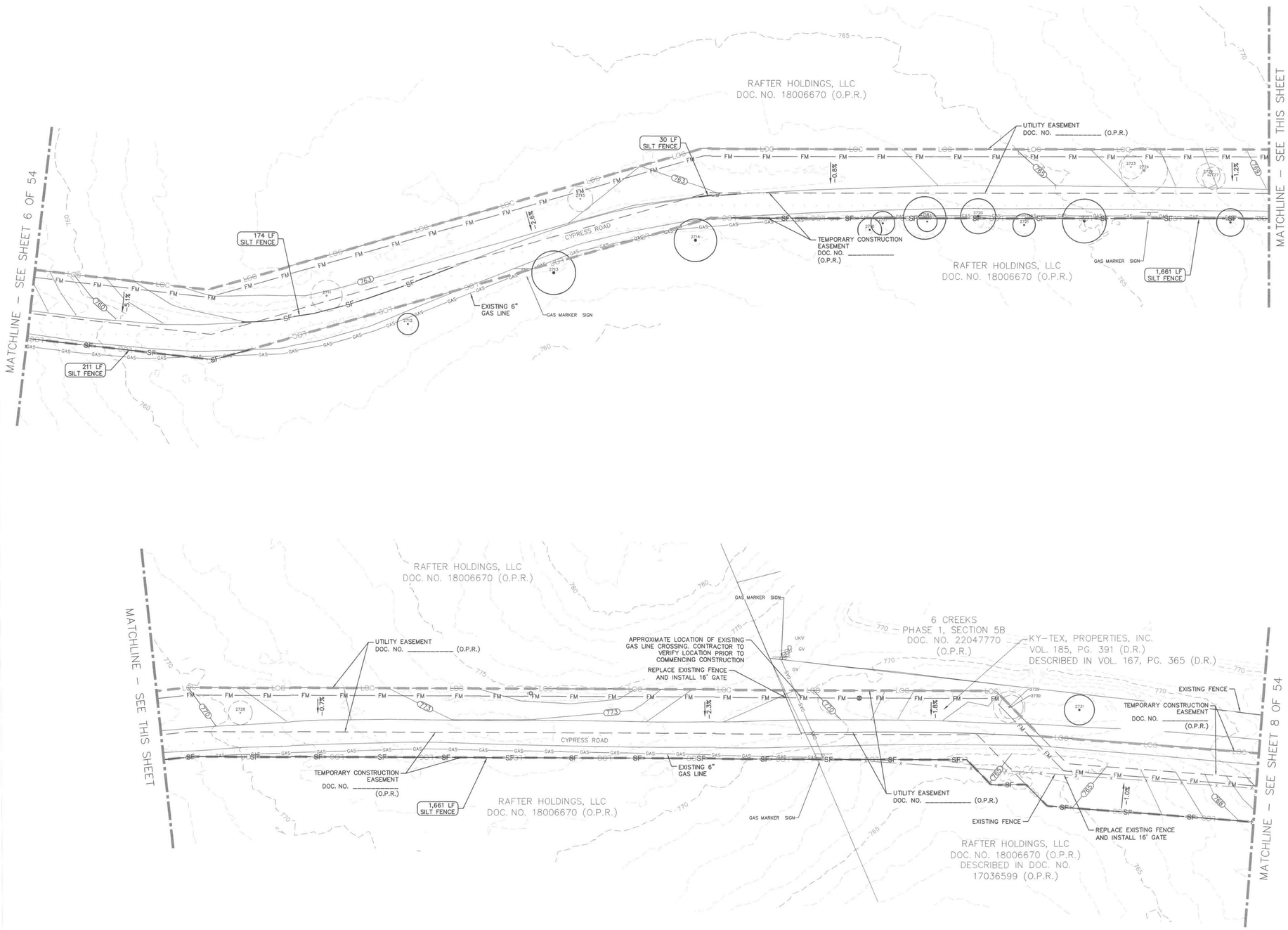
CP-22-0144




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- TP — TP — TP — TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- IP — INLET PROTECTION
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED

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## NOTES

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| NO. | REVISION | DATE |
|---|---|---|
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STATE OF TEXAS
MICHAEL S. FISHER
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LICENSED
PROFESSIONAL ENGINEER
4/11/25

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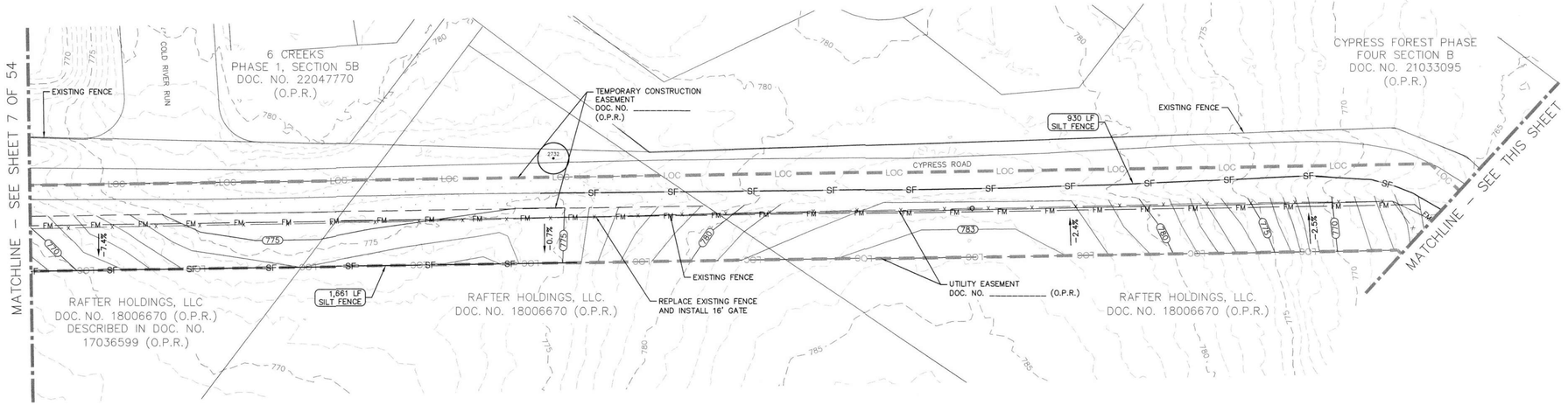
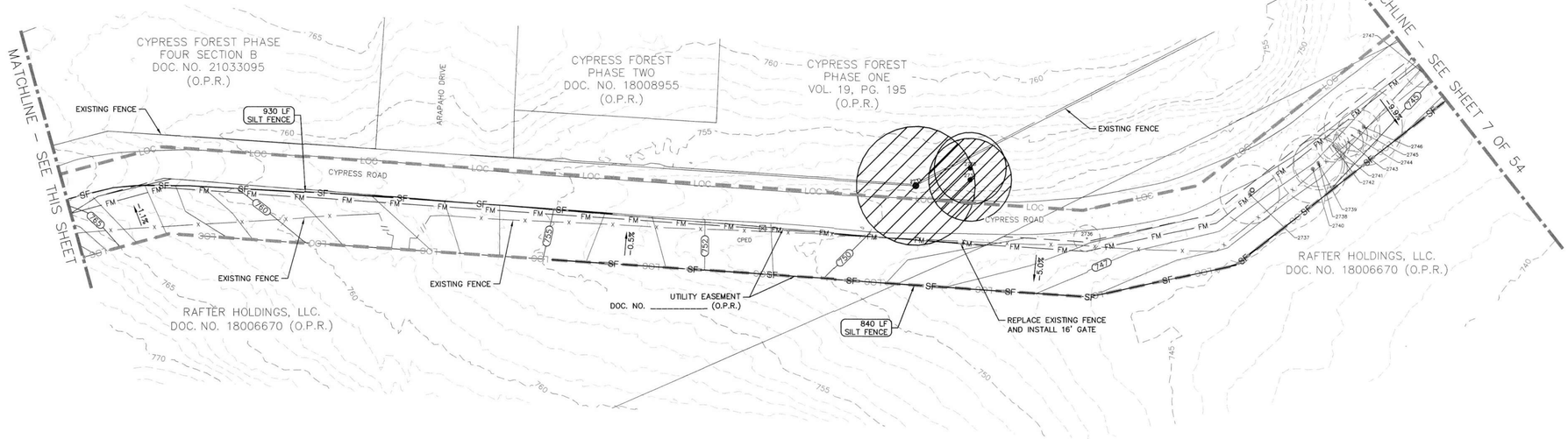
# CLARA VISTA
## LIFT STATION & FORCE MAIN
## EROSION AND SEDIMENTATION CONTROL PLAN 4 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 7 OF 54

CP-22-0144




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- TP — TP — TP — TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- IP — INLET PROTECTION
- 780 — PROPOSED CONTOUR LINE
- 786 — EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED

SCALE: 1"= 40'

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## NOTES

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STATE OF TEXAS
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LICENSED
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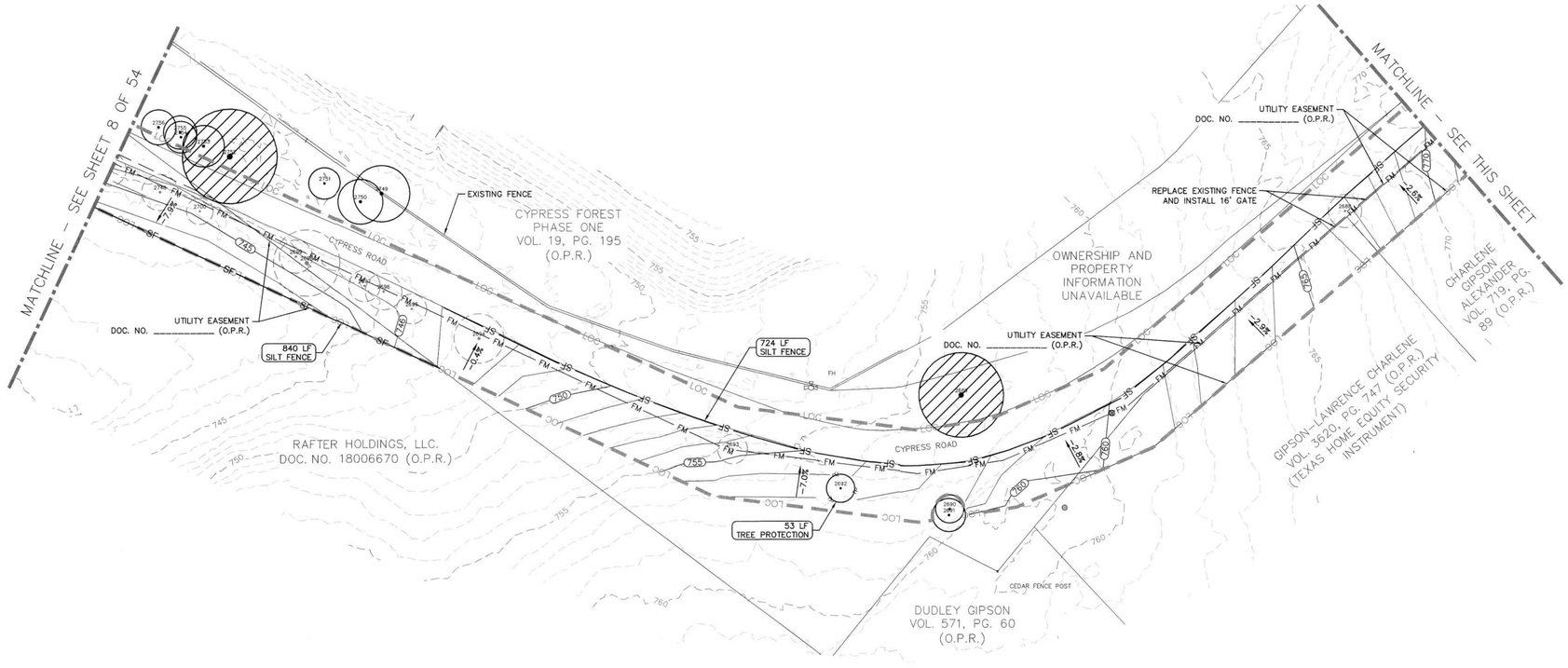
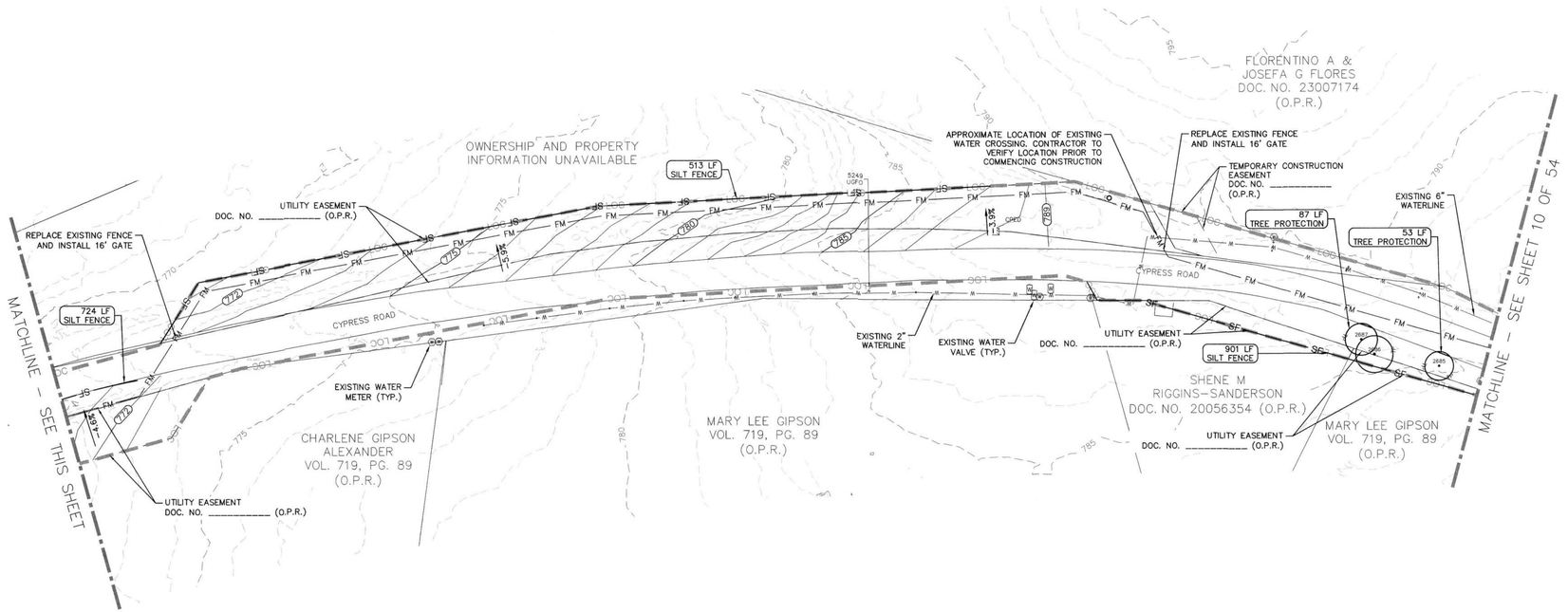
# CLARA VISTA

LIFT STATION & FORCE MAIN
EROSION AND SEDIMENTATION
CONTROL PLAN 5 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 8 OF 54

CP-22-0144

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## LEGEND

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- SF — SILT FENCE
- TP — TP — TP — TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- IP — INLET PROTECTION
- 750 — PROPOSED CONTOUR LINE
- 748 — EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED

SCALE: 1"= 40'

0' 40' 80' 120'

## NOTES

1. CONTRACTOR TO REPAIR ALL FENCES AND PAVEMENT DISTURBED DURING CONSTRUCTION TO EQUIVALENT OR BETTER STATE THAN THE EXISTING CONDITION. A 16' GATE SHALL BE INSTALLED AT EACH PROPERTY LINE WHERE FENCE REMOVAL IS REQUIRED FOR FORCE MAIN INSTALLATION.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/25

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N. MOPAC EXPY., BLDG. 3, STE 200 | AUSTIN, TX. 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

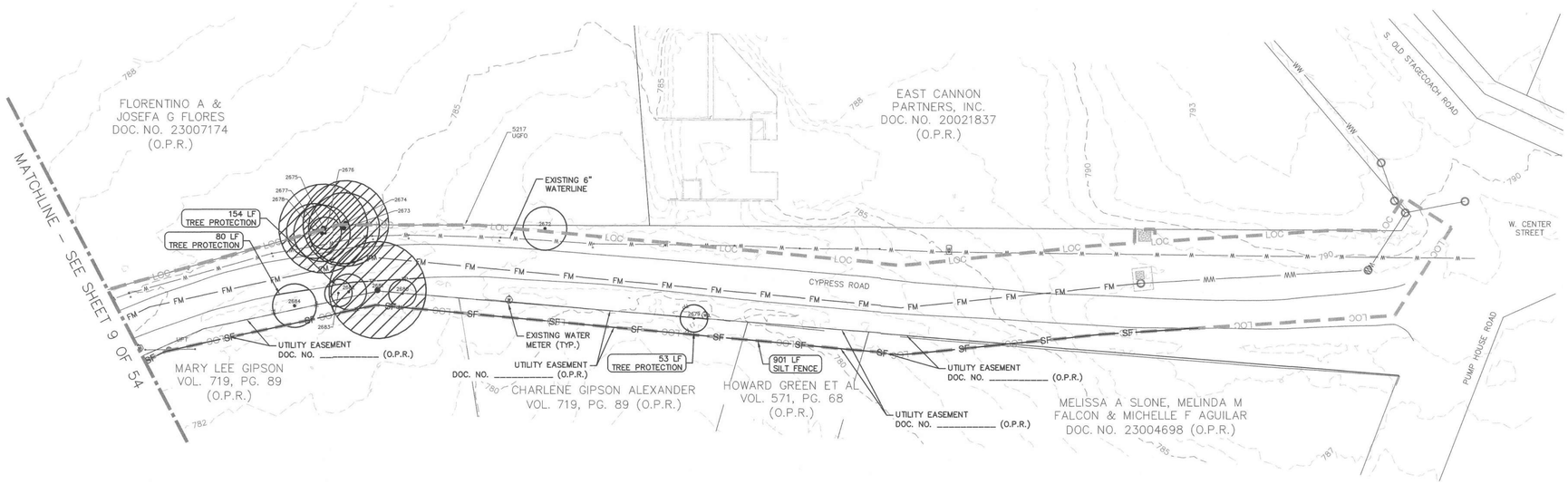
# CLARA VISTA
## LIFT STATION & FORCE MAIN
## EROSION AND SEDIMENTATION CONTROL PLAN 6 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 9 OF 54

Date: Apr 11, 2025, 11:59am User ID: andrewbook
File: H:\Projects\514\56\10\302 Construction Documents\Civil\EC51456-10_PM.dwg



CP-22-0144




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- TP — TP — TP — TREE PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- IP — INLET PROTECTION
- 788 — PROPOSED CONTOUR LINE
- 788 — EXISTING CONTOUR LINE
- SPECIMEN TREES PRESERVED
- TREES PRESERVED
- TREES REMOVED

## NOTES

1. CONTRACTOR TO REPAIR ALL FENCES AND PAVEMENT DISTURBED DURING CONSTRUCTION TO EQUIVALENT OR BETTER STATE THAN THE EXISTING CONDITION. A 16' GATE SHALL BE INSTALLED AT EACH PROPERTY LINE WHERE FENCE REMOVAL IS REQUIRED FOR FORCE MAIN INSTALLATION.

| NO. | REVISION | DATE |
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STATE OF TEXAS
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# CLARA VISTA

LIFT STATION & FORCE MAIN

EROSION AND SEDIMENTATION CONTROL PLAN 7 OF 7

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 10 OF 54



CP-22-0144

| TREE NUMBER | TREE TYPE | CALIPER INCH | CIRCUMFERENCE INCH | EXEMPT | PROTECTED TREE | SPECIMEN TREE | REMOVED INCHES | PRESERVED INCHES | REASON FOR REMOVAL |
|---|---|---|---|---|---|---|---|---|---|
| 2672 | CHINABERRY | 13.5 | 42.4 | X | | | | 42.4 | |
| 2673 | LIVE OAK | 22 | 69.1 | | X | | | 69.1 | |
| 2674 | LIVE OAK | 26.5 | 83.3 | | | X | | 83.3 | |
| 2675 | LIVE OAK | 27.5 | 86.4 | | | X | | 86.4 | |
| 2676 | LIVE OAK | 10 | 31.4 | | X | | | 31.4 | |
| 2677 | LIVE OAK | 17.5 | 55.0 | | X | | | 55.0 | |
| 2678 | LIVE OAK | 17 | 53.4 | | X | | | 53.4 | |
| 2679 | HACKBERRY | 8.5 | 26.7 | X | | | | 26.7 | |
| 2680 | HACKBERRY | 8.5 | 26.7 | X | | | | 26.7 | |
| 2681 | LIVE OAK | 30 | 94.2 | | | X | | 94.2 | |
| 2682 | LIVE OAK | 11 | 34.6 | | X | | | 34.6 | |
| 2683 | LIVE OAK | 8.5 | 26.7 | | | | | 26.7 | |
| 2684 | HACKBERRY | 13.5 | 42.4 | X | | | | 42.4 | |
| 2685 | HACKBERRY | 8.5 | 26.7 | X | | | | 26.7 | |
| 2686 | HACKBERRY | 11 | 34.6 | X | | | | 34.6 | |
| 2687 | CHINABERRY | 9.5 | 29.8 | X | | | | 29.8 | |
| 2688 | HACKBERRY | 10 | 31.4 | X | | | 31.4 | | FM ALIGNMENT CONFLICT |
| 2689 | LIVE OAK | 25.5 | 80.1 | | | X | | 80.1 | |
| 2690 | HACKBERRY | 8.5 | 26.7 | X | | | | 26.7 | |
| 2691 | LIVE OAK | 10 | 31.4 | | X | | | 31.4 | |
| 2692 | LIVE OAK | 8.5 | 26.7 | | | | | 26.7 | |
| 2693 | LIVE OAK | 9 | 28.3 | | X | | 28.3 | | FM ALIGNMENT CONFLICT |
| 2694 | HACKBERRY | 15 | 47.1 | X | | | 47.1 | | FM ALIGNMENT CONFLICT |
| 2695 | HACKBERRY | 9 | 28.3 | X | | | 28.3 | | FM ALIGNMENT CONFLICT |
| 2696 | PECAN | 11 | 34.6 | | X | | 34.6 | | FM ALIGNMENT CONFLICT |
| 2697 | HACKBERRY | 9.5 | 29.8 | X | | | 29.8 | | FM ALIGNMENT CONFLICT |
| 2698 | HACKBERRY | 20 | 62.8 | X | | | 62.8 | | FM ALIGNMENT CONFLICT |
| 2699 | HACKBERRY | 10 | 31.4 | X | | | 31.4 | | FM ALIGNMENT CONFLICT |
| 2700 | CEDAR ELM | 8 | 25.1 | | | | 25.1 | | FM ALIGNMENT CONFLICT |
| 2701 | HACKBERRY | 16 | 50.3 | X | | | | 50.3 | |
| 2702 | HACKBERRY | 10.5 | 33.0 | X | | | | 33.0 | |
| 2703 | HACKBERRY | 10 | 31.4 | X | | | | 31.4 | |
| 2704 | HACKBERRY | 9 | 28.3 | X | | | | 28.3 | |
| 2705 | CEDAR ELM | 12 | 37.7 | | X | | | 37.7 | |
| 2706 | CEDAR ELM | 12 | 37.7 | | X | | | 37.7 | |
| 2707 | CEDAR ELM | 15.5 | 48.7 | | X | | | 48.7 | |
| 2708 | LIVE OAK | 12 | 37.7 | | X | | | 37.7 | |
| 2709 | CEDAR ELM | 21.5 | 67.5 | | X | | | 67.5 | |
| 2710 | DEAD | 9.5 | 29.8 | X | | | | 29.8 | |
| 2711 | HACKBERRY | 12.5 | 39.3 | X | | | 39.3 | | FM ALIGNMENT CONFLICT |
| 2712 | LIVE OAK | 8.5 | 26.7 | | | | | 26.7 | |
| 2713 | LIVE OAK | 17.5 | 55.0 | | X | | | 55.0 | |
| 2714 | CEDAR ELM | 17 | 53.4 | | X | | | 53.4 | |
| 2715 | HACKBERRY | 10 | 31.4 | X | | | 31.4 | | FM ALIGNMENT CONFLICT |
| 2716 | LIVE OAK | 9.5 | 29.8 | | X | | | 29.8 | |
| 2717 | LIVE OAK | 9.5 | 29.8 | | X | | | 29.8 | |
| 2718 | CEDAR ELM | 17 | 53.4 | | X | | | 53.4 | |
| 2719 | LIVE OAK | 8 | 25.1 | | | | | 25.1 | |
| 2720 | LIVE OAK | 14 | 44.0 | | X | | | 44.0 | |
| 2721 | LIVE OAK | 9 | 28.3 | | X | | | 28.3 | |
| 2722 | HACKBERRY | 17.5 | 55.0 | X | | | | 55.0 | |
| 2723 | HACKBERRY | 9.5 | 29.8 | X | | | 29.8 | | FM ALIGNMENT CONFLICT |
| 2724 | HACKBERRY | 18.5 | 58.1 | X | | | 58.1 | | FM ALIGNMENT CONFLICT |
| 2725 | DEAD | 11 | 34.6 | X | | | | 34.6 | |
| 2726 | HACKBERRY | 9.5 | 29.8 | X | | | 29.8 | | FM ALIGNMENT CONFLICT |
| 2727 | HACKBERRY | 9 | 28.3 | X | | | 28.3 | | FM ALIGNMENT CONFLICT |
| 2728 | CEDAR ELM | 9.5 | 29.8 | | X | | 29.8 | | FM ALIGNMENT CONFLICT |
| 2729 | HACKBERRY | 12.5 | 39.3 | X | | | 39.3 | | FM ALIGNMENT CONFLICT |
| 2730 | HACKBERRY | 9.5 | 29.8 | X | | | 29.8 | | FM ALIGNMENT CONFLICT |
| 2731 | HACKBERRY | 12 | 37.7 | X | | | | 37.7 | |
| 2732 | CEDAR ELM | 10 | 31.4 | | X | | | 31.4 | |
| 2733 | LIVE OAK | 38 | 119.4 | | | X | | 119.4 | |
| 2734 | LIVE OAK | 26.5 | 83.3 | | | X | | 83.3 | |
| 2735 | LIVE OAK | 23 | 72.3 | | X | | | 72.3 | |
| 2736 | HACKBERRY | 8.5 | 26.7 | X | | | 26.7 | | FM ALIGNMENT CONFLICT |
| 2737 | LIVE OAK | 19 | 59.7 | | X | | 59.7 | | FM ALIGNMENT CONFLICT |
| 2738 | LIVE OAK | 16.5 | 51.8 | | X | | 51.8 | | FM ALIGNMENT CONFLICT |
| 2739 | LIVE OAK | 15.5 | 48.7 | | X | | 48.7 | | FM ALIGNMENT CONFLICT |
| 2740 | LIVE OAK | 22 | 69.1 | | X | | 69.1 | | FM ALIGNMENT CONFLICT |
| 2741 | LIVE OAK | 10.5 | 33.0 | | X | | 33.0 | | FM ALIGNMENT CONFLICT |
| 2742 | CEDAR ELM | 8 | 25.1 | | | | 25.1 | | FM ALIGNMENT CONFLICT |
| 2743 | LIVE OAK | 9.5 | 29.8 | | X | | 29.8 | | FM ALIGNMENT CONFLICT |
| 2744 | LIVE OAK | 10 | 31.4 | | X | | 31.4 | | FM ALIGNMENT CONFLICT |
| 2745 | LIVE OAK | 13.5 | 42.4 | | X | | 42.4 | | FM ALIGNMENT CONFLICT |
| 2746 | LIVE OAK | 25 | 78.5 | | | X | 78.5 | | FM ALIGNMENT CONFLICT |
| 2747 | CEDAR ELM | 10 | 31.4 | | X | | 31.4 | | FM ALIGNMENT CONFLICT |
| 2748 | CEDAR ELM | 11 | 34.6 | | X | | 34.6 | | FM ALIGNMENT CONFLICT |
| 2749 | CEDAR ELM | 17 | 53.4 | | X | | | 53.4 | |
| 2750 | HACKBERRY | 13.5 | 42.4 | X | | | | 42.4 | |
| 2751 | HACKBERRY | 9.5 | 29.8 | X | | | | 29.8 | |
| 2752 | LIVE OAK | 28.5 | 89.5 | | | X | | 89.5 | |
| 2753 | CEDAR ELM | 12.5 | 39.3 | | X | | | 39.3 | |
| 2754 | CEDAR ELM | 9.5 | 29.8 | | X | | | 29.8 | |
| 2755 | CEDAR ELM | 10 | 31.4 | | X | | | 31.4 | |
| 2756 | CEDAR ELM | 10.5 | 33.0 | | X | | | 33.0 | |
| 2757 | CEDAR | 17 | 53.4 | X | | | | 53.4 | |
| 2758 | POST OAK | 19 | 59.7 | | X | | | 59.7 | |
| 2759 | CEDAR | 10 | 31.4 | X | | | | 31.4 | |
| 2760 | POST OAK | 15.5 | 48.7 | | X | | | 48.7 | |
| 2761 | CEDAR | 4.5 | 14.1 | X | | | | 14.1 | |
| 2762 | CEDAR | 10 | 31.4 | X | | | | 31.4 | |
| 2763 | CEDAR | 19 | 59.7 | X | | | | 59.7 | |
| 2764 | CEDAR | 20 | 62.8 | X | | | | 62.8 | |
| 2765 | CEDAR | 18.5 | 58.1 | X | | | | 58.1 | |
| 2766 | LIVE OAK | 10 | 31.4 | | X | | | 31.4 | |
| 2767 | POST OAK | 21.5 | 67.5 | | X | | | 67.5 | |
| 2768 | CEDAR | 8 | 25.1 | X | | | | 25.1 | |
| 2769 | CEDAR | 8.5 | 26.7 | X | | | | 26.7 | |

| TREE NUMBER | TREE TYPE | CALIPER INCH | CIRCUMFERENCE INCH | EXEMPT | PROTECTED TREE | SPECIMEN TREE | REMOVED INCHES | PRESERVED INCHES | REASON FOR REMOVAL |
|---|---|---|---|---|---|---|---|---|---|
| 2770 | CEDAR | 19.5 | 61.3 | X | | | | 61.3 | |
| 2771 | COTTONWOOD | 16 | 50.3 | | X | | | 50.3 | |
| 2772 | COTTONWOOD | 21 | 66.0 | | X | | | 66.0 | |
| 2773 | POST OAK | 15 | 47.1 | | X | | | 47.1 | |
| 2774 | POST OAK | 11 | 34.6 | | X | | | 34.6 | |
| 2775 | POST OAK | 11 | 34.6 | | X | | | 34.6 | |
| 2776 | POST OAK | 12.5 | 39.3 | | X | | | 39.3 | |
| 2777 | CEDAR | 8.5 | 26.7 | X | | | | 26.7 | |
| 2778 | CEDAR | 11 | 34.6 | X | | | | 34.6 | |
| 2779 | LIVE OAK | 8 | 25.1 | | | | | 25.1 | |
| 2780 | LIVE OAK | 11.5 | 36.1 | | X | | | 36.1 | |
| 2781 | LIVE OAK | 13 | 40.8 | | X | | | 40.8 | |
| 2782 | LIVE OAK | 11.5 | 36.1 | | X | | | 36.1 | |
| 2783 | LIVE OAK | 11 | 34.6 | | X | | | 34.6 | |
| 2784 | LIVE OAK | 13 | 40.8 | | X | | | 40.8 | |
| 2785 | LIVE OAK | 10.5 | 33.0 | | X | | | 33.0 | |
| 2786 | CEDAR | 9 | 28.3 | X | | | | 28.3 | |
| 2787 | LIVE OAK | 8.5 | 26.7 | | | | | 26.7 | |
| 2788 | COTTONWOOD | 8 | 25.1 | | | | | 25.1 | |
| 2789 | CEDAR | 8.5 | 26.7 | X | | | | 26.7 | |
| 2790 | CEDAR | 10.5 | 33.0 | X | | | | 33.0 | |
| 2791 | POST OAK | 9 | 28.3 | | X | | | 28.3 | |
| 2792 | CEDAR | 21 | 66.0 | X | | | | 66.0 | |
| 2793 | POST OAK | 21.5 | 67.5 | | X | | | 67.5 | |
| 2794 | CEDAR | 12.5 | 39.3 | X | | | | 39.3 | |
| 2795 | CEDAR | 21.5 | 67.5 | X | | | | 67.5 | |
| 2796 | POST OAK | 12 | 37.7 | | X | | | 37.7 | |
| 2797 | COTTONWOOD | 24 | 75.4 | | | X | | 75.4 | |
| 2798 | BLACKJACK | 9 | 28.3 | | X | | | 28.3 | |
| 2799 | BLACKJACK | 14.5 | 45.6 | | X | | | 45.6 | |
| 2800 | CEDAR | 8 | 25.1 | X | | | | 25.1 | |
| 2801 | POST OAK | 19 | 59.7 | | X | | | 59.7 | |
| 2802 | POST OAK | 11.5 | 36.1 | | X | | | 36.1 | |
| 2803 | POST OAK | 11 | 34.6 | | X | | | 34.6 | |
| 2804 | LIVE OAK | 19 | 59.7 | | X | | | 59.7 | |
| 2805 | LIVE OAK | 15.5 | 48.7 | | X | | | 48.7 | |
| 2806 | LIVE OAK | 11 | 34.6 | | X | | | 34.6 | |
| 2807 | LIVE OAK | 13.5 | 42.4 | | X | | | 42.4 | |
| 2808 | CEDAR | 21.5 | 67.5 | X | | | | 67.5 | |
| 2809 | CEDAR | 37 | 116.2 | X | | X | | 116.2 | |
| 2810 | CEDAR | 13.5 | 42.4 | X | | | | 42.4 | |
| 2811 | CEDAR | 16 | 50.3 | X | | | | 50.3 | |
| 2812 | CEDAR | 11.5 | 36.1 | X | | | | 36.1 | |
| 2813 | DEAD | 13.5 | 42.4 | X | | | | 42.4 | |
| 2814 | CEDAR | 23 | 72.3 | X | | | | 72.3 | |
| 2815 | MESQUITE | 8 | 25.1 | X | | | | 25.1 | |
| 2816 | CEDAR | 22 | 69.1 | X | | | | 69.1 | |
| 2817 | CEDAR | 10.5 | 33.0 | X | | | | 33.0 | |
| 2818 | CEDAR | 19 | 59.7 | X | | | | 59.7 | |
| 2819 | POST OAK | 9 | 28.3 | | X | | | 28.3 | |
| 2820 | CEDAR | 18 | 56.5 | X | | | | 56.5 | |
| 2821 | BLACKJACK | 9.5 | 29.8 | | X | | | 29.8 | |
| 2822 | BLACKJACK | 9.5 | 29.8 | | X | | | 29.8 | |
| 2823 | CEDAR | 8.5 | 26.7 | X | | | | 26.7 | |
| 2824 | CEDAR | 9 | 28.3 | X | | | | 28.3 | |

Note: Protected Trees (Circumference greater than 28" but less than 75") located within areas designated for construction of public utilities do not require mitigation per City of Kyle Ordinance No. 725)

| | | PERCENTAGE OF TOTAL |
|---|---|---|
| TOTAL SPECIMEN TREE CIRCUMFERENCE INCHES REMOVED | 78.5 | 9.94% |
| TOTAL SPECIMEN TREE CIRCUMFERENCE INCHES PRESERVED | 711.6 | 90.06% |
| TOTAL SPECIMEN TREE CIRCUMFERENCE INCHES | 790.1 | 100.00% |
| TOTAL NUMBER OF SPECIMEN TREES REMOVED | 1.0 | 11.11% |
| TOTAL NUMBER OF SPECIMEN TREES PRESERVED | 8.0 | 88.89% |
| TOTAL NUMBER OF SPECIMEN TREES | 9.0 | 100.00% |
| TOTAL PROTECTED TREE CIRCUMFERENCE INCHES REMOVED | 524.6 | 17.94% |
| TOTAL PROTECTED TREE CIRCUMFERENCE INCHES PRESERVED | 2,400.2 | 82.06% |
| TOTAL PROTECTED TREE CIRCUMFERENCE INCHES | 2,924.8 | 100.00% |
| TOTAL NUMBER OF PROTECTED TREES REMOVED | 13.0 | 18.84% |
| TOTAL NUMBER OF PROTECTED TREES PRESERVED | 56.0 | 81.16% |
| TOTAL NUMBER OF PROTECTED TREES | 69.0 | 100.00% |

| | Surveyed | | Removed | | Mitigation | | | Credits | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # of Trees | Total Inches | # of Trees | Total Inches | Percentage of Trees | Replacement Ratio | Required Replacement | Trees Preserved | Inches Preserved | Credit Ratio | Credit Inches | Credit 12" Trees |
| SPECIMEN TREES | 9 | 790.1 | 1 | 78.5 | 11% | 1":1" | 78.5 | 8 | 711.6 | 1":1" | 711.6 | N/A |
| PROTECTED TREES | 69 | 2,924.8 | 13 | 524.6 | 19% | 2.5 Trees : 1 Tree* | 0.0 | 56 | 2400.2 | 2 Trees : 1 Tree | N/A | 84 |
| <28" Trees | 9 | 232.5 | 2 | 50.3 | 22% | None | 0.0 | 7 | 182.2 | 1.5 Trees : 1 Tree | N/A | 14 |

*Protected Trees (Circumference greater than 28" but less than 75") located within areas designated for construction of public utilities do not require mitigation per City of Kyle Ordinance No. 725)

Note: Table does not include trees exempt from mitigation requirements per City of Kyle Ordinance No. 725, including Hackberry, Cedar, Chinaberry and Mesquite.

NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/25

PAPE-DAWSON ENGINEERS
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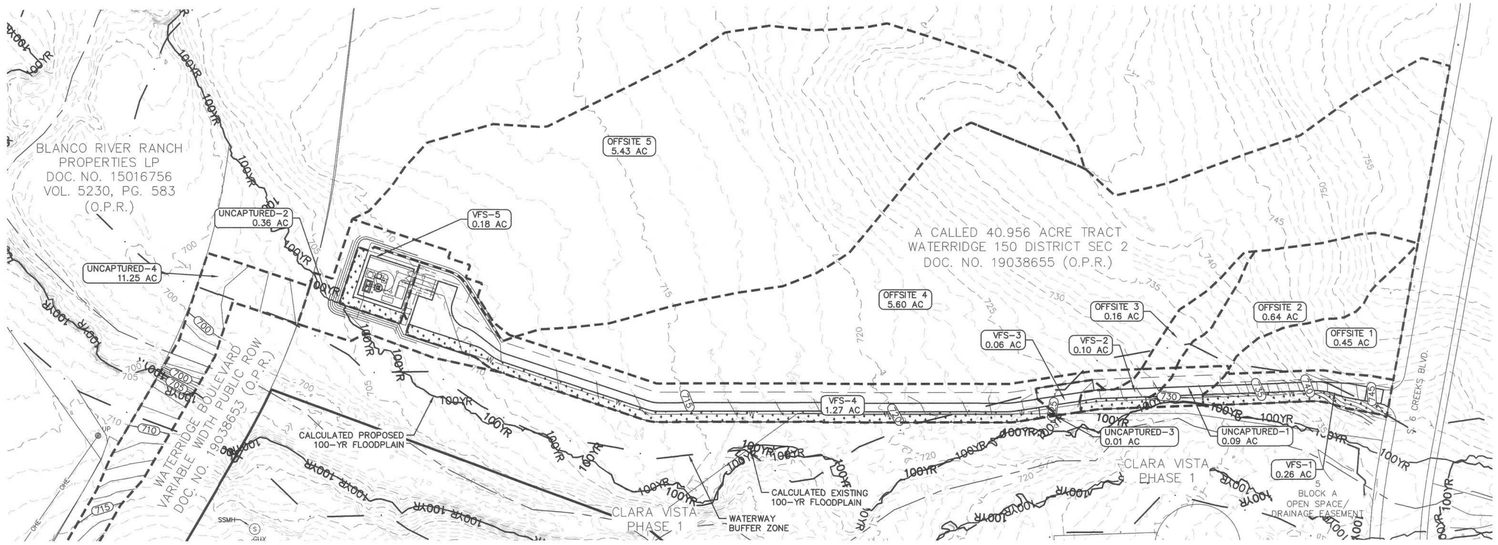
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

CLARA VISTA
LIFT STATION & FORCE MAIN

TREE PRESERVATION PLAN TREE LIST

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 11 OF 54

Date: Apr 11, 2025, 12:09pm User ID: sandrewsick
File: H:\Projects\51456\100_300_Construction Documents\Civil\TP51456-10_FM.dwg




SCALE: 1"= 40'

0' 40' 80' 120'

## LEGEND

- PROPOSED WATERSHED
- OFFSITE 3A 3.92 AC — WATERSHED ACREAGE
- FLOW DIRECTION
- WATERWAY BUFFER ZONE
- 100YR — CALCULATED EXISTING 100-YR FLOODPLAIN
- 100YR — CALCULATED PROPOSED 100-YR FLOODPLAIN

## NOTES

1. NO ADDITIONAL IMPERVIOUS COVER IS PROPOSED TO BE ADDED IN DRAINAGE AREA UNCAPTURED 4.

Treatment Summary Table
Current Application - Hawkes Landing North Phase 1

| Watershed | Watershed Area (acres) | Total Existing Impervious Cover (acres) | Total Proposed Impervious Cover (acres) | Total Net Impervious Cover (acres) | BMP | Required TSS Removal (lbs./yr.) | Designed TSS Removal (lbs./yr.) |
|---|---|---|---|---|---|---|---|
| VFS 1 | 0.26 | 0.01 | 0.09 | 0.08 | ENGINEERED VFS 1 | 71 | 71 |
| VFS 2 | 0.10 | 0.00 | 0.03 | 0.03 | ENGINEERED VFS 2 | 27 | 27 |
| VFS 3 | 0.06 | 0.00 | 0.02 | 0.02 | ENGINEERED VFS 3 | 14 | 14 |
| VFS 4 | 1.27 | 0.00 | 0.33 | 0.33 | ENGINEERED VFS 4 | 292 | 310 |
| VFS 5 | 0.18 | 0.00 | 0.12 | 0.12 | ENGINEERED VFS 5 | 104 | 104 |
| UNCAPTURED 1 | 0.09 | 0.00 | 0.02 | 0.02 | OVER TREATMENT BY ENGINEERED VFS 4 | 18 | 0 |
| UNCAPTURED 2 | 0.36 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| UNCAPTURED 3 | 0.00 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| UNCAPTURED 4 | 11.25 | 2.50 | 2.50 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| | | | | | | | |
| OFFSITE 1 | 0.45 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 2 | 0.64 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 3 | 0.16 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 4 | 5.60 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| OFFSITE 5 | 5.43 | 0.00 | 0.00 | 0.00 | NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED) | 0 | 0 |
| | | | | | | | |
| Total | 25.86 | 2.50 | 3.10 | 0.59 | | 526 | 526 |

NO. REVISION DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/25

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

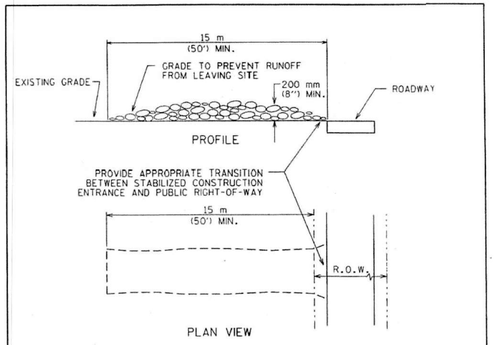
# CLARA VISTA
## LIFT STATION & FORCE MAIN
## WATER QUALITY DRAINAGE MAP

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 12 OF 54

Date: Apr 11, 2025, 12:01pm User ID: andrewdook
File: H:\Projects\51456\10\302 Construction Documents\Civil\WQS1456-10_FM.dwg

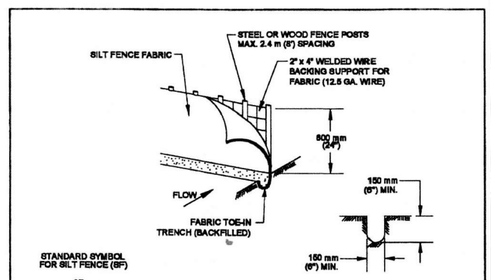


CP-22-0144



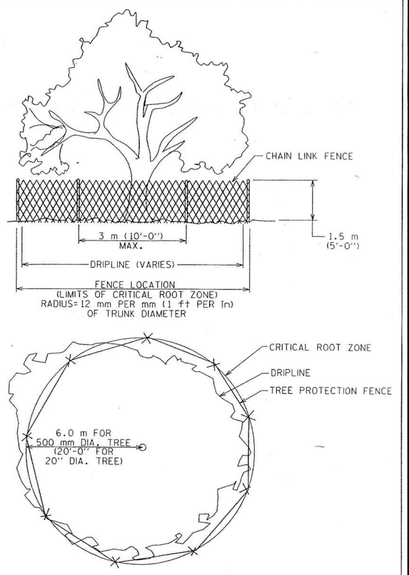

NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | STABILIZED CONSTRUCTION ENTRANCE | |
|---|---|---|
| ADOPTED 5/23/00 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 641S-1 |

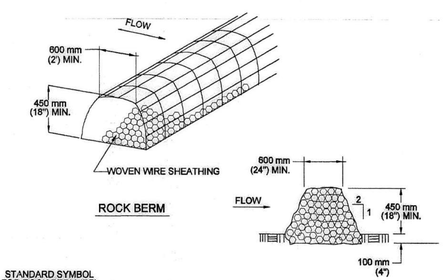



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | SILT FENCE | |
|---|---|---|
| ADOPTED 9/1/2011 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 642S-1 |

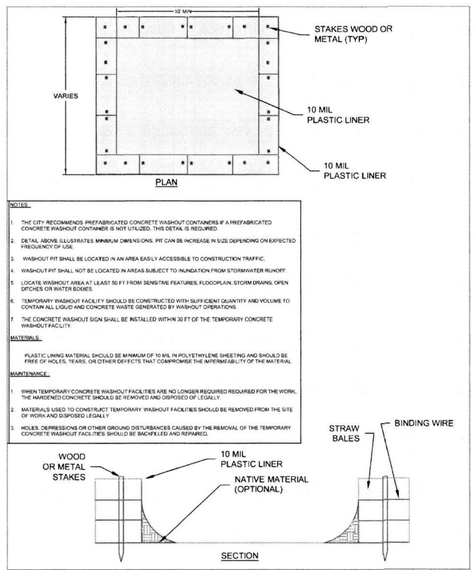



| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TREE PROPTECTION FENCE TYPE A - CHAIN LINK | |
|---|---|---|
| ADOPTED 11/5/09 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 610S-2 |




NOTES:
1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | ROCK BERM | |
|---|---|---|
| ADOPTED 8/24/2010 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 639S-1 |




NOTES:
1. THE CITY RECOMMENDS PREFABRICATED CONCRETE WASHOUT CONTAINERS IF A PREFABRICATED CONCRETE WASHOUT CONTAINER IS NOT UTILIZED, THIS DETAIL IS REQUIRED.
2. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASE IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
3. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
4. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORMWATER RUNOFF.
5. LOCATE WASHOUT AREA AT LEAST 50 FT FROM SENSITIVE FEATURES, FLOODPLAIN, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
6. TEMPORARY WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
7. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

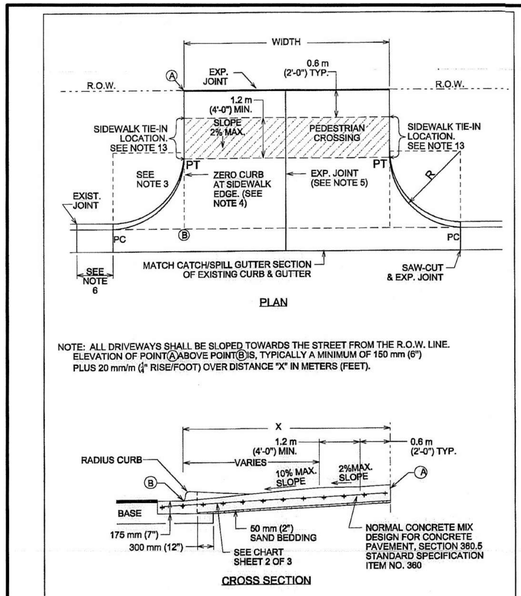
MATERIALS:

PLASTIC LINING MATERIAL SHOULD BE MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL

MAINTENANCE:

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF LEGALLY.
2. MATERIALS USED TO CONSTRUCT TEMPORARY WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF WORK AND DISPOSED LEGALLY.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

| CITY OF KYLE | NTS | CONCRETE WASHOUT ABOVE GRADE | PROJECT: CITY OF KYLE<br>DRAWN:<br>DATE: 11/2021 | 1.0 |
|---|---|---|---|---|

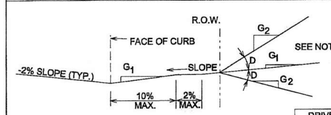



NOTE: ALL DRIVEWAYS SHALL BE SLOPED TOWARDS THE STREET FROM THE R.O.W. LINE. ELEVATION OF POINT Ⓐ ABOVE POINT Ⓑ IS, TYPICALLY A MINIMUM OF 150 mm (6") PLUS 20 mm/m (¼" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).




| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | TYPE II DRIVEWAY | |
|---|---|---|
| ADOPTED 2/24/16 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 433S-2 1 OF 2 |

| USE | THICKNESS | REINFORCEMENT |
|---|---|---|
| DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS | 150 mm (6") MIN. | 125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS |
| ALL OTHERS | 175 mm (7") MIN. | 125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS |

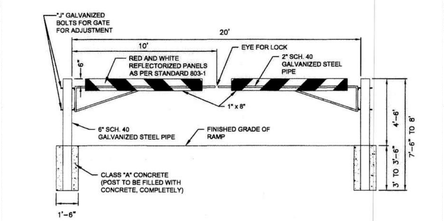



ALLOWABLE GRADES

| DRIVEWAY VOLUME (ADT) | D=GRADE CHANGE STD. | MAX |
|---|---|---|
| >1500 | 0% | 3% |
| 500-1500 | 3% | 6% |
| <500 | 6% | 15% |

NOTES:
1. ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
2. DRIVEWAY WIDTHS AND RADII DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE, SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 "DRIVEWAYS".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
4. "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
5. PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
6. IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
7. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
8. TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET); WHICHEVER IS LESS.
9. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
10. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2" IS GREATER THAN 15%.
11. USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. SIDEWALK, AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 5.
12. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
13. THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
14. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | TYPE II DRIVEWAY | |
|---|---|---|
| ADOPTED 2/24/16 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 433S-2 2 OF 2 |




NOTE:
RAMP BARRICADE SUBSIDIARY
TO ITEM 403-G CONCRETE STRUCTURES

| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | POND PIPE GATE AT RAMP DETAIL | |
|---|---|---|
| ADOPTED 1/9/2006 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 662S-1 |

| NO. | REVISION | DATE |
|---|---|---|

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/25

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

# CLARA VISTA
LIFT STATION & FORCE MAIN
EROSION & SEDIMENTATION CONTROL DETAILS

CITY JOB No. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER AD/BA/JS
CHECKED AC DRAWN AD
SHEET 29 OF 54

Date: Apr 11, 2025, 12:09pm User ID: andrewdook
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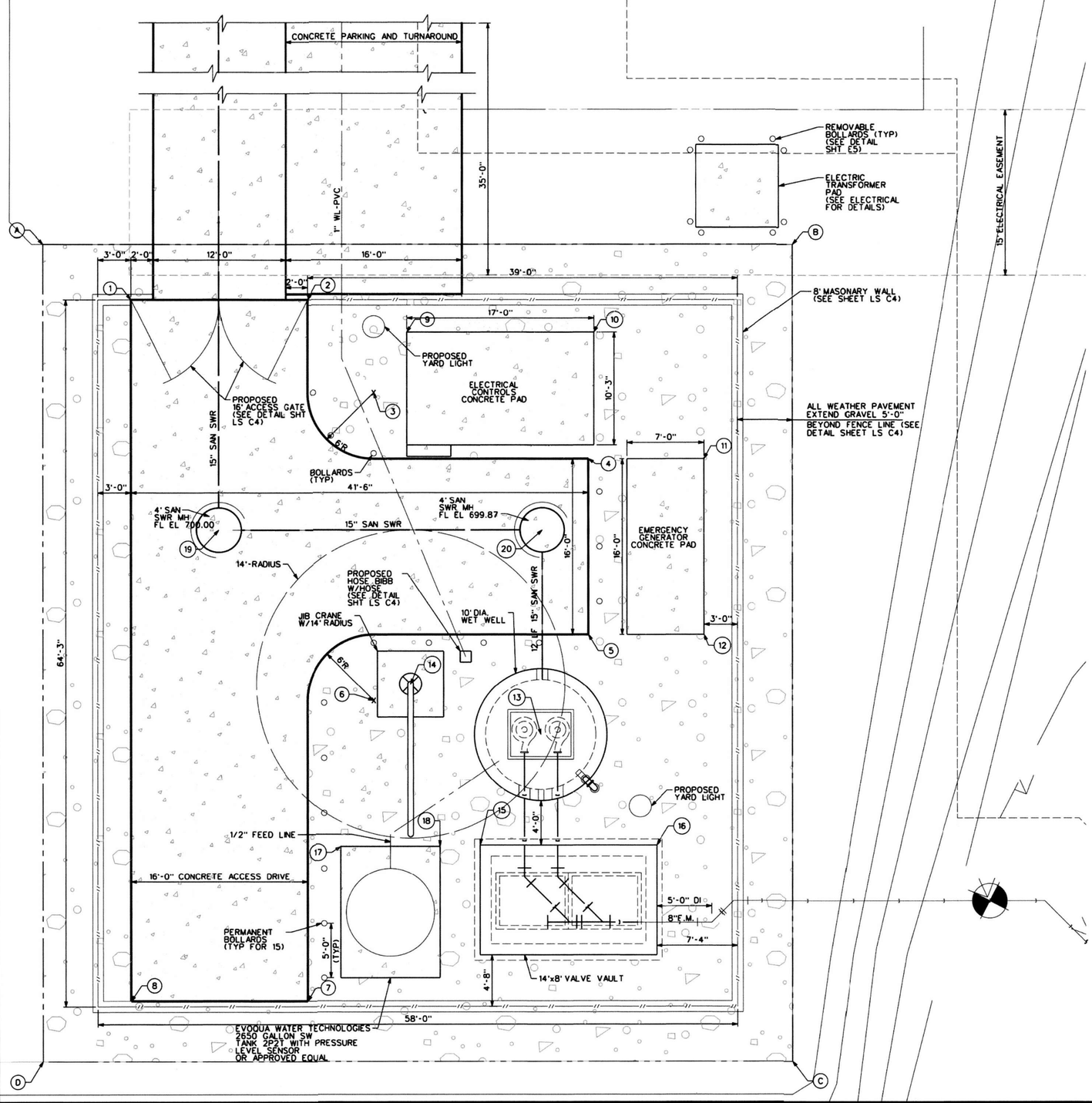
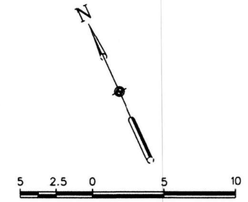
CP-22-0144




**LEGEND**

CONCRETE

ALL WEATHER PAVEMENT

| SITE COORDINATES | | | |
|---|---|---|---|
| POINT | NORTH | EAST | PROP. ELEV. |
| A | 13912819.56 | 2311253.23 | 711.00 |
| B | 13912791.45 | 2311315.15 | 711.00 |
| C | 13912723.81 | 2311284.45 | 711.00 |
| D | 13912753.17 | 2311231.88 | 711.00 |

| FACILITY COORDINATES | | | |
|---|---|---|---|
| POINT | NORTH | EAST | PROP. ELEV. |
| 1 | 13912811.70 | 2311258.45 | 711.50 |
| 2 | 13912805.09 | 2311273.02 | 711.50 |
| 3 | 13912794.87 | 2311274.97 | NA |
| 4 | 13912781.34 | 2311290.24 | 711.50 |
| 5 | 13912766.77 | 2311283.63 | 711.50 |
| 6 | 13912769.37 | 2311263.39 | NA |
| 7 | 13912746.55 | 2311246.45 | 711.50 |
| 8 | 13912753.17 | 2311231.88 | 711.50 |
| 9 | 13912798.63 | 2311279.97 | 711.50 |
| 10 | 13912791.61 | 2311295.45 | 711.50 |
| 11 | 13912777.01 | 2311299.79 | 711.50 |
| 12 | 13912762.44 | 2311293.17 | 711.50 |
| 13 | 13912760.30 | 2311275.93 | 711.50 |
| 14 | 13912769.36 | 2311267.05 | 711.50 |
| 15 | 13912753.46 | 2311266.79 | 711.50 |
| 16 | 13912746.85 | 2311281.36 | 711.50 |
| 17 | 13912758.59 | 2311255.21 | 711.50 |
| 18 | 13912754.87 | 2311263.40 | 711.50 |
| 19 | 13912789.29 | 2311257.02 | MATCH PAVEMENT |
| 20 | 13912777.16 | 2311283.72 | MATCH PAVEMENT |

**NOTE:**

1. LIFT STATION ACCESS GATE MUST BE SUBMITTED FOR APPROVAL TO THE CITY OF KYLE PRIOR TO INSTALLATION

| NO. | REVISION | DATE |
|---|---|---|
| | | |

09-23-2024

HARRY B. WALKER 82788 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS


PAPE-DAWSON ENGINEERS
10350 RICHMOND AVE. SITE 200 | HOUSTON, TX. 77042 | 713.428.2400
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10193974


# CLARA VISTA

LIFT STATION & FORCE MAIN

CIVIL

LIFT STATION PLAN

SITE PLAN

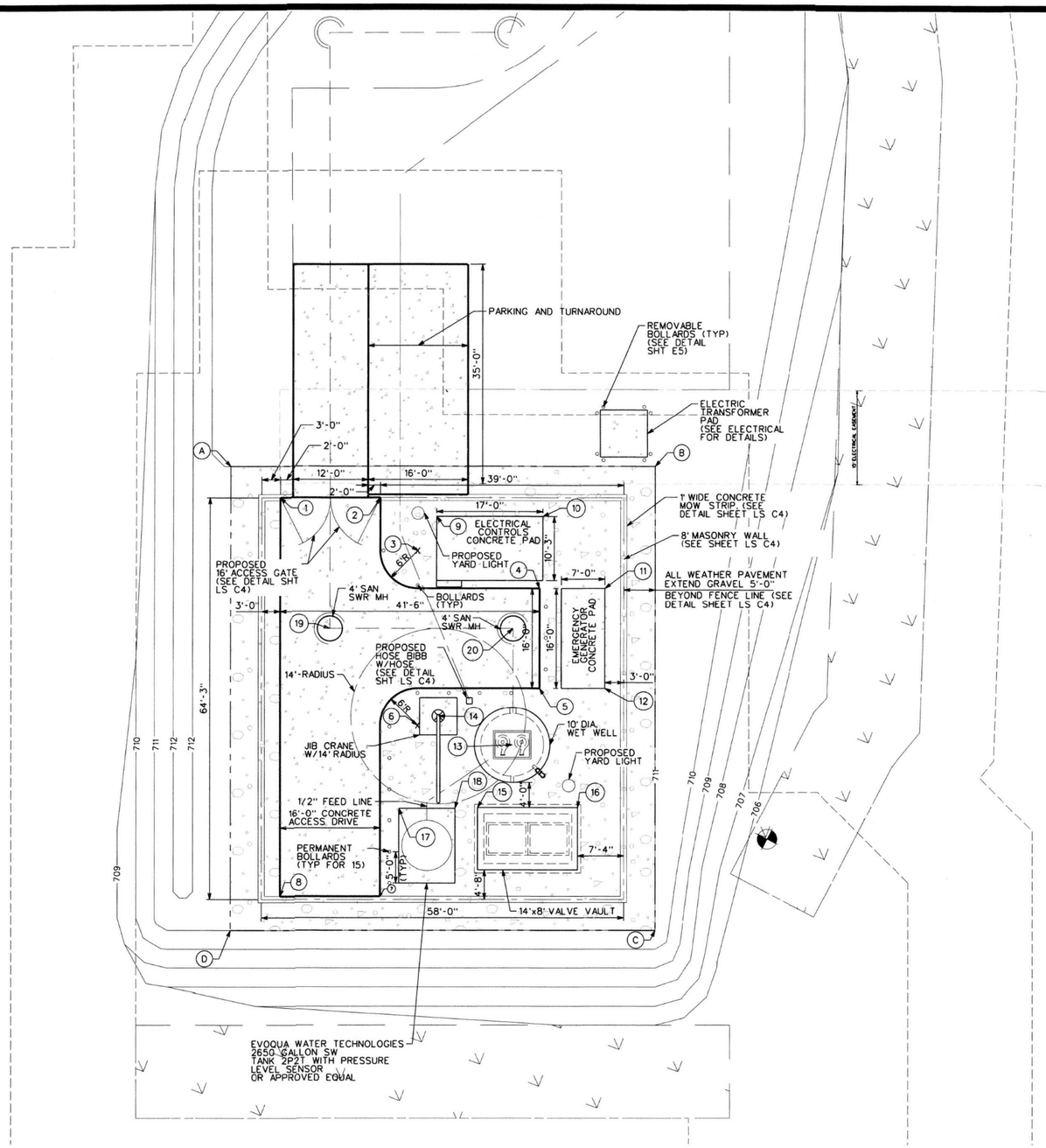
PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE MAY 2024
DESIGNER HBW
CHECKED HBW DRAWN LDH
SHEET 31 OF 54

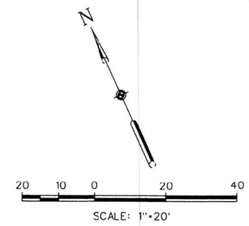
LS C1

CP-22-0144



1/23/2025 7:02:10 AM
F:\Civil\Kyle\Plan\CLARA VISTA LIFT STATION\DGN\20212231-LS1-DS_CLARA VISTA LIFT STATION\DGN\20212231-LS1-DS_29_LS SITE PLAN.dgn




**LEGEND**

| | |
|---|---|
| ——— | PROPOSED STRUCTURE |
| - - - - | FUTURE PHASE |
| X NG=142.3 | NATURAL GRADE |
| x FG=146.0 | FINISHED GRADE |
| x TP 214.5 | TOP PAVING ELEVATION |
| ——→ | PROP. SWALE FLOW DIRECTION |
| ~100~ | EXIST. NATURAL GROUND CONTOUR |
| | PROP. CRUSHED GRAVEL PAVING |
| | ALL WEATHER PAVEMENT |

**SITE COORDINATES**

| POINT | NORTH | EAST | PROP. ELEV. |
|---|---|---|---|
| A | 13912819.56 | 2311253.23 | 711.00 |
| B | 13912791.45 | 2311315.15 | 711.00 |
| C | 13912723.81 | 2311284.45 | 711.00 |
| D | 13912753.17 | 2311231.88 | 711.00 |

**FACILITY COORDINATES**

| POINT | NORTH | EAST | PROP. ELEV. |
|---|---|---|---|
| 1 | 13912811.70 | 2311258.45 | 711.50 |
| 2 | 13912805.09 | 2311273.02 | 711.50 |
| 3 | 13912794.87 | 2311274.97 | NA |
| 4 | 13912781.34 | 2311290.24 | 711.50 |
| 5 | 13912766.77 | 2311283.63 | 711.50 |
| 6 | 13912769.37 | 2311263.39 | NA |
| 7 | 13912746.55 | 2311246.45 | 711.50 |
| 8 | 13912753.17 | 2311231.88 | 711.50 |
| 9 | 13912798.63 | 2311279.97 | 711.50 |
| 10 | 13912791.61 | 2311295.45 | 711.50 |
| 11 | 13912777.01 | 2311299.79 | 711.50 |
| 12 | 13912762.44 | 2311293.17 | 711.50 |
| 13 | 13912760.30 | 2311275.93 | 711.50 |
| 14 | 13912769.36 | 2311267.05 | 711.50 |
| 15 | 13912753.46 | 2311266.79 | 711.50 |
| 16 | 13912746.85 | 2311281.36 | 711.50 |
| 17 | 13912758.59 | 2311255.21 | 711.50 |
| 18 | 13912754.87 | 2311263.40 | 711.50 |
| 19 | 13912789.29 | 2311257.02 | MATCH PAVEMENT |
| 20 | 13912777.16 | 2311283.72 | MATCH PAVEMENT |

NO. REVISION DATE

09-23-2024

STATE OF TEXAS HARRY B. WALKER 82788 LICENSED PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
10350 RICHMOND AVE. STE 200 | HOUSTON, TX 77042 | 713.428.2400
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10193974

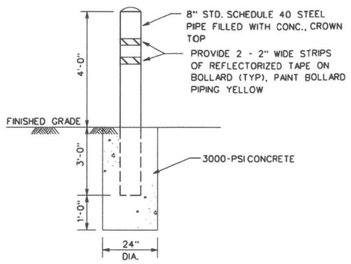
# CLARA VISTA
LIFT STATION & FORCE MAIN
CIVIL
LIFT STATION PLAN
GRADING, PAVING & DRAINAGE

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE MAY 2024
DESIGNER HBW
CHECKED HBW DRAWN LDH
SHEET 32 OF 54

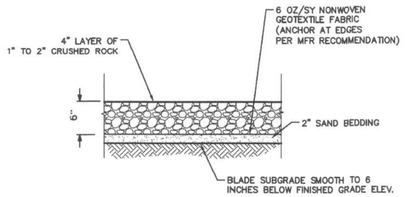
LS C2

CP-22-0144

9/23/2024 12:10:54 PM
F:\Castello\Drive\MAYS COUNTY\202123-LS1-DS_CLARA VISTA LIFT STATION\DGN\202123-LS1-DS_30_LS SITE GRADING, PAVING, & DRAINAGE PLAN.dgn



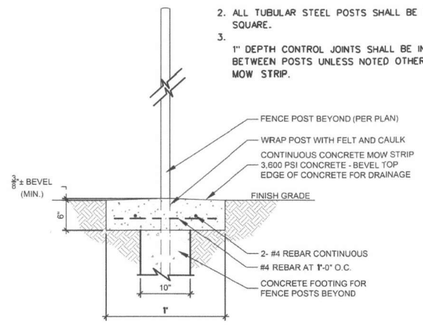

## TYPICAL BOLLARD DETAIL
N.T.S.



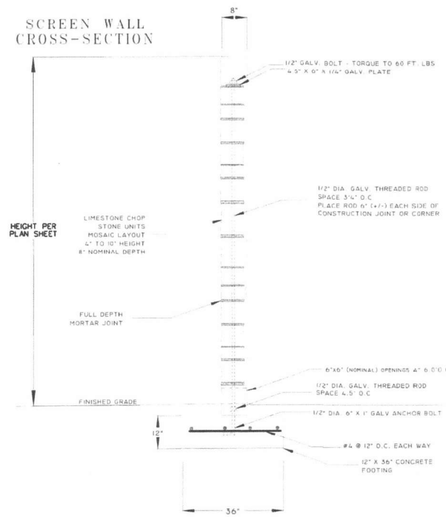

## ALL WEATHER PAVEMENT
N.T.S.

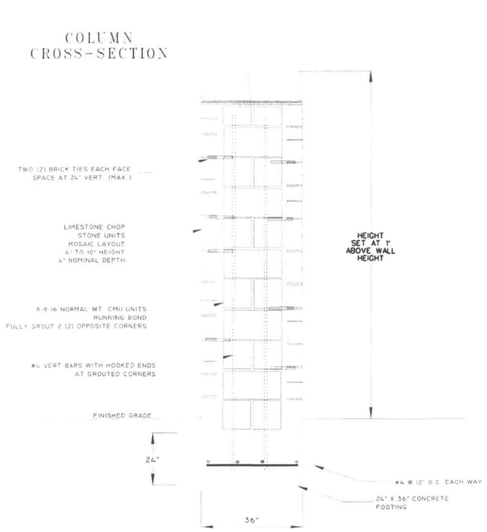
GENERAL NOTES:

1. ALL CONCRETE USED IN FOOTNG SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS.
2. ALL TUBULAR STEEL POSTS SHALL BE INSTALLED LEVEL, PLUMB, AND SQUARE.
3. 1" DEPTH CONTROL JOINTS SHALL BE INSTALLED PERPENDICULARLY AT BETWEEN POSTS UNLESS NOTED OTHERWISE ALONG ENTIRE LENGTH OF MOW STRIP.




## CONCRETE MOW STRIP DETAIL
N.T.S.




## MASONRY SCREEN WALL DETAILS
N.T.S.

NOTES:

0 MATERIAL

1.1 ALL REINFORCING BARS SHALL CONFORM TO ASTM A615; FY = 40 KSI

1.2 ALL CONCRETE SHALL BE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS

1.3 SANDSTONE UNITS SHALL BE HARD, DURABLE STONE UNITS SUITABLE FOR STRUCTURAL APPLICATIONS.

1.4 ALL MASONRY MORTAR SHALL BE TYPE 'S'; 750 PSI AT 28 DAYS

1.5 THREADED RODS SHALL BE ½" DIA; FY = 36 KSI

1.6 ALL THREADED RODS SHALL BE TENSIONED TO 60 FT. LBS. OF TORQUE

0 DESIGN

2.1 VERTICAL CONSTRUCITON JOINTS SHALL BE SPACED AT 45' O.C. MIN.

2.2 DESIGN WIND LOADS INCLUDE 90 MPH, EXPOSURE C

2.3 FOUNDATION SOIL IS ASSUMED TO BE STIFF CLAY AS DESCRIBED IN THE PROJECT SOIL REPORT PREPARED BY INTEC AND DATED OCTOBER 2, 2013.

2.4 SCREEN WALL SHOWN IS NOT DESIGNED TO ACCOMMODATE RETAING OF SOIL ON EITHER SIDE. FINISHED GRADE SHALL BE THE SAME ON BOTH SIDES OF THE WALL.

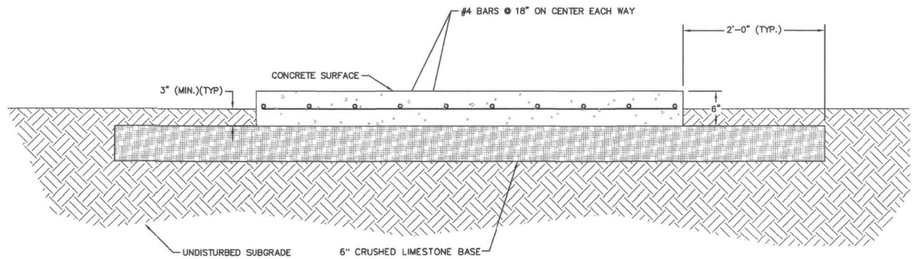
2.5 TESTING METHODS, FREQUENCY AND VERIFICATION OF MATERIAL SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE OWNER OR OWNER'S REPRESENTATIVE.

2.6 WALL CAP UNITS SHALL BE PERMANENTLY SECURED TO THE WALL SECTION WITH FULL DEPTH MORTAR JOINTS

2.7 A COMPLETE SET OF CONSTRUCTION DRAWINGS, CONTRACT SPECIFICATIONS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE ONSITE AT ALL TIMES DURING THE CONSTRUCTION OF THE WALL.

2.8 THE ENGINEERING, DESIGN, ANALYSIS DETAILING, AND MITIGATION OF BOTH SURFACE DRAINAGE AND SEEPAGE OF GROUND WATER SHALL BE THE RESPONSIBILITY OF THE OWNER OR OWNER'S REPRESENTATIVE.

2.9 STRUCTURAL DESIGN HEREIN REPRESENTS A FINISHED STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL INTERIM BRACING, SHORING, INTERIM DRAINAGE PROVISIONS AND EROSION PROTECTION REQUIRED UNTIL FINAL CAPPING, PAVING, CURBING AND COMPLETION OF FINAL STORM DRAIN SYSTEM IS COMPLETE.




## CONCRETE SURFACE DETAIL
SCALE: N.T.S.

NOTES:

1. MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 15'-0".
2. ALL JOINTS TO BE SEALED TO BE THOROUGHLY CLEANED BY HYDROBLASTING AND/OR SAND BLASTING METHODS, THE JOINTS ARE TO BE FREE FROM ALL DUST COATINGS, ANY CONTAMINATES, AND FREE FROM ALL MOISTURE THAT MIGHT INTERFERE WITH THE PROPER AND SATISFACTORY BONDING OF THE JOINT SEALANT MATERIAL. THE JOINT WILL BE BLOWN OUT WITH DRY COMPRESSED AIR IMMEDIATELY PRIOR TO APPLYING SEALANT.
3. CONSTRUCTION EQUIPMENT AND OTHER VEHICLES AND PEDESTRIANS WHICH MAY CAUSE DAMAGE TO THE JOINTS SHALL NOT BE ALLOWED ON THE PAVEMENT & SIDEWALKS BEFORE THE JOINT SEALANT BECOMES TACK FREE.
4. USE 3/4" x 4" EXPANSION JOINT MATERIAL AROUND POLES OR OTHER OBSTRUCTIONS.
5. SAW CUT JOINTS WITHIN 24 HOURS.

| NO. | REVISION | DATE |
|---|---|---|

09-23-2024

STATE OF TEXAS
HARRY B. WALKER
82788
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
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TEXAS ENGINEERING F-856 4470 | TEXAS SURVEYING F-856 #10193974

CLARA VISTA
LIFT STATION & FORCE MAIN
LIFT STATION CIVIL DETAILS

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE MAY 2024
DESIGNER HBW
CHECKED HBW DRAWN LDH
SHEET 33 OF 54

LS C4

CP-22-0144

1/23/2025 7:10:14 AM
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## ELECTRICAL PLAN LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ——— | ABOVE GROUND CONDUIT |
| - - - - - | UNDERGROUND CONDUIT |
| —GND— | GROUND CONDUCTOR |
| | GROUND WELL |
| | FLOODLIGHT |
| $ | 20A, LIGHT SWITCH IN WEATHER–PROOF FS BOX |
| PE | PHOTO ELECTRIC SWITCH |
| PS | PRESSURE SWITCH |
| FIT | FLOW INDICATING TRANSMITTER |
| TIT | TEMPERATURE INDICATING TRANSMITTER |
| WP GFCI | 20A, 125V, GFI RECEPTACLE IN METAL–CLAD WEATHER PROOF WHILE–IN–USE COVER |
| J | JUNCTION BOX |
| R | ALARM BEACON |
| | WEATHERHEAD |

## ONE–LINE DIAGRAM LEGEND

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|---|
| 100AF 2P 50AT | MOLDED CASE CIRCUIT BREAKER | | OILER HEATER WITH THERMOSTAT |
| | STARTER (SIZE NOTED) | MTS | MOTOR WINDING THERMOSTAT |
| HP | THREE–PHASE MOTOR (HORSEPOWER NOTED) | | POWER FACTOR CORRECTION CAPACITOR |
| | ELECTRICAL GROUND | M | POWER QUALITY MONITOR |
| PFR | PHASE FAILURE RELAY | N/G | NEUTRAL/GROUND BOND |
| PS | PRESSURE SWITCH | ETM | ELAPSED TIME METER |
| OS | OILER SOLENOID | G | INDICATING LIGHT (COLOR AS SHOWN: G=GREEN, R=RED, A=AMBER, B=BLUE, W=WHITE |
| TIT | TEMPERATURE INDICATING TRANSMITTER | HOA | HAND–OFF–AUTO SWITCH |
| LS | LOCAL LOCK STOP | OA | OFF–AUTO SWITCH |
| TS | TEMPERATURE SWITCH | | |
| VS | VIBRATION SWITCH | TD | TIME DELAY RELAY |
| | FLOW METER | ▲ | ITEM LOCATED ON CONTROL PANEL SWING–OUT PANEL |
| SPD | SURGE PROTECTIVE DEVICE | | |
| | MOTOR SPACE HEATER | | |
| A | SPECIAL DEVICE (SEE SCHEDULE THIS SHEET) | | |
| SSOL | SOLID STATE OVERLOAD | | |

## CONTROL DIAGRAM LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| 100AF 2P 50AT | MOLDED CASE CIRCUIT BREAKER |
| | SELECTOR SWITCH |
| | PUSH BUTTON |
| CR/TD | CONTROL/ TIME–DELAY RELAY – PLUG IN |
| CR CR | RELAY CONTACT (NORMALLY OPEN – NORMALLY CLOSED) |
| TD | TIME–DELAY RELAY CONTACT |
| M | MOTOR STARTER COIL |
| OL | MOTOR OVERLOAD |
| ETM | ELAPSED TIME METER |
| G | INDICATING LIGHT – LED TYPE – PUSH–TO–TEST (COLOR AS SHOWN: G=GREEN, R=RED, A=AMBER, B=BLUE, W=WHITE |
| | MOTOR SPACE HEATER |
| TS | TEMPERATURE SWITCH |
| FS | FLOAT SWITCH |
| A | SPECIAL DEVICE (SEE SCHEDULE THIS SHEET) |
| ▲ | ITEM LOCATED ON CONTROL PANEL SWING–OUT PANEL |

## PROP PANEL LV

**AMPS:** 40A PRIMARY MCB/80A SECONDARY MCB
**VOLTAGE:** 240/120A
**LOCATION:** LIFT STATION
**FED FROM:** 15KVA XFMR
**PHASE:** 1
**WIRE:** 3
**MOUNTING:** SURFACE
**MINIMUM AIC RATING:** 10KAIC
**BUSSING:** COPPER
**NEMA:** 4XSS 316 STAINLESS STEEL

| CKT | SERVICE DESCRIPTION | WIRE | BRKR | POLES | KVA | A | B | KVA | POLES | BRKR | WIRE | SERVICE DESCRIPTION | CKT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LIGHTS | 12 | 20 | 1 | 0.5 | 0.7 | | 0.2 | 1 | 20 | 12 | POLE LIGHT | 2 |
| 3 | BLOCK HEATER | 12 | 20 | 1 | 1.5 | | 2.0 | 0.5 | 1 | 20 | 12 | RTU | 4 |
| 5 | RECEPTACLE | 12 | 20 | 1 | 0.5 | 1.0 | | 0.5 | 1 | 20 | 12 | AUTODIALER | 6 |
| 7 | BATTERY CHARGER | 12 | 20 | 1 | 1.0 | | 0.0 | 0.5 | 2 | 30 | 10 | SPD | 8 |
| 9 | JIB CRANE | 10 | 30 | 2 | 1.0 | 1.0 | | 0.0 | | | | SPD | 10 |
| 11 | JIB CRANE | | | | 1.0 | | 1.0 | 0.0 | 1 | 20 | 12 | POWER QUALITY METER | 12 |
| 13 | TEMP PUMP | 12 | 20 | 1 | 1.0 | 1.5 | | 0.5 | 2 | 20 | 12 | ODOR CONTROL | 14 |
| 15 | SPARE | | 20 | 1 | 0.0 | | 2.0 | 0.5 | | | | ODOR CONTROL | 16 |
| 17 | SPARE | | 20 | 1 | 0.0 | 0.0 | | 0.5 | 1 | 20 | | SPARE | 18 |
| 19 | SPARE | | 20 | 1 | 0.0 | | 3.0 | 0.0 | 1 | 20 | | SPARE | 20 |
| 21 | SPARE | | 20 | 1 | 0.0 | 0.0 | | 0.0 | 1 | 20 | | SPARE | 22 |
| 23 | SPARE | | 20 | 1 | 0.0 | | 4.0 | 0.0 | 1 | 20 | | SPARE | 24 |
| | | | | | | PHASE LOAD IN KVA: | | 4.2 | | | | | |
| | | | | | | PHASE LOAD IN AMPS: | | 35 | | | | | |

**NOTE:** SQUARE D MINI POWER-ZONE 15KVA/480V-120/240V

ABBREVIATIONS

#PDT – # POLE, DOUBLE THROW; WHERE # IS # OF POLES (S=SINGLE, D=DOUBLE)
A – AMPS OR AMPERES
ASP – AUTOSENSORY PANEL
BC – BARE COPPER
C – CONDUIT
CC – COPPER CLAD
CGB – CABLE GLAND BUSHING
CLR – CLEARANCE
CR – CONTROL RELAY
DTL – DETAIL
ETM – ELAPSED TIME METER
EW – EACH WAY
FG – FINISHED GRADE
FIN – FINISHED (AS IN FINISHED GRADE)
G; GND – GROUND
GSE – GROUNDING ELECTRODE SYSTEM
HDG – HOT DIPPED GALVANIZED
HTR – HEATER
M – MOTOR
MIN – MINIMUM
MLO – MAIN LUGS ONLY
MSH – MOTOR SPACE HEATER
NEMA – NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N; NEU – NEUTRAL
NG – NEUTRAL/GROUND BOND
NTS – NOT TO SCALE
OC – OFF CENTER
OL – OVERLOAD
P – POLES
PFCC – POWER FACTOR CORRECTION CAPACITOR
PROP – PROPOSED
PVC – POLYVINYL CHLORIDE
RGS – RIGID GALVANIZED STEEL
SCH – SCHEDULE
SHT – SHEET
SPD – SURGE PROTECTIVE DEVICE
S.S.; STN STL – STAINLESS STEEL
TD – TIME DELAY RELAY
TYP – TYPICAL
V – VOLT/VOLTAGE
W/ – WITH
WIU – WHILE IN USE
WP – WEATHERPROOF OR WEATHER PROTECTED
GFCI – GROUND FAULT CIRCUIT INTERRUPTER

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH LOCAL AND NATIONAL CODES AND REQUIREMENTS.
2. CONDUITS SHALL NOT BE ROUTED ACROSS WALKWAYS, PATHS OF ACCESS, TRAVEL, OR EGRESS. ROUTE BENEATH GRATINGS, IN CONCRETE STRUCTURES, OR AROUND EQUIPMENT. DO NOT ROUTE IN CONFLICT WITH OTHER PIPING, CONDUITS, EQUIPMENT, OR STRUCTURES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS ASSOCIATED WITH THE WORK. THE COSTS OR THE PERMITS, IF ANY, SHALL BE BORNE BY THE CONTRACTOR.
4. ALL POWER AND INSTRUMENTATION CONDUCTORS SHALL BE INSTALLED IN SEPARATE CONDUITS.
5. ALL EXTERIOR ABOVE GRADE CONDUIT SHALL BE PVC–COATED RIGID GALVANIZED STEEL CONDUIT. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.

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TBPE No. F–10775
Job No. 128–0051

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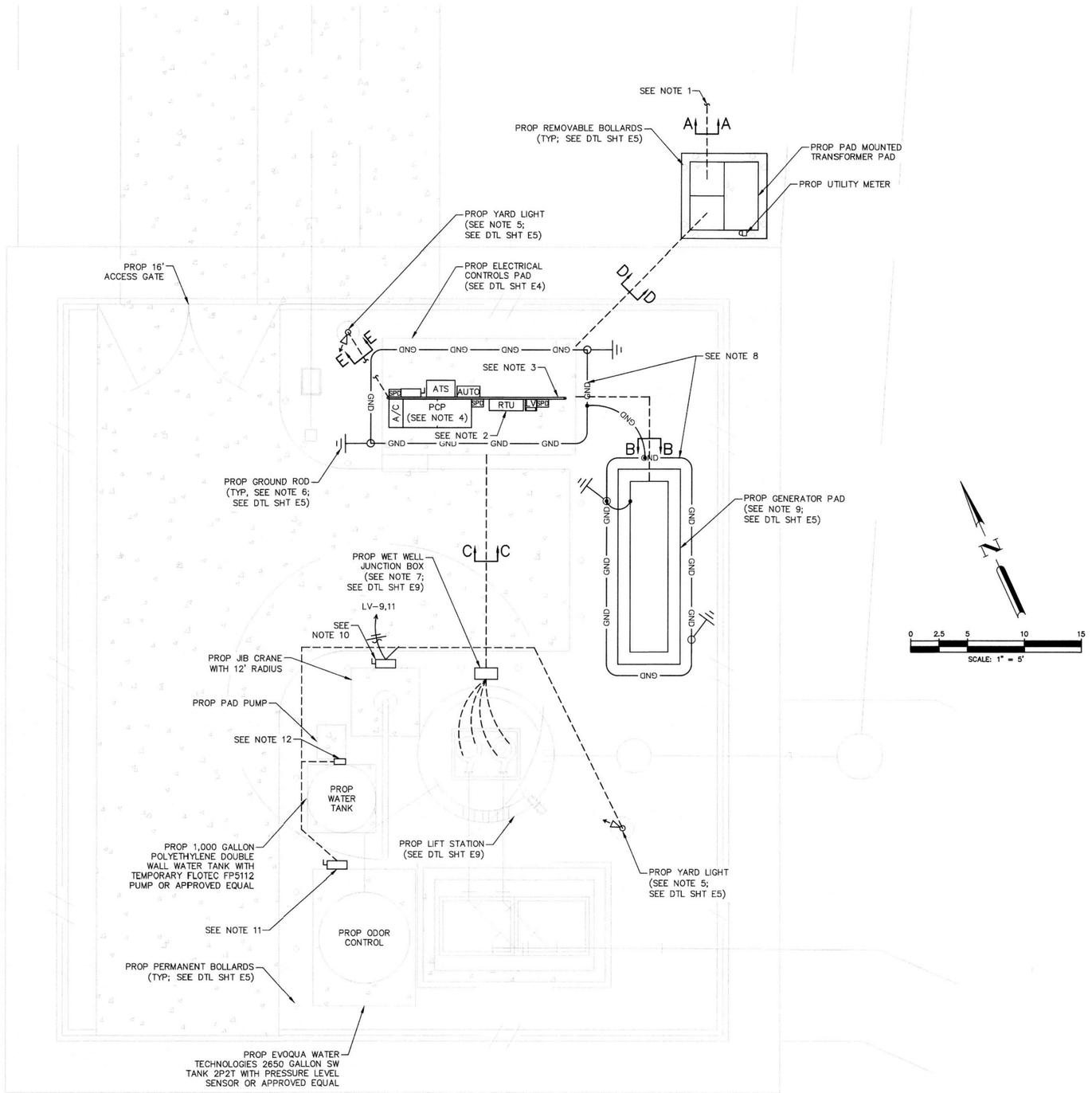
STATE OF TEXAS
GREGORY S. BAIRD
100260
LICENSED
PROFESSIONAL ENGINEER
9/30/24

PAPE–DAWSON ENGINEERS
10350 RICHMOND AVE, STE 200 | HOUSTON, TX 77042 | 713.426.2400
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10193974

# CLARA VISTA
## LIFT STATION & FORCE MAIN ELECTRICAL LEGENDS, SCHEDULES, AND NOTES

PLAT NO. CP–22–0144
JOB NO. 51456–10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 40 OF 54

LS E1




NOTES:

1. INSTALL NEW 400A, 277/480V, 3 PHASE 4 WIRE ELECTRIC SERVICE. CONTRACTOR TO COORDINATE WITH PEC. ELECTRICAL CONTRACTOR SHALL STUBOUT PRIMARY CONDUITS 10' FROM TRANSFORMER PAD.
2. RTU CABINET TO BE PROVIDED BY PRIME CONTROLS [CHAD KUNKEL–(214–475–4029)] OR TMT SOLUTIONS [TERRANCE SULLIVAN–512–392–9211].
3. PROVIDE AND INSTALL EQUIPMENT RACK. REFER TO SHEET E4.
4. PROVIDE AND INSTALL PUMP CONTROL PANEL. REFER TO SHEET E6 AND E4.
5. PROVIDE AND INSTALL LIGHT POLE. LIGHT FIXTURE SHALL BE CONTROLLED BY PHOTOCELL WITH BYPASS LIGHT SWITCH LOCATED ON SHELTER.
6. PROVIDE AND INSTALL GROUND RODS. REFER TO SHEET E5.
7. PROVIDE AND INSTALL WET WELL JUNCTION BOX. REFER TO SHEET E9.
8. PROVIDE AND INSTALL #3/0 BARE COPPER GROUNDING RING. BOND, EQUIPMENT RACKS AND GENERATOR SKID TO GROUNDING ELECTRODE SYSTEM VIA EXOTHERMIC WELD.
9. CONCRETE PAD FOR GENERATOR. ACTUAL SIZE MAY VARY PENDING SELECTION OF MANUFACTURE. CONTRACTOR TO SIZE ACCORDINGLY. REFER TO CIVIL PLANS. VERIFY AND COORDINATE EXACT LOCATION WITH CIVIL ENGINEER PRIOR TO INSTALLATION. REFER TO SHEET E5.
10. PROVIDE AND INSTALL 30A/2P/NF/N4XSS/600V DISCONNECT SWITCH FOR JIB CRANE.
11. PROVIDE AND INSTALL 30A/2P/NF/N4XSS/600V DISCONNECT SWITCH FOR ODOR CONTROL, TYPE SQUARE D OR EQUAL.
12. PROVIDE AND INSTALL 30A/2P/20AF/SZO/N4XSS/250V COMBINATION STARTER TYPE SQUARE D OR EQUAL FOR TEMPORARY PUMP.

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GREGORY S. BAIRD
100260
LICENSED
PROFESSIONAL ENGINEER
9/30/24

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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1019374

# CLARA VISTA
## LIFT STATION & FORCE MAIN
## ELECTRICAL SITE LAYOUT

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 41 OF 54

LS E2

CP-22-0144

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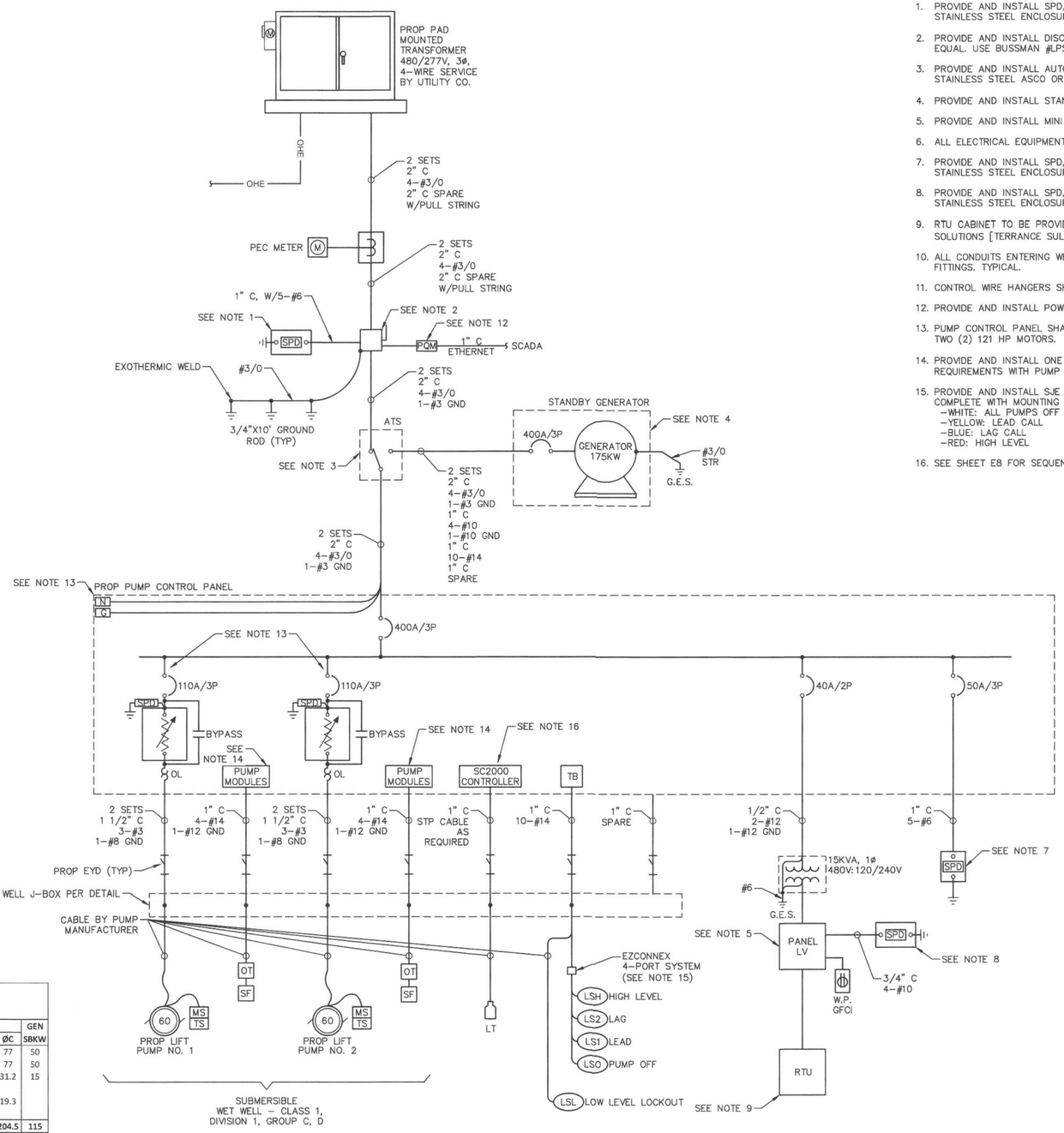


NOTES:

1. PROVIDE AND INSTALL SPD, EATON SPD-200-480Y-3-P OR EQUAL IN NEMA 4XSS 316 STAINLESS STEEL ENCLOSURE. CONNECT TO LOAD SIDE.
2. PROVIDE AND INSTALL DISCONNECT SWITCH, 400A/3P/400AF/N4XSS/600V/SN/SE SQUARE D OR EQUAL. USE BUSSMAN #LPS-RK-400 OR EQUAL.
3. PROVIDE AND INSTALL AUTOMATIC TRANSFER SWITCH, 600 AMP, 4 POLE, NEMA 4XSS 316 STAINLESS STEEL ASCO OR EQUAL.
4. PROVIDE AND INSTALL STANDBY DIESEL GENERATOR 275 KW, 277/480V, 3 PHASE, 4 WIRE.
5. PROVIDE AND INSTALL MINI POWER ZONE, SQUARE D OR EQUAL.
6. ALL ELECTRICAL EQUIPMENT ENCLOSURES SHALL BE NEMA 4XSS 316 STAINLESS STEEL.
7. PROVIDE AND INSTALL SPD, EATON SPD-100-480Y-3-P OR EQUAL IN NEMA 4XSS 316 STAINLESS STEEL ENCLOSURE. CONNECT TO LOAD SIDE.
8. PROVIDE AND INSTALL SPD, EATON SPD-050-240S-3-P OR EQUAL IN NEMA 4XSS 316 STAINLESS STEEL ENCLOSURE. CONNECT TO LOAD SIDE.
9. RTU CABINET TO BE PROVIDED BY PRIME CONTROLS [CHAD KUNKEL-(214-475-4029)] OR TMT SOLUTIONS [TERRANCE SULLIVAN-512-392-9211].
10. ALL CONDUITS ENTERING WET WELL JUNCTION BOX SHALL BE PROVIDED WITH SEAL-OFF FITTINGS. TYPICAL.
11. CONTROL WIRE HANGERS SHALL BE MOUNTED ON SIDE WALL, NOT NEXT TO PUMP RAILS.
12. PROVIDE AND INSTALL POWER QUALITY METER EATON 2280 OR EQUAL. REFER TO SHEET E4.
13. PUMP CONTROL PANEL SHALL BE SIZED LARGE ENOUGH FOR EXPANSION OF LIFT STATION TO TWO (2) 121 HP MOTORS.
14. PROVIDE AND INSTALL ONE (1) PUMP SAFE MODULE A AND D PER PUMP. COORDINATE EXACT REQUIREMENTS WITH PUMP MANUFACTURER AS REQUIRED. TYPICAL.
15. PROVIDE AND INSTALL SJE RHOMBUS EZCONNEX 4-PORT FLOAT QUICK CONNECT SYSTEM COMPLETE WITH MOUNTING BRACKET. COLOR CODE FLOATS AS FOLLOWS:
    - -WHITE: ALL PUMPS OFF
    - -YELLOW: LEAD CALL
    - -BLUE: LAG CALL
    - -RED: HIGH LEVEL
16. SEE SHEET E8 FOR SEQUENCE OF OPERATIONS.

## ELECTRICAL LOAD ANALYSIS

| LOAD NAME | | AMPS ØA | AMPS ØB | AMPS ØC | GEN SBKW |
|---|---|---|---|---|---|
| LIFT PUMP NO. 1 | 60 HP | 77 | 77 | 77 | 50 |
| LIFT PUMP NO. 2 | 60 HP | 77 | 77 | 77 | 50 |
| LIGHTING & CONTROLS | 15 KVA | 31.2 | - | 31.2 | 15 |
| 25% LARGEST MOTOR | | 19.3 | 19.3 | 19.3 | |
| **TOTAL LOAD** | | **204.5** | **173.3** | **204.5** | **115** |
| **RATED SERVICE AMPACITY @ 480 VOLT, 3Ø, 4-WIRE** | | **400** | **400** | **400** | |
| **SPARE AMPACITY** | | **195.5** | **227** | **195.5** | |
| **FAULT CURRENT** | | | | **< 42 K.A.I.C.** | |


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# CLARA VISTA
## LIFT STATION & FORCE MAIN
## ELECTRICAL ONE-LINE DIAGRAM

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 42 OF 54

LS E3

CP-22-0144

9/30/2024 8:28 AM
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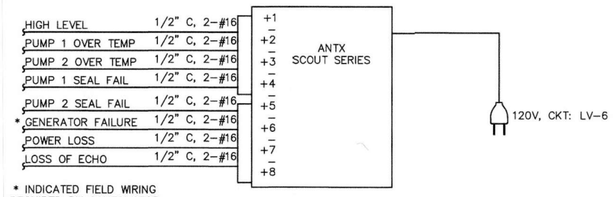
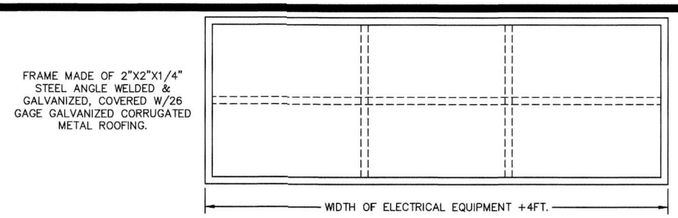
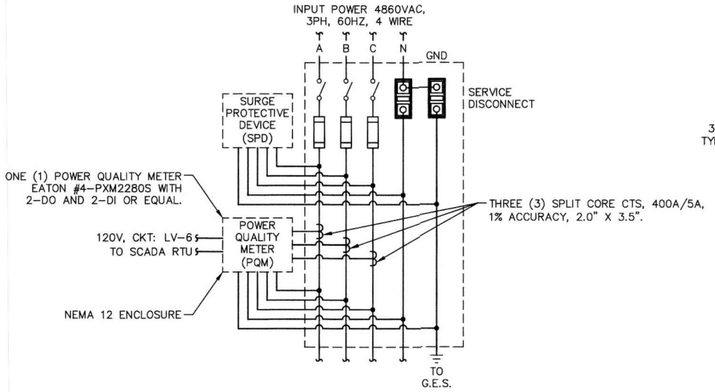



* INDICATED FIELD WIRING REQUIRED BY CONTRACTOR

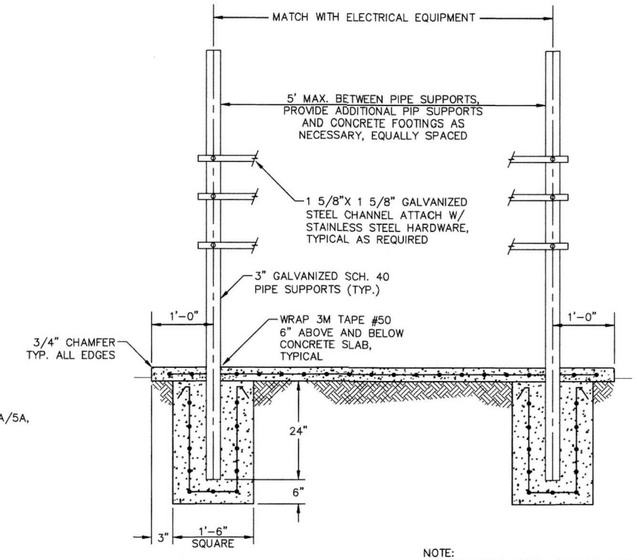
## AUTODIALER
NOT TO SCALE

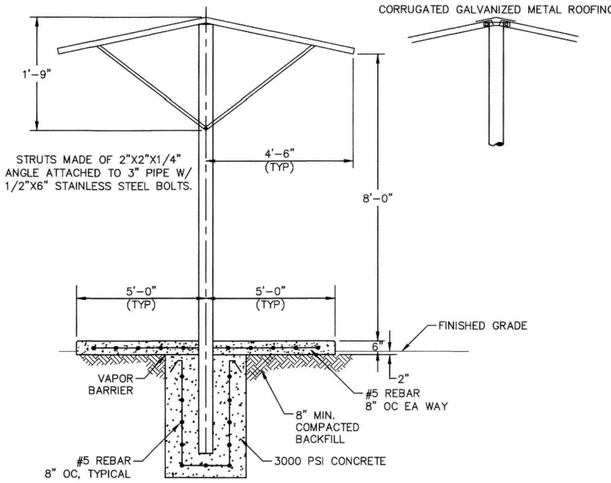



NOTE:
PROVIDE AND INSTALL WIRELESS CELLULAR AUTODIALER TYPE ANTX SCOUT SERIES COMPATIBLE WITH T-MOBILE WIRELESS NETWORK.



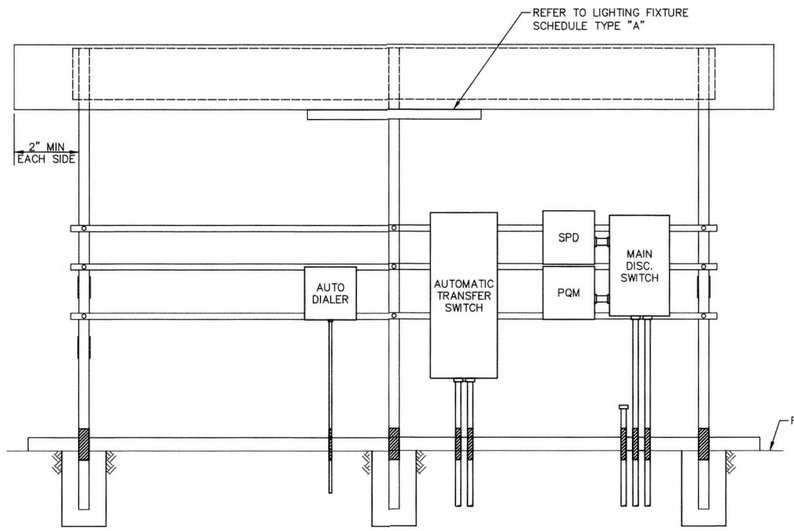

## POWER QUALITY METER DETAIL
NOT TO SCALE



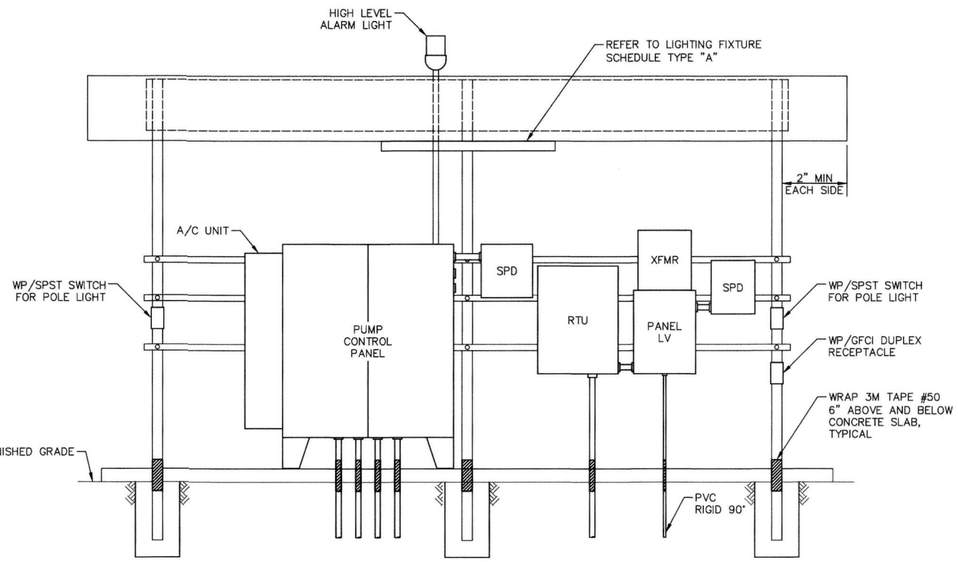




NOTE:
ALL FABRICATED STEEL COMPONENTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. ALL FASTENERS SHALL BE STAINLESS STEEL.

## RACK SUPPORT AND ROOFING DETAIL
NOT TO SCALE




## LIFT STATION EQUIPMENT RACK DETAIL (BACK)
NOT TO SCALE




## LIFT STATION EQUIPMENT RACK DETAIL (FRONT)
NOT TO SCALE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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10193974


# CLARA VISTA
LIFT STATION & FORCE MAIN
LIFT STATION ELECTRICAL
DETAILS 1 OF 6

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 43 OF 54

LS E4

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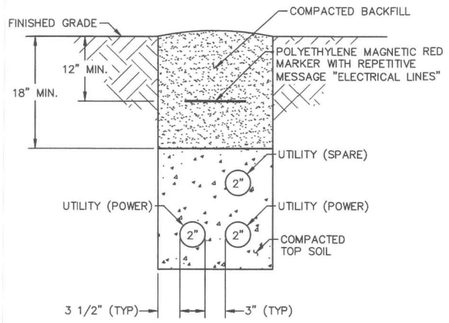
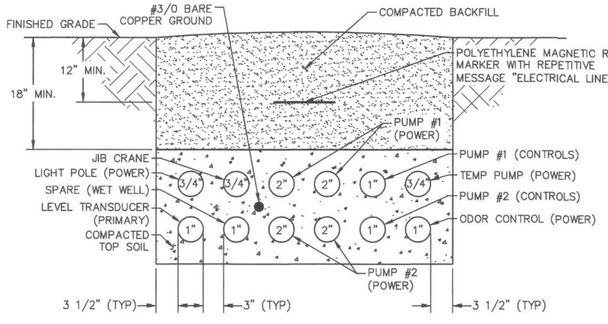
CP-22-0144




TRENCH SECTION D–D
NOT TO SCALE

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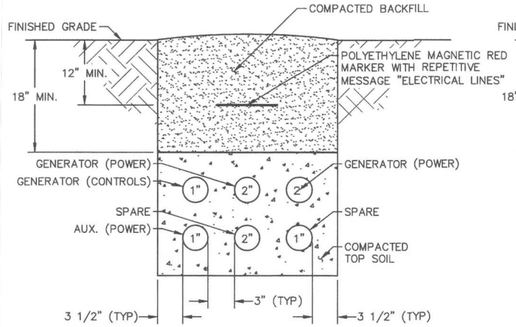
NOT TO SCALE

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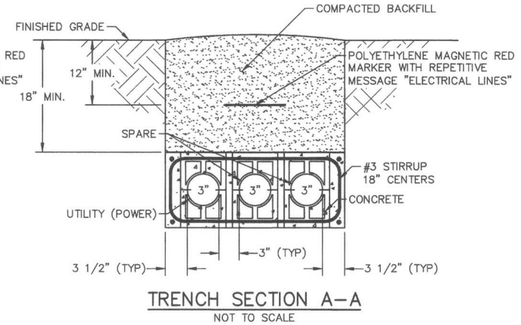
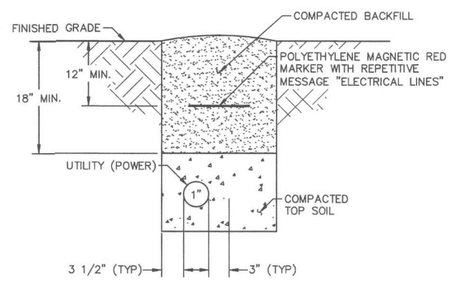
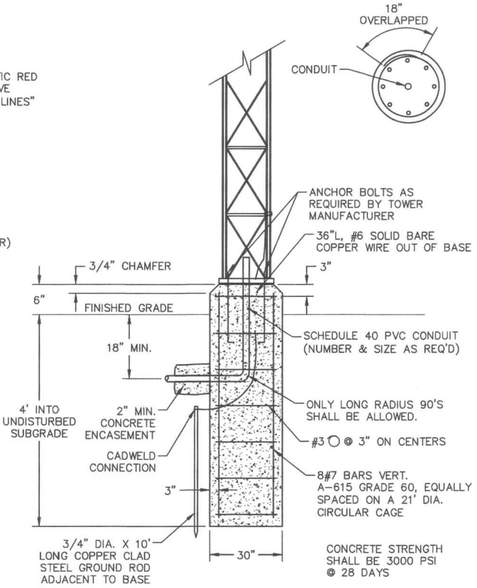



TRENCH SECTION A–A
NOT TO SCALE



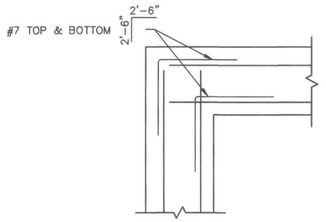

TRENCH SECTION E–E
NOT TO SCALE



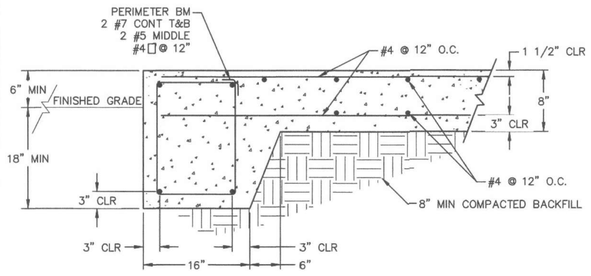

TOWER FOUNDATION DETAIL
NOT TO SCALE

CONCRETE CONSTRUCTION

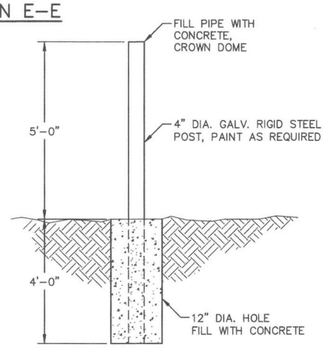
1. CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH ASTM C94 "STANDARD SPECIFICATION FOR READY MIXED CONCRETE" AND ACI 304 "GUIDE FOR MEASURING, MIXING AND PLACING CONCRETE."
2. REINFORCED STEEL SHALL CONFORM TO THE REQUIREMENTS OF ANSI/ASTM A615 WITH SUPPLEMENTAL REQUIREMENTS S1, GRADE 60.
3. DETAILING, FABRICATION AND INSTALLATION OF REBAR SHALL COMPLY WITH THE REQUIREMENTS OF AMERICAN CONCRETE INSTITUTE 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."
4. PROVIDE SUPPORTS OR CHAIRS TO SUPPORT THE REBAR AT THE POSITIONS SHOWN. MAXIMUM SPACING OF SUPPORTS FOR SLAB REBAR SHALL BE 3'–0" ON CENTERS EACH WAY. MAXIMUM SPACING OF REBAR FOR EDGE BEAMS SHALL BE 6'–0" MAXIMUM ON CENTERS.



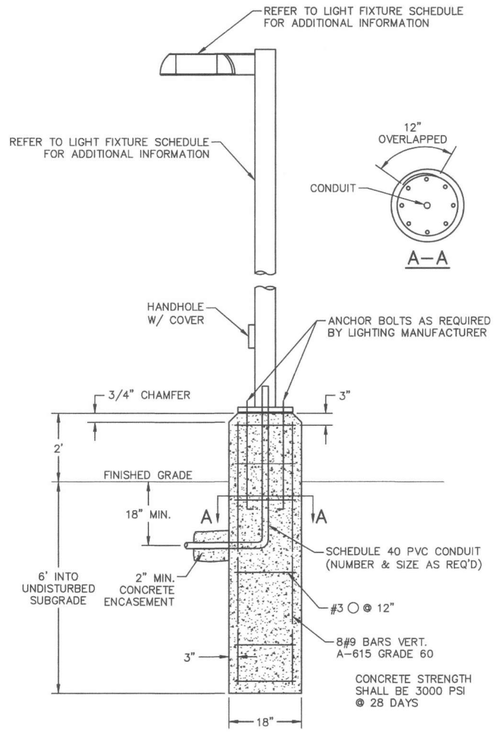

GENERATOR PAD GRADE BEAM CORNER BARS DETAIL
NOT TO SCALE



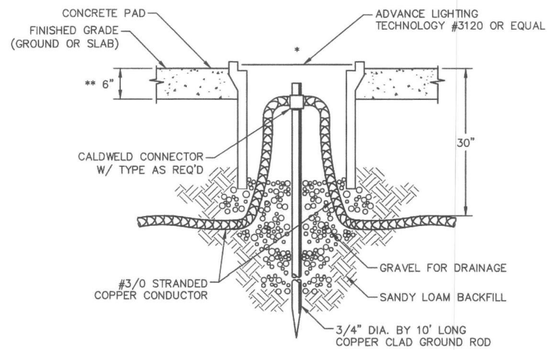

GENERATOR PAD DETAIL
NOT TO SCALE




BOLLARD DETAIL
NOT TO SCALE




POLE MOUNTED LIGHTING FIXTURE DETAIL
NOT TO SCALE




* INSTALL GROUND ROD AWAY FROM HEAVY TRAFFIC AREAS AND SIDEWALKS. COORDINATE EXACT LOCATION WITH CIVIL DRAWINGS.

** INSTALL 2'X2'X6" CONCRETE PAD

3/4" X 10' GROUND ROD DETAIL
NOT TO SCALE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| NO. | REVISION | DATE |
|---|---|---|
| | | |

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# CLARA VISTA
## LIFT STATION & FORCE MAIN
## LIFT STATION ELECTRICAL
## DETAILS 2 OF 6

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 44 OF 54

LS E5

CP-22-0144

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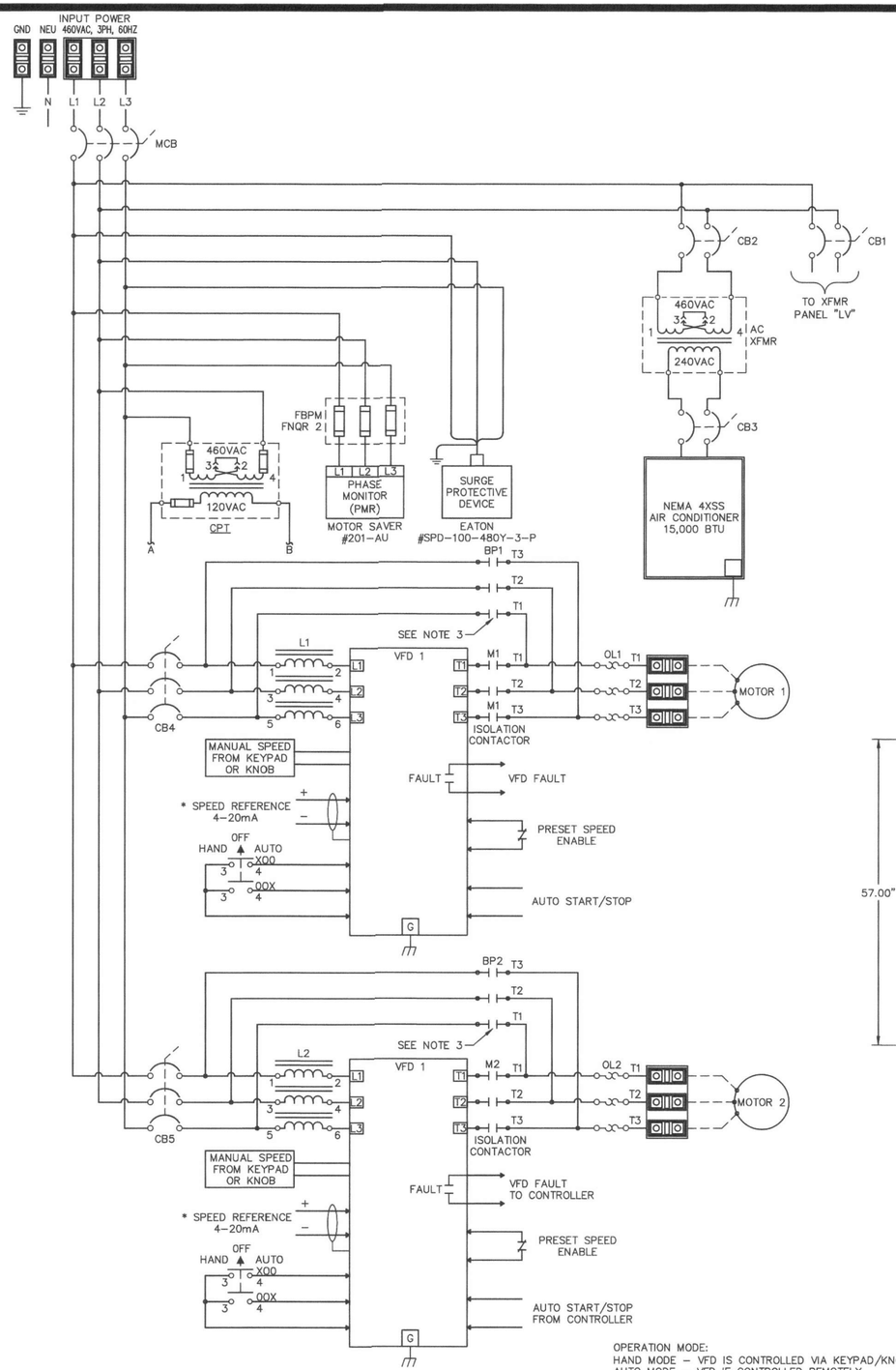



## CONTROL PANEL WIRING DIAGRAM

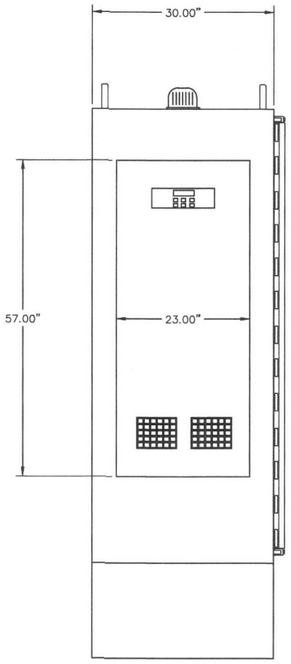
SEE NOTE 1 & 2
NOT TO SCALE

OPERATION MODE:
HAND MODE – VFD IS CONTROLLED VIA KEYPAD/KNOB
AUTO MODE – VFD IF CONTROLLED REMOTELY

* INDICATED FIELD WIRING REQUIRED BY CONTRACTOR

NOTES:

1. PUMP CONTROL PANEL WIRING TYPICAL. FINAL HARDWARE CONFIGURATION WILL VARY ACCORDING TO PUMP CONTROL PANEL SPECIFICATIONS.
2. DUPLEX PUMP CONTROL PANEL, 480V, 3 PHASE, UL805A LABELED. VERIFY EXACT PUMP SIZES, CIRCUIT BREAKERS AND OVERLOADS ACCORDINGLY. THE PUMP CONTROL PANEL SHALL BE MANUFACTURED BY 5 STAR ELECTRIC, SAN ANTONIO, TEXAS 1(800) 299-8965 OR APPROVED EQUAL.
3. PROVIDE AND INSTALL NEMA RATED CLASS 8536 STARTERS.
4. PUMP CONTROL PANEL SHALL BE SIZED LARGE ENOUGH TO FACILITATE EXPANSION OF LIFT STATION TO TWO (2) 121 HP MOTORS.
5. SEE SHEET E8 FOR SEQUENCE OF OPERATIONS.

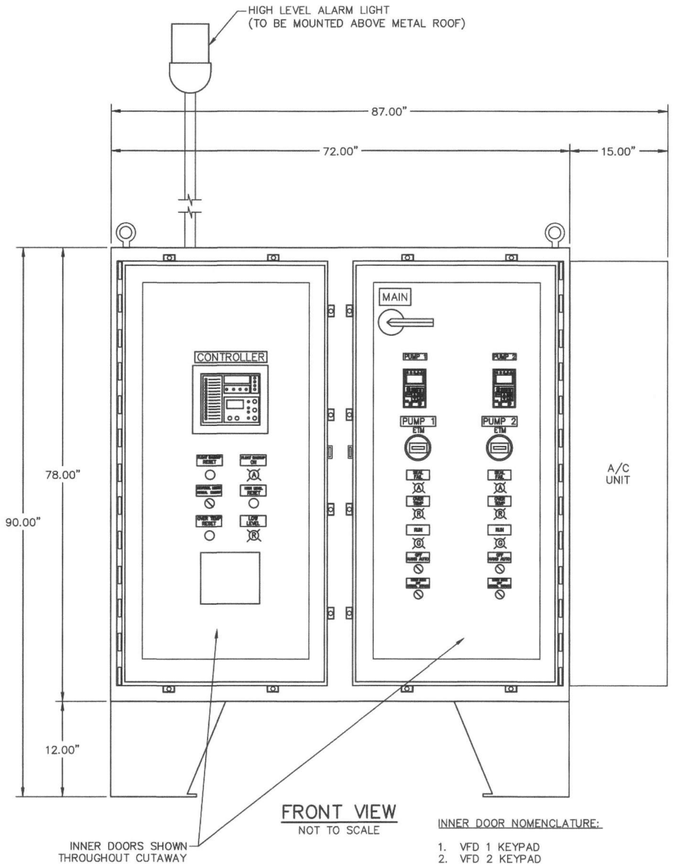



## SIDE VIEW

NOT TO SCALE

NOTES:

1. ENCLOSURE SHALL BE NEMA TYPE 4X 316 STAINLESS STEEL DEAD FRONT WITH INNER DOORS AND AIR CONDITIONER




## FRONT VIEW

NOT TO SCALE

INNER DOOR NOMENCLATURE:

1. VFD 1 KEYPAD
2. VFD 2 KEYPAD

## PUMP CONTROL PANEL

SEE NOTE 4
NOT TO SCALE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# CLARA VISTA

LIFT STATION & FORCE MAIN
LIFT STATION ELECTRICAL
DETAILS 3 OF 6

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 45 OF 54

LS E6



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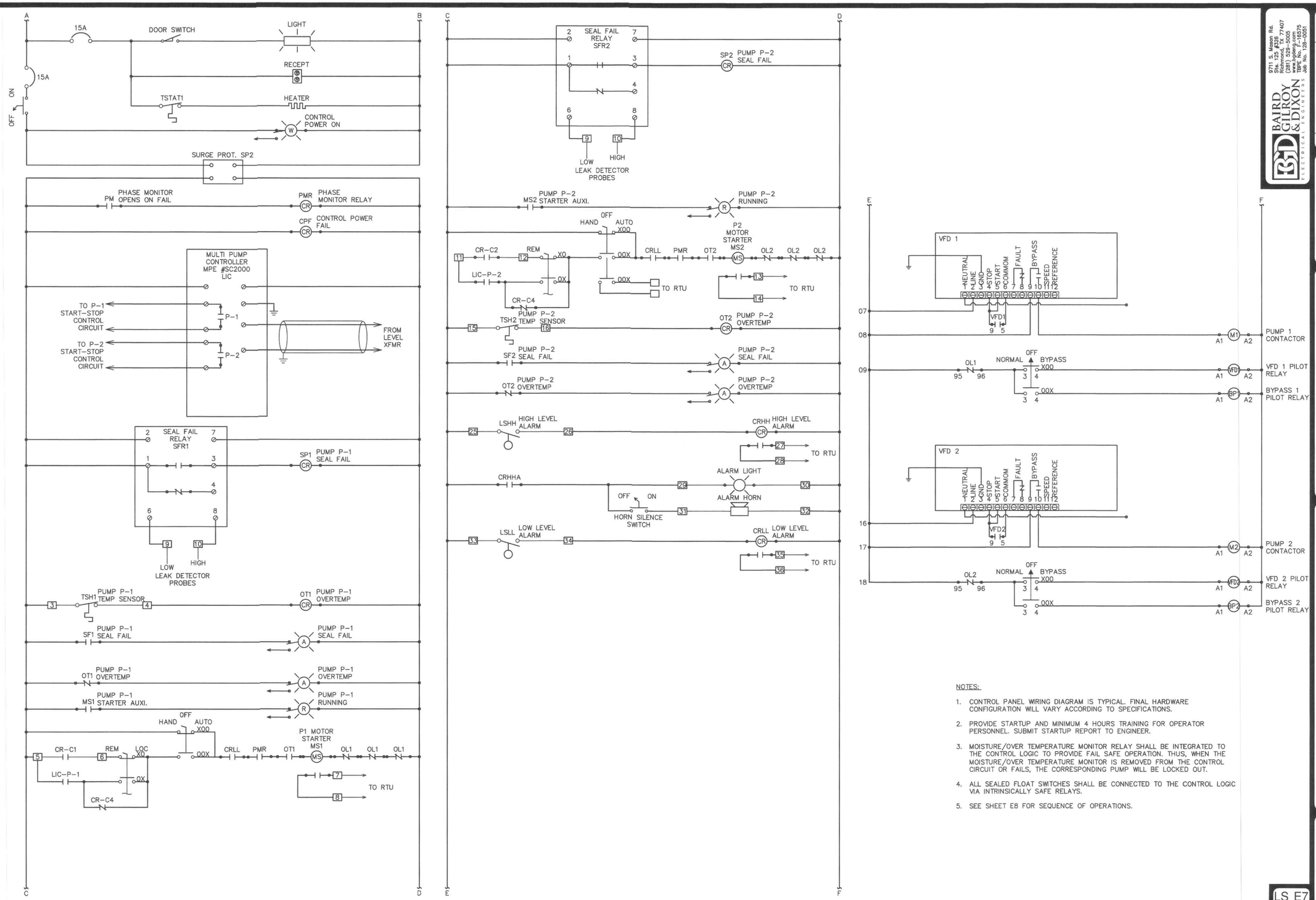


NOTES:

1. CONTROL PANEL WIRING DIAGRAM IS TYPICAL. FINAL HARDWARE CONFIGURATION WILL VARY ACCORDING TO SPECIFICATIONS.
2. PROVIDE STARTUP AND MINIMUM 4 HOURS TRAINING FOR OPERATOR PERSONNEL. SUBMIT STARTUP REPORT TO ENGINEER.
3. MOISTURE/OVER TEMPERATURE MONITOR RELAY SHALL BE INTEGRATED TO THE CONTROL LOGIC TO PROVIDE FAIL SAFE OPERATION. THUS, WHEN THE MOISTURE/OVER TEMPERATURE MONITOR IS REMOVED FROM THE CONTROL CIRCUIT OR FAILS, THE CORRESPONDING PUMP WILL BE LOCKED OUT.
4. ALL SEALED FLOAT SWITCHES SHALL BE CONNECTED TO THE CONTROL LOGIC VIA INTRINSICALLY SAFE RELAYS.
5. SEE SHEET E8 FOR SEQUENCE OF OPERATIONS.


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# CLARA VISTA

## LIFT STATION & FORCE MAIN

## LIFT STATION ELECTRICAL DETAILS 4 OF 6

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 46 OF 54

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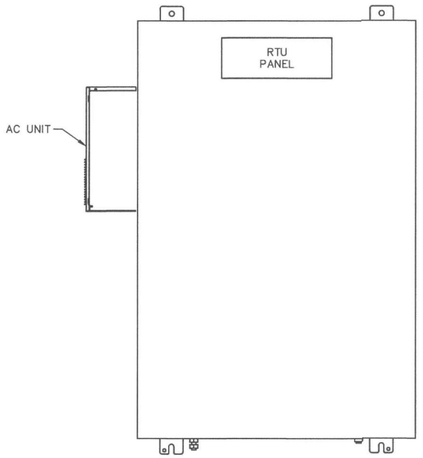
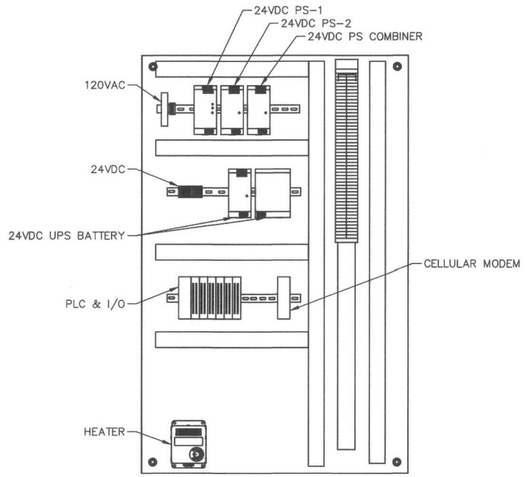
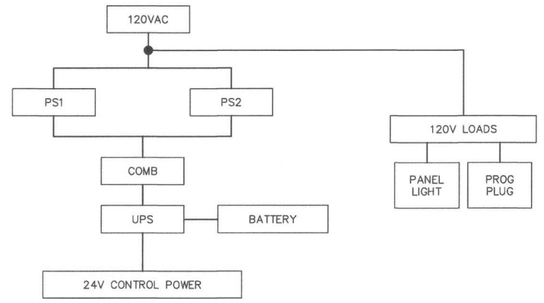



FRONT VIEW (EXTERIOR)
NOT TO SCALE

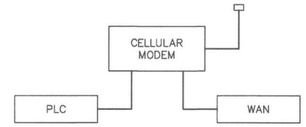



FRONT VIEW (DOOR REMOVED)
NOT TO SCALE

## LIFT STATION SCADA RTU ENCLOSURE
NOT TO SCALE




CONTROL POWER
NOT TO SCALE




CELLULAR MODEM PART# TBD

MODEM SWITCHES BETWEEN CELL AND WAN.

NETWORK
NOT TO SCALE

## LIFT STATION I/O LIST

| ITEM | DESCRIPTION | TYP. | CABLE/CONDUIT | REMARKS |
|---|---|---|---|---|
| 1 | P1 RUN STATUS | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 2 | P2 RUN STATUS | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 3 | P1 H-O-A STATUS | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 4 | P2 H-O-A STATUS | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 5 | HIGH WET WELL LEVEL | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 6 | LOW WET WELL LEVEL | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 7 | MAIN POWER FAULT | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 8 | CONTROL POWER FAULT | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 9 | GEN RUN | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 10 | GENERATOR FAULT | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 11 | PUMP ROTATION BINARY | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 12 | PUMP ROTATION BINARY | DI | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 13 | AC POWER | DI | 1/2" C, W/2-#16 | RADIO I/O |
| 14 | PUMP 1 CALL | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 15 | PUMP 2 CALL | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 16 | PLC FAULT | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 17 | P1 STARTER FAULT | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 18 | P2 STARTER FAULT | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 19 | PUMP 1 OVERRIDE | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 20 | PUMP 2 OVERRIDE | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 21 | PUMP 1 OFF | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 22 | PUMP 2 OFF | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 23 | ANY PUMP OUT | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 24 | ANY ALARM | DO | 1/2" C, W/2-#16 | PHYSICAL I/O |
| 25 | BATTERY TEST | DO | 1/2" C, W/2-#16 | RADIO I/O |
| 26 | PUMP 1 VFD SPEED | AO | 1/2" C, W/2-#18 STP | PHYSICAL I/O |
| 27 | PUMP 2 VFD SPEED | AO | 1/2" C, W/2-#18 STP | PHYSICAL I/O |
| 28 | WET WELL LEVEL | AI | 1/2" C, W/2-#18 STP | PHYSICAL I/O |
| 29 | P1 CURRENT | AI | 1/2" C, W/2-#18 STP | PHYSICAL I/O |
| 30 | P1 CURRENT | AI | 1/2" C, W/2-#18 STP | PHYSICAL I/O |
| 31 | FLOW METER STATUS | AI | 1/2" C, W/2-#18 STP | PHYSICAL I/O |
| 32 | RADIO KEY CURRENT | AI | 1/2" C, W/2-#18 STP | RADIO I/O |
| 33 | RADIO SIGNAL STRENGTH | AI | 1/2" C, W/2-#18 STP | RADIO I/O |

NOTES:

1. RTU PANEL SCHEMATIC AND WIRING DIAGRAM IS TYPICAL IN NATURE. FINAL HARDWARE CONFIGURATION MAY VARY.
2. PROVIDE FACTORY AUTHORIZED STARTUP AND MINIMUM 4 HOURS TRAINING FOR OPERATOR PERSONNEL.
3. THE LIFT STATION SCADA SYSTEM SHALL OPERATE PER THE SEQUENCE OF OPERATIONS.
4. ALL CONDUITS AND WIRING PROVIDED, INSTALLED BY THE ELECTRICAL CONTRACTOR AND TERMINATED BY THE SCADA CONTRACTOR.
5. ELECTRICAL CONTRACTOR MAY GROUP WIRES WITH SAME VOLTAGE FOR FIELD DEVICES IN CONDUIT AS HE DEEMS BEST APPROPRIATE.
6. ANALOG AND LOW VOLTAGE SIGNALS SHALL NOT BE RUN IN SAME CONDUIT AS 120VAC AND 480VAC CIRCUITS.
7. QUANTITY OF CONDUCTORS SHOWN ARE FOR REFERENCE ONLY. VERIFY EXACT WIRING REQUIREMENTS TO FIELD DEVICES ER INFORMATION PROVIDED BY THE EQUIPMENT VENDOR PRIOR TO INSTALLATION.
8. USE SHIELDED TWISTED PAIR (STP) CABLE BELDEN #5341FE OR EQUAL.
9. WET WELL LEVEL TRANSDUCER SCALING SHALL BE COORDINATED WITH CIVIL ENGINEER.

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CLARA VISTA
LIFT STATION & FORCE MAIN
LIFT STATION ELECTRICAL
DETAILS 5 OF 6

PLAT NO. CP-22-0144
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DESIGNER LAF
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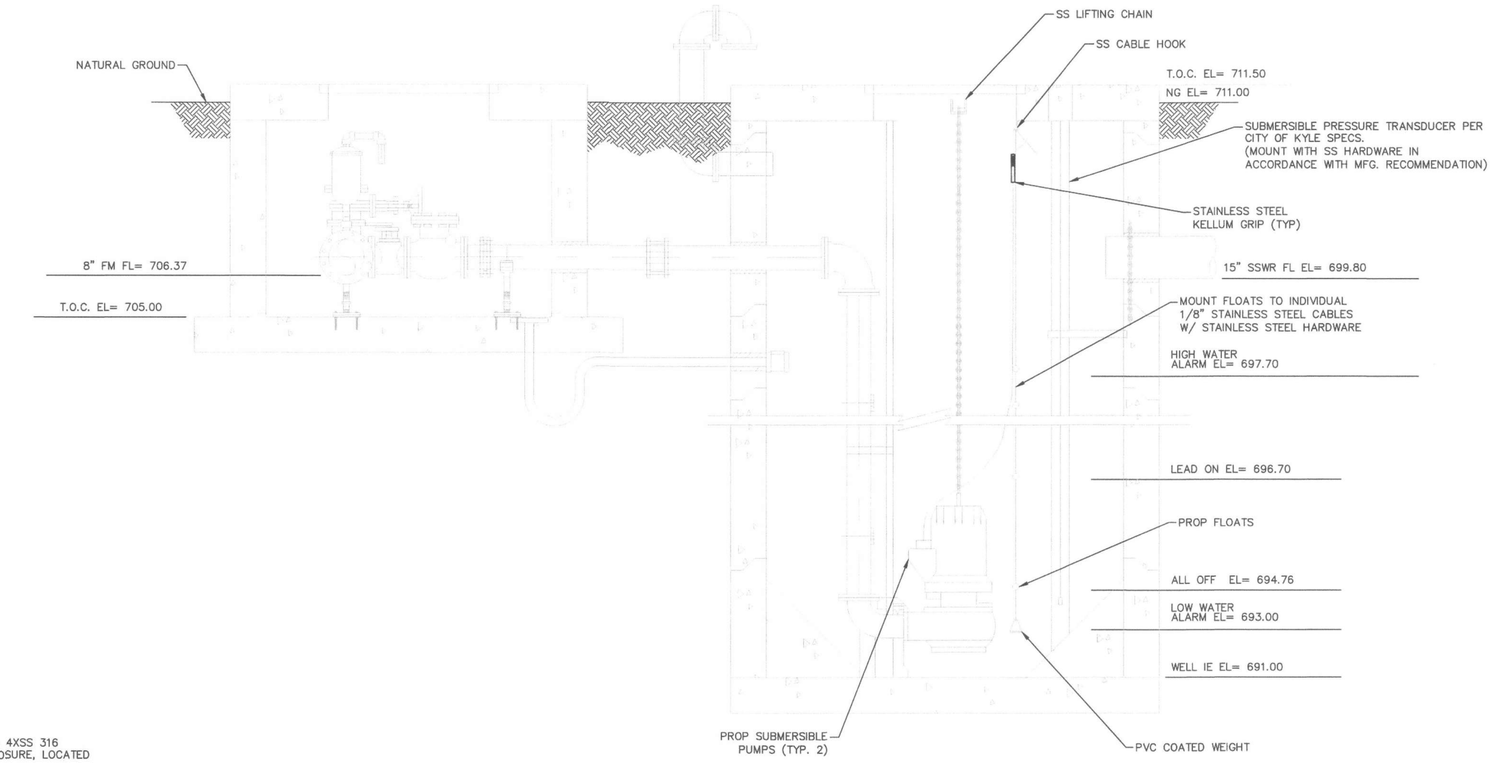
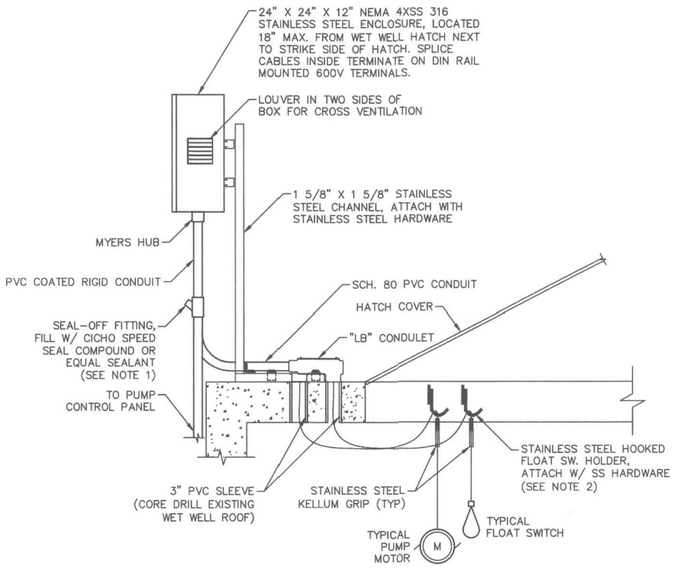



LIFT STATION SECTION VIEW
NOT TO SCALE




WET WELL JUNCTION BOX DETAIL
NOT TO SCALE

NOTES:

1. ALL CONDUITS ENTERING WET WELL JUNCTION BOX SHALL BE PROVIDED WITH SEAL-OFF FITTINGS. TYPICAL.
2. CONTROL WIRE HANGERS SHALL BE MOUNTED ON SIDE WALL, NOT NEXT TO PUMP RAILS.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# CLARA VISTA

LIFT STATION & FORCE MAIN
LIFT STATION ELECTRICAL
DETAILS 6 OF 6

PLAT NO. CP-22-0144
JOB NO. 51456-10
DATE SEPTEMBER 2024
DESIGNER LAF
CHECKED GSB DRAWN LAF
SHEET 48 OF 54

LS E9


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CP-22-0144

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** Clara Vista Lift Station & Force Main
**Date Prepared:** 1/8/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
**Characters shown in red are data entry fields.**
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project:** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
$A_N$ = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|---|---|---|
| County = | Hays | |
| Total project area included in plan * = | 25.86 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.01 | acres |
| Total post-development impervious area within the limits of the plan * = | 0.59 | acres |
| Total post-development impervious cover fraction * = | 0.02 | |
| P = | 33 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 526 | lbs. |

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1


**2. Drainage Basin Parameters (This information should be provided for each basin):**

**Drainage Basin/Outfall Area No. =** VFS 1

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 0.26 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.01 | acres |
| Post-development impervious area within drainage basin/outfall area = | 0.09 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.33 | |
| $L_{M\ THIS\ BASIN}$ = | 71 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Batch Detention
Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

**4. Calculate Maximum TSS Load Removed ($L_R$) for this Drainage Basin by the selected BMP Type.**

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

$A_C$ = Total On-Site drainage area in the BMP catchment area
$A_I$ = Impervious area proposed in the BMP catchment area
$A_P$ = Pervious area remaining in the BMP catchment area
$L_R$ = TSS Load removed from this catchment area by the proposed BMP

| | | |
|---|---|---|
| $A_C$ = | 0.26 | acres |
| $A_I$ = | 0.09 | acres |
| $A_P$ = | 0.18 | acres |
| $L_R$ = | 85 | lbs |

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area**

Desired $L_{M\ THIS\ BASIN}$ = 71 lbs.

F = 0.83

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.** Calculations from RG-348 Pages 3-34 to 3-36

| | | |
|---|---|---|
| Rainfall Depth = | 1.20 | inches |
| Post Development Runoff Coefficient = | 0.27 | |
| On-site Water Quality Volume = | 309 | cubic feet |

Calculations from RG-348 Pages 3-36 to 3-37

| | | |
|---|---|---|
| Off-site area draining to BMP = | 0.45 | acres |
| Off-site Impervious cover draining to BMP = | 0.00 | acres |
| Impervious fraction of off-site area = | 0.00 | |
| Off-site Runoff Coefficient = | 0.02 | |
| Off-site Water Quality Volume = | 39 | cubic feet |
| Storage for Sediment = | 70 | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | 417 | cubic feet |

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** Clara Vista Lift Station & Force Main
**Date Prepared:** 1/8/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
**Characters shown in red are data entry fields.**
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project:** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
$A_N$ = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|---|---|---|
| County = | Hays | |
| Total project area included in plan * = | 25.86 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.01 | acres |
| Total post-development impervious area within the limits of the plan* = | 0.59 | acres |
| Total post-development impervious cover fraction * = | 0.02 | |
| P = | 33 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 526 | lbs. |

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

**2. Drainage Basin Parameters (This information should be provided for each basin):**

**Drainage Basin/Outfall Area No. =** VFS 2

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 0.10 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 0.03 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.31 | |
| $L_{M\ THIS\ BASN}$ = | 27 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Batch Detention
Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

**4. Calculate Maximum TSS Load Removed ($L_R$) for this Drainage Basin by the selected BMP Type.**

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
$A_C$ = Total On-Site drainage area in the BMP catchment area
$A_I$ = Impervious area proposed in the BMP catchment area
$A_P$ = Pervious area remaining in the BMP catchment area
$L_R$ = TSS Load removed from this catchment area by the proposed BMP

| | | |
|---|---|---|
| $A_C$ = | 0.10 | acres |
| $A_I$ = | 0.03 | acres |
| $A_P$ = | 0.07 | acres |
| $L_R$ = | 30 | lbs |

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area**

Desired $L_{M\ THIS\ BASN}$ = 27 lbs.

F = 0.91

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.** Calculations from RG-348 Pages 3-34 to 3-36

| | | |
|---|---|---|
| Rainfall Depth = | 1.80 | inches |
| Post Development Runoff Coefficient = | 0.26 | |
| On-site Water Quality Volume = | 165 | cubic feet |

Calculations from RG-348 Pages 3-36 to 3-37

| | | |
|---|---|---|
| Off-site area draining to BMP = | 0.45 | acres |
| Off-site Impervious cover draining to BMP = | 0.00 | acres |
| Impervious fraction of off-site area = | 0.00 | |
| Off-site Runoff Coefficient = | 0.02 | |
| Off-site Water Quality Volume = | 59 | cubic feet |
| Storage for Sediment = | 45 | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | 268 | cubic feet |

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** Clara Vista Lift Station & Force Main
**Date Prepared:** 1/8/2025

**Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.**
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
**Characters shown in red are data entry fields.**
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project:** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
$A_N$ = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|---|---|---|
| County = | Hays | |
| Total project area included in plan * = | 25.86 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.01 | acres |
| Total post-development impervious area within the limits of the plan * = | 0.59 | acres |
| Total post-development impervious cover fraction * = | 0.02 | |
| P = | 33 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 526 | lbs. |

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

**2. Drainage Basin Parameters (This information should be provided for each basin):**

**Drainage Basin/Outfall Area No. =** VFS 3

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 0.06 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 0.02 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.26 | |
| $L_{M\ THIS\ BASN}$ = | 14 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Batch Detention
Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

**4. Calculate Maximum TSS Load Removed ($L_R$) for this Drainage Basin by the selected BMP Type.**

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

$A_C$ = Total On-Site drainage area in the BMP catchment area
$A_I$ = Impervious area proposed in the BMP catchment area
$A_P$ = Pervious area remaining in the BMP catchment area
$L_R$ = TSS Load removed from this catchment area by the proposed BMP

| | | |
|---|---|---|
| $A_C$ = | 0.06 | acres |
| $A_I$ = | 0.02 | acres |
| $A_P$ = | 0.04 | acres |
| $L_R$ = | 15 | lbs |

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area**

Desired $L_{M\ THIS\ BASN}$ = 14 lbs.

F = 0.91

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.** Calculations from RG-348 Pages 3-34 to 3-36

| | | |
|---|---|---|
| Rainfall Depth = | 1.80 | inches |
| Post Development Runoff Coefficient = | 0.24 | |
| On-site Water Quality Volume = | 91 | cubic feet |

Calculations from RG-348 Pages 3-36 to 3-37

| | | |
|---|---|---|
| Off-site area draining to BMP = | 0.45 | acres |
| Off-site Impervious cover draining to BMP = | 0.00 | acres |
| Impervious fraction of off-site area = | 0.00 | |
| Off-site Runoff Coefficient = | 0.02 | |
| Off-site Water Quality Volume = | 59 | cubic feet |
| Storage for Sediment = | 30 | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | 179 | cubic feet |

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** Clara Vista Lift Station & Force Main
**Date Prepared:** 1/8/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
**Characters shown in red are data entry fields.**
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project:** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
$A_N$ = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|---|---|---|
| County = | Hays | |
| Total project area included in plan * = | 25.86 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.01 | acres |
| Total post-development impervious area within the limits of the plan* = | 0.59 | acres |
| Total post-development impervious cover fraction * = | 0.02 | |
| P = | 33 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 526 | lbs. |

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

**2. Drainage Basin Parameters (This information should be provided for each basin):**

**Drainage Basin/Outfall Area No. =** VFS 4

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 1.27 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 0.33 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.26 | |
| $L_{M\ THIS\ BASIN}$ = | 292 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Batch Detention
Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

**4. Calculate Maximum TSS Load Removed ($L_R$) for this Drainage Basin by the selected BMP Type.**

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
$A_C$ = Total On-Site drainage area in the BMP catchment area
$A_I$ = Impervious area proposed in the BMP catchment area
$A_P$ = Pervious area remaining in the BMP catchment area
$L_R$ = TSS Load removed from this catchment area by the proposed BMP

| | | |
|---|---|---|
| $A_C$ = | 1.27 | acres |
| $A_I$ = | 0.33 | acres |
| $A_P$ = | 0.95 | acres |
| $L_R$ = | 330 | lbs |

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area**

Desired $L_{M\ THIS\ BASIN}$ = 310 lbs.

F = 0.94

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.** Calculations from RG-348 Pages 3-34 to 3-36

| | | |
|---|---|---|
| Rainfall Depth = | 2.40 | inches |
| Post Development Runoff Coefficient = | 0.23 | |
| On-site Water Quality Volume = | 2600 | cubic feet |

Calculations from RG-348 Pages 3-36 to 3-37

| | | |
|---|---|---|
| Off-site area draining to BMP = | 0.45 | acres |
| Off-site Impervious cover draining to BMP = | 0.00 | acres |
| Impervious fraction of off-site area = | 0.00 | |
| Off-site Runoff Coefficient = | 0.02 | |
| Off-site Water Quality Volume = | 78 | cubic feet |
| Storage for Sediment = | 536 | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | 3214 | cubic feet |

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** Clara Vista Lift Station & Force Main
**Date Prepared:** 1/8/2025

**Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.**
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
**Characters shown in red are data entry fields.**
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project:** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
$A_N$ = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|---|---|---|
| County = | Hays | |
| Total project area included in plan * = | 25.86 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.01 | acres |
| Total post-development impervious area within the limits of the plan * = | 0.59 | acres |
| Total post-development impervious cover fraction * = | 0.02 | |
| P = | 33 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 526 | lbs. |

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

**2. Drainage Basin Parameters (This information should be provided for each basin):**

**Drainage Basin/Outfall Area No. =** VFS 5

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 0.18 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 0.12 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.64 | |
| $L_{M\ THIS\ BASN}$ = | 104 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Batch Detention
Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

**4. Calculate Maximum TSS Load Removed ($L_R$) for this Drainage Basin by the selected BMP Type.**

RG-348 Page 3-33 Equation 3.7: $L_R$ = (BMP efficiency) x P x ($A_I$ x 34.6 + $A_P$ x 0.54)

where:

$A_C$ = Total On-Site drainage area in the BMP catchment area
$A_I$ = Impervious area proposed in the BMP catchment area
$A_P$ = Pervious area remaining in the BMP catchment area
$L_R$ = TSS Load removed from this catchment area by the proposed BMP

| | | |
|---|---|---|
| $A_C$ = | 0.18 | acres |
| $A_I$ = | 0.12 | acres |
| $A_P$ = | 0.07 | acres |
| $L_R$ = | 114 | lbs |

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area**

Desired $L_{M\ THIS\ BASN}$ = 104 lbs.

F = 0.92

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.** Calculations from RG-348 Pages 3-34 to 3-36

| | | |
|---|---|---|
| Rainfall Depth = | 2.00 | inches |
| Post Development Runoff Coefficient = | 0.45 | |
| On-site Water Quality Volume = | 593 | cubic feet |

Calculations from RG-348 Pages 3-36 to 3-37

| | | |
|---|---|---|
| Off-site area draining to BMP = | 0.45 | acres |
| Off-site Impervious cover draining to BMP = | 0.00 | acres |
| Impervious fraction of off-site area = | 0.00 | |
| Off-site Runoff Coefficient = | 0.02 | |
| Off-site Water Quality Volume = | 65 | cubic feet |
| Storage for Sediment = | 132 | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | 790 | cubic feet |

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

# ATTACHMENT G

MAINTENANCE PROCEDURES FOR PERMANENT BMPs

**Note: Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5.**

*A written record will be kept of inspection results and maintenance performed.*

3.5.8 Vegetative Filter Strips

Once a vegetated area is well established, little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is planted. Once established, all vegetated BMPs require some basic maintenance to insure the health of the plants including:

- *Pest Management*. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

- *Seasonal Mowing and Lawn Care*. If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices, however herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

- *Inspection*. Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

- *Debris and Litter Removal*. Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons.

The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.

- *Sediment Removal*. Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels. Inspections should be performed at least twice a year and after each rainfall event, with at least one biannual inspection to occur during or immediately after a rainfall event.

- *Grass Reseeding and Mulching*. A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established. Inspections should be performed twice a year and after each rainfall event, with at least one biannual inspection to occur during or immediately after a rainfall event.

Other recommended maintenance guidelines include:

- *Inspections.* BPM facilities should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BPM must be identified and repaired or revegetated immediately.

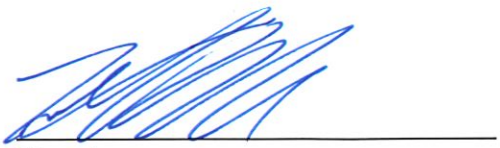
- *Sediment Removal.* Remove sediment from the facility when sediment depth reaches 3 inches or when the sediment interferes with the health of vegetation or ability of the facility to meet required drawdown times. Sediment removal should be performed at least every 2 years.

- *Drain Time.* When the drain time exceeds 72 hours as observed in the observation well, the filter media should be removed and replaced with more permeable material.

- *Vegetation.* All dead and diseased vegetation considered beyond treatment shall be removed and replaced during semi-annual inspections. Diseased trees and shrubs should be treated during inspections. Remulch any bare areas by hand whenever needed. Replace mulch annually in the spring, or more frequently if needed, in landscaped areas of the basin where grass or groundcover is not planted. Grass areas in and around bioretention facilities must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

- *Debris and Litter Removal.* Debris and litter will accumulate in the facility and should be removed during regular mowing operations and inspections.

- *Filter Undrain.* Clean underdrain piping network to remove any sediment buildup every 5 years, or as needed to maintain design drawdown time.



Signature
Kyle Ninness, Director of Land Development
Toll Southwest, LLC.

8/26/25

Date

# ATTACHMENT I

## Attachment I – Measures for Minimizing Surface Stream Contamination

Any points where discharge from the site is concentrated and erosive velocities exist will include appropriately sized energy dissipators to reduce velocities to non-erosive levels.

# OWNER AUTHORIZATION FORM

# Owner Authorization Form

**Texas Commission on Environmental Quality**
for Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

## *Land Owner Authorization*

I, Gregg T. Reyes of Blanco River Ranch Properties, LP
Land Owner Signatory Name — Land Owner Name (Legal Entity or Individual)

am the owner of the property located at
WATERRIDGE 150 DISTRICT SEC 2, ACRES 2.47
Legal description of the property referenced in the application

and am duly authorized in accordance with §213.4(c)(2) and §213.4(d)(1) or §213.23(c)(2) and §213.23(d) relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize Toll Southwest, LLC
Applicant Name (Legal Entity or Individual)

to conduct the submittal of an application for TCEQ on its behalf
Description of the proposed regulated activities

at Cypress Road, Kyle, TX 78640.
Precise location of the authorized regulated activities

## *Land Owner Acknowledgement*

I understand that Blanco River Ranch Properties, LP
Land Owner Name (Legal Entity or Individual)

Is ultimately responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

***Land Owner Signature***

Gregg T. Reyes — 11/8/2024

Land Owner Signature — Date

THE STATE OF § TEXAS

County of § HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared Gregg T. Reyes known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 8th day of November 2024

NOTARY PUBLIC

EUNICE MORALES
Notary ID #131660479
My Commission Expires
July 27, 2026

Eunice Morales

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7/27/26

Attached: (Mark all that apply)

- ☐ Lease Agreement
- ☐ Signed Contract
- ☐ Deed Recorded Easement
- ☐ Other legally binding document

## *Applicant Acknowledgement*

I, David M. "Mike" Boswell of Toll Southwest, LLC
Applicant Signatory Name — Applicant Name (Legal Entity or Individual)

acknowledge that Blanco River Ranch Properties, LP
Land Owner Name (Legal Entity or Individual)

has provided Toll Southwest, LLC
Applicant Name (Legal Entity or Individual)

with the right to possess and control the property referenced in the Edwards Aquifer protection plan.

I understand that Blanco River Ranch Properties, LP
Applicant Name (Legal Entity or Individual)

is contractually responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation. I further understand that failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

## *Applicant Signature*

Applicant Signature

11/11/24
Date

THE STATE OF § Texas

County of § Tarrant

BEFORE ME, the undersigned authority, on this day personally appeared David M "Mike" Boswell known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 11th day of November 2024

NOTARY PUBLIC

LaVonda High
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 12-28-2024

LAVONDA HIGH
Notary Public, State of Texas
Comm. Expires 12-28-2024
Notary ID 12924615-4

# AGENT AUTHORIZATION FORM (TCEQ-0599)

**Agent Authorization Form**
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I David M. "Mike" Boswell,
Print Name

Vice President, Land Development,
Title - Owner/President/Other

of Toll Southwest LLC,
Corporation/Partnership/Entity Name

have authorized Aimee Chavez, P.E.
Print Name of Agent/Engineer

of Pape-Dawson Consulting Engineers, LLC.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

9/9/2024
Date

THE STATE OF TEXAS §

County of TARRANT §

BEFORE ME, the undersigned authority, on this day personally appeared Mike Boswell known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 9th day of September.

LAVONDA HIGH
Notary Public, State of Texas
Comm. Expires 12-28-2024
Notary ID 12924615-4

NOTARY PUBLIC

LaVonda High
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 12/28/2024

# APPLICATION FEE FORM (TCEQ-0574)

# Application Fee Form

**Texas Commission on Environmental Quality**

Name of Proposed Regulated Entity: Clara Vista Lift Station & Force Main

Regulated Entity Location: Approximately 0.7 miles southweest of the intersection of Six Creeks Blvd. and Falling River Rd.

Name of Customer: Toll Southwest LLC.

Contact Person: Kyle Ninness Phone: 303-263-7132

Customer Reference Number (if issued):CN 605682475

Regulated Entity Reference Number (if issued):RN 112094636

**Austin Regional Office (3373)**

☒ Hays ☐ Travis ☐ Williamson

**San Antonio Regional Office (3362)**

☐ Bexar ☐ Medina ☐ Uvalde

☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☒ Austin Regional Office

☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office

☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

**Site Location (Check All That Apply):**

☐ Recharge Zone ☒ Contributing Zone ☒ Transition Zone

| *Type of Plan* | *Size* | *Fee Due* |
|---|---|---|
| Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | Acres | $ |
| Sewage Collection System | L.F. | $ |
| Lift Stations without sewer lines | Acres | $ |
| Underground or Aboveground Storage Tank Facility | 1 Tanks | $ 650 |
| Piping System(s)(only) | Each | $ |
| Exception | Each | $ |
| Extension of Time | Each | $ |

Signature: Aimee Cg

Date: August 20, 2025

# Application Fee Schedule

**Texas Commission on Environmental Quality**
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

***Water Pollution Abatement Plans and Modifications***

***Contributing Zone Plans and Modifications***

| *Project* | *Project Area in Acres* | *Fee* |
|---|---|---|
| One Single Family Residential Dwelling | < 5 | $650 |
| Multiple Single Family Residential and Parks | < 5<br>5 < 10<br>10 < 40<br>40 < 100<br>100 < 500<br>≥ 500 | $1,500<br>$3,000<br>$4,000<br>$6,500<br>$8,000<br>$10,000 |
| Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur) | < 1<br>1 < 5<br>5 < 10<br>10 < 40<br>40 < 100<br>≥ 100 | $3,000<br>$4,000<br>$5,000<br>$6,500<br>$8,000<br>$10,000 |

***Organized Sewage Collection Systems and Modifications***

| *Project* | *Cost per Linear Foot* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Sewage Collection Systems | $0.50 | $650 - $6,500 |

***Underground and Aboveground Storage Tank System Facility Plans and Modifications***

| *Project* | *Cost per Tank or Piping System* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Underground and Aboveground Storage Tank Facility | $650 | $650 - $6,500 |

***Exception Requests***

| *Project* | *Fee* |
|---|---|
| Exception Request | $500 |

***Extension of Time Requests***

| *Project* | *Fee* |
|---|---|

| ***Project*** | ***Fee*** |
|---|---|
| Extension of Time Request | $150 |

# CORE DATA FORM
# (TCEQ-10400)

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

| **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 605682475** | | **RN 112094636** |

## SECTION II: Customer Information

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

☐ 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:* |
|---|---|
| Toll Southwest LLC. | |

| **7. TX SOS/CPA Filing Number** | **8. TX State Tax ID** (11 digits) | **9. Federal Tax ID** (9 digits) | **10. DUNS Number** *(if applicable)* |
|---|---|---|---|
| 0801775669 | 32050842304 | 472582910 | |

| **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:** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1320 Arrow Point Dr., Suite 401 | | | | | | |
| | **City** | Cedar Park | **State** | TX | **ZIP** | 78613 | **ZIP + 4** |

| **16. Country Mailing Information** *(if outside USA)* | **17. E-Mail Address** *(if applicable)* |
|---|---|
| | |

| 18. Telephone Number | 19. Extension or Code | 20. Fax Number *(if applicable)* |
|---|---|---|
| ( 412 ) 780-2312 | | ( ) - |

## 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.)*

Clara Vista Lift Station & Force Main

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **23. Street Address of the Regulated Entity:** ***(No PO Boxes)*** | | | | | | | |
| | **City** | | **State** | | **ZIP** | | **ZIP + 4** |
| **24. County** | Hays | | | | | | |

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

| | | | | | |
|---|---|---|---|---|---|
| **25. Description to Physical Location:** | Approximately 0.7 miles southweest of the intersection of Six Creeks Blvd. and Falling River Rd. | | | | |
| **26. Nearest City** | | | **State** | **Nearest ZIP Code** | |
| Kyle | | | TX | 78640 | |

***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:** | 29.999333 | | **28. Longitude (W) In Decimal:** | -97.916983 | |
|---|---|---|---|---|---|
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| 29 | 59 | 57.6 | 97 | 55 | 1.1 |

| **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 | | 237110 | |

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

Lift station

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **34. Mailing Address:** | **1320 Arrow Point Dr., Suite 401** | | | | | | |
| | **City** | **Cedar Park** | **State** | **TX** | **ZIP** | **78613** | **ZIP + 4** |
| **35. E-Mail Address:** | | | | | | | |

| **36. Telephone Number** | **37. Extension or Code** | **38. Fax Number** *(if applicable)* |
|---|---|---|
| **( 412 ) 780-2312** | | ( ) - |

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

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

## SECTION IV: Preparer Information

| **40. Name:** | Carson Krause, E.I.T. | **41. Title:** | Engineer in Training I |
|---|---|---|---|

| **42. Telephone Number** | **43. Ext./Code** | **44. Fax Number** | **45. E-Mail Address** |
|---|---|---|---|
| ( 512 ) 454-8711 | | ( ) - | ckrause@pape-dawson.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:** | Pape-Dawson Consulting Engineers, LLC. | **Job Title:** | Associate Vice President | |
|---|---|---|---|---|
| **Name** *(In Print):* | Aimee Chavez, P.E. | | **Phone:** | ( 512 ) 454- **8711** |
| **Signature:** | Aimee Cj | | **Date:** | 8/29/25 |