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: Jarrell High School						**2. Regulated Entity No.: RN 101519049**			
3. Customer Name: Jarrell ISD						**4. Customer No.: CN 600794234**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	**WPAP exception request**
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**			119.5
9. Application Fee:	$1,720.50		**10. Permanent BMP(s):**			Wet Pond (Existing, no modification)			
11. SCS (Linear Ft.):	2,441.1		**12. AST/UST (No. Tanks):**			2 (Existing, no modification)			
13. County:	Williamson		**14. Watershed:**			Salado Creek			

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.)	___	___	_XX_
Region (1 req.)	___	___	_XX_
County(ies)	___	___	_XX_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown _XX_Jerrell ___Leander ___Liberty Hill ___Pflugerville ___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 ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___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.
Matt Hardy, PE 
Print Name of Customer/Authorized Agent 10/17/2025
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

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: Matt Hardy, PE

Date: 10/17/2025

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Jarrell High School
2. County: Williamson
3. Stream Basin: Salado Creek
4. Groundwater Conservation District (If applicable): _____
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Toni Hicks, Ed. D
   Entity: Jarrell ISD
   Mailing Address: 504 N. 5th St.
   City, State: Jarrell, TX Zip: 76537
   Telephone: 512-746-2124 FAX: 512-746-2518
   Email Address: toni.hicks@jarrellisd.org

8. Agent/Representative (If any):

   Contact Person: Matt Hardy, PE
   Entity: Langan Engineering
   Mailing Address: 9606 N. Mopac Expressway, Suite 110
   City, State: Austin, TX Zip: 78759
   Telephone: 469-627-7505 FAX: _____
   Email Address: mhardy@langan.com

9. Project Location:

   ☒ The project site is located inside the city limits of Jarrell.
   ☐ 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.

    The High School site is located on the north side of FM 487 about one mile west of its intersection with I 35.

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: Existing Institutional (High School)

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:

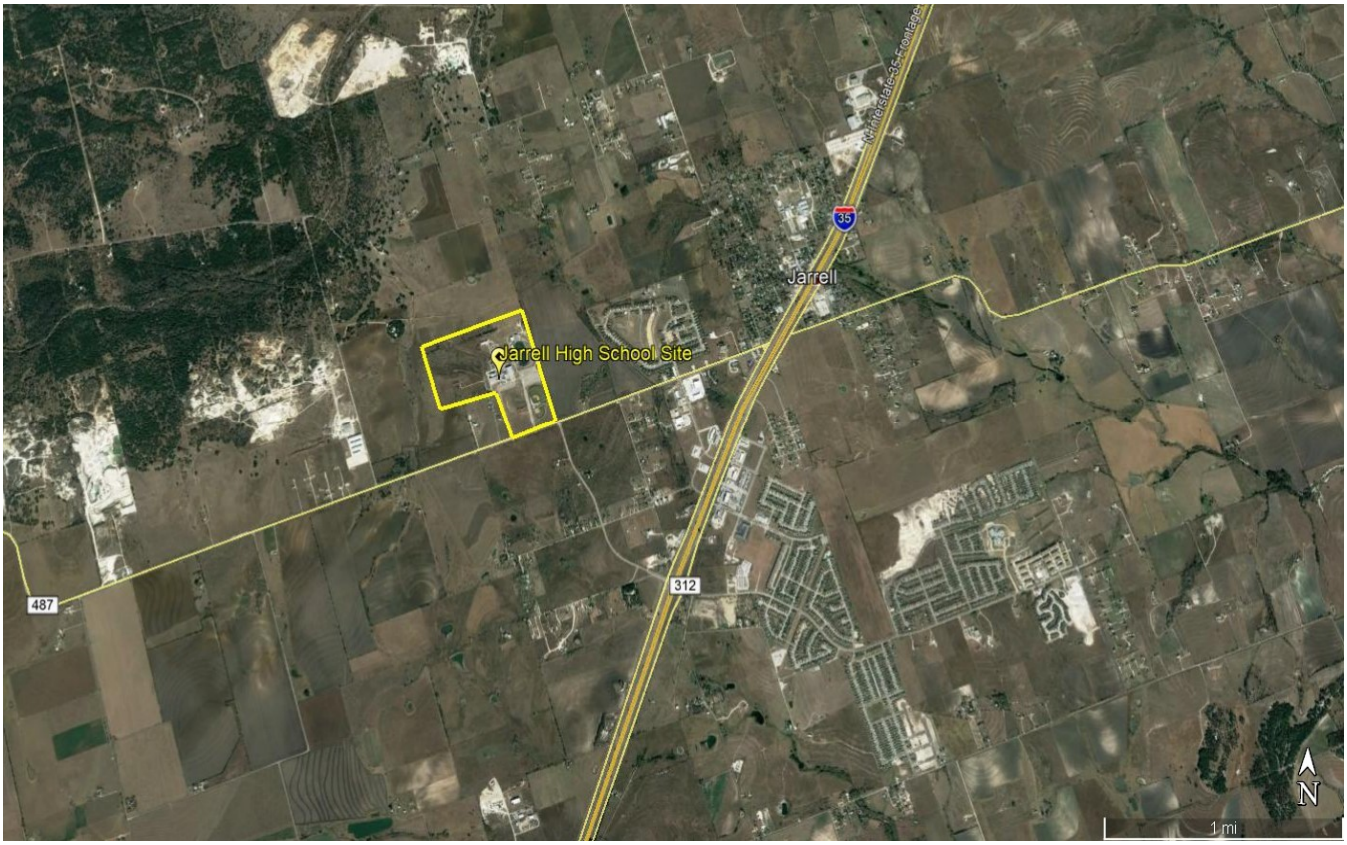
- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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.

General Information Form - TCEQ Form 0587

Attachment A: Road Map



General Information Form - TCEQ Form 0587

Attachment B: Edwards Aquifer Recharge Zone Map

General Information Form - TCEQ Form 0587
Attachment B: USGS Map

USGS science for a changing world

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

The National Map US Topo

COBBS CAVERN QUADRANGLE
TEXAS
7.5-MINUTE SERIES

Jarrell HS site

EdAq Recharge Zone boundary

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (central zone)

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

Imagery.....NAIP, July 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2003
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PV
Grid Zone Designation
14R

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Ding Dong
2 Youngsport
3 Salado
4 Florence
5 Jarrell
6 Leander NE
7 Georgetown
8 Weir

ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

COBBS CAVERN, TX
2016

7643016395596
NSN. 7643016395596
NGA REF NO. USGSX24K9370

General Information Form - TCEQ Form 0587
Attachment B: USGS Map

Produced by the United States Geological Survey

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

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Contours.....National Elevation Dataset, 2003
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

MN
GN
3° 58'
71 MILS
0° 44'
13 MILS
UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PV
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

TEXAS
QUADRANGLE LOCATION

ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route · US Route · State Route

1	2	3
4		5
6	7	8

1 Youngsport
2 Salado
3 Holland
4 Cobbs Cavern
5 Bartlett
6 Georgetown
7 Weir
8 Granger

ADJOINING QUADRANGLES

JARRELL, TX
2016

7643016396701
NSN. 7643016396701
NGA REF NO. USGSX24K22406

Form 0587 Attachment C: Project Description:

The proposed project consists of removal and replacement of a lift station and force main to serve Jarrell High School on the existing 119.5-acre tract located at 1100 FM487 in Jarrell, Texas.

The project demolition will include the removal existing equipment, wet well, and approximately 30 LF of existing gravity sanitary sewer. Pavement demolition will be limited to removal & replacement where the proposed force main crosses on-site drives. The proposed system consists of a new lift station and 2,441.1 LF of 4" PVC SDR 21 force main.

No additional impervious cover is proposed to the site. A 0.06 acre gravel road will be added for access to the new proposed lift station. An exception request has been included in this submittal for the added gravel access road. Due to expected additions of impervious cover with future school expansions, a wet basin water quality and detention pond was added in WPAP Mod #5 permit package sufficient to treat 65% impervious cover. The proposed additions do not modify existing drainage patterns. No modifications are proposed to the existing water quality wet pond. The existing water quality pond proposed in March of 2022 has been completed and is currently in service.

The project scope associated with the SCS & WPAP Modification approved in February of 2025 is currently under construction. The drawings and scope associated with this SCS modification are being added to the on-going project.

GEOLOGIC ASSESSMENT

Rowden Consulting, LLC
Environmental Services

Project:
Jarrell High School Campus
1100 FM 487
Jarrell, Williamson County, TX

Rowden Project No. 19.069

Prepared For:
Adams Engineers
13785 Research Blvd., Ste. 125
Austin, Texas 78759

© November 25, 2019*
*Table Corrected with Clarifications 3/22/23

Rowden Consulting, LLC
P.O. Box 978 ● Bullard, TX 75757
903.894.6410

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APPENDICES

INTRODUCTION

Rowden Consulting, LLC was retained by Adams Engineers & Development Consultants to conduct this geologic assessment of approximately 120 acres of land comprised of the existing Jarrell High School and undeveloped acreage planned for development and expansion of the campus. The property is located at 1100 FM 487 in Jarrell, Williamson County, Texas. The primary purpose of this assessment was to evaluate the property for geologic or man-made features that could exhibit increased rates of recharge to the subsurface.

After conducting a literature and file review, a field evaluation was conducted to identify any potential occurrences of geologic or man-made features. The study area was evaluated for potential features including, but not limited to, closed depressions, sinkholes, caves, faults, fractures, bedding plane surfaces, interconnected vugs, reef deposits, wells, borings, and excavations which may have hydraulic interconnectedness between the surface and the Edwards Aquifer. The evaluation was conducted in accordance with the requirements of the Edwards Aquifer rules provided in 30 TAC Chapter 213.

PROJECT DESCRIPTION

The property is comprised of approximately 120 acres of land developed for the Jarrell High School campus. Approximately 63 acres remains undeveloped, and this acreage is currently being evaluated for development and campus expansion. Adjacent properties are comprised of undeveloped, agricultural land. Properties to the east and south are actively being farmed while properties to the north and west are used as rangeland pasture. Farm to Market Road 487 is located adjacent to the south side of the property.

The proposed development plan for the subject property had not been completed at the time this report was prepared. According to the school district's engineer, the current task is to master plan the facility to plan for future growth. Since no site plans were available, the Site Geologic Map in Appendix II will not likely match the scale of the site plan produced in the future by Adams Engineers. An updated Site Geologic Map may be required at a later date to match the scale of the engineer's drawing.

Again, the current engineering task is to master plan the future campus. Jarrell is a growing community, and campus expansion is expected to include additional buildings, athletic fields, and other buildings and amenities required to support the future growth of the school. At this time, there are no permanent stormwater controls in place other than a detention pond and vegetated filter strips (according to previous permit information). A detention pond was observed in the field. A wet pond may be constructed on the northwest corner of the property in the future. Proposed development plans will be completed before an application for a Water Pollution Abatement Plan can be submitted to the Texas Commission on Environmental Quality (TCEQ) for review and approval.

METHODS

This Geologic Assessment was conducted in accordance with the requirements of 30 TAC Chapter 213, including an implementation of the TCEQ-0585-Instructions document titled *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* Rev. 10-01-04). The general procedure for conducting the geologic assessment was to perform the following steps: research information, perform a field survey, evaluate data, make conclusions, and make a report with feature assessments and recommendations.

A Professional Geoscientist with Rowden Consulting, LLC walked transects spaced fifty feet apart and mapped the location of any sensitive or non-sensitive features using a handheld global positioning system (GPS), topographic maps, LDIAR maps, and aerial photographs. Features and transects were mapped in the field using a mapping grade global positioning (GPS) system. A Global Navigation Satellite System (GNSS) GPS receiver was used in the field. Real-time correction was utilized to attempt meter to submeter accuracy. Accuracy was closely monitored during fieldwork and critical data point collection was allowed to average over time until near or sub-meter results were achieved. The GNSS GPS is typically capable of producing one-meter positional accuracy using GPS, Precise Point Positioning (PPP), and Satellite-based Augmentation System (SBAS). PPP technology is made possible by stabilizing measurements of the distance between GNSS satellites and the receiver (pseudo-ranges) using carrier phase tracking. Additional accuracy is achieved from ionospheric correctional data received from satellite-based augmentation systems. Benchmark points were utilized to ensure accuracy at the beginning and end of the field day, and control points were carefully monitored with sufficient time to ensure that accuracy levels were acceptable for critical field shots.

The Geologic Assessment Table in Appendix I provides a description of features that meet the TCEQ definition of sensitive or nonsensitive features, where identified. Features that do not meet the TCEQ definition of potential features, which include surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report. To a limited degree, the geoscientist removed loose rocks and soil to preliminarily assess each feature's subsurface extent. No intensive excavation was conducted.

The results of this ground level survey do not preclude the possibility of finding subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, construction should be halted and the TCEQ should be notified. Void closure plans may be required to resume development in such areas.

PREVIOUS STUDIES AND APPROVALS

A file review was conducted at the Texas Commission on Environmental Quality (TCEQ) Central File Room. The subject property was evaluated previously when the existing campus was being planned for development. Kenneth Crider with Steger & Bizzell Engineering, Inc. completed a geologic assessment of the property in 1997. Mr. Crider identified no karst features on the property, but noted the possible sensitivity of a fault line through the property. Mr. Crider also identified two pairs of water wells on the property (four wells), which were unused and planned for plugging and abandonment. Permits were issued under the Edwards Aquifer Protection Plan for the Jarrell High School by the Texas Natural Resource Conservation Commission.

Several modifications were approved by the Texas Commission on Environmental Quality for the Jarrell High School campus in years subsequent to the initial Water Pollution Abatement Plan (WPAP) approval. All modifications included reference to the 1997 Geologic Assessment with no new assessments. Modifications generally included sewer projects, wastewater treatment projects, stormwater management and detention, and the installation of athletic fields. A TCEQ Investigation Report dated May 3, 2006 noted that four wells were shown in the 1997 assessment, but only one plugged well was found at one location, and a plugged well with a cistern and concrete trough were observed at the other location. The second well (or wells) shown in the pairs of wells in the 1997 Geologic Assessment were thought to be an error. A TCEQ modification approval letter issued on June 8, 2009 noted that there were only two abandoned water wells on the property and both had been plugged. Another TCEQ letter dated May 14, 2015 referenced the 1997 Geologic Assessment and noted that only two plugged water wells were observed in 2006.

SITE GEOLOGY

According to the *Geological Atlas of Texas, Austin Sheet* (Barnes 1974. Reprinted 1981.), the property is located along a fault line (labeled as Feature S-1 on the attached Geologic Site Map). On the northwest side of the fault line, the surface geology is represented by the Georgetown formation. On the southeast side of the fault line, the surface geology is represented by the Del Rio clay. Smaller scale Geographic Information System shapefile data from the STATEMAP Program (Bureau of Economic Geology 2019), also maps a very small area of Edwards Formation outcrop on the extreme northwestern property corner. However, field evaluations did not confirm the presence of the Edwards Formation outcrop on the property. The Edwards Formation does not appear to outcrop at the surface within the study area as it is overlain by the Georgetown formation and Del Rio clay (where the Del Rio is present).

The Edwards Formation is susceptible to chemical weathering processes and is typically vuggy where exposed. Karst features are typically present wherever the Edwards Formation is present (Housh, 2007). The Edwards Formation is overlain by the Georgetown Formation and the Del Rio clay within the study area. The study area is located within the Balcones Fault Zone, and a fault extends through the study area in a northeast-southwest direction. This fault line separates the two surface geologic units. Both the Georgetown Formation and Del Rio clay are part of the Washita Group. The Georgetown Formation is a massive nodular limestone that is often hydrologically connected to the underlying Edwards Limestone (Brune and Duffin, 1983). The Del Rio clay is composed of shale (Brune and Duffin, 1983).

The Edwards Formation is an aquifer sensitive to rapid recharge in the area. The Edwards Formation consists of massive limestone beds with bands of chert nodules and rudistid biostromes (Housh, 2007). The Edwards Limestone is composed of 200 to 350 feet of highly fractured and thickly bedded

to massive limestone or dolomite, with minor shale, clay, and siliceous limestone. The Edwards Limestone is vuggy in places because of the occurrence of solution-collapse zones (Brune and Duffin, 1983). These zones, parallel to bedding planes, are the result of dissolution of gypsum beds that formerly occurred in this stratigraphic unit. They are cavernous and iron stained and contain brecciated limestone, chert, crystalline calcite, and residual clay. These solution-collapse zones occur mainly 60 to 80 feet above the base of the Edwards Limestone, and are the main water-bearing horizons in the aquifer (Brune and Duffin, 1983). In addition to solution-collapse zones, groundwater in the Edwards aquifer flows through a network of steeply dipping faults and joints (Brune and Duffin, 1983). The Edwards Formation conformably overlies the Comanche Peak Formation and is unconformably overlain by the rocks of the Georgetown Formation in the region including the study area.

Due to its potential for hydraulic connectivity, the Georgetown Formation is typically considered a part of the Edwards aquifer while the lesser permeable Del Rio clay is not. The Del Rio clay is recognized as a confining unit. The lower Washita Group, including the Georgetown Formation, and the Edwards Formation are collectively referred to as the Edwards and associated limestones (Brune and Duffin, 1983). Recharge to the Edwards and associated limestones results from infiltration of precipitation that falls on the outcrop of the aquifer or infiltration of runoff derived from watershed areas upstream from the aquifer outcrop. The recharge zone is characterized by the occurrence of numerous scattered karst features, such as dissolution-enhanced fractures, sinkholes, and caves, which are potential recharge sites (Jones 2003). Recharge also takes the form of infiltration along faults and joints that intersect losing segments of perennial and intermittent streams in the region. These fractures are often enlarged by karstification (Brune and Duffin, 1983). Infiltrating water tends to perch within the Georgetown Formation because of the occurrence of low-permeability shale members. Resultant lateral flow often discharges from small seeps and springs. Rapid recharge occurs when underlying Edwards and Comanche Peak limestones are encountered (Dahl, 1990).

SOILS

U.S. Department of Agriculture *Web Soil Survey*, the lower elevations of the property are mapped within the Denton silty clay, 1 to 3 percent slopes soil series. The northern and southwestern sides of the property are mapped within the Georgetown clay loam, 0 to 2 percent slopes soil series Georgetown stony clay loam, 1 to 3 percent slopes soil series. A part of the south side of the property is mapped within the Heiden clay, 1 to 3 percent slopes soil series, and the east side of the property is mapped within the Houston black clay, 1 to 3 percent slopes soil series. The following information was obtained from the *Web Soil Survey* for each soil series:

Denton silty clay, 1 to 3 percent slopes
Setting
- Landform: Hillslopes
- Landform position (two-dimensional): Toeslope
- Landform position (three-dimensional): Base slope
- Down-slope shape: Convex
- Across-slope shape: Linear
- Parent material: Silty and clayey slope alluvium over residuum weathered from limestone

Typical profile
- A - 0 to 14 inches: silty clay
- Bw - 14 to 25 inches: silty clay
- Bk - 25 to 33 inches: silty clay

Ck - 33 to 36 inches: gravelly silty clay
R - 36 to 80 inches: bedrock

Properties and qualities
Slope: 1 to 3 percent
Depth to restrictive feature: 22 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High

Interpretive groups
Hydrologic Soil Group: D
Ecological site: Clay Loam 29-35 PZ (R081CY357TX)
Hydric soil rating: No

Georgetown clay loam, 0 to 2 percent slopes
Setting
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone

Typical profile
A - 0 to 7 inches: clay loam
Bt - 7 to 35 inches: cobbly clay
R - 35 to 60 inches: bedrock

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Interpretive groups
Hydrologic Soil Group: D
Ecological site: Redland 29-35 PZ (R081CY361TX)
Hydric soil rating: No

Georgetown stony clay loam, 1 to 3 percent slopes
Setting
Landform: Ridges
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone

Typical profile
A - 0 to 7 inches: stony clay loam
Bt - 7 to 35 inches: cobbly clay

R - 35 to 60 inches: bedrock

Properties and qualities
Slope: 1 to 3 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high

Interpretive groups
Hydrologic Soil Group: D
Ecological site: Redland 29-35" PZ (R081CY361TX)
Hydric soil rating: No

Heiden clay, 1 to 3 percent slopes
Setting
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from mudstone

Typical profile
Ap - 0 to 6 inches: clay
A - 6 to 18 inches: clay
Bkss - 18 to 58 inches: clay
CBdk - 58 to 70 inches: clay

Properties and qualities
Slope: 1 to 3 percent
Depth to restrictive feature: 40 to 65 inches to densic material
Natural drainage class: Well drained
Runoff class: Very high
Interpretive groups
Hydrologic Soil Group: D
Ecological site: Southern Blackland (R086AY011TX)
Hydric soil rating: No

Houston Black clay, 1 to 3 percent slopes
Setting
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Clayey residuum weathered from calcareous mudstone of upper cretaceous age

Typical profile
Ap - 0 to 6 inches: clay
Bkss - 6 to 70 inches: clay

BCkss - 70 to 80 inches: clay

Properties and qualities
Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very high

Interpretive groups
Hydrologic Soil Group: D
Ecological site: Southern Blackland (R086AY011TX)
Hydric soil rating: No

WATER WELLS

As mentioned previously, the subject property was evaluated previously in 1997 and four water wells were identified on the property. Subsequent inspections by the TCEQ identified only two plugged water wells at the locations of two pairs of wells previously reported. One of these plugged wells was observed in the field during this assessment. The plugged well presents no concern for rapid recharge or infiltration. The approximate location of the second well was also observed during this field event. However, the plugged status of this well could not be confirmed as some disturbances of the area were evident. However, the shallow feature was observed to be filled by fine material with no evidence of water movement or potential for rapid recharge.

A TCEQ Investigation Report dated May 3, 2006 noted the presence of a plugged well, a cistern and a concrete trough on the north side of the property. A concrete watering trough was observed on the north side of the property, and the trough had been flipped over, which must have required heavy equipment. In addition, concrete blocks, steel piping, and well casing materials were observed in a mound of dirt thought to have been pushed up by heavy equipment. Small trees had begun growing in the mound. Footings and wood observed in the area are thought to have supported a windmill, which was identified in a previous land survey. Remnants of electric pump equipment were also observed.

It is unknown if the water well on the north side of the property remains properly plugged at depth. It's current condition presents no potential for rapid recharge, but construction in this area could disturb the feature. An investigation of the area revealed the remnants of a hole or well bore that had been concealed by a slab of concrete. Upon removing the slab of concrete, a hole was revealed with a depth of about 2 feet and width of about 1.5 feet. There was no evidence of water movement or infiltration, and the area was filled with nesting material with interior evidence of animal burrowing. This feature had a concrete cap with a circular opening, which likely surrounded a well casing or pipe previously. Probing of the area revealed no concrete and only soil fill material. It is unknown if this was the plugged well and heavy equipment physically removed the casing and surface plug, if the potential well remains plugged at depth, or if this is a remnant of a cistern observed previously by TCEQ. Due to its unknown condition and potential for increased infiltration following grading and construction, out of an abundance of caution, it is recommended that the feature be investigated by a licensed water well driller, and if necessary, re-plugged to ensure its integrity and protectiveness of the underlying aquifer.

Two newer wells were also observed on the property and/or were identified within a literature review. A review of database information provided by the Texas Water Development Board (TWDB) revealed

records of two on-site water wells. Both on-site water wells were drilled on the east edge of the property, and one of the wells has been plugged. Surface geology in this location appears to have been Del Rio clay. The active well (well number 5811604) was drilled for irrigation use in 1999 for Jarrell ISD. The well was drilled to a depth of 700 feet and was reportedly completed in the Trinity (Glen Rose) Formation. The well records indicate that the drilled encountered brown topsoil from the surface to a depth of 4 feet, clay and caliche between 4 and 30 feet, limestone between 30 and 220 feet, shale between 220 and 300 feet, limestone between 300 and 400 feet, and limestone between 400 and 700 feet.

The plugged well identified on the property (well number 5811605) was drilled for irrigation use in 1999 for Jarrell ISD. The well was drilled to a depth of 400 feet. The well records indicate that the drilled encountered brown topsoil from the surface to a depth of 4 feet, clay and caliche between 4 and 31 feet, limestone between 31 and 220 feet, shale between 220 and 310 feet, and limestone between 310 and 400 feet. Both wells appear to have been located within an existing pump house located on the east side of the property. The wells are in a developed area of the campus with no current plans for development or redevelopment. The plugged well and the well in use on the east side of the campus presents no risk of rapid recharge or infiltration.

A review of database information provided by the Texas Water Development Board (TWDB) also revealed records of several nearby water wells. Review of drilling logs for these nearby wells provided pertinent information for this assessment. Two water wells were drilled adjacent to the south side of property (just across FM 487) by the Texas Department of Water Resources for an outcrop study in 1980. One of these wells was located near the southwest corner of the property, which appears to have been within the Del Rio clay surface formation. The well rig geologist reported encountering the top of the Georgetown formation at a depth of 26 feet, the top of the Edwards Formation at a depth of 158 feet, and the base of the Edwards Formation at a depth of 203 feet.

Another well record (well number 404253) was identified approximately 0.7 miles northeast of the property. This well was drilled for domestic use in 2015 for a private landowner. The well was located in a similar geologic setting as the property, and it appears to have been drilled in the Georgetown Formation. No log of lithology was available, but annular seal data indicates a bottom depth of 20 feet while the well was completed in the Edwards Formation at a depth of 160 feet.

Another domestic well record (well number 483011) was identified approximately 0.5 miles southwest of the property. This well was drilled for domestic use in 2018 for a private landowner. The well was also located in a similar geologic setting as the property, and it appears to have been drilled in the Georgetown Formation. The drilling log reported encountering topsoil from the surface to a depth of 2 feet, limestone from 2 to 910 feet, limestone and sand between 910 and 960 feet, and tan limestone from 960 to 970 feet.

A third domestic well record (well number 281132) was identified approximately 0.5 miles west of the property. This well was drilled for domestic use in 2006 for a private landowner. The well was also located in a similar geologic setting as the property, and it appears to have been drilled in the Georgetown Formation. The drilling log reported encountering rocky topsoil from the surface to a depth of 2 feet, Edwards limestone from 2 to 125 feet, limestone and shale between 125 and 380 feet, shale from 380 to 500 feet, limestone from 500 to 650 feet, sandy shale and limestone between 650 and 800 feet, limestone from 800 to 900 feet, and sand and water from 900 to 940 feet.

TOPOGRAPHY AND DRAINAGE

The land surface is gently sloping throughout the study area. Surface drainage from the existing school campus is directed into a large detention pond. Observations of the outfall structure revealed little evidence of recent drainage events, and there was no channel or rill formation below the outlet structure. The detention pond and the rest of the undeveloped property drain via sheetflow in the general direction of the northwest corner of the property.

A linear, man-made drainage ditch provides some drainage conveyance from the west side of the study area to the northwest corner of the study area. This drainage ditch is depicted as an intermittent stream in historic USGS topographic maps. However, the man-made drainage ditch identified on the west side of the study area appears to have been excavated wholly in uplands for the purpose of draining uplands. The man-made ditch does not exhibit a relatively permanent flow of water, and it generally exhibits no ordinary high water mark along most of its length. The ditch was observed to be very dry and would convey drainage only ephemerally. In review of historic aerial photographs, the ditch was excavated many decades ago, and it appears to have been excavated to drain nearly level uplands. The ditch has an entirely earthen bottom, and it was not excavated into bedrock. No exposed rock was exposed in the ditch, except for some limited amount of cobbles visible in the downstream reach near the northwest corner of the study area. With the absence of any ordinary high water mark, ephemeral runoff appears to be rapidly drained from the property and the feature is neither a losing nor gaining drainage feature with little to no connectivity to subsurface drainage.

A 100-year floodplain is mapped along the linear drainage ditch on the west side of the property. The floodplain is shown on the attached Site Geologic Map. The floodplain is likely influenced by a potential backwater flooding impact from downstream waters, on occasion. However, little to no evidence of flooding was observed. Flooding does not appear to be frequent or persistent. According to the civil engineer working on the project, the limits of the possible floodplain are being re-evaluated by their hydrologist as they suspect that the 100-year floodplain does not actually extend very far into the study area. The updated floodplain study has not yet been completed.

SITE ASSESSMENT RESULTS

No sensitive geologic features were identified in this study, except for an existing water well located beyond the limits of development on the existing school campus. Features observed are summarized in the following sections. A non-sensitive fault was observed by inference and interpretation of published geologic maps. A cave was identified through local interviews at an off-site location, an existing water well was identified at the existing school campus, a plugged water well was observed on the east side of the property, and a plugged well feature was observed that requires further investigation and re-plugging by a licensed water well driller, if necessary, to avoid increasing its recharge potential during construction.

Fault Line (Feature: S-1)

According to the *Geological Atlas of Texas, Austin Sheet* (Barnes 1974. Reprinted 1981.), the property is located along a fault line (labeled as Feature S-1 on the attached Geologic Site Map). The fault line trends northeast at an angle of 34 degrees. On the northwest side of the fault line, the surface geology is represented by the Georgetown formation. On the southeast side of the fault line, the surface geology is represented by the Del Rio clay. The entire property is covered by highly indurated clay, including the zone along the fault line. The fault line was not obvious in the field, and its location on the attached Site Geologic Map was inferred from the Geological Atlas.

The area along the fault line was observed to have significant soil development with clayey surface soils. The soils exhibited characteristics of vertisols with significant surface cracking caused by the turning of the soils as a result of wetting and desiccation within clays with a high shrink-swell potential. The property was observed at a time of relative seasonal dryness, and soil cracks were evident. However, the surface cracks are not considered to be potential recharge features as clayey vertisols tighten up rapidly upon wetting. No evidence of water movement or infiltration was observed throughout the zone of the fault line. Due to the presence of the fault, some potential for recharge through soil percolation is likely; however, the Hydrologic Group D soils that overly the fault provide for rapid runoff and very slow permeability. As such, a relative infiltration rate of 5 was assigned to the fault throughout its location on the property. The fault was determined to be a non-sensitive geologic feature.

Earthen-Plugged Well or Cistern (Feature: Well to Inspect)

A soil-filled cistern or wellbore was observed on the northwest side of the property. The possible well feature presents no concern for rapid recharge or infiltration in its current location and condition; however, the potential for future construction impacts in this area is unknown. An investigation of the area revealed the remnants of a hole or well bore that had been concealed by a slab of concrete. Upon removing the slab of concrete, a hole was revealed with a depth of about 2 feet and width of about 1.5 feet. It is unknown if this was the plugged well and heavy equipment physically removed the casing and surface plug, if the potential well remains plugged at depth, or if this is a remnant of a cistern observed previously by TCEQ. Due to its unknown condition and potential for increased infiltration following disturbance by construction, it is recommended that the feature be investigated by a licensed water well driller, and if necessary, re-plugged to ensure its integrity and protectiveness of the underlying aquifer if it is to be disturbed.

Plugged Well (Feature: NW Plugged Well)

A plugged water well was observed on the northwest side of the property. The well was observed plugged with concrete. The feature has a low sensitivity for recharge.

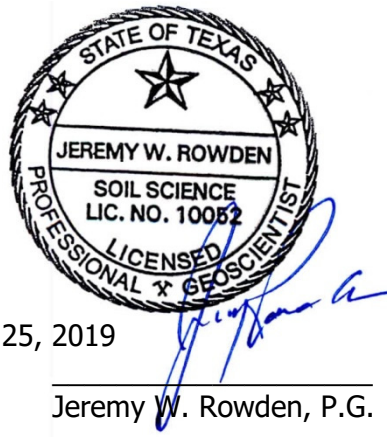
Existing Well (Feature: Open Well)
An existing water well was identified on the east side of the property. The well has the potential for rapid recharge, but is currently located beyond the limits of development within the existing school campus. The well is currently in use. Should redevelopment of this area be planned in the future, the well should be properly plugged and abandoned or setbacks be considered.

Plugged Well (Feature: East Plugged Well)
A plugged water well was observed on the east side of the property. The plugged well is located within an existing well house. The feature has a low sensitivity for recharge.

Off-Site Cave
An interview with a neighboring landowner identified the presence of an off-site, downgradient cave at a location 1,185 feet north-northwest of the northwest corner of the property. The cave is not located within the study boundary, and any potential setbacks around the off-site cave would not encompass any of the subject property. As such, no mapping of the cave has been provided and it was not entered into the Geologic Assessment Table. The cave was found to be formed in the Edwards formation and located at a higher elevation than the floodplain connected with the property, so any drainage or flood occurrences downgradient from the school property should have no potential to inundate or drain to the cave feature, which is located on a hillside above the floodplain.

SIGNATURE OF PROFESSIONAL GEOSCIENTIST

This Geologic Assessment has been prepared under the direction and supervision of the *Professional Geoscientist* undersigned below. The site reconnaissance, as well as review and interpretation of information upon which the report is based were all portions of the assessment performed by the undersigned.



November 25, 2019

Jeremy W. Rowden, P.G.

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APPENDIX I
GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Jarrell ISD Expansion

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	30.8179° N	97.6300° W	F	20	Kgt/Kdr	2350			N34E	10			F	5	35	X			X	hillside
Well to Inspect	30.8208° N	97.6331° W	MB	30	Kgt	1.5	1.5	2		0			F	5	35	X		X		hillside
NW Plugged Well	30.8202° N	97.6324° W	MB	30	Kgt	0.5	0.5	0		0				5	35	X			X	drainage
Open Well	30.8192° N	97.6258° W	MB	30	Kdr	0.5	0.5	700		0				35	65		X	X		hillside
East Plugged Well	30.8192° N	97.6258° W	MB	30	Kdr	0.5	0.5	0		0				5	35	X		X		hillside
															0					
															0					
															0					
															0					
															0					
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															0					
															0					
															0					

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

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.

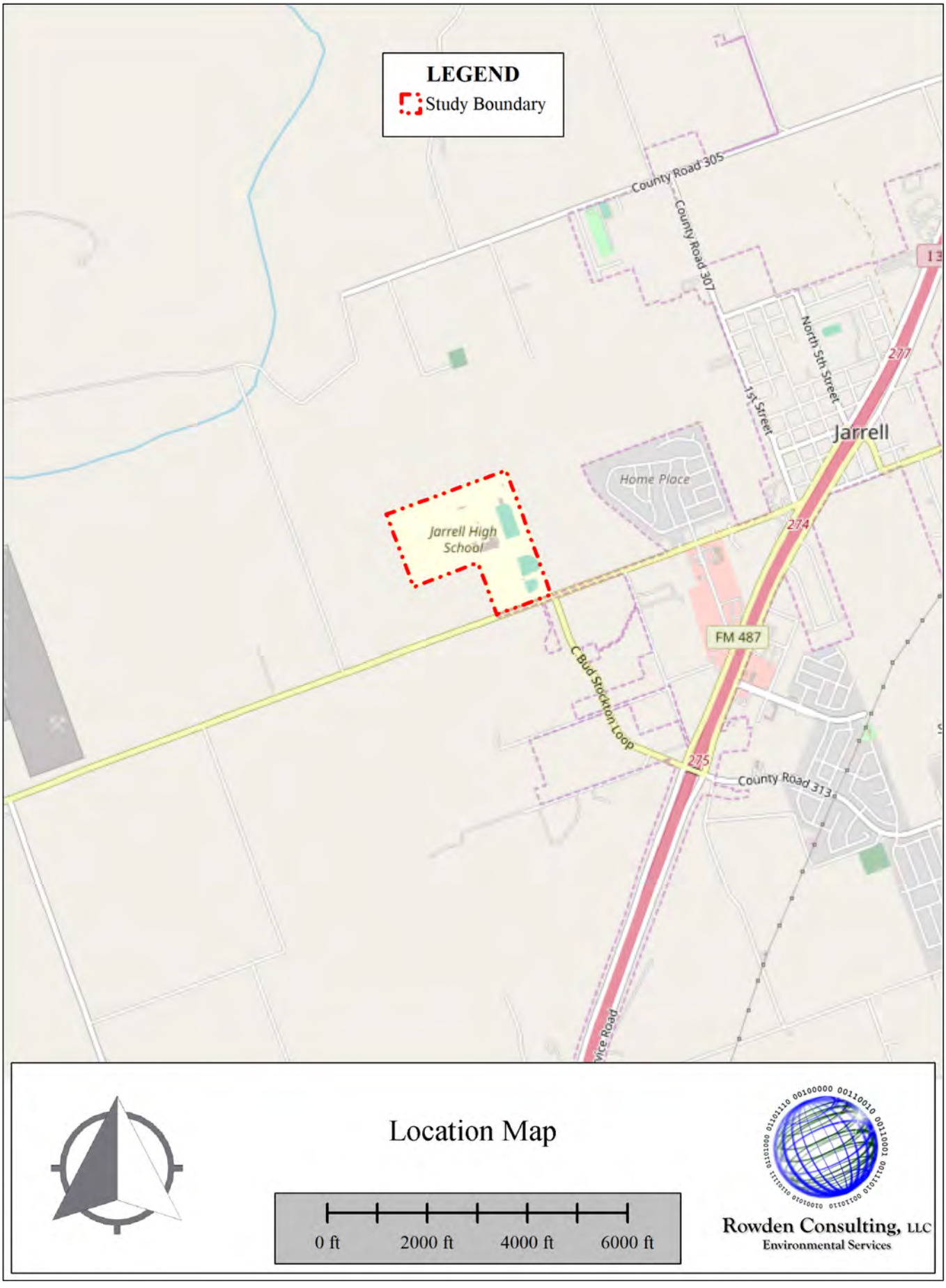
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 3/22/23

Sheet 1 of 1

STATE OF TEXAS
JEREMY W. ROWDEN
SOIL SCIENCE
LIC. NO. 10052
LICENSED
PROFESSIONAL GEOSCIENTIST

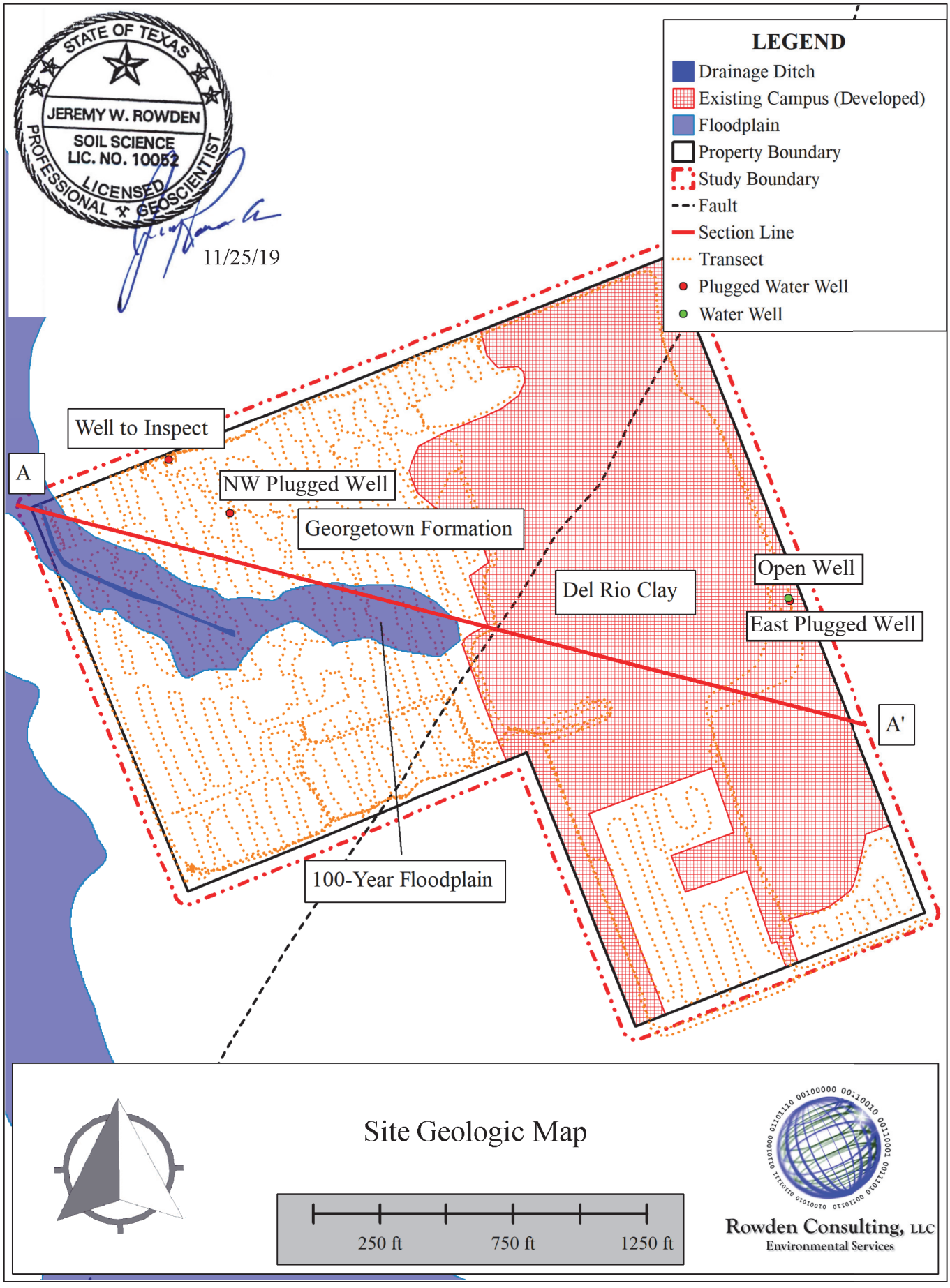
APPENDIX II
MAPS



Location Map

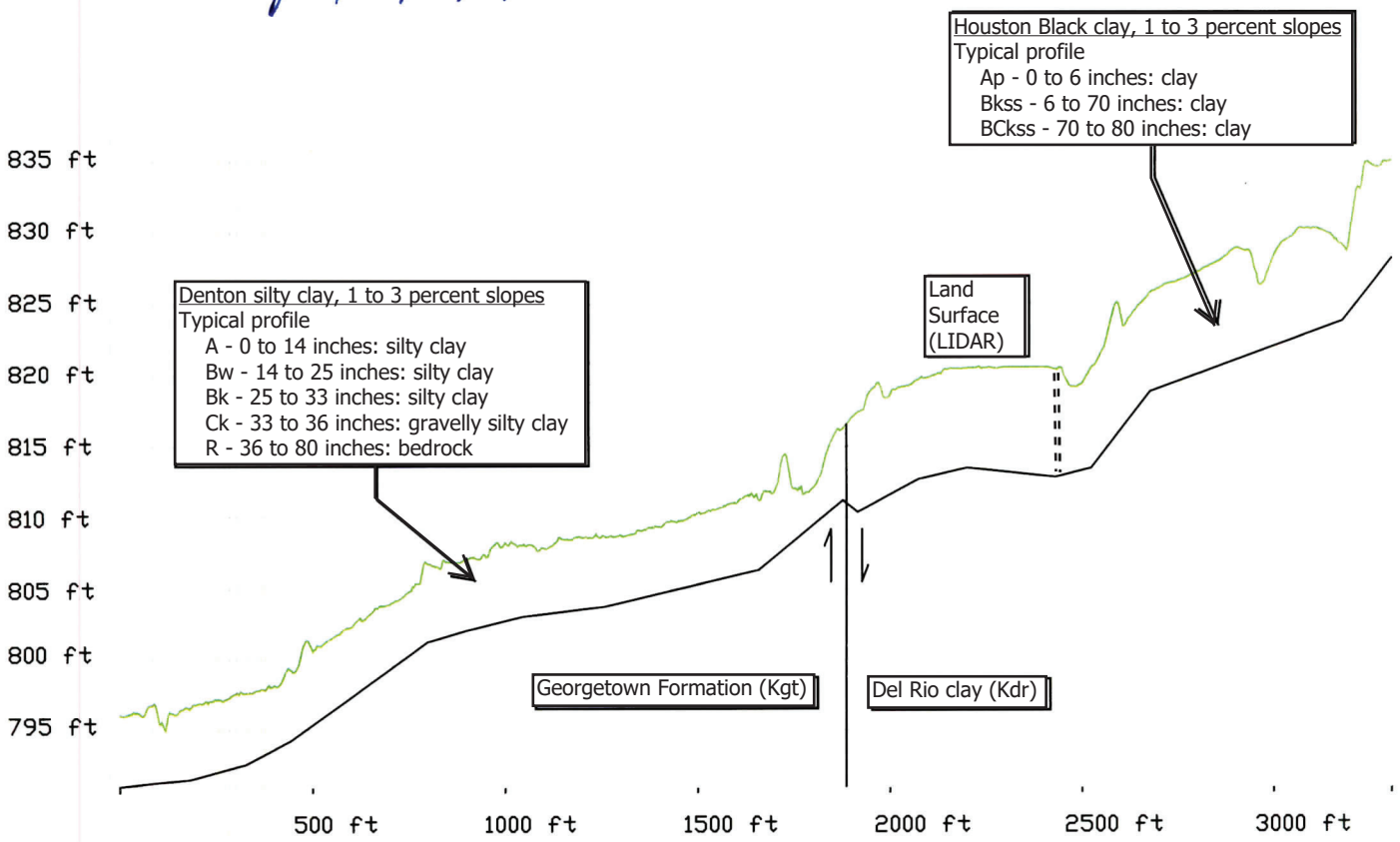
Rowden Consulting, LLC
Environmental Services

Existing Site Features Map


STATE OF TEXAS
JEREMY W. ROWDEN
SOIL SCIENCE
LIC. NO. 10052
LICENSED
PROFESSIONAL GEOSCIENTIST
11/25/19
LEGEND
Drainage Ditch
Existing Campus (Developed)
Floodplain
Property Boundary
Study Boundary
Fault
Section Line
Transect
Plugged Water Well
Water Well
Well to Inspect
A
NW Plugged Well
Georgetown Formation
Del Rio Clay
Open Well
East Plugged Well
A'
100-Year Floodplain
Site Geologic Map
250 ft
750 ft
1250 ft
Rowden Consulting, LLC
Environmental Services

STATE OF TEXAS
JEREMY W. ROWDEN
SOIL SCIENCE
LIC. NO. 10052
LICENSED
PROFESSIONAL GEOSCIENTIST

11/25/19



Section A – A'

Georgetown Formation (Kgt) - limestone and marl; mostly limestone, fine grained, argillaceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white; some shale, marly, soft, light gray to yellowish gray; thickness 30-80' (Barnes).

...

Del Rio clay (Kdr) - calcareous and gypsiferous, becoming less calcareous and more gypsiferous upward, pyrite common, blocky, medium gray, weathers light gray to yellowish gray; some thin lenticular beds of highly calcareous siltstone; thickness 40-70' (Barnes).

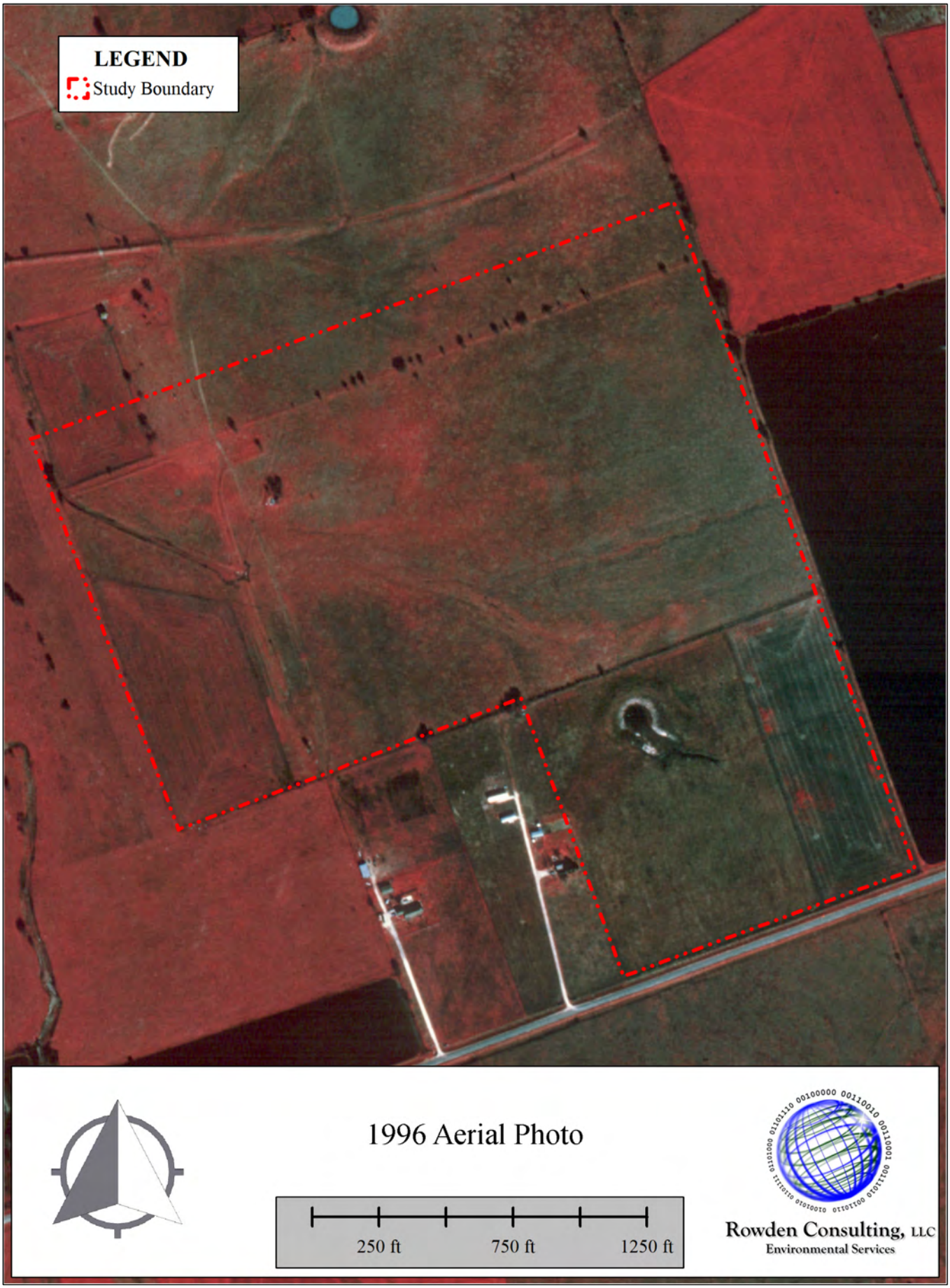
SCALE: 1"= 500'	Section A – A'	Rowden Consulting, LLC Environmental Services P.O. Box 978 - Bullard, TX - 75757	PROJECT NO. 19.069
FIGURE NO. Sec	Jarrell High School November 2019		DATE Nov 2019
			PROJECT MGR. jwr
			PROJECT TECH jwr


LEGEND
Study Boundary
2018 Aerial Photo
250 ft
750 ft
1250 ft
Rowden Consulting, LLC
Environmental Services

2004 Aerial Photo

250 ft 750 ft 1250 ft

Rowden Consulting, LLC
Environmental Services

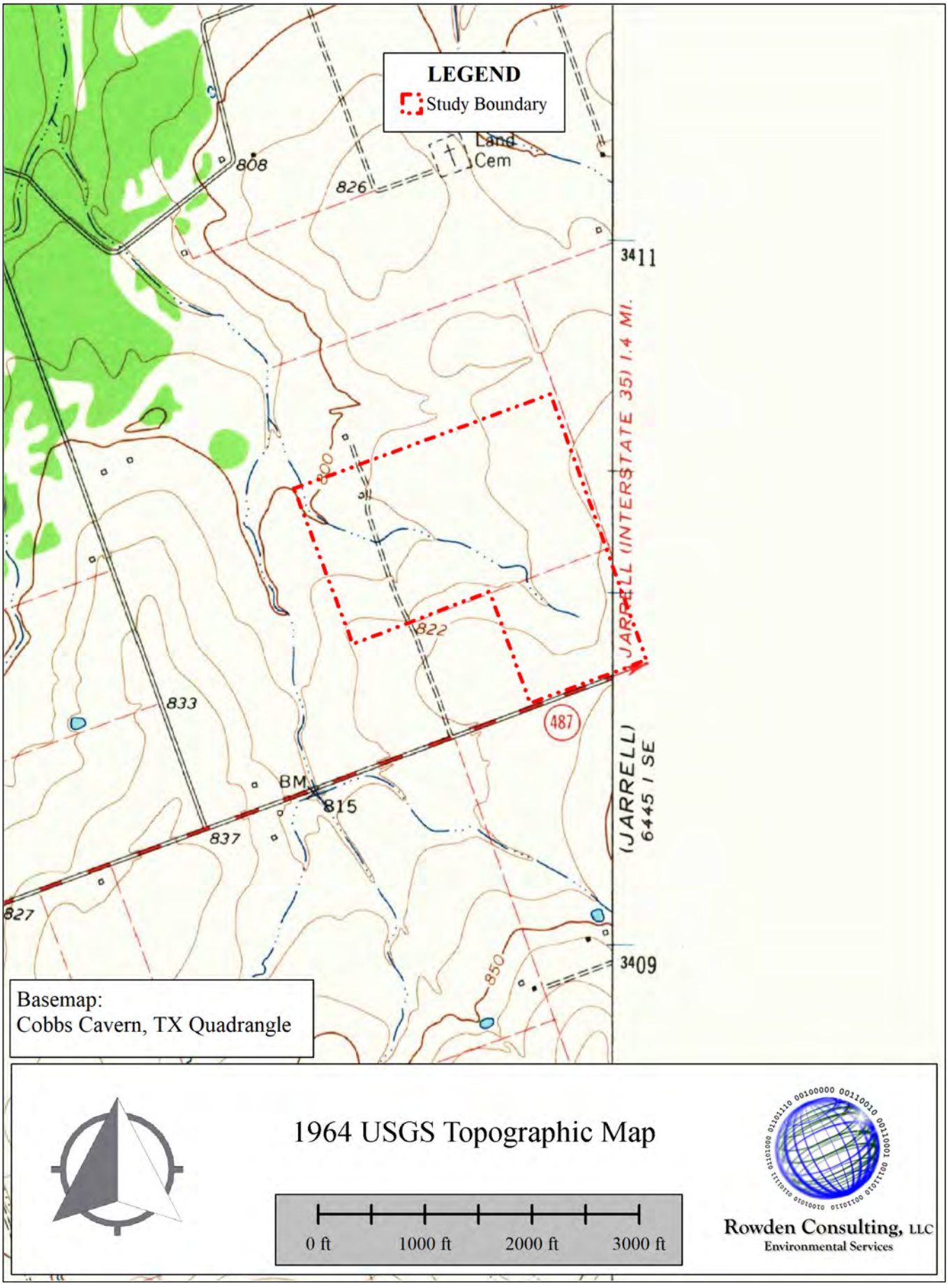

LEGEND
Study Boundary
1996 Aerial Photo
250 ft
750 ft
1250 ft
Rowden Consulting, LLC
Environmental Services

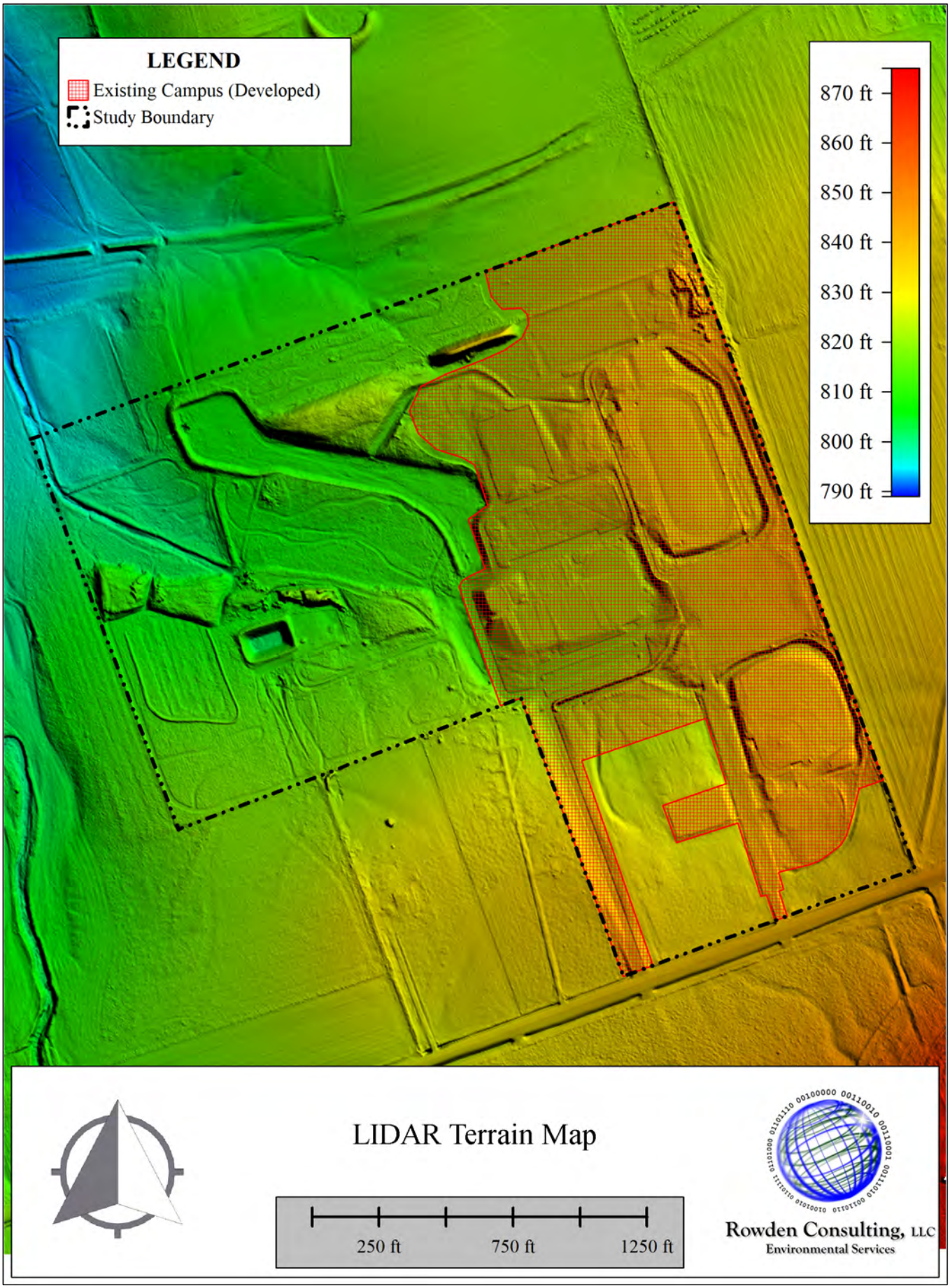

LEGEND
Study Boundary
1981 Aerial Photo
250 ft
750 ft
1250 ft
Rowden Consulting, LLC
Environmental Services

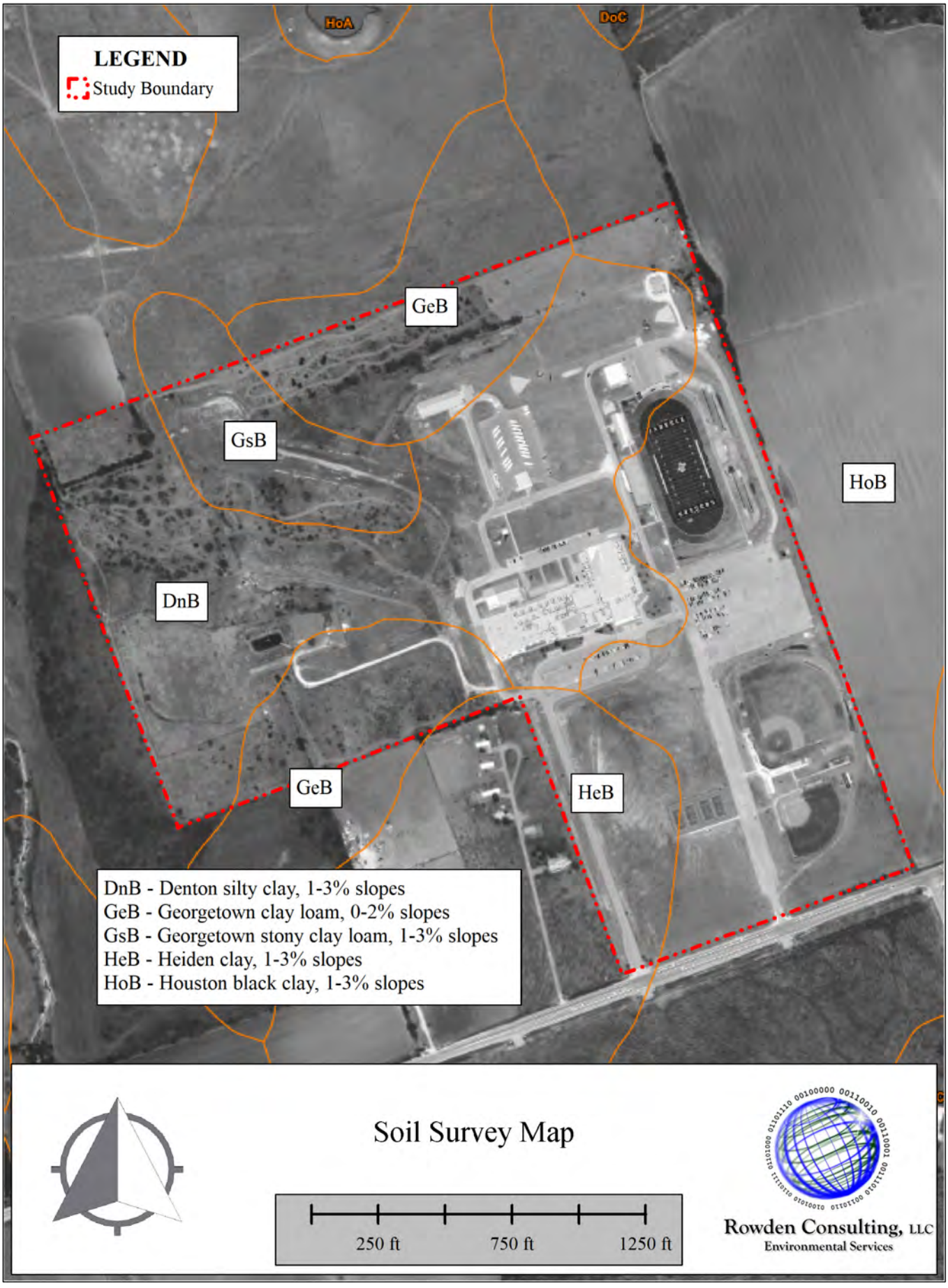
1963 Aerial Photo

250 ft 750 ft 1250 ft

Rowden Consulting, LLC
Environmental Services

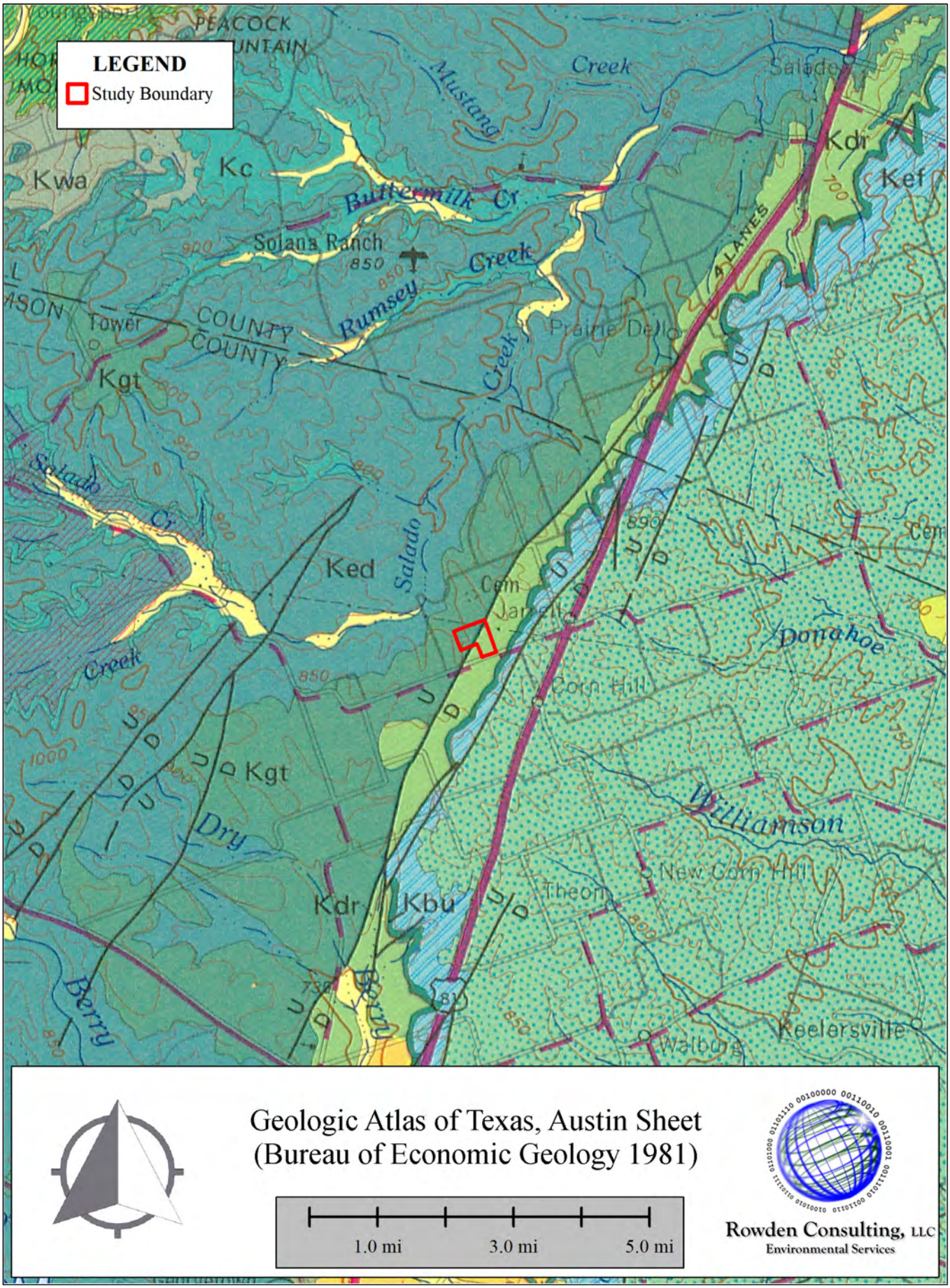

LEGEND
Study Boundary
Land
Cem
808
826
3411
800
822
833
487
BM
815
837
827
850
3409
JARRELL (INTERSTATE 35) 1.4 MI.
JARRELL
6445 I SE
Basemap:
Cobbs Cavern, TX Quadrangle
1964 USGS Topographic Map
0 ft
1000 ft
2000 ft
3000 ft
Rowden Consulting, LLC
Environmental Services


LEGEND
Existing Campus (Developed)
Study Boundary
870 ft
860 ft
850 ft
840 ft
830 ft
820 ft
810 ft
800 ft
790 ft
LIDAR Terrain Map
250 ft
750 ft
1250 ft
Rowden Consulting, LLC
Environmental Services



Soil Survey Map

Rowden Consulting, LLC
Environmental Services


LEGEND
Study Boundary
PEACOCK
Mustang
Creek
Buttermilk Cr
Solana Ranch
Rumsey
Creek
Prairie Dell
4 LANES
COUNTY
COUNTY
Tower
Kwa
Kc
Kdr
Kef
Kgt
Salado
Cr
Ked
Salado
Creek
Corn
Janell
Donahoe
Corn Hill
Kgt
Dry
Williamson
New Corn Hill
Theon
Kdr
Kbu
Berry
Berry
Walburg
Keelersville
1.0 mi
3.0 mi
5.0 mi
Geologic Atlas of Texas, Austin Sheet
(Bureau of Economic Geology 1981)
Rowden Consulting, LLC
Environmental Services

Generalized Stratigraphic Column of the Study Area

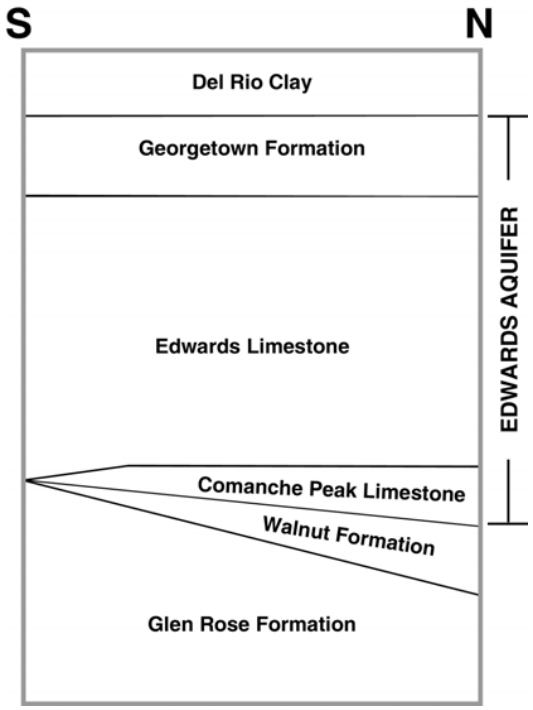
Series	Group	Stratigraphic Unit		Hydrologic Unit	Maximum Thickness (feet)
Gulf	Navarro			Navarro and Taylor Group	850
	Taylor				
	Austin			Austin Chalk	450
Comanche	Eagle Ford				50
	Washita	Buda Limestone			50
		Del Rio Clay			60
		Georgetown Formation			100
	Fredericksburg	Edwards Limestone		Edwards aquifer	200
		Comanche Peak Limestone			50
		Walnut Formation			150
	Trinity	Paluxy Formation		Upper Trinity	10
		Glen Rose	Upper Member		450
			Lower Member	Middle Trinity	450
		Travis Peak	Hensell Sand Member		100
			Cow Cr. Limestone Member		100
			Hammett Shale Member		50
			Sligo Member	Lower Trinity	150
			Hosston Member		850

Surface Geology of Study Area

Source: Jones 2003

Stratigraphic Column - Northern Williamson Co., including Study Area

Absent on west side of study area



Outcrops on east side of study area

Outcrops on west side of study area

Source: Jones 2003

APPENDIX III
PHOTOGRAPHS

Site Photos

General View

View of the property from the southwest corner facing north.

General View

View of the property from the southwest corner facing northeast.

Site Photos

General View

View of the property from the southwest corner facing east.

General View

View of the property from the northwest corner facing east.

Site Photos

Drainage Ditch

View of a man-made drainage ditch constructed in uplands near the northwest corner of the property. The ditch exhibited no ordinary high water mark or indications of recent flow at this location.

Drainage Ditch

View of the man-made drainage ditch at the property line facing off-site.

Site Photos

General View

View along the northern property line facing east.

Detention Pond

View a drainage structure installed to drain a detention pond. There was no evidence of recent flows from the structure.

Site Photos

Drainage Ditch

View of the man-made drainage ditch farther in uplands. The ditch exhibited no ordinary high water mark or indications of recent flow at this location.

Drainage Ditch

View of the man-made drainage ditch in uplands. The ditch exhibited no ordinary high water mark or indications of recent flow at this location.

Site Photos

Drainage Ditch

Another view of the man-made drainage ditch in uplands. A running track had been mowed down the middle of the ditch at this location.

Wastewater Plant

View overlooking an off-line wastewater treatment plant.

Site Photos

Drainage Ditch

View of the man-made drainage ditch along the northwestern property line. The ditch was narrower and exhibited a scour at this location. However, no bedrock was exposed and soils were well defined along the entire bed and bank.

Fill

View of mound of fill on the west side of the property.

Site Photos

Wastewater Plant

View of an empty wastewater pond at the off-line treatment plant.

General View

View of level, open land as viewed from the south end of the campus facing north.

Site Photos

General View

View of athletic practice fields as viewed from the northeast property corner facing west.

General View

View of athletic practice fields as viewed from the northeast property corner facing south.

Site Photos

General View

View inside the detention pond area as viewed from near the northern property line facing southeast.

Fill

View of another mound of fill on the west side of the property.

Site Photos

General View

View of vegetated upland conditions on the west-central part of the property.

Burrow

View of one of many burrows found on the property.

Site Photos

Burrow

View of another burrow on the property.

Crack

View of surface soil crack formed in dessicated clayey soils with high shrink/swell potential.

Site Photos

Cracks

View of surface soil cracking formed in dessicated clayey soils with high shrink/swell potential.

Wellhouse

View of water well and tank located on the developed, eastern side of the campus. One plugged well is reportedly located inside the wellhouse while the active well was present outside the housing.

Site Photos

Adjacent Property

View of adjacent property used for rangeland.

Adjacent Property

View of adjacent property under cultivation.

Site Photos

Adjacent Property

View of adjacent property under cultivation.

Exposed Rock

View of rock exposed in the bottom of the detention pond. The rocks exhibited no signs of fluid flow or karstification.

Site Photos

Exposed Rock

View of rock exposed in the bottom of the detention pond. The rocks exhibited no signs of fluid flow or karstification.

Plugged Well

View of plugged well located in the detention pond.

Site Photos

Former Well

View of well materials pushed into a mound on the northwest side of the property. It is unknown if this well remains properly plugged.

Trough

View of a livestock trough flipped over near a former well.

Site Photos

Former Well

View of well materials pushed into a mound on the northwest side of the property. It is unknown if this well remains properly plugged.

Former Well

View of earth-filled former cistern or former wellbore. Probing of the area identified no concrete. The opening was hidden below a slab of concrete. This is the feature that should be inspected by a licensed well driller to determine if additional well plugging is required.

APPENDIX IV
TCEQ FORM F-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: Jeremy Rowden Telephone: (903) 894-6410

Date: 11/25/19 Fax: (903) 894-7511

Representing: Rowden Consulting, LLC #50394 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Jarrell Independent School District

Project Information

1. Date(s) Geologic Assessment was performed: 10/08/19, 10/09/19, and 11/21/19
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)
Denton silty clay, 1 to 3 percent slopes	D	3.0
Georgetown clay loam, 0 to 2 percent slopes ;	D	2.9
Georgetown stony clay loam, 1 to 3 percent slopes	D	2.9
Heiden clay, 1 to 3 percent slopes	D	5.0
Houston black clay, 1 to 3 percent slopes	D	5.2

** 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" = 500'
   Site Geologic Map Scale: 1" = 500'
   Site Soils Map Scale (if more than 1 soil type): 1" = 500'

Note: updated map that matches engineering drawing scale may be required in the future.

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 4(#) 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.

    See narrative.

    ☐ 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.

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 request for a **Modification of a Previously Approved Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Matt Hardy, PE

Date: 11/6/2025

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: Jarrell High School
   Original Regulated Entity Name: Jarrell High School
   Regulated Entity Number(s) (RN): 101519049
   Edwards Aquifer Protection Program ID Number(s): 1115041301
   ☒ The applicant has not changed and the Customer Number (CN) is: 600794234
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
   - ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
   - ☐ Change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
   - ☐ Development of land previously identified as undeveloped in the original water pollution abatement plan;
   - ☒ Physical modification of the approved organized sewage collection system;
   - ☐ Physical modification of the approved underground storage tank system;
   - ☐ Physical modification of the approved aboveground storage tank system.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	119.5	119.5
Type of Development	School	School
Number of Residential Lots	0	0
Impervious Cover (acres)	39.87	No modification
Impervious Cover (%	33.4	No modification
Permanent BMPs	Water Quality Wet Pond	No modification
Other	_____	_____

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet	_____	2441.1 LF Force main
Pipe Diameter	_____	4"
Other	_____	_____

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	2	No modifications
Volume of ASTs	2,400 Gallons	No modifications
Other	_____	_____

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	0	0
Volume of USTs	0	0
Other	0	0

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Project**. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☒ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☐ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
   ☒ Acreage has not been added to or removed from the approved plan.

8. ☒ 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.

ATTACHMENTS TO EDWARDS AQUIFER FORM 0590, JARRELL HIGH SCHOOL SITE

Project Information Summary of Original WPAP, and Previous WPAP Modifications

WPAP Modification Summary	Acres	Type of Development	Number of Residential Lots	Impervious Cover (acres)	Impervious Cover (%)	Permanent BMPs
Original WPAP (1998)	119.5	School	0	31.67	26.49%	Vegetative filter strip
WPAP Modification 1 (2006)	119.5	School	0	31.67	26.49%	Vegetative filter strip
WPAP Modification 2 (2009)	119.5	School	0	31.67	26.49%	Vegetative filter strip
WPAP Modification 3 (2015)	119.5	School	0	34.30	28.70%	Partial sedimentation / filtration water quality pond; sand filter
WPAP Modification 4 (2018)	119.5	School	0	23.1	19.3%	No change
WPAP Modification 5 (March 2022)	119.5	School	0	24.6	20.6%	Water Quality Wet Pond and Detention Basin
WPAP Modification 6 (September 2022)	119.5	School	0	25.67	21.5%	No change
WPAP Modification 7 (March 2023)	119.5	School	0	26.90	22.5%	No change
WPAP Modification 8 (June 2024)	119.5	School	0	37.07	31.0%	No change
WPAP Modification 9 (February 2025)	119.5	School	0	39.87	33.4%	No change

Project Information Summary of Original SCS, Previous SCS Modifications, and proposed SCS Modification

SCS Modification Summary	Acres	Type of Development	Number of Residential Lots	Description
Original SCS (1999)	119.5	School	0	Construction of gravity wastewater lines, forcemain wastewater lines, lift station, package wastewater treatment plant, irrigation area, emergency effluent storage pond and appurtenances. The system was designed to provide wastewater treatment and disposal for the complex.
SCS Modification 1 (2006)	119.5	School	0	Modifications to the gravity system due to site layout re-design
SCS Modification 2 (March 2022)	119.5	School	0	335.95 linear feet of 6-inch diameter SDR-26 PVC ASTM 3034 pipe and 125.55 linear feet of 8-inch diameter SDR-26 PVC ASTM 3034 pipe.
SCS Modification 3 (March 2023)	119.5	School	0	Reroute parts of the existing SCS to keep the system clear of foundation elements. SCS provides disposal service for the high school campus. The gravity SCS system consists of 1,077 linear feet of 8-inch SDR-26 PVC pipe that meets ASTM-D3034 standards, with associated manholes and stub-outs.
SCS Modification 4 (June 2024)	119.5	School	0	Sewage collection system providing disposal service for a School. The system includes gravity lines and other appurtenance necessary for conveying wastewater to a treatment plant. The SCS modification includes 520.8 linear feet of 8” SDR-26 PVC pipe, and 409.6 linear feet of 6” SDR-26 PVC pipe.
SCS Modification 5 (February 2025)	119.5	School	0	SCS modification consisting of construction of approximately 1,124 linear feet of SDR 26 ASTM D3034 PVC pipe, including 756 linear feet of 6-inch pipe and 368 linear feet of 8-inch pipe.
Proposed Modification	119.5	School	0	Removal and replacement of existing lift station to serve existing Jarrell High School. Proposed route to public sewer system consists of 2441.1 linear feet of 4” PVC SDR 21 force main.

Attachment A Form 0590: See below copies of the 2015 WPAP Modification, 2019 WPAP Modification, March 2022 WPAP and SCS Modification, September 2022 WPAP Modification, March 2023 WPAP and SCS Modification, June 2024 WPAP and SCS Modification, and February 2025 WPAP and SCS Modification Approval Letters.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 14, 2025

Dr. Toni Hicks
Jarrell Independent School District
504 N. 5th Street.
Jarrell, TX 76537

Re: Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD) and Modification of an Approved Organized Sewage Collection System (SCS-MOD) Plan
Jarrell High School; Located on FM 487, Approximately One Mile West of IH 35, Jarrell, Williamson County, Texas
Edwards Aquifer Protection Program ID: 11004247 (WPAP-MOD) and 11004248 (SCS-MOD), Regulated Entity No. RN101519049

Dear Dr. Hicks:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the applications for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Langan Engineering on behalf of the applicant, Jarrell ISD, on December 3, 2024. Final review of the applications was completed after additional material was received on February 10, 2025.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213 and Chapter §217. The permanent best management practices (BMPs), engineering design report, technical specifications and final design plans 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 hereby **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 Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

The Jarrell High School WPAP approved by letter dated March 1, 2022 (EAPP ID No. 11002792) included the construction of a wet basin that was sized for future development and replaced all previously approved BMPs at the site. EAPP ID No. 11002792 superseded the prior approvals EAPP ID Nos. 11-98042301, 11-98042301A, 11-98042301B, 11-15041301, and 11001369 which were voided and of no effect. The impervious cover (IC) at the site was 24.6 acres.

The subsequent Jarrell High School WPAP-MODs approved by letters dated September 2, 2022, (EAPP ID No. 11003119), March 31, 2023 (EAPP ID No. 11003444), and June 14, 2024 (EAPP ID No. 11003968), increased the total IC to 25.67 acres, 26.90 acres, and 37.07 acres, respectively.

The existing wet basin is sized for future development (77.7 acres of IC at ultimate development), with a provided water quality volume of 559,336 cubic feet.

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed school project will have an area of approximately 119.50 acres. The modification includes the demolition several small out-buildings, two parking lots, and various utilities, and the addition of a new Career and Technical Education (CTE), a new courtyard between the two buildings, and various parking spaces. The net increase in the IC from this project will be 2.80 acres for a total of 39.87 acres (33.4 percent) of IC at the site.

SCS DESCRIPTION

The proposed modified sewage collection system will provide disposal service for the school. The system includes gravity lines and other appurtenance necessary for conveying wastewater to a treatment plant.

The proposed SCS modification will consist of construction of approximately 1,124 linear feet of SDR 26 ASTM D3034 PVC pipe, including 756 linear feet of 6-inch pipe and 368 linear feet of 8-inch pipe.

TREATMENT FACILITY

The system will be connected to an existing City of Jarrell wastewater system for conveyance to the City of Jarrell Wastewater Treatment Plant for treatment and disposal. **The proposed system shall be connected for conveyance prior to use of the development.** The project will conform to all applicable codes, ordinances, and requirements of the City of Jarrell.

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, an existing wet basin (EAPP ID No 11002792) designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 34,703 pounds of TSS generated from the 39.87 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.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial unit of the site is the Del Rio Clay and Georgetown Formation (Kdr). No sensitive geologic features were identified in the GA. The site assessment conducted on February 5, 2025, by TCEQ staff determined the site to be generally as described by the GA.

SPECIAL CONDITIONS

I. This modification is subject to all the special and standard conditions listed in the approval letters dated March 1, 2022 (EAPP ID No. 11002792), September 2, 2022, (EAPP ID No. 11003119), March 31, 2023 (EAPP ID No. 11003444), and June 14, 2024 (EAPP ID No. 11003968).

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and technical specifications contained 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, Water Quality) 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. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.
4. The plan holder of any approved Edwards Aquifer protection 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.
5. 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.
6. 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.
7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of 500 gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.
9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities

near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.

10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.
11. 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.
12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.
13. 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.
14. 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.

<u>After Completion of Construction:</u>

15. 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.
16. No part of the organized sewage collection system may be used as a sewage holding tank, as defined in 30 TAC §213.3 (excluding lift stations), over the Edwards Aquifer recharge zone.
17. A Texas licensed PE **must certify** in writing that the new sewage collection system (including force mains) has passed all required testing. The certification shall be submitted to the EAPP within 30 days of test completion and prior to the new sewage collection system being put into service.
18. A Texas licensed PE **must certify** subsequent testing required every five years of the existing sewage collection system after being put into use to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. The test results must be retained by the plan holder for five years and made available to the executive director upon request.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 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 and is subject to administrative rule or orders and penalties as provided under §213.10 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 Edwards Aquifer protection 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 Ms. Miki Chilarescu of the Edwards Aquifer Protection Program at 512-239-6175 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/mec

cc: Mr. Matt Hardy, P.E. - Langan Engineering

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 14, 2024

Ms. Toni Hicks
Jarrell Independent School District
108 E. Avenue F
Jarrell, TX 76537-2145

Re: Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD) and Approval of an Organized Sewage Collection System (SCS) Plan
Jarrell High School; Located: FM 487, One Mile West of IH-35, Jarrell, Williamson County Texas
Edwards Aquifer Protection Program ID: 11003968 and 11003969 Regulated Entity No. RN101519049

Dear Ms. Hicks:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the applications for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Langan Engineering on behalf of the applicant, Jarrell Independent School District on April 16, 2024. Final review of the applications was completed after additional material was received on June 4, 2024.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213 and Chapter §217. The permanent best management practices (BMPs), engineering design report, technical specifications and final design plans 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 hereby **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 Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

The Jarrell High School WPAP project (EAPP ID No. 11002792), approved by letter dated March 1, 2022, included the construction of a wet basin that was sized for future development. The wet basin was designed to treat the total impervious cover of the site (24.6 acres) and to replace all previously approved Permanent Best Management Practices at the Jarrell High School site.

The Jarrell High School WPAP project (EAPP ID No. 11003119), approved by letter dated September 2, 2022, increase the total IC of the project site to 25.67 acres, The increase in IC for the project was treated by the wet basin (EAPP ID No. 11002792).

The Jarrell High School WPAP project (EAPP ID No. 11003444), approved by letter dated March 31, 2023, increase the total IC of the project site to 26.90 acres, The increase in IC for the project was treated by the wet basin (EAPP ID No. 11002792).

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed school project will have an area of approximately 119.50 acres. The project will include a new operations center, a new administrative addition, a choir hall addition, a new ag building, additional parking area, two access drives. a fuel station and two above ground storage tanks which will be approved in a separate AST application. The impervious cover will be 37.07 acres (31.0 percent).

SCS DESCRIPTION

The proposed sewage collection system will provide disposal service for a School. The system includes gravity lines and other appurtenance necessary for conveying wastewater to a treatment plant.

The proposed SCS includes the lines listed in the table below:

Pipe Diameter (inches)	Linear Feet	Pipe Material	Specifications
8	520.8	PVC SDR 26	ASTM D3034
6	409.6	PVC SDR 26	ASTM D3034
Total Linear Feet	930.4		

TREATMENT FACILITY

The system will be connected to an existing City of Jarrell wastewater line for conveyance to the City of Jarrell Wastewater Treatment Plant for treatment and disposal. **The proposed system shall be connected for conveyance prior to use of the development.** The project will conform to all applicable codes, ordinances, and requirements of the City of Jarrell.

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, an existing wet basin (EAPP ID No 11002792) designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* was constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 32,266 pounds of TSS generated from the 37.07 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.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial unit of the site is the Del Rio Clay and Georgetown Formation (Kdr). No sensitive geologic features were identified in the GA. The site assessment conducted on May 23, 2024 by TCEQ staff determined the site to be generally as described by the GA.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letters dated March 1, 2022 (EAPP ID No. 11002792) September 2, 2022 (EAPPID No. 11003119) and March 31, 2023 (EAPPID No. 11003444).

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and technical specifications contained 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, Water Quality) 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. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.

4. The plan holder of any approved Edwards Aquifer protection 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.

5. 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.

6. 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.

7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of 500 gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.

9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.

10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.

11. 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.

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

13. 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.

14. 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:

15. No part of the organized sewage collection system may be used as a sewage holding tank, as defined in 30 TAC §213.3 (excluding lift stations), over the Edwards Aquifer recharge zone.

16. A Texas licensed PE **must certify** in writing that the new sewage collection system (including force mains) has passed all required testing. The certification shall be submitted to the EAPP within 30 days of test completion and prior to the new sewage collection system being put into service.

17. A Texas licensed PE **must certify** subsequent testing required every five years of the existing sewage collection system after being put into use to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. The test results must be retained by the plan holder for five years and made available to the executive director upon request.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 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 and is subject to administrative rule or orders and penalties as provided under §213.10 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 Edwards Aquifer protection 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 Bob Castro, P.E. of the Edwards Aquifer Protection Program at 512-239-6992 or the regional office at 512-339-2929.

Sincerely,

Lori Wilson

Lori Wilson, Director
Austin Region
Texas Commission on Environmental Quality

LW/rbc

cc: Matt Hardy, P.E., Langan Engineering

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 31, 2023

Ms. Toni Hicks
Jarrell ISD
108 E. Avenue F
Jarrell, TX 76537-2145

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Jarrell High School; Located on FM 487, One Mile West of IH-35, Jarrell, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD) and an Approved Organized Sewage Collection System (SCS-MOD); 30 Texas Administrative Code (TAC) Chapter 213 & 217 Edwards Aquifer

Edwards Aquifer Protection Program ID Nos. 11003444 (WPAP) and 11003445 (SCS); Regulated Entity No. RN101519049

Dear Ms. Hicks:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP-MOD and SCS-MOD applications for the above-referenced project submitted to the Austin Regional Office by Langan Engineering on behalf of Jarrell ISD on January 4, 2023. Final review of the WPAP-MOD and SCS-MOD applications was completed after additional material was received on March 24, 2023. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

BACKGROUND

The Jarrell High School WPAP project (EAPP ID No. 11002792), approved by letter dated March 1, 2022, included the construction of a wet basin that was sized for future development. The wet basin was designed to treat the total impervious cover of the site (24.6 acres) and to replace all previously approved Permanent Best Management Practices at the Jarrell High School site.

The Jarrell High School WPAP project (EAPP ID No. 11003119), approved by letter dated September 2, 2022, increase the total IC of the project site to 25.67 acres, The increase in IC for the project was treated by the wet basin (EAPP ID No. 11002792).

PROJECT DESCRIPTION

WPAP DESCRIPTON

The proposed WPAP project will have an area of approximately 119.54 acres. It includes a new classroom wing, expansion of the existing kitchen, an administrative addition at the main entrance, a band hall addition, expansion of the exiting field house, a new parking lot, sidewalks, drives, utilities, and associated appurtenances. The impervious cover will be 26.90 acres (22.5 percent).

SCS DESCRIPTION

The proposed project will reroute parts of the existing SCS to keep the system clear of the proposed and future foundation elements. The proposed SCS will provide disposal service for the high school campus. The gravity SCS system will consist of 1,077 linear feet of 8-inch SDR-26 PVC pipe that meets ASTM-D3034 standards, with associated manholes and stub-outs.

The system will be connected to an existing City of Jarrell wastewater line for conveyance to the existing City of Jarrell Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Jarrell and will conform to all applicable codes, ordinances, and requirements of the City of Jarrell.

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, an existing wet basin (EAPP ID No. 11002792), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be used to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 23,414 pounds of TSS generated from the 26.90 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The wet basin (EAPP ID No. 11002792) is sized for future development and is designed to remove 67,631 pounds of TSS to treat stormwater runoff from a maximum of 77.9 acres of impervious cover.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the site is underlain by the Del Rio Clay and Georgetown Formation. No sensitive features were identified on site. The TCEQ site assessment conducted on March 16, 2023, revealed the site to be generally in accordance with the description included in the GA.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letters dated March 1, 2022 (EAPP ID No. 11002792) and September 2, 2022 (EAPPID No. 11003119).

II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

III. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

IV. All wastewater collection and conveyance infrastructure shall be operational prior to any occupancy of the houses and prior to any wastewater flow being introduced into the sewage collection system.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP, SCS and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP and SCS applications following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP and SCS, must be installed prior to construction and inspected, maintained, and repaired during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. 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.
15. Discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices.
16. 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.
17. 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.
18. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

19. 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 (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. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations.
22. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
23. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
24. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.
25. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Bob Castro, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
LIB/rbc

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

CC: Mr. Jack Garner, P.E., Langan Engineering

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, _____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 2, 2022

Dr. Toni Hicks
Jarrell ISD
108 E. Ave. F
Jarrell, TX 76537

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Jarrell High School; Located at 1100 W. FM 487; Jarrell, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11003119; Regulated Entity No. RN101519049

Dear Dr. Hicks:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the Austin Regional Office by Langan Engineering on behalf of Jarrell ISD on May 31, 2022. Final review of the WPAP was completed after additional material was received on August 31, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

BACKGROUND

A wet basin was approved by letter dated March 1, 2022 (EAPP ID No. 11002792). Preceding this approval, a WPAP and four WPAP-MODs were approved by letters dated July 1, 1998 (EAPP ID No. 11-98042301), May 3, 2006 (EAPP ID No. 11-98042301), June 8, 2009 (EAPP ID No. 11-98042301), May 14, 2015 (EAPP ID No. 11-15041301), and January 28, 2019 (EAPP ID No. 11001369), respectively.

PROJECT DESCRIPTION

The proposed school project will have an area of approximately 119.5 acres. It will include removal of an asphalt parking lot with replacement and expansion of concrete, relocation of a portable, and the addition of another portable. The impervious cover will be 25.67 acres (21.5 percent). Project wastewater will be disposed of by conveyance to the existing City of Jarrell 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, a wet basin (EAPP ID No. 11002792), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 22,343 pounds of TSS generated from the 25.67 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment included with the application, the surficial units on site are the Georgetown Formation (Kgt) and Del Rio Clay (Kdr). There are no sensitive features on site. The TCEQ site assessment conducted on July 19, 2022 determined the site to be generally as described.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated March 1, 2022.

II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

III. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, 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. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. 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.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. 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.
17. 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.

<u>After Completion of Construction:</u>

18. 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 Austin Regional Office within 30 days of site completion.
19. 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 (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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Savannah Finger of the Edwards Aquifer Protection Program of the Austin Regional Office at 512-339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/sjf

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Jack Garner, P.E., Langan Engineering

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, _____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 1, 2022

Ms. Toni M. Hicks
Jarrell ISD
108 East Avenue F
Jarrell, TX 76537

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Jarrell High School; Located at 1100 W FM 487; Jarrell, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD) and Modification of an Approved Organized Sewage Collection System (SCS-MOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID Nos. 11002792 (WPAP-MOD) and 11002793 (SCS-MOD); Regulated Entity No. RN101519049

Dear Ms. Hicks:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP-MOD and SCS-MOD applications for the above-referenced project submitted to the Austin Regional Office by Langan Engineering on behalf of Jarrell ISD on November 17, 2021. Final review of the WPAP-MOD and SCS-MOD applications were completed after additional materials were received on February 22, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

BACKGROUND

The Jarrell High School WPAP was approved by letter dated July 1, 1998 (EAPP ID: 11-98042301). The Jarrell High School SCS was approved by letter dated June 3, 1999 (EAPP ID: 11-99022502). A WPAP-MOD was approved by letter dated May 3, 2006 (EAPP ID: 11-98042301A) and a SCS-MOD was also approved by letter dated May 3, 2006 (EAPP ID: 11-99022502A). A subsequent WPAP-MOD was approved by letter dated June 8, 2009 (EAPP ID: 11-98042301B). A WPAP-MOD was approved by letter dated May 14, 2015 (EAPP ID: 11-15041301). The most recent WPAP-MOD was approved by letter dated January 28, 2019 (EAPP ID: 11001369).

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed commercial project will have an area of approximately 119.5 acres. It will include the demolition of some pavement and the construction of four tennis courts, batting cages, ADA improvements to the stadium, parking lot expansion, and a wet basin. The impervious cover will be 24.6 acres (20.6 percent). Project wastewater will be disposed of by conveyance to the existing Jarrell Wastewater Treatment Plant.

SCS DESCRIPTION

The proposed sewage collection system will consist of a total of 461.5 linear feet. The SCS will consist of 335.95 linear feet of 6-inch diameter SDR-26 PVC ASTM 3034 pipe and 125.55 linear feet of 8-inch diameter SDR-26 PVC ASTM 3034 pipe. The SCS will provide disposal service for the non-residential development. The project is located within the City of Jarrell and will conform to all applicable codes, ordinances, and requirements of the City of Jarrell.

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, a wet basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 21,412 pounds of TSS generated from the 24.6 acres of impervious cover (IC). The wet basin is designed to treat 77.9 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the site is underlain by the Del Rio Clay and Georgetown Formation. There were no sensitive recharge features identified within the GA. During the TCEQ site assessment conducted on February 17, 2022, the site was found to be generally as described.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP and SCS approval letters dated July 1, 1998 (EAPP ID: 11-98042301), June 3, 1999 (EAPP ID: 11-99022502), May 3, 2006 (EAPP ID: 11-98042301A & 11-99022502A), June 8, 2009 (EAPP ID: 11-98042301B), May 14, 2015 (EAPP ID: 11-15041301), and January 28, 2019 (EAPP ID: 11001369).

II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

III. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

IV. By the responsible engineer's dated signature and seal on the Engineering Design Report attached to the submitted application, all information therein accurately reflects the information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer in accordance with the requirements of 30 TAC 213.5 (c) and Chapter 217.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP-MOD and SCS-MOD plans, and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP-MOD and SCS-MOD applications following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, 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. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. 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.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. 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.
17. 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.
18. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

19. 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 Austin Regional Office within 30 days of site completion.

20. 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 (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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
21. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. 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. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
22. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
23. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
24. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
25. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
26. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Jade Mendiola of the Edwards Aquifer Protection Program of the Austin Regional Office at (512)339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/jkm

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance on Permanent Best Management Practices and Measures, Form TCEQ-10263

cc: Mr. Jack Garner, P.E., Langan Engineering

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, _____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 28, 2019

Mr. Bill Chapman
Superintendent
Jarrell Independent School District (ISD)
312 N 5th St.
Jarrell, TX 76537

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Jarrell High School, located at 1100 W FM 487, Jarrell, Texas

TYPE OF PLAN: Request for Approval of a Modification to an approved Water Pollution Abatement Plan (WPAP)
30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program (EAPP) ID No. 11001369; Regulated Entity No. RN101519049

Dear Mr. Chapman:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the Austin Regional Office by Adams Engineering on behalf of Jarrell Independent School District on November 28, 2018. Final review of the WPAP Modification was completed after additional material was received on January 18, 2019. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

BACKGROUND (Chronological)

The Jarrell High School WPAP was approved by letter dated July 1, 1998 (EAPP ID No. 11-98042301). It included development of the Jarrell High School and School Complex on the 119.5-acre site. The approved impervious cover was 31.67 acres (26.49%) and permanent water

quality treatment was via a 42-acre vegetative filter strip designed in accordance with the LCRA Non-point Source Pollution Control Ordinance Technical Guidance Manual.

The Jarrell High School Organized Sewage Collection System Plan (SCS) was approved by letter dated June 3, 1999 (EAPP ID No. 11-99022502). It included construction of gravity wastewater lines, forcemain wastewater lines, lift station, package wastewater treatment plant, irrigation area, emergency effluent storage pond and appurtenances. The system was designed to provide wastewater treatment and disposal for the complex.

The first Jarrell High School WPAP Modification was approved by letter dated May 3, 2006 (EAPP ID No. 11-98042301A). The modification included changes in the site layout of the High School and Middle School. It also re-defined the vegetative filter strip areas and added construction of a detention pond (for others). The impervious cover remained at 31.67 acres (26.49%).

The Jarrell High School SCS Modification was approved by letter dated May 3, 2006 (EAPP ID No. 11-99022502A). The project included modifications to the gravity system due to site layout re-design.

The second Jarrell High School WPAP Modification was approved by letter dated June 8, 2009 (EAPP ID No. 11-98042301B). The modification included construction and relocation of the bus maintenance facility and improvements to an existing road east of the football field. The existing vegetative filter strip was approved as the permanent BMP for the modification. The impervious cover remained at 31.67 acres (26.49%).

The third Jarrell High School WPAP Modification was approved by letter dated May 14, 2015 (EAPP ID No. 11-15041301). The modification included conversion of an existing grass football field to synthetic turf, maintenance and re-surfacing of existing field events structures, and associated appurtenances for the football complex. The impervious cover was increased by 2.63 acres, from 31.67 acres to 34.30 acres (28.70%). The increase in impervious cover was treated by the synthetic field design and a partial sedimentation/filtration basin.

PROJECT DESCRIPTION

The proposed project will have an area of approximately 119.5 acres. It will include additions to the existing high school building, drives, and parking areas. It will also redefine the impervious cover at the site; the impervious cover will be 23.1 acres (19.3 percent). Project wastewater will be disposed of by conveyance to the existing Jarrell Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

The school will not have more than 20 percent impervious cover. Since this school will have less than 20 percent impervious cover, an exemption from permanent BMPs is approved. If the percentage of impervious cover ever increases above 20 percent or the land use changes, the exemption for the whole site as described in the WPAP may no longer apply and the property owner must notify the Austin Regional Office of these changes.

GEOLOGY

An exception to the Geologic Assessment was granted as the project limits are located within a previously disturbed area. A site assessment conducted by the Austin Regional Office on December 12, 2018 did not identify any sensitive features.

SPECIAL CONDITIONS

I. Since this project will not have more than 20 percent impervious cover, an exemption from additional permanent BMPs is approved. If the percent impervious cover ever increases above 20 percent or the land use changes, the exemption for the whole site as described in the property boundaries required by §213.4(g), may no longer apply and the property owner must notify the appropriate regional office of these changes.

II. If the impervious cover ever increases above 20 percent or land use changes, permanent BMPs which meet current design standards must be provided for the site's entire impervious cover. No previously-approved permanent BMPs will be considered for future development unless the permanent BMP is up-to-date with TCEQ design standards at the time of submittal.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, 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. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. 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.

15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. 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.
17. 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:

18. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
19. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
20. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Michelle Zvonkovic of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Robert Sadlier, Water Section Team Leader
Austin Regional Office
Texas Commission on Environmental Quality

RCS/maz

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, ____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 14, 2015

Dr. Bill Chapman
Superintendent
Jarrell Independent School District (ISD)
312 5th Street
Jarrell, Texas 76537

Re: Edwards Aquifer, Williamson County
NAME OF PROJECT: Jarrell High School – Jarrell High School Football Field Improvements; Located at 1100 West FM 487; City of Jarrell, Texas
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan Modification (WPAPMOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 11-15041301; Investigation No. 1245757; Regulated Entity No. RN101519049

Dear Dr. Chapman:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the Austin Region Office by Tait Pitkin Sports Engineering, PLLC on behalf of Jarrell ISD on April 14, 2015. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

BACKGROUND (Chronological)

The Jarrell High School WPAP was approved by letter dated July 1, 1998; EAPP ID No. 11-98042301. It included development of the Jarrell High School and School Complex on the 119.5 acre site. The approved impervious cover was 31.67 acres (26.49%) and permanent water quality treatment was via a 42 acre vegetated filter strip designed in accordance with the LCRA Non-point Source Pollution Control Ordinance Technical Guidance Manual.

The Jarrell High School Organized Sewage Collection System Plan (SCS) was approved by letter dated June 3, 1999; EAPP ID No 11-99022502. It included construction of gravity wastewater lines, forcemain wastewater lines, lift station, package wastewater treatment plant, irrigation area, emergency effluent storage pond and appurtenances. The system was designed to provide wastewater treatment and disposal for the complex.

The first Jarrell High School WPAPMOD was approved by letter dated May 3, 2006; EAPP ID No. 11-98042301A. The modification included changes in the site layout of the High School and Middle School. It also re-defined the vegetated filter strip areas and added construction of a detention pond (for others). The impervious cover remained at 31.67 acres (26.49%).

The Jarrell High School SCS Modification (SCSMOD) was approved by letter dated May 3, 2006; EAPP ID No. 11-99022502A. The project included modifications to the gravity system due to site layout re-design.

The second Jarrell High School WPAPMOD was approved by letter dated June 8, 2009; EAPP ID No. 11-98042301B. The modification included construction and relocation of the bus maintenance facility and improvements to an existing road east of the football field. The existing vegetated filter strip was approved as the permanent BMP for the modification. The impervious cover remained at 31.67 acres (26.49%).

PROJECT DESCRIPTION

The proposed football field improvements project is the third WPAP Modification for the 119.5 acre site. The proposed project includes converting the existing grass turf football field into synthetic turf, maintenance and re-surfacing of the existing field events structures (track and appurtenances), new ticket booth, entrance gate, concession stand/restroom building, 70 by 70-foot metal multipurpose building, bleacher expansion, sidewalks, partial sedimentation/filtration water quality pond and appurtenances.

The impervious cover will be increased by 2.63 acres, from 31.67 acres to 34.30 acres (28.70 percent). Project wastewater will be disposed of by conveyance to the existing onsite Jarrell High School wastewater treatment plant; Water Quality ID No. WQ00140100001.

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, a partial sedimentation/filtration water quality pond, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The water quality pond will have a 1.59 acre contributing drainage area with 0.87 acres of impervious cover, including existing and proposed impervious cover. The required TSS load to

be removed from the 0.87 acres of impervious cover is 757 pounds. The pond is sized to remove 845 pounds of TSS. The pond will have a water quality volume of 7,997 ft^3 and a sand filter area of 2,100 ft^2.

The 2.29 acre synthetic turf field area is considered impervious cover. The field itself will provide equivalent water quality protection due to the low potential for pollution based on the field use, filtration of stormwater via the sand/gravel layer that is part of the turf design, removal of potential sources of pollution such as fertilizer and pesticides used on the existing grass turf and mitigation of increased downstream flow effects from 32,478 ft^3 of detention capacity below the field. The turf and sand layer will be replaced every eight to ten years with the routine replacement of the synthetic turf. The field will be lined using a 20-mil synthetic liner.

GEOLOGY

According to the geologic assessment, the site is underlain by the Del Rio Clay formation and the Georgetown formation. A non-sensitive fault transects the southeast portion of the site. The assessment also identified four (4) manmade wells on the site. The site assessment conducted during the second WPAPMOD review by the Austin Region Office on March 16, 2006, revealed that only two (2) wells were present and both were plugged. The Austin Region Office did not conduct a site assessment with this modification.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

III. This approval letter is being issued for regulated activities (as defined in Chapter 213) and for best management practices presented in the application. This approval does not constitute a water right permit or authorization from the TCEQ Dam Safety Program. Failure to obtain all necessary authorizations could result in enforcement actions. For more information on Water Rights Permits, please refer to:

http://www.tceq.state.tx.us/permitting/water_supply/water_rights/wr_amiregulated.html

For more information on the Dam Safety program, please refer to:

http://www.tceq.state.tx.us/compliance/field_ops/dam_safety/damsafetyprog.html

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations

and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Region Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAPMOD is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAPMOD application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Region Office no later than 48 hours prior to commencement of the regulated activity. Written 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAPMOD, 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. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The

applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Region Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. 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.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. 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.
17. 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.

<u>After Completion of Construction:</u>

18. 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 Austin Region Office within 30 days of site completion.
19. 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 (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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Region Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Region Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Zach Lanfear of the Edwards Aquifer Protection Program of the Austin Region Office at (512) 339-2929.

Sincerely,

Carolyn D. Runyon, Water Section Manager
Austin Region Office
Texas Commission on Environmental Quality

CDR/zcl

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Larry Tait, P.E., Tait Pitkin Sports Engineers, PLLC, 917 Yellowstone Dr., Taylor, TX 76574
The Honorable Dewey Hulme, Mayor, City of Jarrell
The Honorable Dan A. Gattis, County Judge, Williamson County
Dr. James K. Morgan, Interim Director, Williamson County & Cities Health District
TCEQ Central Records, Building F, MC 212

Change in Responsibility for Maintenance on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, _____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, _____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

Attachment B Form 0590: Project Description:

The proposed project consists of removal and replacement of a lift station and force main to serve Jarrell High School on the existing 119.5-acre tract located at 1100 FM487 in Jarrell, Texas.

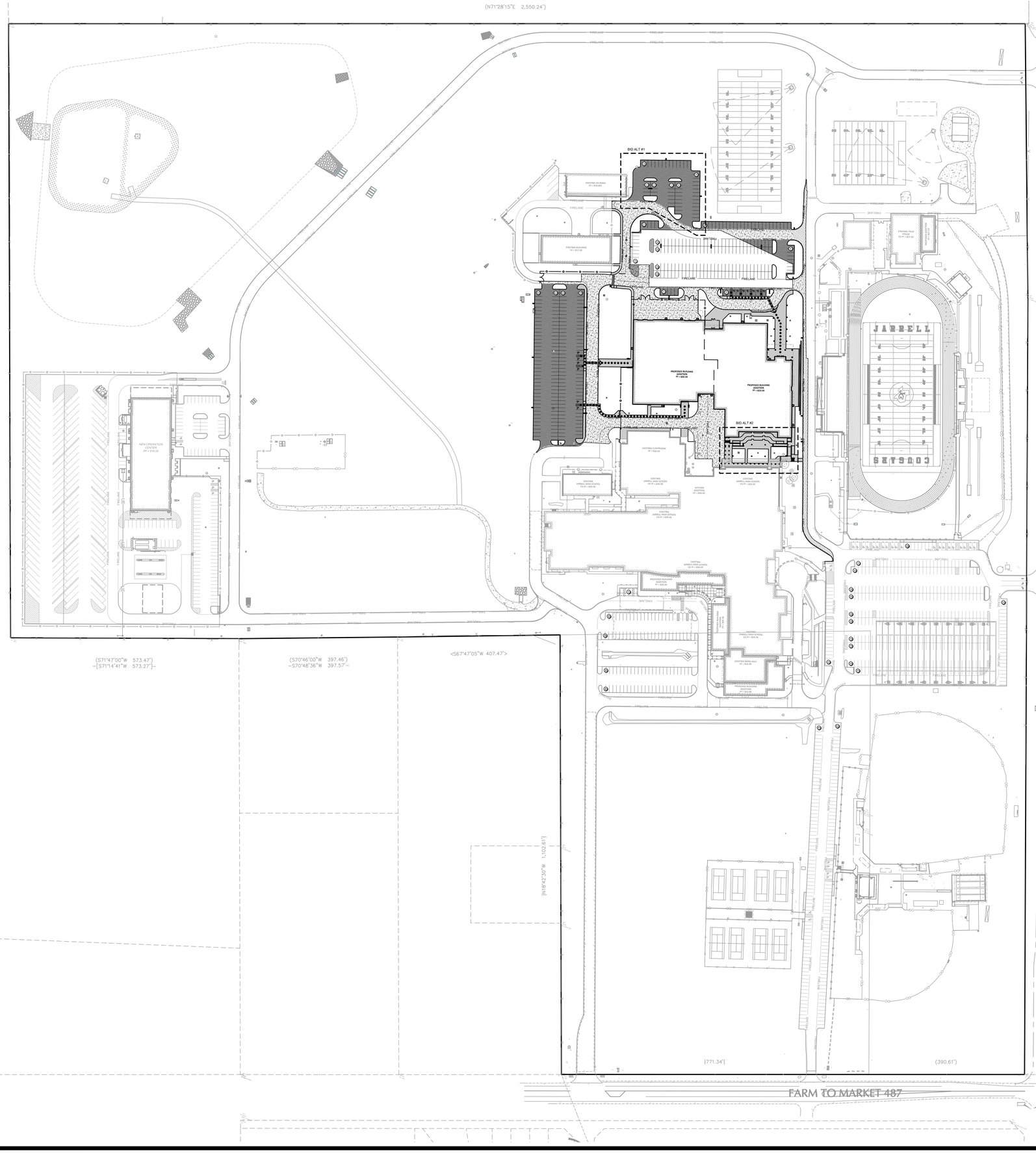
The project demolition will include the removal existing equipment, wet well, and approximately 30 LF of existing gravity sanitary sewer. Pavement demolition will be limited to removal & replacement where the proposed force main crosses on-site drives. The proposed system consists of a new lift station and 2,441.1 LF of 4" PVC SDR 21 force main.

Previous SCS submittals for the Jarrel High School Site (Original SCS in 1999, SCS Modification 1 in 2006, SCS modification 2 in March 2022, SCS Modification 3 in March 2023, SCS Modification 4 in June 2024, SCS Modification 5 in February 2025) established a system of gravity wastewater lines, lift station, and force main serving the campus. All modifications since the original approval have extended or adjusted the on-site gravity system due to proposed improvements.

Previous WPAP submittals for the Jarrell High School site (original WPAP in 1998, WPAP Modification 1 in 2006, WPAP Modification 2 in 2009, WPAP Modification 3 in 2015, WPAP Modification 4 in 2018, WPAP Modification 5 in March 2022, WPAP Modification 6 in September 2022, WPAP Modification 7 in March 2023, WPAP Modification 8 in June 2024, and WPAP Modification 9 in February 2025) have given the % Impervious Cover value for the site as 26.5%, 26.5%, 26.5%, 28.7%, 19.3%, 20.6%,21.5%, 22.5%, 31.0% and 33.4% respectively. As part of WPAP Modification 4 in 2018, due to concerns about the accuracy of these numbers due to improvements that were planned and approved but never built, Jarrell ISD retained a Registered Professional Land Surveyor in April 2018 to perform a detailed survey of the Jarrell High School site to re-evaluate the % Impervious Cover that was actually present on the site. The results of that survey showed that the actual Impervious Cover on the 119.5 Acre site was 921,121 SF (21.15A) which equates to 17.7% Impervious Cover. The proposed additions since have resulted in a total impervious cover percentage of 33.4%.

All previously permitted and installed permanent BMPs, (filtration through sand/gravel layer under the synthetic turf field, 2100 SF sand filter and water quality pond, and 42 Ac vegetative filter), as described and approved in previous WPAP Modifications, were removed and replaced by a water quality wet pond and detention basin in WPAP Modification 5.

Attachment C Form 0590: – Current Site Plan of the Approved Project



GRAPHIC SCALE

0 100 200 FEET

LEGEND

PROPOSED FACE AND BACK OF CURB	▭
PROPOSED HEAVY DUTY PAVEMENT. 7" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT	▨
PROPOSED LIGHT DUTY PAVEMENT. 6" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT	▨
PROPOSED PASSENGER CAR PAVEMENT. 5" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT	▭
PROPOSED SIDEWALK. REFERENCE PAVING DETAILS FOR PANEL SCHEDULE	▩

PARKING COUNT SUMMARY

EXISTING SPACES

688 SPACES
36 ACCESSIBLE SPACES
724 TOTAL EXISTING SPACES

NEW SPACES

340 SPACES ADDED
13 ACCESSIBLE ADDED
353 TOTAL SPACES ADDED

TOTAL SPACES

1028 SPACES
49 ACCESSIBLE SPACES
1077 TOTAL SPACES

WPAP CALCULATIONS

SITE AREA: 119.54 ACRES

IMPERVIOUS SUMMARY	
EXISTING IMPERVIOUS COVER	37.07 ACRES
DEMOLITION	169,160 SQ FT = 3.88 AC
STRUCTURES/ROOFTOPS	88,782 SQ FT = 2.04 AC
PARKING, ACCESS DRIVES & SIDEWALKS	201,474 SQ FT = 4.63 AC
RIPRAP	725 SQ FT = 0.02 AC
NET TOTAL IC INCREASE	121,821 SQ FT = 2.80 AC

**VALUES PRESENTED ABOVE ASSUME ACCEPTANCE OF BID ALTERNATES 1 & 2

NOTICE TO CONTRACTORS - UTILITIES

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF ANY EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, THE GOVERNING MUNICIPALITY, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION PROVIDED IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

** NOTICE TO CONTRACTORS - TOPOGRAPHIC SURVEY **

TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY PERFORMED BY QUICK INC. LAND SURVEYING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, IN WRITING, OF ANY DISCREPANCIES OR OMISSIONS TO THE TOPOGRAPHIC INFORMATION. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR CONFIRMING THE LOCATION (HORIZONTAL/VERTICAL) OF ANY BURIED CABLES, CONDUITS, PIPES, AND STRUCTURES (STORM SEWER, SANITARY SEWER, WATER, GAS, TELEVISION, TELEPHONE, ETC.) WHICH IMPACT THE CONSTRUCTION SITE. THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY DISCREPANCIES ARE FOUND BETWEEN THE ACTUAL CONDITIONS VERSUS THE DATA CONTAINED IN THE CONSTRUCTION PLANS. ANY COSTS INCURRED AS THE RESULT OF NOT CONFIRMING THE ACTUAL LOCATION (HORIZONTAL/VERTICAL) OF SAID CABLES, CONDUITS, PIPES, AND STRUCTURES SHALL BE BORNE BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY ERRORS OR DISCREPANCIES ARE FOUND ON THE CONSTRUCTION DOCUMENTS (PS&E), WHICH NEGATIVELY IMPACT THE PROJECT. THE ENGINEER AND OWNER SHALL BE INDEMNIFIED OF PROBLEMS AND/OR COST WHICH MAY RESULT FROM CONTRACTOR'S FAILURE TO NOTIFY ENGINEER AND OWNER.

811
Know what's **below.**
Call before you dig.

THESE PLANS ARE SUBJECT TO REVIEW & APPROVAL BY JURISDICTIONAL ENTITIES.

!!!CAUTION!!!

EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY.
VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES
BY GROUND PENETRATING RADAR, VACUUM EXCAVATION
OR OTHER POTHOLING TECHNIQUES.

Revision / Date

Project:

ADDITIONS AND RENOVATIONS
AT JARRELL HIGH SCHOOL
FOR
JARRELL I.S.D.
1100 FM 487, JARRELL, TEXAS 76537

LANGAN

MATTHEW S. HARDY
134448
11-13-2024

TBPE Registration #: F-13709

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800.687.1229

OVERALL SITE PLAN

PACKAGE 2

Job. No. 19419-01-01	Sheet No. C4.00
Drawn By: AM	
Date: 11.13.2024	

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c), 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.

Regulated Entity Name: Jarrell High School

1. ☒ **Attachment A – SCS Engineering Design Report**. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: Toni Hicks, Ed.D
   Entity: Jarrell ISD
   Mailing Address: 504 N. 5th St.
   City, State: Jarrell, Texas Zip: 76537
   Telephone: 512-746-2124 Fax: 512-746-2518
   Email Address: toni.hicks@jarrellisd.org
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: Matt Hardy, PE
   Texas Licensed Professional Engineer's Number: 134448
   Entity: Langan Engineering
   Mailing Address: 9606 N. Mopac Expressway, Suite 110
   City, State:Austin, Texas Zip: 78759
   Telephone:469-627-7505 Fax:_____
   Email Address:mhardy@langan.com

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

   ☐ Residential: Number of single-family lots: _____
   ☐ Multi-family: Number of residential units: _____
   ☐ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☒ Other: High School

5. The character and volume of wastewater is shown below:

   100% Domestic — 60,000 gallons/day
   _____% Industrial — _____ gallons/day
   _____% Commingled — _____ gallons/day
   Total gallons/day: _____

6. Existing and anticipated infiltration/inflow is 400 gallons/day. This will be addressed by: Lift station and force main are sized to incorporated anticipated I&I. Reference design report.

7. 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 development was approved by letter dated February 14, 2025. A copy of the approval letter is attached.
   ☐ The WPAP application for this development 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 is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
4"	2,441.1	PVC SDR-21	C900 DR 21

Total Linear Feet: 2,441.1

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the City of Jarrell (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

10. All components of this sewage collection system will comply with:

   ☒ The City of Jarrell standard specifications.
   ☐ Other. Specifications are attached.

11. ☐ No force main(s) and/or lift station(s) are associated with this sewage collection system.

   ☒ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☐ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☐ There are no deviations from straight alignment in this sewage collection system without manholes.

   ☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes**. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

   ☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
SSWR FM	C4.2 Of Const. Set	24+41.06	MH (proposed)
SSWR FM	C4.0 Of Const. Set	4+75.00	CO (proposed)
SSWR FM	C4.1 Of Const. Set	10+34.68	CO (proposed)
SSWR FM	C4.1 Of Const. Set	14+75.00	CO (proposed)
SSWR FM	C4.2 Of Const. Set	20+66.68	CO (proposed)
	Of		
	Of		

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
	Of		

15. ☐ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☐ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing**. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

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

Site Plan Scale: 1" = 40'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☐ The location of all lateral stub-outs are shown and labeled.
☒ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☒ The entire water distribution system for this project is shown and labeled.
☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. ☒ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☐ There will be no water line crossings.
☐ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
SSWR FM	3+70.60	Crossing		0.8'
SSWR FM	3+75.60	Crossing		1.7'
SSWR FM	4+54.05	Crossing		1.2'
SSWR FM	13+38.51	Crossing		0.9'
SSWR FM	13+48.34	Crossing		0.7'
SSWR FM	24+33.37	Crossing		5.4'

27. Vented Manholes:

☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☒ There are no drop manholes associated with this project.
☐ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*

29. Sewer line stub-outs (For proposed extensions):

☐ The placement and markings of all sewer line stub-outs are shown and labeled.
☒ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☐ The placement and markings of all lateral stub-outs are shown and labeled.
☒ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☐ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☐ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☒ N/A

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	C5.0 of Const. Set
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	of
Typical trench cross-sections **[Required]**	C5.0 of Const. Set
Bolted manholes **[Required]**	of
Sewer Service lateral standard details **[Required]**	of
Clean-out at end of line **[Required, if used]**	of
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	C5.0 of Const. Set
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	C5.0 of Const. Set

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	of

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☐ Survey staking was completed on this date: _____

38. ☒ 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.

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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 **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Matt Hardy, PE

Date: 10/17/2025

Place engineer's seal here:

Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

Lift Station/Force Main System Application

Texas Commission on Environmental Quality

for Regulated Activities On the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c)(3)(B)and(c), 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.

Regulated Entity Name: Jarrell High School

Customer Information

(If different than customer information provided on core data form)

1. The person(s) responsible for providing the engineering certification to the TCEQ pursuant to 30 TAC §213.5(f)(2)(C) during construction and 30 TAC §213.5 (c)(3)(D) upon completion of construction is:

   Contact Person: Toni Hicks, Ed. D
   Entity: Jarrell ISD
   Mailing Address: 504 N. 5th St.
   City, State: Jarrell, Texas Zip: 76537
   Telephone: 512-746-2124 Fax: 512-746-2518
   Email Address: toni.hicks@jarrellisd.org

2. The engineer responsible for the design of this lift station and force main:

   Contact Person: Matt Hardy, PE
   Entity: Langan Engineering
   Mailing Address: 9606 N. Mopac Expressway, Suite 110
   City, State: Austin, Texas Zip: 78759
   Telephone: 469-627-7505 Fax: _____
   Email Address: mhardy@langan.com
   Texas Licensed Professional Engineer's Serial Number: 134448

Project Information

3. This project is for the construction or replacement of:

   ☐ Lift Station only.

☒ Lift Station and Force Main system.
☐ Lift Station, Force Main, and Gravity system.

4. The sewage collection system will convey the wastewater to the City of Jarrell (name) Treatment Plant. The treatment facility is:

   ☐ Existing
   ☒ Proposed

5. All components of this lift station/force main system will comply with:

   ☒ The City of Jarrell standard specifications.
   ☐ Other. Specifications are attached.

Site Plan Requirements

Items 6-14 must be included on the Site Plan.

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

   Site Plan Scale: 1" = 40'‘.

7. ☒ Lift station/force main system layout meets all requirements of 30 TAC Chapter 217.

8. Geologic or Manmade Features:

   ☐ No geologic or manmade features were identified in the Geologic Assessment.
   ☒ All geologic or manmade features identified in the Geologic Assessment (caves, solution openings, sinkholes, fractures, joints, porous zones, etc.) which exist at the site of the proposed lift station and along the path(s) or within **50 feet of each side** of a proposed force main line are shown on the Site Plan and are listed in the table below. Designs used to protect the integrity of the sewer line crossing each feature are described and labeled on the attached page. A detailed design drawing for each feature is shown on Plan Sheet _____ of _____.
   ☐ No Geologic Assessment is required for this project.

Table 1 - Geologic or Manmade Features

Line	*Station to Station*	*Type of Feature*
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

9. ☒ Existing topographic contours are shown and labeled. The contour interval is 1 feet. (Contour interval must not be greater than 5 feet).

10. ☒ Finished topographic contours are shown and labeled. The contour interval is 1 feet. (Contour interval must not be greater than 5 feet).

    ☐ Finished topographic contours will not differ from the existing topographic configuration and are not shown.

11. 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): _____

12. 5-year floodplain:

    ☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above sewer lines.)
    ☐ After construction is complete, all sections of the force main located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 2 - 5-Year Floodplain

Line	*Sheet*	*Station to Station*
	of	to
	of	to
	of	to
	of	to

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

    If applicable, this must agree with Item No. 15 on the Geologic Assessment Form.
    ☒ There are 4 (#) 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 plugged.
    ☒ The wells are not in use and will be properly plugged.
    ☒ 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.

14. ☒ Legal boundaries of the site are shown.

Plan and Profile Sheets

*The construction drawings and technical specifications will not be considered for review unless they are the **final plans and technical specifications** which will be used by the contractor for bidding and construction.*

Items 15 – 18 must be included on the Plan and Profile sheets.

15. ☒ The equipment installation construction plans must have a minimum scale of 1" = 10'.

    Plan sheet scale: 1" = 40' '.

16. ☒ Locations, descriptions and elevations of all required equipment and piping for the lift station and force main are shown and labeled.

17. ☒ Air Release/Vacuum Valves will be provided at all peaks in elevation of the proposed force main. These locations are listed in the table below and labeled on the appropriate plan and profile sheets.

Table 3 - Air Release/Vacuum Valves

Line	*Station*	*Sheet*
SSWR FM	6+53.18	C4.0 of Const. Set
SSWR FM	19+47.56	C4.2 of Const. Set
		of
		of
		of
		of

18. ☒ The **final plans and technical specifications** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

19. ☒ **Attachment A - Engineering Design Report**. An engineering design report with the following required items is attached:

    ☒ The report is dated, signed, and sealed by a Texas Licensed Professional Engineer.
    ☒ Calculations for sizing system.
    ☒ Pump head calculations, including, but not limited to, system head and pump capacity curves, head loss calculations, and minimum and maximum static head C values for normal and peak operational conditions.
    ☒ 100-year and 25-year flood considerations.
    ☒ Total lift station pumping capacity with the largest pump out of service.
    ☒ Type of pumps, including standby units.
    ☒ Type of pump controllers, including standby air supply for bubbler controllers, as applicable.

☒ Pump cycle time.
☒ Type of wet well ventilation; include number of air changes for mechanical ventilation.
☒ Minimum and maximum flow velocities for the force main.
☒ Lift station security.
☒ Lift station emergency provisions and reliability.

Administrative Information

20. ☒ Upon completion of the wet well excavation, a geologist must certify that the excavation was inspected for the presence of sensitive features and submit the signed, sealed, and dated certification to the appropriate regional office.

21. ☒ The TCEQ Lift Stations and Force Mains General Construction Notes (TCEQ-0591) are included on the General Notes Sheet of the Final Construction Plans for this lift station and/or force main system.

22. ☒ 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.

23. ☒ Any modification of this lift station/force main system application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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 **Lift Station/Force Main System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c)(3)(C) and 30 TAC Chapter 217, and prepared by:

Print Name of Licensed Professional Engineer: Matt Hardy, PE

Place engineer's seal here:

Date: 10/17/2025

Signature of Licensed Professional Engineer:

LANGAN

Technical Excellence
Practical Experience
Client Responsiveness

Engineering Design Report

Proposed New Sanitary Sewer Lift Station

for

Jarrell ISD High School

1100 FM 487
Jarrell, Williamson County, Texas 76537

Prepared by

LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, LLC.

10/03/2025

(Engineer's Seal & Signature)

October 3, 2025

2999 Olympus Boulevard, Suite 165 Dallas, TX 75019 T: 817.328.3200 www.langan.com

I. EXECUTIVE SUMMARY

At the request of Jarrell ISD (the District), Langan has performed an engineering design of a new sanitary sewer lift station to serve the Jarell High School facility with an estimated sanitary sewer flow from a 2400-person population (estimate of future student and faculty/ staff population provided by Jarrell ISD).

The proposed lift station will consist of a new concrete or fiberglass wet well (6' diameter x 20' deep), two new 7.5 HP submersible grinder sewage pumps (including associated piping, guide rails, controls system, and valves), and an estimated 2441 linear feet of 4" diameter PVC SDR21 force main pipe, with the force main terminating in a proposed City of Jarrell sanitary sewer manhole located near the SE corner of the intersection of FM 487 and Black Opal Dr. Lift station security, reliability, and emergency provisions have been described and potential wet well buoyancy concerns have also been addressed.

II. TCEQ FORM 0624 ATTACHMENT A REQUIRED ITEMS

a. Design calculations for sizing the system are given in Sections IV, VI, VII, IX, and X of this report. The system is sized to accommodate a population of 2400 persons @ 25 gal/ day/ person average daily flow and using a 4.0 one-hour peak flow rate factor, giving a 169 gal/ min peak inflow rate. A duplex lift station is proposed with a design flow of 178 gal/ min @ 82.8' TDH into 2441 linear feet of 4" PVC SDR21 force main which will discharge into a nearby City of Jarrell manhole in the city's gravity sanitary sewer collection system. The pumping capacity of the lift station with the largest pump out of service will be 178 gal/ min
b. The lift station site will be located outside the 100-year floodplain.
c. The duplex pumps are proposed to be Liberty model LGV07 7.5 HP submersible grinder pumps with 6.2" impeller and are further described in Section VI of this report. The duplex pump controller is proposed to be provided by an authorized dealer of Liberty Pumps and will be compatible with the pumps selected.
d. The pump cycle time will be 61.8 min at peak inflow rate, as described in Section VII of this report.
e. Passive wet well ventilation will be provided using a 4" SCH 40 cast iron U-type vent pipe with a 16-mesh stainless steel screen installed in the outlet, whose opening is >1.0 foot above the 100-year flood elevation. This feature is further described in Section VII of this report.

f. Minimum and maximum flow velocities in the force main are discussed in Section IX of this report and are as follows:

   Minimum velocity is 4.5 ft/ sec for a single pump operating at the design flow rate of 178 gpm at 82.8' Total Dynamic Head (TDH).

   Maximum velocity is 5.9 ft/ sec for both pumps operating at a flow rate of 232 gpm at 112.3' TDH.

g. Lift station security, emergency provisions, and reliability are discussed in Section V of this report and include the following components:

- a 50' x 84' x 8' high chain-link, intruder-resistant fence with 2 lockable drive gates around the lift station,
- the gates in the fence will be locked when access is not needed by authorized personnel,
- the pump control systems will be inside a locked, weather-proof NEMA 4X stainless steel cabinet,
- the access hatches on the wet well and valve vaults will be locked when access is not needed by authorized personnel, and
- redundancy of two pumps, each of which has sufficient pumping capacity to pump the lift station's estimated peak sewage inflow rate in case one pump becomes inoperable
- in the event of a protracted power outage, school district personnel will connect a trailer-mounted diesel-powered generator to the lift station to provide temporary power
- lift station control panel will have an alarm condition and an auto-dialer cellular telephone communication system to notify school maintenance personnel when one or both of the pumps has become inoperable or a power outage at the lift station has occurred.

III. INTRODUCTION

For this design we used an estimated average daily sewage inflow rate of 15-25 gallons per person per day, as provided in Texas Commission on Environmental Quality regulations for design of sanitary sewer systems, for a school with cafeterias and showers. We selected the higher end of the range in order to give a satisfactory margin of safety to minimize the possibility of sewage overflows at peak usage times and/or power outages.. This results in an estimated 41.7 gal/ minute ave daily inflow rate (2400 persons x 25 gal/day/person = 60,000 gal/day = 41.7 gal/ minute). Although the lift station will operate during events at the football stadium, our

evaluation showed that the expected sewage inflow rate from such an event is estimated to be less than that experienced during normal school operations.

The proposed lift station will consist of a new concrete wet well (6' diameter x 20' deep), two new 7.5 HP submersible grinder sewage pumps (including associated piping, guide rails, controls system, and valves), and an estimated 2441 linear feet of 4" diameter PVC SDR21 force main pipe. The force main will proceed south to the lift station access road, then east to the high school access road off FM 487, then south along the east side of the high school access road to terminate in a City of Jarrell sanitary sewer collection system manhole near the southeast corner of the intersection of FM487 and at Black Opal Dr., a distance of approximately 2441 linear feet. The lift station is proposed to be a duplex sewage pump system, with one pump capable of passing a minimum 105% of the estimated peak inflow rate. Existing gravity service lines from the high school building will convey sewage flow to an existing manhole adjacent to the lift station wet well and then into the proposed new lift station wet well.

This design report for the proposed new lift station has been prepared in accordance with accepted engineering practices and the requirements of the Texas Commission on Environmental Quality (TCEQ). The specific design parameters for the proposed new lift station are discussed in the following report sections and are in compliance with the design requirements of the TCEQ (30 TAC 217).

IV. SERVICE AREA AND SITE SELECTION

The proposed lift station has been designed to serve the estimated daily and peak wastewater inflow rates from the estimated maximum number of people to be served by the Jarrell High School campus facilities (see Figures 1 and 2); and the design also includes an allowance for sewage flow resulting from attendees at football stadium events. The lift station is located at an elevation that is higher than the 100-year flood plain elevation. The lift station site is a fenced 50' x 84' area with an all-weather surface and an all-weather access drive.

V. LIFT STATION RELIABILITY, SECURITY, AND EMERGENCY PROVISIONS

Lift station security will be provided by the following security components:

- a 50' x 84' x 8' high chain-link, intruder-resistant fence with 2 lockable drive gates enclosing the lift station,
- the gates in the fence will be locked when access is not needed by authorized personnel,

- the pump control systems will be inside a locked, weather-proof NEMA 4X stainless steel cabinet,
- the access hatches on the wet well and valve vault will be locked when access is not needed by authorized personnel, and

Lift station reliability and emergency provisions will be addressed by the use of a conservative estimate of the average daily sewage flow per person in the TCEQ sewage flow guidelines (see Section VI of this report) and having the redundancy of the two pumps, each of which has sufficient pumping capacity to pump the lift station's estimated peak sewage inflow rate in case one pump becomes inoperable. In the event of a protracted power outage, school district personnel will connect a trailer-mounted diesel-powered generator to the lift station to provide temporary power.

The lift station control panel will have an alarm condition and an auto-dialer cellular telephone communication system to notify school maintenance personnel when one or both of the pumps has become inoperable or a power outage at the lift station has occurred. School maintenance personnel will be made aware of the necessity of a quick response to any pump outage or power outage alarm condition during normal school or event attendance (populated) hours. If such an alarm condition occurs outside of these populated hours, the required response time can be much longer due to a much lower sewage inflow rate.

VI. DESIGN FLOWS

Design flows for the school are summarized in Table 1 below. Langan has estimated the wastewater production based on accepted engineering design criteria for the proposed school building and the upper value of the sewage flow guidelines from the Texas Commission on Environmental Quality (TCEQ).

TABLE 1: ESTIMATED WASTEWATER FLOW RATE

Land Use	Estimated maximum population to be served, students + faculty/ staff	Basis for Daily wastewater flow estimate	Estimated average daily dry weather flow (ADWF), gal/day	Number of Equivalent Residential Units (@ 300 gpd/ERU)
School with cafeteria, restrooms, and showers	2400	25 gal/day/ person	60,000 gal/ day	200 ERU

A one-hour peaking factor (PF) of 4.0 has been estimated based on accepted engineering design criteria (calculation based on total population served). Peak Dry Weather Flow (PDWF) is the Average Dry Weather Flow (ADWF) multiplied by the PF. I/I is the estimated Inflow and Infiltration flow of groundwater and rainwater into the sewer system during rain events and assumes a rate of 400 gallons per day per acre served. PWWF is Peak Wet Weather Flow, which is the sum of PDWF and I/I. Q_{min} is the minimum flow into the lift station, which is calculated by the formula:

$$Q_{min} = (0.2\ (0.0144\ ADWF)^{0.198})*ADWF.$$

Using a desired pumping rate of minimum 105% of the PWWF inflow rate, an estimated pump operating point of 178 gal/ min at a Total Design Head (TDH) of 82.8’ which was calculated using the sum of the static head of 34.8’ (maximum difference in elevation from pump off elevation to the high point invert elevation of the force main pipe), the pump station piping friction head of 1.5’, and the force main friction head of 46.5’ (calculated using the Hazen-Williams equation for pressure pipe based on 178 gal/min flowing at a velocity of 4.5 ft/sec through 2441 linear feet of 4” diameter PVC SDR21 pipe using a Hazen-Williams friction coefficient value of c=140). A Liberty model LGV07 7.5 HP submersible grinder pump with 6.2” impeller, with compatible pump controller, was determined to be a satisfactory match for the desired pump operating point discussed above (see Figures 3 and 4). When the manufacturer’s pump curve is plotted against the head characteristics of the pumping system, the resulting predicted pump operating point is 178 gpm @ 82.8’ TDH (see Figure 5). The lift station total pumping capacity with the largest pump out of service is 178 gpm.

The 2 pumps in the duplex system are proposed to operate one pump at a time, as lead (first on) and lag pumps, with automatic reversal of the lead/ lag designation after each pump start. The primary purpose of having 2 pumps is to have a second pump as a backup system in case a

problem develops with one pump. However, if unusually high sewage inflow rates occur such that the lead pump cannot keep up with the inflow rate, the pump control system will start the lag pump to give a short duration 2-pump higher pumping rate.

The automatic reversal of the lead/ lag designation after each pump cycle is designed to give approximately equal cumulative run times for each pump. Unequal run times over a period of time can give an indication of a developing problem with a pump before it fails.

VII. WET WELL

The lift station was designed to provide the minimum wet well volume required to ensure a minimum of 10 minutes of pump run time, and was calculated using the following formula (taken from *Design of Wastewater and Stormwater Pumping Stations,* WEF Manual of Practice FD-4, 1993):

$$V = (T * Q) / 4$$

where V is the active volume in gallons, T is the pump cycle time in minutes, and Q is the peak inflow rate in gpm. This formula is used to calculate the minimum wet well volume required to ensure the pump cycle time does not fall below the manufacturer's recommended minimum pump cycle time. Using a pump cycle time of 10 minutes (6 starts per hour), as recommended by the manufacturer, and a peak inflow rate of 169 gpm, the minimum wet well volume required for proper pump operations is 424 gallons; 529 gallons is provided between the lead pump on and pump off elevations selected for the wet well. The pump cycle time in the proposed wet well at the peak inflow rate is calculated to be 61.8 minutes.

Table 2 gives the factors used in the design of the lift station. Table 3 summarizes the volume provided in the wet well and the pump control levels. The pump manufacturer recommends a minimum of 12 inches of pump submergence; we have provided 18 inches. Passive wet well ventilation is provided using a 4" SCH 40 cast iron U-type vent pipe with a 16-mesh stainless steel screen installed in the outlet, whose opening is >1.0 foot above the 100-year flood elevation.

TABLE 2: DESIGN BASIS				
Q_{pump}	178	gpm	0.40	ft^3/s
ADWF	41.7	gpm		
PWWF	169	gpm		
Q_{min}	7.5	gpm		
Proposed FM Diameter	4.0	in	0.33	ft
Cross-sectional Area of FM	12.6	in^2	0.09	ft^2
Pump Cycle Time (T)	61.8	min		
Diameter of wet well	6	ft		
Cross-sectional Area of wet well	28.27	ft^2		
Grade Elevation of Lift Station	812.0	ft		
Rim Elevation of Lift Station	812.5	ft		

TABLE 3: WET WELL SIZING				
Volume of wet well (V) required for 10-minute minimum pump cycle time	445	gal	59.5	ft^3
Volume provided for pump cycle	529	gal		
Total volume in wet well	4,230	gal		
Influent Elevation, Adjacent Manhole	805.6	ft		
"High Water Alarm" Elevation	804.0	ft		
"Lag Pump On" Elevation	798.0	ft		
"Lead Pump On" Elevation	796.5	ft		
"Pump Off" Elevation	794.0	ft		
Bottom Elevation of Wet Well	792.5	ft		
Total Depth	20.0	ft		

VIII. DETENTION AND STORAGE TIMES

Detention times were calculated based on various inflow rates and pump cycle times to determine if measures for odor control would be necessary. Detention times in the wet well are calculated by summing the time to fill the wet well and the time to pump down the wet well. The time to fill the wet well is calculated by dividing the volume provided between the “pump off” and the “lead pump on” elevations by the influent flow rate. The time to pump down the wet well is calculated by dividing the same volume by the difference in the influent flow rate and the pump flow rate. The detention time for the force main at ADWF was calculated by the following formula:

$$T_{flush} = L * A * K / Q_{pump}$$

Where:
L = Length of force main in feet
A = Cross sectional area of force main in ft^2
Q_{pump} = pump flow rate in gallons per minute
K = units conversion constant, 7.48 gal / ft^3

Table 4 summarizes the detention times between pump operation cycles at various inflow rates. Odor control in the wet well is not necessary because all detention times are less than 180 minutes. Odor control at the force main discharge manhole is also not necessary because the flushing time is less than 30 minutes.

TABLE 4: DETENTION TIME BETWEEN PUMP CYCLES

ADWF	3.9 min
PWWF	61.8 min
Q_{min}	3.1 min
Force Main (Flush)	9.0 min

Wastewater retention times in the wet well were calculated to ensure that no discharge of untreated wastewater will occur during a power outage. Table 5 summarizes the available storage times at various inflow rates during power outages. Discharge was assumed to occur when the water level reached the lift station rim elevation of 812.5 feet. This facility is deemed reliable because wastewater retention time during outages exceeds 60 minutes for average daily flow rate and 30 minutes for peak wet weather flow rate.

The lift station control panel will have an alarm condition and an auto-dialer cellular telephone communication system to notify school personnel when one or both of the pumps has become inoperable or a power outage at the lift station has occurred. School maintenance personnel will be made aware of the necessity of a quick response to any pump outage or power outage alarm condition during normal school or event attendance (populated) hours. If such an alarm condition occurs outside of these populated hours, the required response time can be much longer due to a much lower sewage inflow rate into the wet well

TABLE 5: STORAGE VOLUME				
Water Surface Elevation before Discharge (wet well rim)	812.5	ft		
Volume in Lift Station	4,230	gal		
Total Available Storage Volume	4,230	gal		
Storage Times at various inflow rates				
ADWF	102	min	1.7	hrs
PWWF	25.0	min	0.4	hrs

IX. SYSTEM HEAD CURVES

System head curves were developed for the extremes of operating conditions using the Hazen-Williams equation for pressure pipes to calculate friction losses. Figure 4 shows the pumping performance curve (pumping rate vs TDH) of the Liberty LGV07 7.5 HP pump selected. Figure 5 shows both the one-pump and two-pumps performance curves, and the pumping system curves using the specific operating parameters for the proposed pumping system. The first system curve uses a maximum static head at the "pumps off" liquid level in the wet well and a Hazen-Williams friction loss coefficient of 140 for new PVC pipe. The second system curve uses the maximum static head at the "lag pump on" liquid level and a Hazen-Williams coefficient of 100 for PVC pipe that has been in service for several years. The pump curves are for a Liberty Model LGV07 submersible grinder pump, 7.5 HP, 460V, three-phase power, with a 6.2" impeller, and are based on pump curves supplied by the pump manufacturer (Figures 3 and 4). The predicted operating point for this pump (single pump) in this pumping system is 178 gpm at 82.8' TDH (using Hazen Williams friction loss coefficient of 140), with a flow velocity of 4.5 ft/sec. The predicted operating point for these pumps when both pumps are operating simultaneously is 232 gpm at 112.3' TDH, with a flow velocity of 5.92 ft/sec (see Figure 5). Table 6 summarizes the pump design point calculations.

TABLE 6: TOTAL DYNAMIC HEAD (TDH) CALCULATIONS (using the predicted pump operating point of 178 gpm)		
Length of FM (L)	2441 ft	
Discharge Elevation (or High Point)	828.8 ft	
Static (elevation difference) Head (z)	34.8 ft	
Pump Station Piping (4" dia) Losses	1.5 ft	
Velocity (v)	4.54 ft/s	
Friction Coefficient (C_H)	100	140
Velocity Head (h_f)	86.8 ft	46.5 ft
TDH	123.7 ft	82.8 ft

The Hazen-Williams equation for calculating head loss due to friction between flowing water and the pipe interior (Velocity head) is as follows:

$$H = \frac{4.72 * L * Q^{1.85}}{C^{1.85} * d^{4.87}}$$

Where

H = head loss (ft) in pipe, velocity head

L = length of pipe (ft)

d = diameter of pipe (ft)

Q = flow rate in the pipe (cubic feet/ second)

C= Hazen-Williams roughness coefficient

X. FORCE MAIN DESIGN

A 4-inch diameter SDR 21 PVC pipe was chosen for the force main in order to minimize friction losses and allow the pump to operate at a flow rate of 4.5 ft/sec, in compliance with the TCEQ required minimum flow rate (>3.0 ft/sec) for minimizing solids accumulation in the force main. The force main was designed to withstand the transient pressure surges expected during operation, as shown in Table 7. The total expected surge pressure of 73 psi and maximum total pressure (surge pressure plus system operating pressure) of 126 psi are below the 200-psi pressure rating of the pipe.

To calculate the maximum transient surge pressure, the wave velocity was calculated using the following equation (*Handbook of PVC Pipe,* Uni-Bell PVC Pipe Association, 1993):

$$a = 4660 / (1 + (k / E) * (DR - 2))^{1/2}$$

Where: a = wave velocity (ft/s)

K = fluid bulk modulus (300,000 psi for water)

E = modulus of elasticity of pipe (400,000 psi for PVC)

DR = dimension ratio of pipe

The maximum pressure surge is a function of the wave velocity, and is computed as follows:

$P_{MAX} = a * V / 2.31 * g$

Where: P_{MAX}=maximum pressure surge (psi);

a = wave velocity (ft/s);

V=maximum change in velocity, where velocity goes to zero at peak flow;

g=32.2 ft/sec^2.

TABLE 7: FORCE MAIN DESIGN		
Pipe Selection	SDR 21 PVC	
Pressure Rating	200	psi
Outside Diameter	4.5	inches
Wall Thickness	0.214	inches
Dimension Ratio (DR)	21	
Fluid bulk modulus (k)	300,000	psi
Modulus of plasticity (E)	400,000	psi
Wave velocity (a) $a = 4660/((1 + (k/E) * (DR-2))^{0.5}$	1,193	ft/s
Surge Pressure (P_S) $P_S = a * v/2.31 * g$	73	psi
Maximum Total Pressure (P_T)	126	psi

XI. BUOYANCY CALCULATIONS

In order to prevent buoyancy (floating) of the wet well in an elevated water table or during periods of heavy rainfall, the wet well must be anchored (as is usually the case for fiberglass wet wells) or constructed such that the weight (opposing force) of the wet well is greater than the buoyant force (as is usually the case for reinforced concrete wet wells). The worst-case condition of the wet well was assumed to be when it was completely submerged. The buoyant force was calculated by multiplying the density of water by the volume of the bottom slab, wet well, and soil column. A soil density of 100 lbs/ft^3, a concrete density of 150 lbs/ft^3, and a water density of 62.3 lbs/ft^3 were assumed for these calculations. Table 8 displays the results of the buoyancy calculations for a concrete wet well designed to prevent floating (with a minimum 120% safety factor). The weight of the lift station exceeds the buoyant force by a safety factor of 1.22.

TABLE 8: BUOYANCY SUMMARY		
Wet Well		
Inside Diameter	6.0	ft
Outside Diameter	7.0	ft
Height	20.0	ft
Displaced Volume	770	ft^3
Volume of Concrete	204	ft^3
Top Slab		
Diameter	7.0	ft
Thickness	0.5	ft
Area of Hatch Opening	10.5	ft^2
Displaced Volume	19.2	ft^3
Volume of Concrete	14.0	ft^3
Bottom Slab		
Diameter	8.0	ft
Thickness	1.0	ft
Displaced Volume	50.3	ft^3
Volume of Concrete	50.3	ft^3
Soil		
Volume over Footing	235.6	ft^3
Buoyant Force	26.2	tons
Opposing Force	31.9	tons
Safety Factor	1.22	

XII. CONCLUSION

The proposed lift station has been designed to serve the Jarrell High School facilities high school building in compliance with accepted engineering practices and the requirements of the Texas Commission on Environmental Quality and the City of Jarrell. The lift station is proposed to be a duplex submersible sewage grinder pump system, with one pump operating at a predicted 178 gpm at a maximum system head of 82.8'. In order to equalize the run times of the pumps, the pumps will be programmed to operate one at a time as lead and lag pumps, with automatic alternation of the lead/ lag designation after each pump start. If unusually high sewage inflow rates occur such that the lead pump cannot keep up with the inflow rate, the pump control system will start the lag pump to give a short-duration 2-pump higher pumping rate.

The wet well is proposed to be 6’ diameter x 20’ deep and to be constructed of either reinforced concrete pipe or fiber reinforced plastic (fiberglass). The pump control float switches inside the wet well will be set at elevations to provide the volume necessary for efficient pump operation. Detention times in the wet well and force main are not excessive during minimum flows and therefore preclude the need for odor control measures. Storage times in the wet well and upstream collection system provide >30 minute of detention at peak flows to provide ample time for the restoration of power during outages.

The 2441’ long 4-inch force main has been designed to withstand the expected transient pressure surges and is suitable for use with the pump selected. The force main will discharge into a nearby existing City of Jarrell sanitary sewer gravity collection system manhole. The lift station wet well, if concrete pipe is selected for use, has been designed to have sufficient weight to prevent flotation in the event of total submergence; if a fiberglass well is selected, it will have sufficient anchoring, as recommended by the manufacturer, to prevent flotation. Lift station security, reliability, and emergency provisions have been described.

Attachments: Figure 1. Site location map
Figure 2. High School site map
Figure 3. Liberty LGV07 pump information
Figure 4. LGV07 pump performance curve
Figure 5. Lift station system and pump curves


Proposed Lift Station site
Jarrell High School
FM487
I35
Jarrell
Stockton Loop
N
0
1150'
Scale

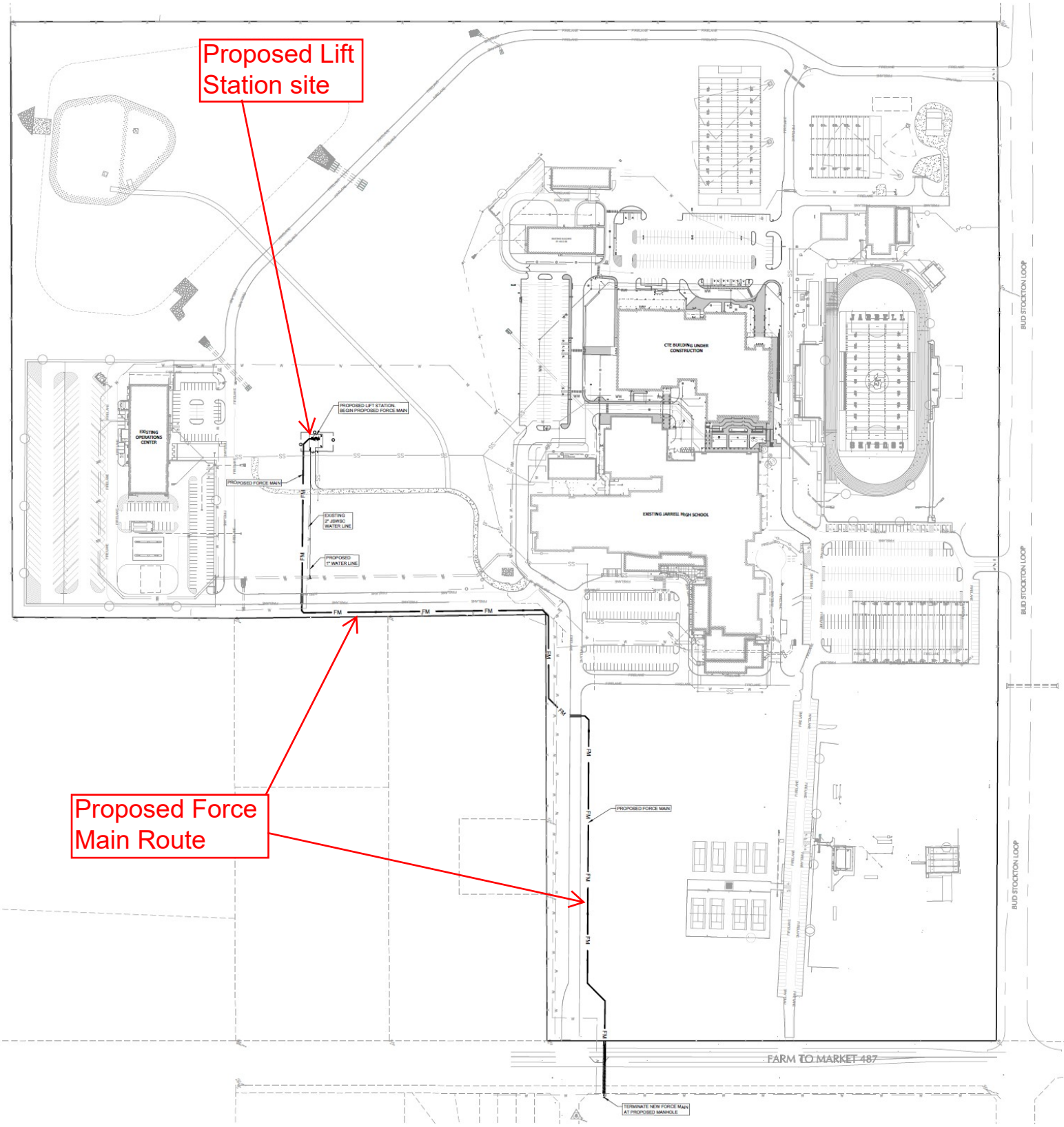


Figure 2 High School Site Map

Figure 3 Liberty LGV07 Pump Information

Liberty Pumps®

Engineered Products

LGV07-Series
LGH07-Series
Grinder

7.5 hp

Ordinary Location

60 Hz

Patent: See
www.LibertyPumps.com/LEP/patents

- V-Slice® Cutter Technology
- Dual seal
- 2", 2.5" & 3" ANSI® horizontal discharge with 2" NPT
- Stainless steel impeller
- Standard Quick-connect power and control cords

Omnivore® Grinders

Technical Data

Performance Curve

Dimensional Data

Specifications and Construction

Optional 2"/3"
vertical discharge

Proudly built in the USA with
US and global components

Submersible Wastewater Pump Association SWPA MEMBER

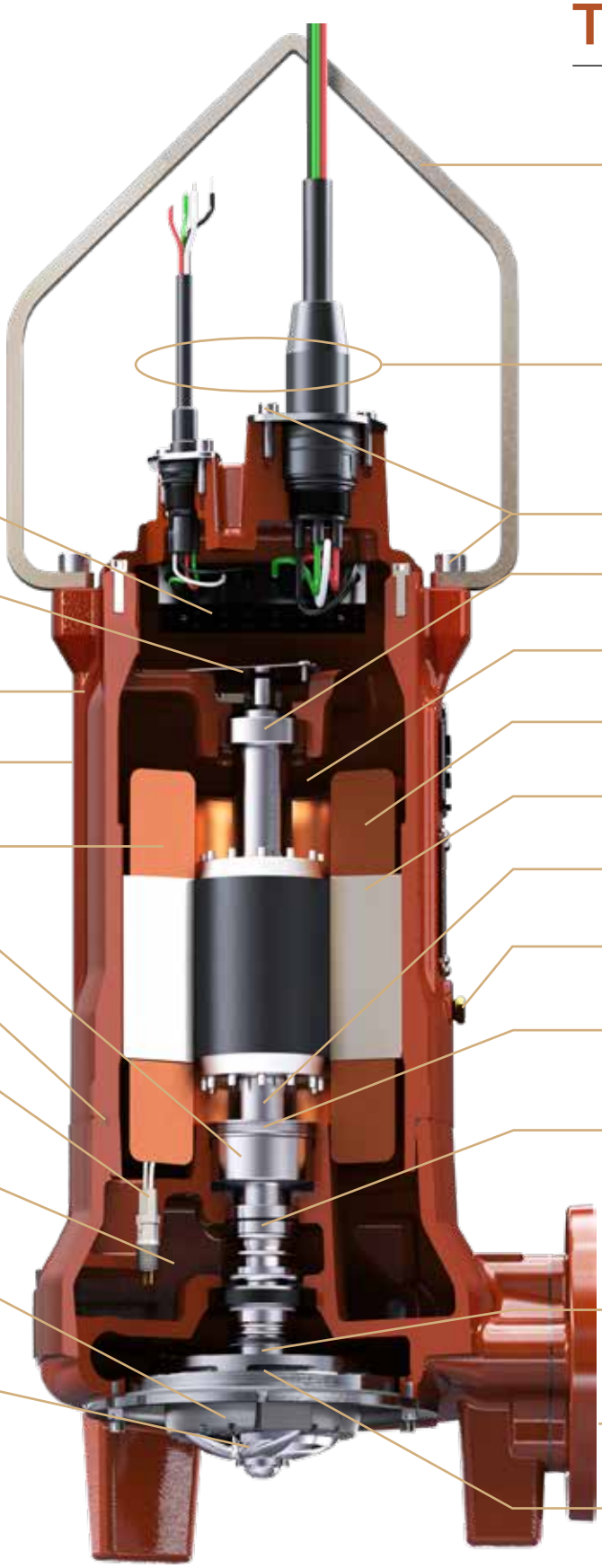
CSA C US

Liberty Pumps
Engineered Products

Technical Data

LGV07/LGH07-Series - 60 Hz

Optional Heavy-duty Quick-connect cords



SS lifting bale - sized for ease of use

Standard Quick-connect cords

Terminal block for internal wiring

Rotor shaft grounding brush protects bearings during VFD operation

Heavy duty class 30 cast iron motor housing

Protective powder coat finish

Press fit stator enhances heat transfer allowing for cooler motor temperatures

Lower bearing double row angular contact ball bearing

Buna-N O-rings seal all joints

Seal leak detection, 2-probe sensor with resistor

MidTherm™ Cooling
Allows oil to be cooled by pumped media

440 SS cutter plate spiraled for solids clearing, hardened to 58Rc

440 SS rotary cutter hardened to 58Rc

All hardware 316 SS

Upper deep groove ball bearing

Oil-filled motor chamber cools motor and lubricates bearings

Inverter duty rated Class H insulation

NEMA® IE3 Premium Efficiency motor construction

One piece 416 SS rotor shaft

Stator locking pin prevents stator movement

Bearing locking ring eliminates axial shaft movement

Upper (inner) seal – carbon on ceramic with Viton elastomers and SS components

Lower (outer) seal – silicon carbide on graphite impregnated silicon carbide with Viton elastomers and SS components

2", 2.5" & 3" 150# ANSI flange with 2" NPT

Stainless steel impeller

Vertical Discharge Option

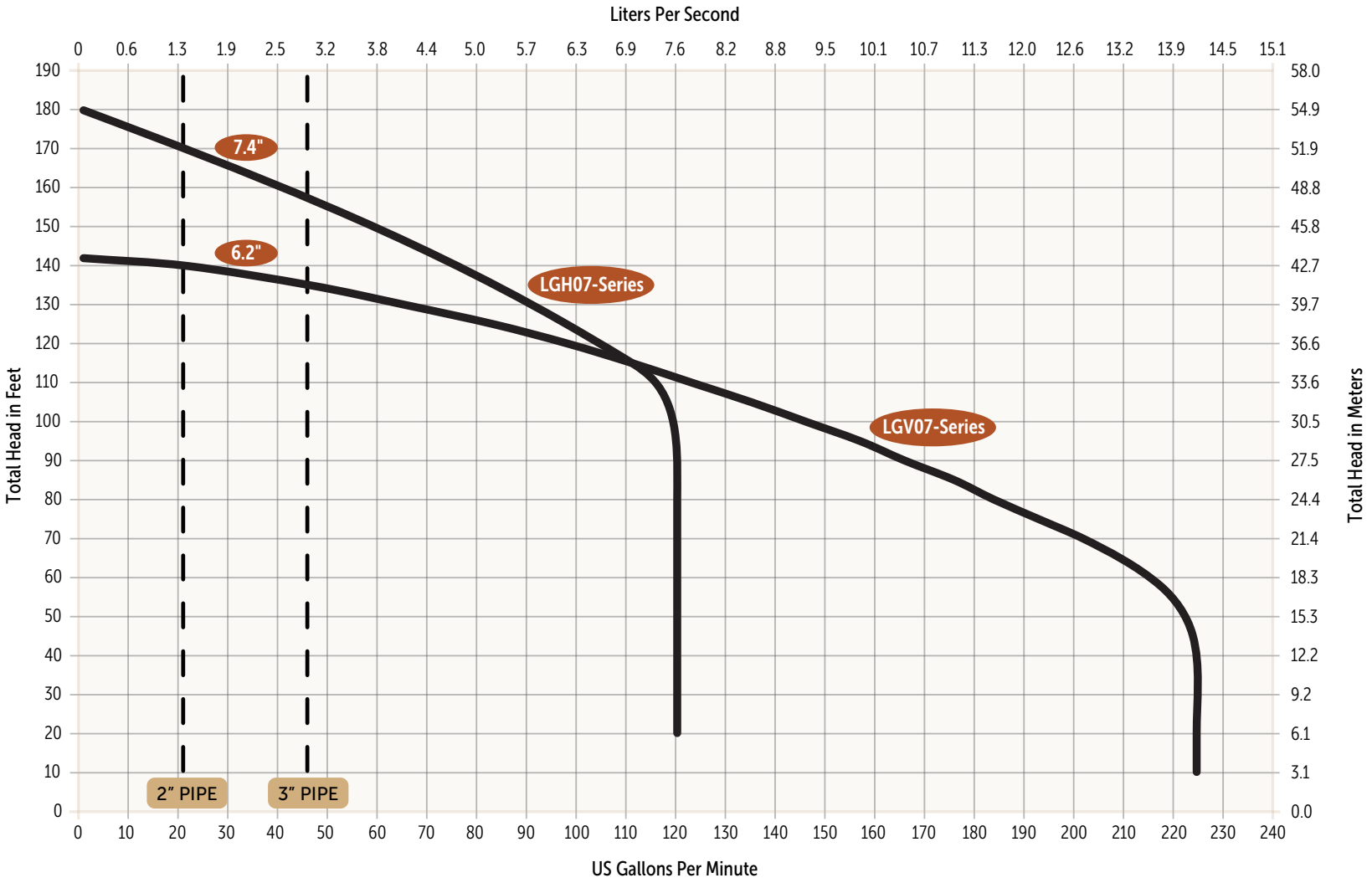
2" NPT with 3" NPT flange

Patent: See
www.LibertyPumps.com/LEP/patents

Liberty Pumps
Engineered Products

Performance Curve

LGV07/LGH07-Series - 60 Hz



Pumps must operate within the proper range shown on the performance chart. It is the responsibility of the end user to ensure this requirement is met. Pumps operating outside the recommended range are prone to damage, excessive vibration, cavitation, poor efficiency, and may exceed nameplate amperage.

Specifications are subject to change without notice.

7000 Apple Tree Avenue - Bergen, NY 14416
Phone 800-543-2550 - Fax 585-494-1839 - www.LibertyPumps.com/LEP

Technical Data

LGV07/LGH07-Series - 60 Hz

Model Number	LGH073A	LGH074A	LGH075A	LGV073A	LGV074A	LGV075A
HP	7.5	7.5	7.5	7.5	7.5	7.5
Volts	200/230*	460	575	200/230*	460	575
Phase	3	3	3	3	3	3
Hz	60	60	60	60	60	60
RPM	3450	3450	3450	3450	3450	3450
FLA	32/28	14.25	11.5	30/26	13	10.12
LRA	210	105	76.5	210	105	76.5
Max kW Input	10.4	10.6	10.7	9.8	9.6	9.8
NEMA Code	A	A	A	A	A	A
Service Factor	1	1	1	1	1	1
Power Factor (%)	94	94	95	94	94	95
KVA Code	M	M	M	M	M	M
Std Impeller Diameter (in)	7.4	7.4	7.4	6.2	6.2	6.2
Shut-Off Head w/Std Impeller (ft)	180	180	180	142	142	142
Min Head w/Std Impeller (ft)	20	20	20	10	10	10
Max Flow @ Min Head (GPM)	120	120	120	225	225	225
Power Cord Type & Diameter	Type W, 1 in	SOOW,0.72 in	SOOW,0.72 in	Type W, 1 in	SOOW,0.72 in	SOOW,0.72 in

** System voltages: 208 and 240 volts with utilization voltages: 200 and 230 volts. These pumps are able to be rewired to 460 volts in the field.*

Technical Data

LGV07/LGH07-Series - 60 Hz

Motor Insulation Class	H 180°C
Impeller Type	Semi-Open
Impeller Material	Stainless Steel
Control Cord Type & Diameter	18/5 SOOW, 0.375 in
Power Cord Length (Options)	35, 50, 100 ft
Standard Quick-connect Cords	Standard
Heavy-duty Quick-connect Cords	Optional
Upper (Inner) Seal Material	Carbon - Rotating Ceramic - Stationary Viton Elastomers
Lower (Outer) Seal Material	Silicon Carbide - Rotating Graphite Impregnated Silicon Carbide - Stationary Viton Elastomers
Max Water Temp for Continuous Duty	40°C
Min Fluid Level for Continuous Operation	Motor Housing Fully Submerged
Fluid pH Range	4–10
Starts Per Hour	30
Shaft Material	416 Stainless Steel
Fastener Material	316 Stainless Steel

O-Ring Elastomers	Buna-N
Upper Bearing	Single Row Deep Groove
Lower Bearing	Double Row Angular Contact
Oil Type	ISO VG10 Turbine Oil
Max Submersion Depth	75 ft
Discharge (Std)	Horizontal, 2 in, 2.5 in & 3 in 150# ANSI with 2 in NPT
Discharge (Optional)	Vertical, 2 in & 3 in NPT
Protective External Finish	Epoxy Powder Coat
Seal Fail Detection	Dual Probe - 2 Wire with Resistor 200K ohm Resistance
Thermal Protection	3 Hermetically Sealed Thermostats 125°C Opening Temperature 105°C Closing Temperature 3A @ 120VAC, 1A @ 240 VAC
Volute Material	Class 30 Cast Iron
Pump Weight	280 lbs
Cuts Per Minute	Over 400,000
Cutter Material	Hardened 440 Stainless Steel
Certifications	CSA Certified to CSA and UL® Standards CAN/CSA C22.2 No. 108-14 ANSI/UL 778 6th Ed

Specifications are subject to change without notice.

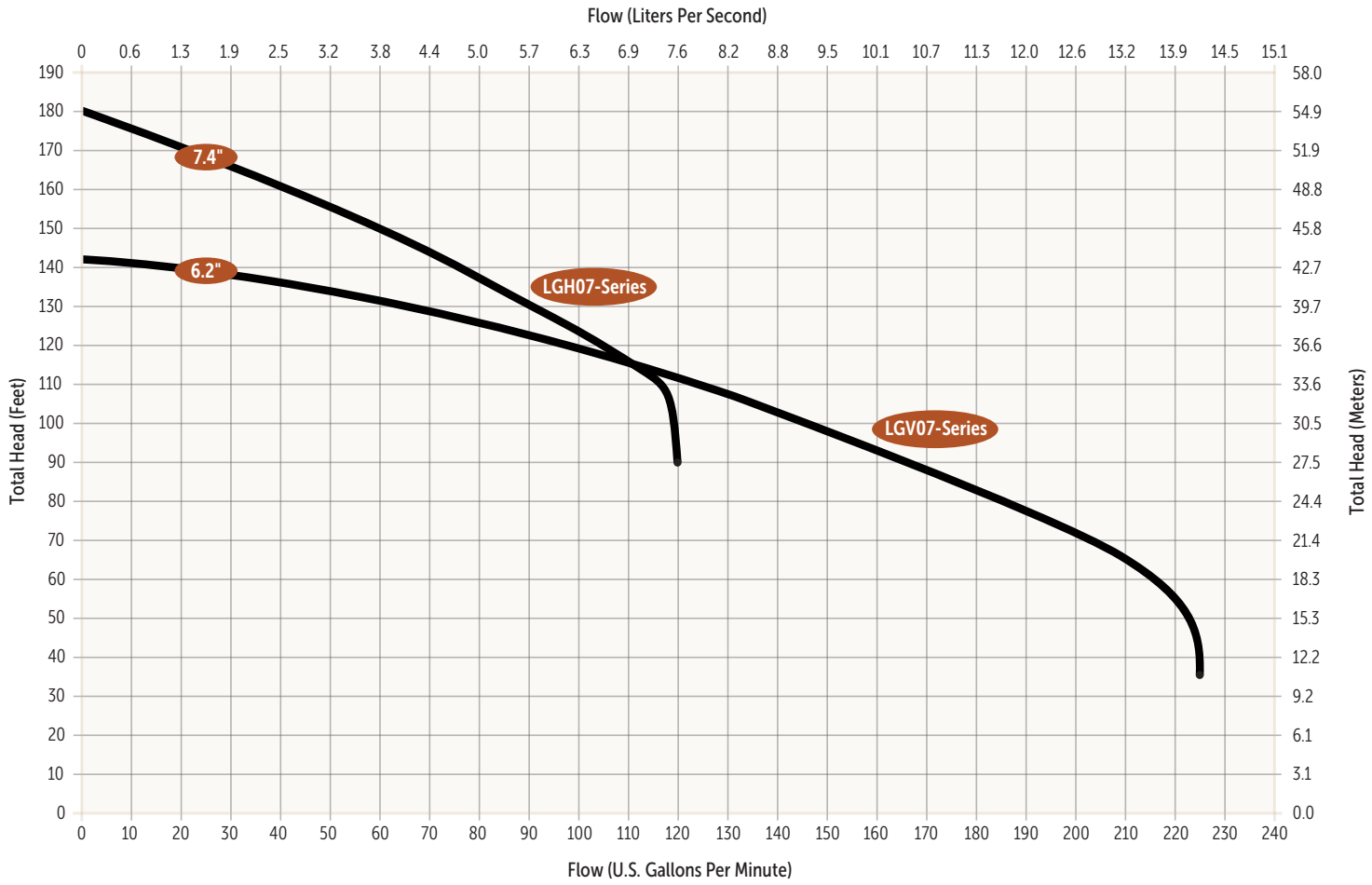
7000 Apple Tree Avenue - Bergen, NY 14416
Phone 800-543-2550 - Fax 585-494-1839 - www.LibertyPumps.com/LEP

Liberty Pumps
Engineered Products

Performance Curve

LGV07/LGH07-Series - 60Hz

Figure 1 Site Location Map



Figures 4 LVG07 Pump Performance Curve

Specifications are subject to change without notice.

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Phone 800-543-2550 - Fax 585-494-1839 - www.LibertyPumps.com/LEP

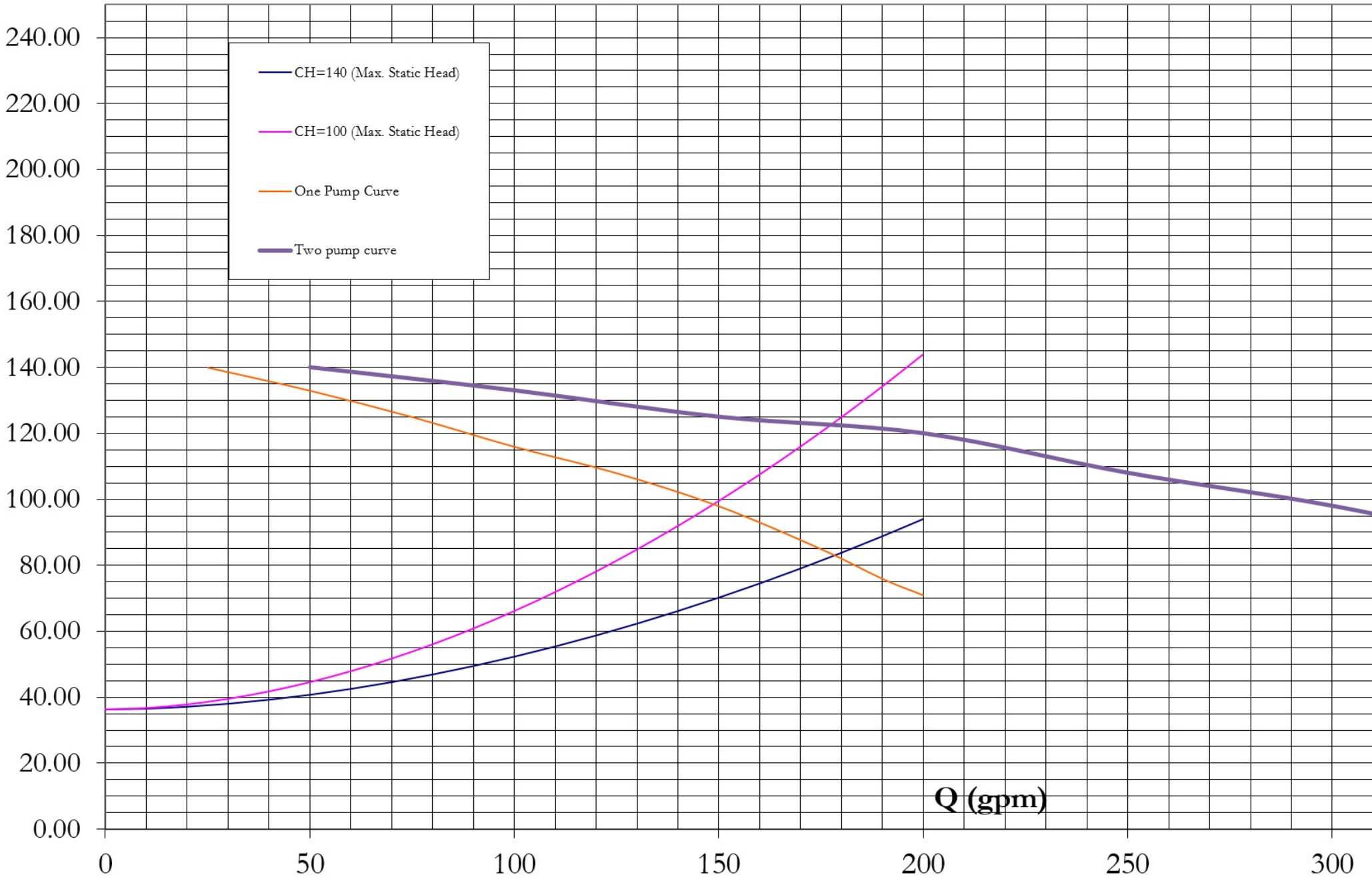


Figure 5 Lift Station System and Pump Curves

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 14, 2025

Dr. Toni Hicks
Jarrell Independent School District
504 N. 5th Street.
Jarrell, TX 76537

Re: Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD) and Modification of an Approved Organized Sewage Collection System (SCS-MOD) Plan
Jarrell High School; Located on FM 487, Approximately One Mile West of IH 35, Jarrell, Williamson County, Texas
Edwards Aquifer Protection Program ID: 11004247 (WPAP-MOD) and 11004248 (SCS-MOD), Regulated Entity No. RN101519049

Dear Dr. Hicks:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the applications for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Langan Engineering on behalf of the applicant, Jarrell ISD, on December 3, 2024. Final review of the applications was completed after additional material was received on February 10, 2025.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213 and Chapter §217. The permanent best management practices (BMPs), engineering design report, technical specifications and final design plans 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 hereby **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 Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

The Jarrell High School WPAP approved by letter dated March 1, 2022 (EAPP ID No. 11002792) included the construction of a wet basin that was sized for future development and replaced all previously approved BMPs at the site. EAPP ID No. 11002792 superseded the prior approvals EAPP ID Nos. 11-98042301, 11-98042301A, 11-98042301B, 11-15041301, and 11001369 which were voided and of no effect. The impervious cover (IC) at the site was 24.6 acres.

The subsequent Jarrell High School WPAP-MODs approved by letters dated September 2, 2022, (EAPP ID No. 11003119), March 31, 2023 (EAPP ID No. 11003444), and June 14, 2024 (EAPP ID No. 11003968), increased the total IC to 25.67 acres, 26.90 acres, and 37.07 acres, respectively.

The existing wet basin is sized for future development (77.7 acres of IC at ultimate development), with a provided water quality volume of 559,336 cubic feet.

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed school project will have an area of approximately 119.50 acres. The modification includes the demolition several small out-buildings, two parking lots, and various utilities, and the addition of a new Career and Technical Education (CTE), a new courtyard between the two buildings, and various parking spaces. The net increase in the IC from this project will be 2.80 acres for a total of 39.87 acres (33.4 percent) of IC at the site.

SCS DESCRIPTION

The proposed modified sewage collection system will provide disposal service for the school. The system includes gravity lines and other appurtenance necessary for conveying wastewater to a treatment plant.

The proposed SCS modification will consist of construction of approximately 1,124 linear feet of SDR 26 ASTM D3034 PVC pipe, including 756 linear feet of 6-inch pipe and 368 linear feet of 8-inch pipe.

TREATMENT FACILITY

The system will be connected to an existing City of Jarrell wastewater system for conveyance to the City of Jarrell Wastewater Treatment Plant for treatment and disposal. **The proposed system shall be connected for conveyance prior to use of the development.** The project will conform to all applicable codes, ordinances, and requirements of the City of Jarrell.

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, an existing wet basin (EAPP ID No 11002792) designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 34,703 pounds of TSS generated from the 39.87 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.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial unit of the site is the Del Rio Clay and Georgetown Formation (Kdr). No sensitive geologic features were identified in the GA. The site assessment conducted on February 5, 2025, by TCEQ staff determined the site to be generally as described by the GA.

SPECIAL CONDITIONS

I. This modification is subject to all the special and standard conditions listed in the approval letters dated March 1, 2022 (EAPP ID No. 11002792), September 2, 2022, (EAPP ID No. 11003119), March 31, 2023 (EAPP ID No. 11003444), and June 14, 2024 (EAPP ID No. 11003968).

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and technical specifications contained 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, Water Quality) 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. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.
4. The plan holder of any approved Edwards Aquifer protection 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.
5. 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.
6. 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.
7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of 500 gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.
9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities

near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.

10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.
11. 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.
12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.
13. 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.
14. 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.

<u>After Completion of Construction:</u>

15. 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.
16. No part of the organized sewage collection system may be used as a sewage holding tank, as defined in 30 TAC §213.3 (excluding lift stations), over the Edwards Aquifer recharge zone.
17. A Texas licensed PE **must certify** in writing that the new sewage collection system (including force mains) has passed all required testing. The certification shall be submitted to the EAPP within 30 days of test completion and prior to the new sewage collection system being put into service.
18. A Texas licensed PE **must certify** subsequent testing required every five years of the existing sewage collection system after being put into use to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. The test results must be retained by the plan holder for five years and made available to the executive director upon request.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 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 and is subject to administrative rule or orders and penalties as provided under §213.10 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 Edwards Aquifer protection 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 Ms. Miki Chilarescu of the Edwards Aquifer Protection Program at 512-239-6175 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/mec

cc: Mr. Matt Hardy, P.E. - Langan Engineering

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: Matt Hardy

Date: 10/17/2025

Signature of Customer/Agent:

Regulated Entity Name: Jarrell High School

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: _____

   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: Salado Creek

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.

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment A Spill Response Actions

SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

1 MATERIALS COVERED

The following materials or substances with known hazardous properties are expected to be present onsite during construction:

Concrete	Cleaning solvents
Detergents	Petroleum based products
Paints	Pesticides
Paint solvents	Acids
Fertilizers	Concrete additives
Soil stabilization additives	

2 MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

2.1 Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

A. An effort will be made to store only enough product required to do the job.

B. All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.

C. Products will be kept in their original containers with the original manufacturer's label in legible condition.

D. Substances will not be mixed with one another unless recommended by the manufacturer.

E. Whenever possible, all of a product will be used up before disposing of the container.

F. Manufacturer's recommendations for proper use and disposal will be followed.

G. The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

2.2 Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials.

A. Products will be kept in original containers with the original labels in legible condition.

B. Original labels and material safety data sheets (MSDS's) will be procured and used for each material.

C. If surplus product must be disposed of, manufacturers or local/state/federal recommended methods for proper disposal will be followed.

D. A spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

E. All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.

2.3 Product Specific Practices

The following product specific practices will be followed on the job site.

A. Petroleum Products

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any petroleum storage tanks used onsite will have a dike or berm containment structure constructed around it to contain any spills which may occur. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

B. Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

C. Paints, Paint Solvents, and Cleaning Solvents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

D. Concrete Trucks

The CGP authorizes the land disposal of wash out water from concrete trucks at construction sites that are regulated under the CGP, as long as the discharge is in compliance with the restrictions given in Section 3.02.4.B of this SWPPP. This authorization is limited to the land disposal of wash out water from concrete trucks only. Any other direct discharge of concrete production waste water is not authorized by the CGP and must be authorized under a separate TCEQ General Permit or individual permit.

2.4 Spill Prevention Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup.

A. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

B. Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite in spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.).

C. All spills will be cleaned up immediately after discovery.

D. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

E. Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 302 list and oil) will be immediately reported to the TCEQ National Response Center (**1-800-424-8802)** and the TCEQ Spill Reporting 24-hr Hotline **(1-800-832-8224)**. Reportable Quantities of some substances which may be used at the job site are as follows:

oil - appearance of a film or sheen on water
pesticides - usually 1 lb.
acids - 5000 lb.
solvents, flammable - 100 lb.

F. The SPCC plan will be adjusted to include measures to prevent this type of spill from recurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included. If the spill exceeds a

Reportable Quantity, all federal regulations regarding reports of the incident will be complied with.

G. The job site superintendent will be the spill prevention and cleanup coordinator. He will designate the individuals who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment B Potential Sources of Contamination

The following are the potential pollutants and their sources which may occur at this construction site: offsite vehicle tracking of mud from vehicle traffic through inadequate construction exit, petroleum based products from vehicle/ equipment leaks and drips (maintenance and petroleum storage areas will not be allowed on the construction site), pesticides and fertilizers from landscaping activities, and high pH washwater from concrete and masonry cleanup/ washout facilities.

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment C Sequence of Major Activities

The Contractor will be responsible for implementing the following erosion and sediment control and stormwater management control structures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the general contractor. The order of activities will be as follows (refer to Plan Sheets C4.00, C4.01 and C4.02 Force Main Plan Profile contained in the Construction Plans for the project for details):

A. Install silt fence around perimeter of property and disturbed areas as shown on the Erosion Control plan sheet. (Area Disturbed = 2.22 acres)

B. Install inlet protection & rock check dams for all existing grate inlets, curb inlets, and at the end of all exposed storm sewer pipes, if present. (Area Disturbed = 0.1 acres)

C. Commence grubbing and removal of vegetation in area to receive cut or fill. (Area Disturbed =2.22 acres)

D. Install all underground utilities. (Area Disturbed = 2.22 acres)

E. Finalize pavement subgrade preparation. (Area Disturbed = 0.2 acres)

F. Install all proposed storm sewer pipes and install inlet protection silt fences at ends of exposed pipes. (Area Disturbed = 0.1 acres)

G. Install base material as required for pavement, curb and gutter. (Area Disturbed = 0.1 acres)

H. Install all paving, curb and gutter. (Area Disturbed = 0.1 acres)

I. Complete planting and/or seeding of vegetated areas to accomplish stabilization, in accordance with the landscaping plan. (Area Disturbed = 2.22 acres)

J. Remove temporary erosion control logs, inlet protection, and all other temporary sediment controls. (Area Disturbed = 0.1 acres)

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment D Temporary Best Management Practices

The following temporary best management practices will be used on the construction site:

Stabilization Practices

1. Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed

2. Frequent watering of excavation and fill areas to minimize wind erosion during construction.

3. Use of stabilization fabric for all slopes having a slope of 1V:3H or greater.

4. Permanent seeding and planting of all unpaved areas.

5. For all disturbed areas where construction activities have temporarily or permanently ceased for more than 14 days, stabilization activities shall commence no later than the 14th day after cessation of construction activities or after final grades have been achieved.

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment F Structural Practices

The following structural best management practices will be used on the construction site:

1. Perimeter protection using silt fencing and/or erosion control logs

2. Rock check dams

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment I Inspection/ Maintenance for BMPs

I. Erosion and Sediment Control Maintenance and Inspection Practices

A. The following is a list of erosion and sediment controls to be used on this site during construction practice.

1. Stabilization practices for this site include:

   A. Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed.

   B. Frequent watering of excavation and fill areas to minimize wind erosion during construction.

   C. Use of stabilization fabric for all slopes having a slope of 1V:3H or greater.

   D. Permanent seeding and planting of all unpaved areas.

   E. For all disturbed areas where construction activities have temporarily or permanently ceased for more than 14 days, soil stabilization activities shall commence as soon as practicable but no later than the 14th day after cessation of construction activities.

2. Structural practices for this site include:

   A. Perimeter protection using silt fencing and/or straw roll wattles

Velocity Dissipation: Contractor shall provide sufficient velocity dissipation devices to prevent soil erosion at discharge points where concentrated flow occurs or is expected to occur.

B. The following inspection and maintenance practices will be used to maintain erosion and sediment controls.

   1. All control measures will be inspected weekly and after each rainfall event.

   2. All measures will be maintained in good working order; if repairs are found to be necessary, they will be initiated within 24 hours of report and completed prior to the next anticipated rainfall event. If completion of required repairs cannot be accomplished prior to the next anticipated rainfall event, the reason shall be documented in the SWPPP for the site and completion shall be accomplished as soon as practicable.

3. Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.

4. Silt fences will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.

5. Dispose of hardened concrete from Concrete washout on a regular basis. Once concrete wastes are allowed to harden, the concrete should be broken up, removed, and disposed of properly.

6. The sediment basin, if present, will be inspected for depth of sediment, and built up sediment will be removed when it reaches 50 percent of the design capacity. **Contractor shall install a depth gauge in the sediment basin to use in evaluating the depth of accumulated sediment to determine when sediment removal is required.**

7. Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth.

8. A maintenance inspection report will be made after each inspection. Copies of the report forms to be completed by the inspector are included in the SWPPP for the site.

9. The job site superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.

10. Personnel selected for the inspection and maintenance responsibilities will receive training from the job site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of the qualifications of inspection personnel must be kept in the SWPPP for the site.

II. Inspection and Maintenance Report Forms

Once installation of any required or optional erosion control device or measure has been implemented, weekly inspections of each measure shall be performed by the Contractor's inspection personnel. The Inspection and Maintenance Reports found in the SWPPP for the site (or other forms which the Contractor desires to use that have been approved by the Engineer) shall be used by the inspectors to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order.

Based on the results of the periodic inspections, necessary control modifications shall be initiated within 24 hours and completed prior to the next anticipated rain event. These inspection reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least three years from the date of completion and submission of the Notice of Termination.

These report forms shall become an integral part of the SWPPP for the site and shall be made readily accessible to TCEQ inspection officials, the Civil Engineering Consultant, and the Owner for review upon request during visits to the project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission.

The following forms shall be utilized by inspectors to report on the incremental status and condition of the control measures used on the site:

III. Summary of Erosion and Sediment Control Maintenance/Inspection Procedures

- ☐ All control measures will be at least weekly and after each rainfall event.
- ☐ All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report and completed prior to the next anticipated rain event.
- ☐ Built-up sediment will be removed from silt fences when it has reached one-third the height of the fence.
- ☐ Silt fences will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- ☐ Sediment basins, if present, will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50% of the design capacity or at the end of the job. **Contractor shall install a depth gauge in the sediment basin to use in evaluating the depth of accumulated sediment to determine when sediment removal is required.**
- ☐ Diversion dikes, if present, will be inspected and any breaches promptly repaired.
- ☐ Concrete washout will be inspected for buildup. Once concrete wastes are allowed to harden, the concrete should be broken up, removed and disposed of properly.
- ☐ If sediment escapes the site, accumulations will be removed at a frequency to minimize further negative effects, and whenever feasible, prior to the next forecasted rain event.
- ☐ Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- ☐ A maintenance inspection report will be made after each inspection. Copies of the report forms to be used are included in the SWPPP for the site.

- ☐ The site job superintendent will select the individuals who will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance reports.

- ☐ Personnel selected for inspection and maintenance responsibilities will receive training from the site job superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order. Records documenting the training and experience qualifications of each and every inspector shall be kept with the Inspection Record Forms in the SWPPP for the site.

IV. Construction/Implementation Checklist

1. Maintain Records of Construction Activities, including:

- ☐ Dates when major grading activities occur
- ☐ Dates when construction activities temporarily cease on a portion of the site
- ☐ Dates when construction activities permanently cease on a portion of the site
- ☐ Dates when stabilization measures are initiated on the site
- ☐ Dates of rainfall events and post-rainfall inspections

2. Prepare Inspection Reports summarizing:

- ☐ Name of inspector
- ☐ Qualifications of Inspector
- ☐ Control measures/areas inspected
- ☐ Observed conditions and areas of non-compliance
- ☐ Location of any discharges of sediments or other pollutants from the site
- ☐ Recommended remedial actions and action on previously recommended remedial actions
- ☐ Statement that the site is or is not in compliance with the Permit/SWPPP
- ☐ Changes necessary to the SWPPP for the site

3. Report Releases of Reportable Quantities of Oil or Hazardous Materials (if they occur):

- ☐ Notify TCEQ Spill Response Center (**1-800-832-8224**) immediately
- ☐ Notify permitting authority in writing within 14 days
- ☐ Modify the pollution prevention plan to include:

  - the date of release

  - circumstances leading to the release

  - steps taken to prevent recurrence of the release

4. Modify Pollution Prevention Plan as necessary to:

- ☐ Comply with the minimum permit requirements when notified by TCEQ that the plan does not comply
- ☐ Address a change in design, construction operation, or maintenance which has an effect on the potential for discharge of pollutants
- ☐ Prevent recurrence of reportable quantity releases of a hazardous material or oil

Temporary Stormwater Management Practices TCEQ Form 0602
Attachment J Interim/ permanent soil stabilization practices

Final Stabilization/Termination Checklist

1. All soil disturbing activities are complete

2. Temporary erosion and sediment control measures have been removed or will be removed at an appropriate time

3. All areas of the construction site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 70% or equivalent measures have been employed

4. If portions of the site will have a temporary or permanent 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.

BMP INSPECTION REPORT FOR STORM WATER POLLUTION PREVENTION PLAN

Jarrell High School – 1100 FM 487, Jarrell, TX 76537

INSPECTOR QUALIFICATIONS: _____

DATE OF INSPECTION: _____ **SITE CONDITIONS:** _____

POLLUTANT CONTROL	IN CONFORMANCE?	CORRECTIONS NEEDED
Construction Exit	YES/ NO /NA	
Perimeter Silt Fence	YES/ NO /NA	
Exposed Areas/ Material Storage	YES/ NO /NA	
Sediment Traps, Basins, Check Dams	YES/ NO /NA	
Diversion Berms, Swales	YES/ NO /NA	
Stabilization, Vegetation, Mulch, EC Mats	YES/ NO /NA	
Inlet Protection	YES/ NO /NA	
Street, Curb, Site Perimeter	YES/ NO /NA	
Concrete Washout Area	YES/ NO /NA	
Litter/ Trash Containment	YES/ NO /NA	
Outfalls/ Areas receiving discharges	YES/ NO /NA	
Other:	YES/ NO /NA	

LOCATION OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE:

RECOMMENDED REMEDIAL ACTIONS :(to be implemented prior to the next anticipated rain event)

ACTION ON PREVIOUS RECOMMENDED REMEDIAL ACTIONS:

INSPECTOR CERTIFIES THAT SITE IS IN COMPLIANCE WITH PERMIT/SWPPP -- YES/NO

Certification Statement

"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."

Inspector Name: _____
Address: _____
Telephone: _____
Site location: _____
Signature: _____ Date _____

Recharge and Transition Zone Exception Request Form

Texas Commission on Environmental Quality
30 TAC §213.9 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 **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Matt Hardy
Date: 10/17/2025
Signature of Customer/Agent:

Regulated Entity Name: Jarrell High School

Exception Request

1. ☒ **Attachment A - Nature of Exception**. A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.
2. ☒ **Attachment B - Documentation of Equivalent Water Quality Protection**. Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

Administrative Information

3. ☒ 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.
4. ☒ The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
5. ☒ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

Form 0628 Attachment A: Nature of Exception

This Exception Request is a for an adjustment to on-site gravel drives providing access to an existing lift station enclosure at Jarrell High School, addressed 1100 FM487 in the City of Jarrell, Williamson County, Texas. The existing site is on a 119.5-acre tract.

The existing lift station is located on the west side of the existing main school building. The proposed project will remove existing decommissioned wastewater treatment equipment and replace an existing lift station. We will also reduce the size of the associated enclosure. Due to the fencing adjustment, a new access drive will be added from an existing access path to provide an all-weather access pad for the proposed lift station. The proposed gravel drive and pad within the lift station enclosure totals 0.06 acres.

The proposed site has a very gentle slope of <2% with an established drainage pattern of south to north in both the existing and proposed condition. Drainage from the subject area enters an on-site drainage swale just north of the proposed lift station and is routed to the wet pond water quality basin associated with the site located to the north. Disturbed areas adjacent to the proposed 0.06 acre access road will be returned to their original condition with grass vegetation as permanent stabilization when the construction project is completed.

Form 0628 Attachment B: Documentation of Equivalent Water Quality Protection

Water quality protection for receiving streams from this site will be provided in the form of minimization of offsite sediment transport using silt fence along the downslope (north side of disturbance). Additionally, the runoff will route through the existing water quality pond before leaving the site and discharging to Salado Creek.

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Toni Hicks, Ed.D,
Print Name

Superintendent,
Title - Owner/President/Other

of Jarrell Independent School District,
Corporation/Partnership/Entity Name

have authorized Matt Hardy, PE
Print Name of Agent/Engineer

of Langan Engineering
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

10/16/25
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared DR. Toni Hicks 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 16 day of October, 2025.

DIANE HODDE
Notary Public, State of Texas
Comm. Expires 02-27-2028
Notary ID 125100406

Diane Hodde
NOTARY PUBLIC

Diane Hodde
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2/27/2028

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Jarrell High School
Regulated Entity Location: 1100 W. FM 487, Jarrell, Texas
Name of Customer: Jarrell ISD
Contact Person: Toni Hicks, Ed. D Phone: 512-746-2124
Customer Reference Number (if issued):CN 600794234
Regulated Entity Reference Number (if issued):RN 101519049

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	2,441 L.F.	$ 1220.50
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	1 Each	$ 500
Extension of Time	Each	$

Signature: _____ Date: 10/17/2025

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 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $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*
Extension of Time Request	$150

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 600794234		RN 101519049

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:*

Jarrell Independent School District

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

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

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

12. Number of Employees
☐ 0-20 ☐ 21-100 ☒ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ **Yes** ☒ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator ☐ Other:
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:

504 N. 5th St.							
City	Jarrell	**State**	TX	**ZIP**	76537	**ZIP + 4**	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	toni.hicks@jarrellisd.org

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 746-2124		(512) 746-2518

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.)*

Jarrell High School

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	1100 FM 487							
	City	Jarrell	**State**	TX	**ZIP**	76537	**ZIP + 4**	
24. County	Williamson							

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

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**
Jarrell			TX		76537

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:	30.818889		**28. Longitude (W) In Decimal:**	-97.628611	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	49	08	97	37	43

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)
8211		611110	

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

Public Education

34. Mailing Address:	**504 N. 5th St.**							
	City	**Jarrell**	**State**	**TX**	**ZIP**	**76537**	**ZIP + 4**	

35. E-Mail Address:	**toni.hicks@jarrellisd.org**	
36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 746-2124		**(512) 746-2518**

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
		RN101519049		
☐ 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:	Matt Hardy, PE	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(469 **)** 627-7505		**( ) -**	mhardy@langan.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:	Langan	**Job Title:**	Project Manager		
Name *(In Print):*	Matt Hardy, PE			**Phone:**	**(** 469 **)** 627- **7505**
Signature:				**Date:**	**10/17/25**

APPROVED PLAN SHEETS FROM
WPAP MODIFICATION #5 - RECENTLY
COMPLETED CONSTRUCTION

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Jarrell ISD HS Additions
Date Prepared: 10/28/2021

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 =	Williamson	
Total project area included in plan * =	119.54	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	77.70	acres
Total post-development impervious cover fraction * =	0.65	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	67631	lbs.

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. = 1

Total drainage basin/outfall area =	119.54	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	77.70	acres
Post-development impervious fraction within drainage basin/outfall area =	0.65	
$L_{M\ THIS\ BASIN}$ =	67631	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin
Removal efficiency = 93 percent

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_C 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 =	119.54	acres
A_I =	77.70	acres
A_P =	41.84	acres
L_R =	80681	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 67631 lbs.

F = 0.84

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 =	1.26	inches
Post Development Runoff Coefficient =	0.46	
On-site Water Quality Volume =	251249	cubic feet

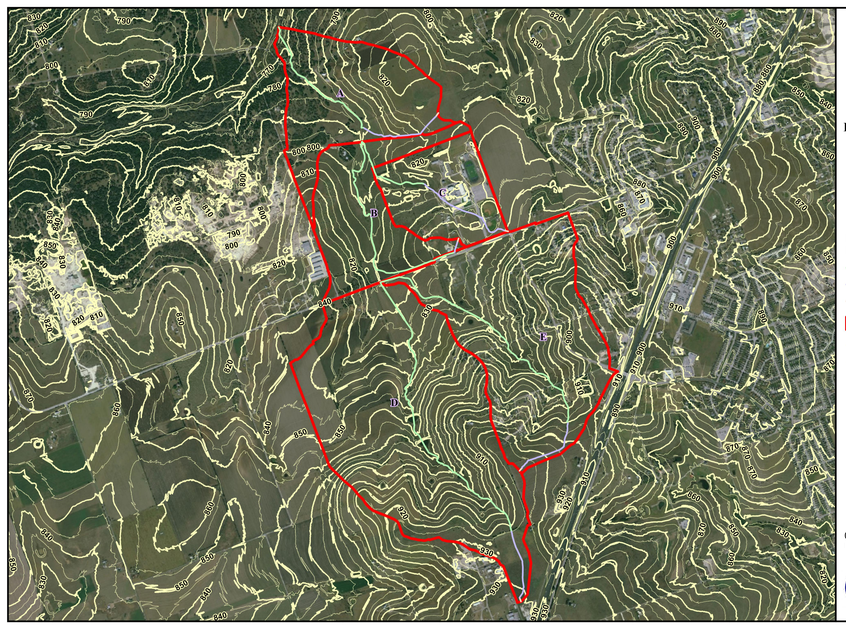
Calculations from RG-348 Pages 3-36 to 3-37

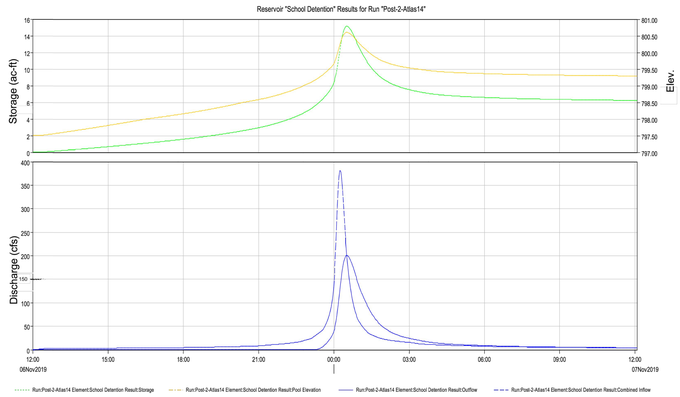
Off-site area draining to BMP =	14.69	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	1344	cubic feet
Storage for Sediment =	50519	
Total Capture Volume (required water quality volume(s) x 1.20) =	303111	cubic feet

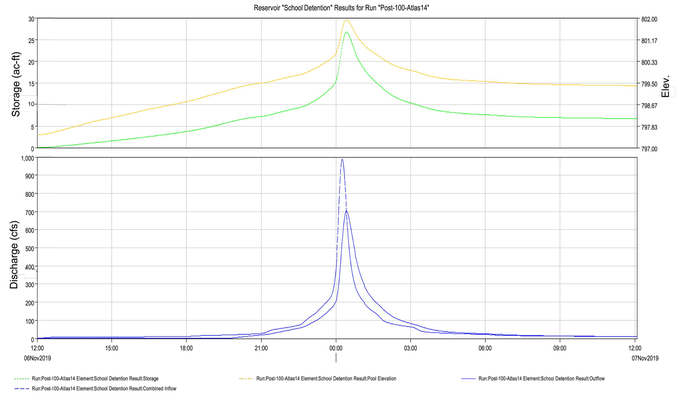
11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	303111	cubic feet
Required capacity at WQV Elevation =	554360	cubic feet

Permanent Pool Capacity is 1.20 times the WQV
Total Capacity should be the Permanent Pool Capacity plus a second WQV.







WPAP CALCULATIONS

** WPAP CALCULATIONS SUMMARY**

SITE WPAP AND SCS CURRENTLY PERMITTED UNDER
EAPP ID NO. 11001369 AND RN NO. 101519049

CURRENT SITE AREA:	5,207,149 SQ FT = 119.5 ACRES
EXISTING IMPERVIOUS COVER (IC):	1,005,000 SQ FT = 23.1 ACRES OR 19.3%

PROPOSED IMPERVIOUS COVER SUMMARY

STRUCTURES/ROOFTOPS:	8,712 SQ FT = 0.20 ACRES
PARKING, DRIVES & SIDEWALKS:	32,670 SQ FT = 0.75 ACRES
OTHER IMPERVIOUS COVER:	23,961 SQ FT = 0.55 ACRES
PROPOSED IMPERVIOUS COVER TOTAL:	65,343 SQ FT = 1.50 ACRES

POST PROJECT IMPROVEMENTS SUMMARY

TOTAL SITE IMPERVIOUS COVER:	1,070,343 SQ FT = 24.6 ACRES OR 20.6%

ONSITE PERMANENT BMP WATER QUALITY POND IS SIZED TO ALLOW AN OVERALL SITE IMPERVIOUS COVER OF 77.7 ACRES OR 65%.

Forebay Volume					
Stage	Elevation	Contour Area	Incremental Storage	Total Storage	AC-FT
0.00	792.50	9,197	0	0	0.00
1.00	793.50	10,941	10,056	10,056	0.23
2.00	794.50	12,785	11,851	21,907	0.50
3.00	795.50	14,729	13,746	35,653	0.82
4.00	796.50	17,619	16,152	51,805	1.19
5.00	797.50	19,064	18,337	70,142	1.61

Main Pond Volume					
Stage	Elevation	Contour Area	Incremental Storage	Total Storage	AC-FT
0.00	790.50	24,052	0	0	0.00
1.00	791.50	26,570	25,301	25,301	0.58
2.00	792.50	29,188	27,869	53,169	1.22
3.00	793.50	31,907	30,537	83,707	1.92
4.00	794.50	34,727	33,307	117,014	2.69
5.00	795.50	37,646	36,177	153,190	3.52
6.00	796.50	41,072	39,347	192,537	4.42
7.00	797.50	43,267	42,165	234,702	5.39

Detention Volume					
Stage	Elevation	Contour Area	Incremental Storage	Total Storage	AC-FT
0.00	797.50	71,870	0	0	0.000
0.50	798.00	116,175	46,570	46,570	1.069
1.00	798.50	164,142	69,735	116,305	2.670
1.50	799.00	212,030	93,788	210,093	4.823
1.70	799.20	232,117	44,400	254,492	5.842
2.00	799.50	263,248	74,256	328,748	7.547
2.50	800.00	317,345	144,938	473,686	10.874
3.00	800.50	349,460	166,637	640,323	14.700
3.20	800.70	358,183	70,763	711,085	16.324
3.50	801.00	370,380	109,279	820,364	18.833
4.00	801.50	388,709	189,754	1,010,118	23.189
4.50	802.00	405,993	198,660	1,208,778	27.750
5.00	802.50	410,995	204,246	1,413,024	32.439
5.50	803.00	416,023	206,753	1,619,777	37.185

Watershed	Area (Acres)	Soil Type	Cover	Curve Number	Composite Curve Number
A	220.46	D	Open Space - Good	80	79.8
	1.85	B	Open Space - Good	61	
B	182.56	D	Open Space - Good	80	80.0
C*	134.23	D	Open Space - Good	80	80.0
D	571.81	D	Open Space - Good	80	80.0
E	402.14	D	Open Space - Good	80	80.0

*Watershed C represents the area tributary to the proposed water quality wet pond and detention basin

	Discharge (CFS)			
	100-yr	25-yr	10-yr	2-yr
Pre-project	729.6	522.3	395.6	207.5
Post-project (Detention)	704.9	517.1	374.4	200.8
Difference	-24.7	-5.2	-21.2	-6.7
% Difference	-3.4%	-1.0%	-5.4%	-3.2%

Pond Results				
	100-yr	25-yr	10-yr	2-yr
Peak Storage (ac-ft)	26.7	22.9	20.0	15.2
Peak Elevation	801.9	801.5	801.2	800.6

Pre-Project Time of Concentration

Watershed	Sheet Flow						Shallow Flow					Channel Flow				Total ToC (min)	Lag Time
	Length (ft)	Slope (S)	n	P2	T (hr)	T (min)	Cover	Length (ft)	Slope (S)	V (fps)	T (hr)	T (min)	Length (ft)	V (ft/s)	T (hr)	T (min)		
A	100.00	0.008	0.15	3.90	0.21	12.80	Unpaved	2037.80	0.015	1.99	0.28	17.07	3503.16	6	0.16	9.73	39.61	23.8
B	100.00	0.012	0.15	3.90	0.18	10.89	Unpaved	252.09	0.008	1.44	0.05	2.91	2026.05	4	0.14	8.44	32.50	19.5
													3694.74	6	0.17	10.26		
C	100.00	0.039	0.15	3.90	0.11	6.79	Unpaved	1710.78	0.011	1.70	0.28	16.77						
							Unpaved	765.73	0.014	1.92	0.11	6.66	1432.12	4	0.10	5.97	36.20	21.7
D	100.00	0.010	0.15	3.90	0.20	11.71	Unpaved	1689.79	0.008	1.44	0.33	19.52	2154.18	4	0.15	8.98	52.38	31.4
													3726.31	6	0.17	10.35		
													654.79	6	0.03	1.82		
E	100.00	0.008	0.15	3.90	0.21	12.80	Unpaved	1807.38	0.015	2.01	0.25	15.00	4292.97	6	0.20	11.92	51.66	31.0
													4292.96	6	0.20	11.92		

Post-Project Time of Concentration

Watershed	Sheet Flow						Shallow Flow					Channel Flow				Total ToC (min)	Lag Time
	Length (ft)	Slope (S)	n	P2	T (hr)	T (min)	Cover	Length (ft)	Slope (S)	V (fps)	T (hr)	T (min)	Length (ft)	V (ft/s)	T (hr)	T (min)		
A	100.00	0.008	0.15	3.90	0.21	12.80	Unpaved	2037.80	0.015	1.99	0.28	17.07	3503.16	6	0.16	9.73	39.61	23.8
B	100.00	0.012	0.15	3.90	0.18	10.89	Unpaved	252.09	0.008	1.44	0.05	2.91	2026.05	4	0.14	8.44	32.50	19.5
													3694.74	6	0.17	10.26		
C	100.00	0.039	0.15	3.90	0.11	6.79	Unpaved	765.73	0.014	1.92	0.11	6.66	3561.06	6	0.16	9.89	23.35	14.0
D	100.00	0.010	0.15	3.90	0.20	11.71	Unpaved	1689.79	0.008	1.44	0.33	19.52	2154.18	4	0.15	8.98	52.38	31.4
													3726.31	6	0.17	10.35		
													654.79	6	0.03	1.82		
E	100.00	0.008	0.15	3.90	0.21	12.80	Unpaved	1807.38	0.015	2.01	0.25	15.00	4292.97	6	0.20	11.92	51.66	31.0
													4292.96	6	0.20	11.92		

Revision / Date

Project: ATHLETICS COMPLEX IMPROVEMENTS AT JARRELL HIGH SCHOOL FOR JARRELL I.S.D. 1100 FM 487, JARRELL, TEXAS 76537

LANGAN | Adams

STATE OF TEXAS — BRIAN M. GARNER — 98447 — LICENSED PROFESSIONAL ENGINEER — 2-17-2022

TBPE Registration #: F- 13,709

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WATER QUALITY & DETENTION POND CALCULATIONS

PACKAGE 1 1

Job No. 1838-06-01
Drawn By: —
Date: 10/28/2021
Sheet No. C3.03

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2' THICK CLAY LINER EXTENDS UP TO THE WATER QUALITY ELEVATION (799.20), REFER TO GEOTECHNICAL REPORT

CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING FENCE

CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING OUTFALL STRUCTURE

CONTRACTOR TO PROTECT EXISTING FENCE DURING CONSTRUCTION AND REPAIR IMMEDIATELY IF DAMAGED

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

EXISTING ELECTRIC POWER TO REMAIN IN SERVICE AND UNDISTURBED, CONTRACTOR TO COORDINATE WITH SERVICE PROVIDER TO ENSURE PROPER SAFETY DISTANCES ARE MAINTAINED.

VEGETATIVE BERM FROM ELEVATIONS 795.50 – 797.50 WITH 10'–WIDE SAFETY LEDGE @ ELEV. 796.50

ENERGY DISSIPATION RIPRAP FL = 803.00 WELL GRADED STONE MIXTURE WITH 12" AVERAGE DIAMETER OVER A FILTER BLANKET OR BEDDING GRADED GRAVEL

RIP RAP (18"–24" DIA) WITH ONSITE MATERIAL 24" DEEP MIN WITH FILTER FABRIC

12'X12' CONCRETE MAINTENANCE PAD (TYP.)

SEDIMENT MARKER

83–LF 6" INVERTED PVC WATER QUALITY OUTLET, OUTLET INV. = 797.50

OUTLET
40–LF CONCRETE LINED 2–YR SPILLWAY @ ELEV. 799.20
40–LF (20' EACH SIDE) GRASS LINED 10+–YR SPILLWAY @ ELEV. 800.70

ENERGY DISSIPATION RIPRAP FL = 803.00 WELL GRADED STONE MIXTURE WITH 12" AVERAGE DIAMETER OVER A FILTER BLANKET OR BEDDING GRADED GRAVEL

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

CONTRACTOR TO DEMO AND REMOVE EXISTING FENCE, SALVAGE MATERIALS WHERE POSSIBLE

12'–WIDE ALL ACCESS WEATHER ROAD

CONTRACTOR TO MUCK EXISTING POND AND FILL PER GEOTECH RECOMMENDATIONS

CONTRACTOR TO PROTECT EXISTING FENCE DURING CONSTRUCTION AND REPAIR IMMEDIATELY IF DAMAGED

CONTRACTOR TO REMOVE IRRIGATION VALVES

EXISTING WASTEWATER LIFT STATION AND APPURTENANCES TO REMAIN UNDISTURBED AND IN SERVICE

CONTRACTOR TO SALVAGE AND CONNECT TO PORTION OF EXISTING FENCING AND GATES

CONTRACTOR SHALL DEMO AND PROPERLY DISPOSE OF ABANDONED WASTWATER IRRIGATION SYSTEM

PROPOSED INTRUDER PROOF FENCE PER DETAILS, CONTRACTOR TO ATTEMPT TO USE EXISTING FENCING AND GATES WHERE POSSIBLE

CONTRACTOR TO SALVAGE AND CONNECT TO PORTION OF EXISTING FENCING AND GATES

EXISTING ALL WEATHER ACCESS ROAD TO REMAIN INTACT, ANY DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR

APPROXIMATE LOCATION OF EXISTING WATER LINE. CONTRACTOR TO PROTECT DURING CONSTRUCTION.

APPROXIMATE LOCATION OF EXISTING SANITARY SEWER LINE. CONTRACTOR TO PROTECT DURING CONSTRUCTION.

CONTRACTOR TO DEMO AND REMOVE EXISTING FENCE, SALVAGE MATERIALS WHERE POSSIBLE

EXISTING MANHOLE RIM TO BE ADJUSTED TO PROPOSED FINISHED GRADE PER TCEQ SCS STANDARDS

CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING FENCE

CONTRACTOR TO PROTECT EXISTING FENCE DURING CONSTRUCTION AND REPAIR IMMEDIATELY IF DAMAGED

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

EXISTING ELECTRIC POWER TO REMAIN IN SERVICE AND UNDISTURBED, CONTRACTOR TO COORDINATE WITH SERVICE PROVIDER TO ENSURE PROPER SAFETY DISTANCES ARE MAINTAINED.

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

EXISTING JARRELL HIGH SCHOOL FFE = 820.5

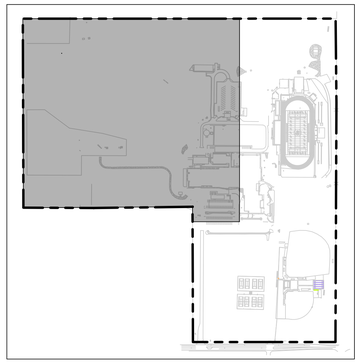
EXISTING RIP–RAP PAD TO BE ADJUSTED FOR REVISED GRADING

!!CAUTION!! APPROXIMATE LOCATION OF EXISTING UTILITY POLE

GENERAL SITE NOTES:

1. CONTRACTOR TO ENSURE EDWARDS AQUIFER (EA) PERMITTING IS IN PLACE AND REVIEWED BEFORE BEGINNING ANY SITE DISTURBANCE.
2. ALL TEMPORARY EROSION CONTROLS SHALL BE INSTALLED PER EA REQUIREMENTS PRIOR TO ANY SITE DISTURBANCE.
3. CONTRACTOR SHALL REVIEW AND REFERENCE SITE GEOTECHNICAL REPORT PREPARED BY ALLIANCE ENGINEERING GROUP AND TITLED "SUBSURFACE EXPLORATION AND GEOTECHNICAL EVALUATION FOR JARRELL HIGH SCHOOL STORMWATER PROJECT, JARRELL, TEXAS" OR ANY ADDITIONS OR ADDENDUMS TO THE ORIGINAL REPORT.
4. CONTRACTOR SHALL PROPERLY DISPOSE OF ANY DEMOLISHED SITE FEATURES OR UTILITIES OFFSITE. BURYING DEMOLISHED ELEMENTS WILL NOT BE ALLOWED.
5. CONTRACTOR SHALL WORK WITH PROJECT GEOTECHNICAL ENGINEER AND PROJECT CONSTRUCTION MATERIALS TESTING LAB TO IDENTIFY ONSITE CLAY SOIL TO USE IN CREATING THE PERMANENT CLAY LINER FOR THE POND.
6. ONSITE TOPSOIL IN THE AREA OF DISTURBANCE SHALL BE STRIPPED AND STOCKPILED FOR USE IN REVEGETATION OF DISTURBED AREAS. NO ADDITIONAL PAY ITEM WILL BE ALLOWED FOR TOPSOIL IMPORT. CONTRACTOR TO USE ONSITE SOILS SUITABLE FOR HEALTHY REVEGETATION OF PROJECT.
7. ALL ONSITE FILL AREAS SHALL BE STRIPPED, PROCESSED, AND COMPACTED UNDER THE DIRECTION OF THE PROJECT GEOTECH AND PROJECT CMT LAB. THE DISTRICT WILL USE UNKNOWN PORTIONS OF THE FILL AREAS AS FUTURE BUILDING EXPANSIONS. THEREFORE, CONTRACTOR WILL NEED TO PLACE ALL FILL IN A CONTROLLED MANNER AS DIRECTED BY THE PROJECT GEOTECH AND THE PROJECT CMT LAB.
8. CONTRACTOR TO WORK CLOSELY WITH THE PROJECT GEOTECHNICAL ENGINEERING/MATERIAL TESTING FIRM TO ENSURE MATERIAL USED TO CONSTRUCT ANY FEATURE USED TO IMPOUND WATER WILL REMAIN WATER TIGHT AND RESISTANT TO SOIL PIPING THROUGH THE FEATURE'S LIFE SPAN.
9. ALL CONDUITS ENTERING THE WATER IMPOUNDMENT STRUCTURE (WATER QUALITY POND) SHALL INCLUDE CLAY DAMS TO ENSURE THERE IS NO SOIL PIPING TO OR FROM THE CONDUIT EMBEDMENT MATERIAL.

GRAPHIC SCALE
0 60 120 FEET



KEY MAP
N.T.S.

LEGEND

PROPOSED CONTOUR	100
EXISTING CONTOUR	100
SPOT GRADE	100.00
PROPOSED FLOW ARROW	

!!!CAUTION!!!
EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY. VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES BY VACUUM EXCAVATION OR OTHER POTHOLING TECHNIQUES.

811 Know what's below. Call before you dig.

THESE PLANS ARE SUBJECT TO REVIEW & APPROVAL BY JURISDICTIONAL ENTITIES.

** NOTICE TO CONTRACTORS – TOPOGRAPHIC SURVEY **

TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY PERFORMED BY 4WARD LAND SURVEYING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, IN WRITING, OF ANY DISCREPANCIES OR OMISSIONS TO THE TOPOGRAPHIC INFORMATION. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR CONFIRMING THE LOCATION (HORIZONTAL/VERTICAL) OF ANY BURIED CABLES, CONDUITS, PIPES, AND STRUCTURES (STORM SEWER, SANITARY SEWER, WATER, GAS, TELEVISION, TELEPHONE, ETC.) WHICH IMPACT THE CONSTRUCTION SITE. THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY DISCREPANCIES ARE FOUND BETWEEN THE ACTUAL CONDITIONS VERSUS THE DATA CONTAINED IN THE CONSTRUCTION PLANS. ANY COSTS INCURRED AS THE RESULT OF NOT CONFIRMING THE ACTUAL LOCATION (HORIZONTAL/VERTICAL) OF SAID CABLES, CONDUITS, PIPES, AND STRUCTURES SHALL BE BORNE BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY ERRORS OR DISCREPANCIES ARE FOUND ON THE CONSTRUCTION DOCUMENTS (PS&E), WHICH NEGATIVELY IMPACT THE PROJECT. THE ENGINEER AND OWNER SHALL BE INDEMNIFIED OF PROBLEMS AND/OR COST WHICH MAY RESULT FROM CONTRACTOR'S FAILURE TO NOTIFY ENGINEER AND OWNER.

Revision / Date

Project: ATHLETICS COMPLEX IMPROVEMENTS AT JARRELL HIGH SCHOOL FOR JARRELL I.S.D. 1100 FM 487, JARRELL, TEXAS 76537

LANGAN | Adams

STATE OF TEXAS
JACK H. GARNER, JR.
98447
LICENSED
PROFESSIONAL
ENGINEER
2-17-2022

TBPE Registration #: F- 13,709

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WATER QUALITY & DETENTION POND GRADING, AND DEMOLITION PLAN

PACKAGE 1 1

Job No. 1836-06-01	Sheet No. C3.04
Drawn By: —	
Date: 10/28/2021	

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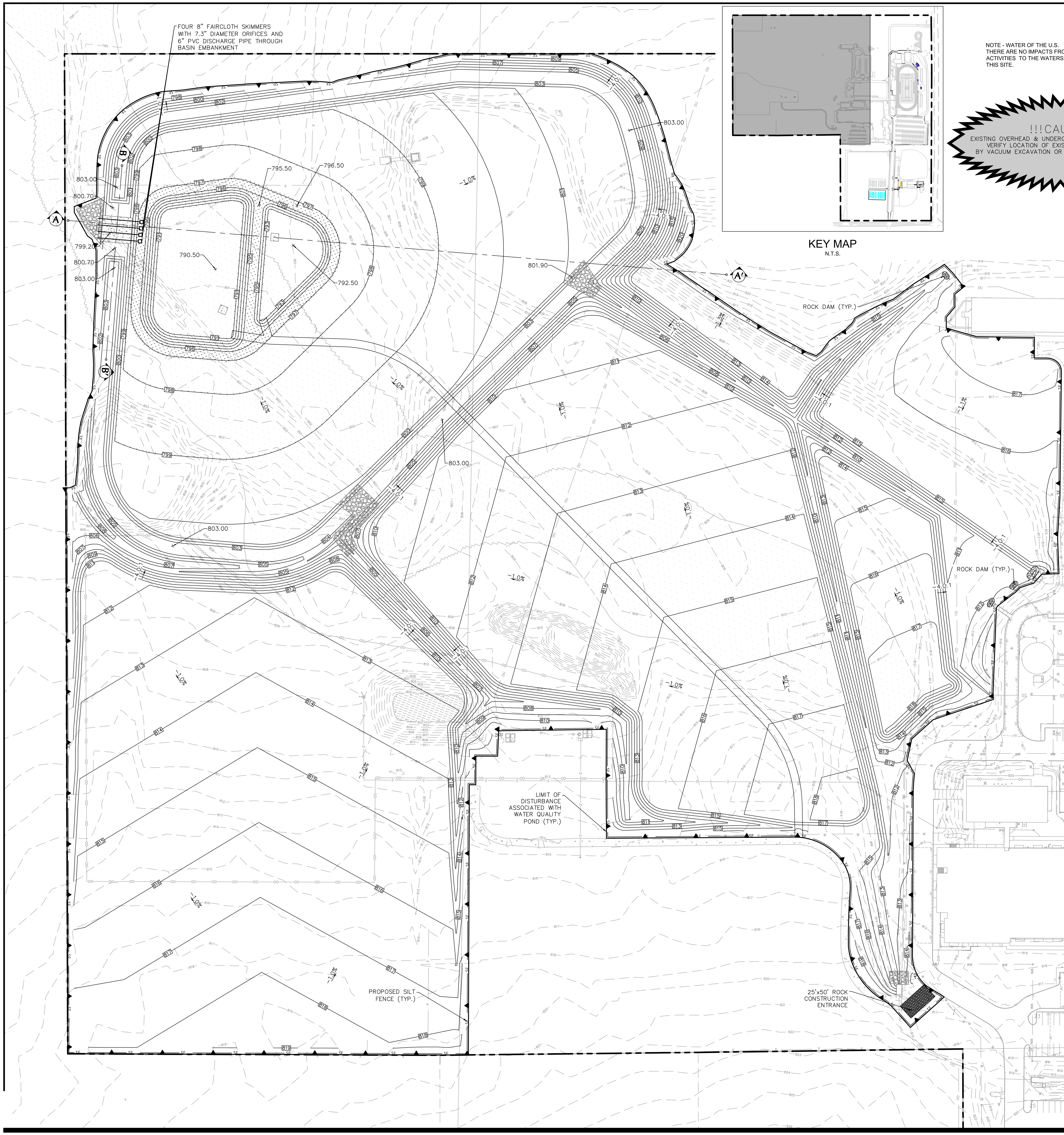
Date: 2/17/2022 Time: 16:55 User: chcaldwell Style Table: Langan.stb Layout: C3.04 Water Quality & Detention Pond Grading Plan Document Code: 531012001-0503-CG101-0103



KEY MAP
N.T.S.

NOTE - WATER OF THE U.S.
THERE ARE NO IMPACTS FROM CONSTRUCTION ACTIVITIES TO THE WATERS OF THE U.S. ON THIS SITE.

!!!CAUTION!!!
EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY. VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES BY VACUUM EXCAVATION OR OTHER POTHOLING TECHNIQUES.

LEGEND

INLET PROTECTION	IP — IP
LIMITS OF DISTURBANCE	
SILT FENCE	SF
CONSTRUCTION EXIT	
ROCK CHECK DAM	
PROPOSED FLOW ARROW	

GRAPHIC SCALE
0 60 120 FEET

EROSION CONTROL NOTES

1. CONTRACTOR MUST COMPLETE A CONSTRUCTION SITE NOTICE, OBTAIN SIGNED COPIES OF NOI FORM FOR BOTH OWNER AND CONTRACTOR (IF APPLICABLE TO THIS SITE), AND POST THEM AT THE CONSTRUCTION SITE, IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES (TXR150000). THE GENERAL CONTRACTOR, (AND ALL SUBCONTRACTORS INVOLVED WITH ANY CONSTRUCTION ACTIVITY RELATED TO EARTHWORK, EROSION CONTROL., ETC., OR WHICH UTILIZE POSSIBLE POLLUTANTS AS DEFINED IN THE TPDES GENERAL PERMIT) MUST BE FAMILIAR WITH THE CONTENTS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AS WELL AS ALL THE REQUIREMENTS SET FORTH IN THE TPDES GENERAL PERMIT AND ANY APPLICABLE LOCAL PERMIT REQUIREMENTS. AND SHALL COMPLY WITH ALL SUCH REQUIREMENTS DURING ALL CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR SHALL ADHERE TO THE SEQUENCE OF OPERATIONS FOR EROSION CONTROL IMPLEMENTATION SHOWN HEREON. ANY DEVIATION FROM THIS SEQUENCE DEEMED NECESSARY BY THE CONTRACTOR MAY REQUIRE THAT THE STORMWATER POLLUTION PREVENTION PLAN BE MODIFIED IN ACCORDANCE WITH THE NPDES GENERAL PERMIT GUIDELINES AND SECTION 1.01 F OF THE STORM WATER POLLUTION PREVENTION PLAN.
3. THE CONTRACTOR SHALL MODIFY THIS PLAN TO SHOW LOCATIONS OF TEMPORARY WASHDOWN AREAS, PORTABLE TOILETS, EQUIPMENT MAINTENANCE/REPAIR AREAS, STOCKPILE AREAS, FUEL STORAGE AREAS, CONCRETE WASH-OUT PITS, AND POLLUTANT CONTROLS FOR EACH, AS SOON AS POSSIBLE. THE GENERAL PERMIT AUTHORIZES THE LAND DISPOSAL OF WASH OUT WATER FROM CONCRETE TRUCKS THAT ARE ASSOCIATED WITH OFF-SITE PRODUCTION FACILITIES, AS LONG AS THE DISCHARGE IS INTO SPECIFICALLY DESIGNATED DIKED AREAS WHICH HAVE BEEN PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASH OUT WATER AND STORMWATER WHICH WILL BE DISCHARGED FROM THE SITE, TO PREVENT DIRECT DISCHARGE TO SURFACE WATERS (SEE CONCRETE WASHOUT DETAIL SHOWN IN PLANS). DIRECT DISCHARGE OF CONCRETE TRUCK WASH OUT WATER TO SURFACE WATERS IN THE STATE, INCLUDING DISCHARGE TO STORM SEWERS, IS PROHIBITED BY THE GENERAL PERMIT. IF A CONCRETE PLANT IS LOCATED AT CONSTRUCTION SITE, CONTRACTOR SHALL OBTAIN COVERAGE UNDER AND COMPLY WITH GENERAL PERMIT TXG110000 OR INDIVIDUAL PERMIT.
4. THE GENERAL CONTRACTOR SHALL PERFORM ALL REQUIRED INSPECTIONS OF STORMWATER CONTROLS AND PRACTICES AT FREQUENCIES GIVEN IN THE NPDES GENERAL PERMIT, AND SHALL COMPLETE AND SIGN APPROPRIATE INSPECTION FORMS (AS PROVIDED IN THE SWPPP).
5. OIL AND GREASE ABSORBING MATERIALS SHALL BE READILY AVAILABLE ON-SITE AND SHALL BE PROMPTLY USED TO CONTAIN AND/OR CLEAN UP ALL FUEL OR CHEMICAL SPILLS OR LEAKS.
6. DUST CONTROL SHALL BE ACCOMPLISHED BY WATERING DRY, EXPOSED AREAS ON A REGULAR BASIS. SPRAYING OF PETROLEUM BASED OR TOXIC LIQUIDS FOR THIS PURPOSE IS PROHIBITED.
7. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR AT LEAST FOURTEEN DAYS SHALL BE TEMPORARILY STABILIZED WITH VEGETATION AND MULCH.
8. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED SHALL BE PERMANENTLY SEEDED WITHIN FOURTEEN DAYS PER SEEDING OR LANDSCAPING SPECIFICATIONS.
9. ALL VEHICLES SHALL BE CLEANED AT THE CONSTRUCTION EXIT POINTS ACCORDING TO NOTES SHOWN ON THE DETAIL THEREOF. IF THE MAJORITY OF MUD OR DIRT IS NOT REMOVED FROM EXITING TRAFFIC, HOSE BIBS SHALL BE PROVIDED AT CONSTRUCTION TRAFFIC EXIT POINTS, AND VEHICLE TIRES SHALL BE WASHED BEFORE EXITING ONTO PUBLIC ROADS. SILT FROM THIS WASHING OPERATION SHALL BE INTERCEPTED AND TRAPPED BEFORE WASHWATER IS ALLOWED TO BE DISCHARGED OFF-SITE.
10. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ONTO ADJACENT ROADWAYS BY VEHICLES EXITING THE SITE SHALL BE CLEANED OR REMOVED IMMEDIATELY.
11. CONTRACTOR SHALL PREVENT ANY SILTATION FROM ENTERING THE STORM SEWER SYSTEM. ALL INLETS AND INLET OPENINGS SHALL BE FULLY ENCIRCLED WITH APPROPRIATE INLET PROTECTION DEVICES.
12. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SILT IN ANY TEMPORARY OR PERMANENT DETENTION PONDS, STORM SEWER INLETS AND PIPES, AND ALONG SILT FENCES, WITHIN 48 HOURS AFTER INSPECTION OF DEVICES REVEALS THE PRESENCE OF EXCESSIVE SILTATION (AS SPECIFIED IN SECTION 5.02 OF THE SWPPP).
13. SILT FENCES SHALL BE PLACED AROUND ANY STOCKPILES USED ON THIS SITE.
14. THE CONTRACTOR IS ADVISED TO CONSTRUCT TEMPORARY OR PERMANENT FENCING AROUND DETENTION PONDS AND SEDIMENT BASINS AT THE EARLIEST POSSIBLE TIME TO PREVENT ACCIDENTAL ACCESS BY PERSONS OR ANIMALS.
15. ANY ADDITIONAL EROSION CONTROL MEASURES REQUIRED TO ENSURE COMPLIANCE WITH THE TPDES GENERAL PERMIT OR LOCAL PERMIT REQUIREMENTS SHALL BE IMPLEMENTED BY THE CONTRACTOR, AT NO ADDITIONAL EXPENSE TO THE OWNER.
16. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE WITHIN THIRTY DAYS AFTER STABILIZATION OF ALL SURFACES.
17. THE CONTRACTOR SHALL ASSUME LIABILITY FOR DAMAGE TO ADJACENT PROPERTIES AND/OR PUBLIC RIGHT-OF-WAY RESULTING FROM FAILURE TO FULLY IMPLEMENT AND EXECUTE ALL EROSION CONTROL PROCEDURES SHOWN AND NOTED IN THESE PLANS.
18. WHENEVER DIRT, ROCK, OR OTHER MATERIALS ARE IMPORTED OR EXPORTED ON THE PRIMARY CONSTRUCTION SITE, CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR COMPLIANCE WITH ALL TCEQ STORMWATER REQUIREMENTS FOR THE REMOTE SITE. CONTRACTOR SHALL FURNISH THE ENGINEER AND THE OWNER'S CONSTRUCTION MANAGER WITH DOCUMENTATION OF COVERAGE FOR THE BORROW OR FILL SITE UNDER A NPDES PERMIT FOR STORMWATER DISCHARGES AND OF A WRITTEN AGREEMENT WITH THE LANDOWNER OF THE REMOTE SITE INDICATING EROSION CONTROL MEASURES HAVE BEEN IMPLEMENTED THEREON. AT A MINIMUM, EROSION CONTROL MEASURES MUST CONSIST OF PERIMETER CONTROLS (SILT FENCES) ON ALL DOWN SLOPES AND SIDE SLOPE BOUNDARIES OF ANY DISTURBED AREA, PLUS PROVISIONS FOR RE-VEGETATION AFTER THE FILL MATERIALS ARE IN PLACE.
19. ALL SLOPES ON SITE WHICH ARE 3:1 OR STEEPER SHALL BE STABILIZED BY TRACK WALKING (TRAVERSING UP AND DOWN THE SLOPE WITH A TRACKED VEHICLE) FOLLOWED BY INSTALLATION OF EROSION CONTROL BLANKET INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S150 OR APPROVED EQUAL.

EROSION CONTROL MAINTENANCE NOTES

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTI0N PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON ON A SCHEDULE WHICH COMPLIES WITH THE GENERAL PERMIT REQUIREMENTS AND CLEANED AND REPAIRED WITHIN 48 HOURS OF THE INSPECTION IN ACCORDANCE WITH THE FOLLOWING:

1.A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
1.B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.
1.C. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
1.D. THE TEMPORARY PARKING AND STORAGE AREA (IF PRESENT) SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
1.E. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS OR SEDIMENT TRAPS (IF PRESENT) SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
1.F. MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED ARE GIVEN IN SECTION 5 OF THE STORM WATER POLLUTION PREVENTION PLAN.

EROSION CONTROL SEQUENCE

1. INSTALL SILT FENCES AROUND PERIMETER OF PROPERTY AND DISTURBED AREAS AS SHOWN.
2. INSTALL ROCK CHECK DAMS AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES, IF PRESENT.
3. CONSTRUCT TEMPORARY CONSTRUCTION EXIT.
4. COMMENCE GRUBBING AND REMOVAL OF VEGETATION IN AREA TO RECEIVE CUT OR FILL.
5. CONSTRUCT TEMPORARY SEDIMENT POND WITH FAIRCLOTH SKIMMER OUTLET STRUCTURE, AS SHOWN ON THE PLANS.
6. COMMENCE GRADING OPERATION.
7. INSTALL ALL PROPOSED STORM SEWER PIPES AND INSTALL INLET PROTECTION SILT FENCES AT ENDS OF EXPOSED PIPES.
8. TEMPORARY SEDIMENT POND AND OUTLET STRUCTURE MAY BE REMOVED AFTER THE STORM SEWER SYSTEM IS INSTALLED AND FUNCTIONAL AND INLET PROTECTION IS IN PLACE AND FUNCTIONAL AT ALL STORM SEWER INLETS. SEDIMENT REMOVED FROM THE SEDIMENT POND MAY BE RELOCATED ON SITE.
9. COMPLETE PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION, IN ACCORDANCE WITH THE LANDSCAPING PLAN.
10. REMOVE TEMPORARY CONSTRUCTION EXIT, SILT FENCES & ROCK CHECK DAMS.

NOTE FOR CHANGES TO SWPPP

THE TXR15000 GENERAL PERMIT REQUIRES THAT THE PERMITTEE REVISE OR UPDATE THIS SWPPP WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, OR WHENEVER THE RESULT OF AN INSPECTION INDICATES THAT THIS SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN STORMWATER DISCHARGES. HOWEVER, THE REGULATIONS OF THE TEXAS BOARD OF PROFESSIONAL ENGINEERS REQUIRE THAT CHANGES MADE BY THE CONTRACTOR DURING CONSTRUCTION MUST BE AUTHORIZED BY A LICENSED TEXAS ENGINEER. THESE CHANGES MAY BE AUTHORIZED BY THE ENGINEER OF RECORD THROUGH UPDATED DRAWINGS, WORK ORDER CHANGES, OR OTHER METHODS ACCEPTABLE TO THE ENGINEER; OR BY ANOTHER ENGINEER PROVIDED THAT THEY NOTIFY THE ENGINEER OF RECORD.

NOTE - STABILIZATION

ALL DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND SEEDED OR SODDED AS NECESSARY AND BY DEFINITION 'MAINTAINED' UNTIL AN ESTABLISHED STAND OF GRASS CAN BE RELEASED TO THE OWNER. REFERENCE LANDSCAPE/IRRIGATION PLAN (IF PROVIDED) TO COORDINATE PLANTING ENHANCEMENTS AND LIMITS OF IRRIGATION COVERAGE.

NOTE - MATERIAL STORAGE

THE CONTRACTOR SHALL NOTE ON SITE PLAN THE LOCATION OF ALL MATERIAL STORAGE AREAS, EQUIPMENT STORAGE AREAS, SOLID WASTE RECEPTACLES, SANITARY FACILITIES, ANY ON-SITE OR OFF-SITE BORROW OR STOCKPILE AREA, ANY ON-SITE OR OFF-SITE SUPPORT ACTIVITIES (SUCH AS ASPHALT OR CONCRETE PLANTS). CONTRACTOR SHALL ALSO PREPARE, KEEP ON SITE, AND MAINTAIN CURRENT A LIST OF MATERIALS WITH APPROXIMATE QUANTITIES, WHICH ARE STORED ON SITE.

Know what's **below.** **Call** before you dig.

THESE PLANS ARE SUBJECT TO REVIEW & APPROVAL BY JURISDICTIONAL ENTITIES.

** NOTICE TO CONTRACTORS – TOPOGRAPHIC SURVEY **

TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY PERFORMED BY 4WARD LAND SURVEYING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, IN WRITING, OF ANY DISCREPANCIES OR OMISSIONS TO THE TOPOGRAPHIC INFORMATION. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR CONFIRMING THE LOCATION (HORIZONTAL/VERTICAL) OF ANY BURIED CABLES, CONDUITS, PIPES, AND STRUCTURES (STORM SEWER, SANITARY SEWER, WATER, GAS, TELEVISION, TELEPHONE, ETC.) WHICH IMPACT THE CONSTRUCTION SITE. THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY DISCREPANCIES ARE FOUND BETWEEN THE ACTUAL CONDITIONS VERSUS THE DATA CONTAINED IN THE CONSTRUCTION PLANS. ANY COSTS INCURRED AS THE RESULT OF NOT CONFIRMING THE ACTUAL LOCATION (HORIZONTAL/VERTICAL) OF SAID CABLES, CONDUITS, PIPES, AND STRUCTURES SHALL BE BORNE BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY ERRORS OR DISCREPANCIES ARE FOUND ON THE CONSTRUCTION DOCUMENTS (PS&E), WHICH NEGATIVELY IMPACT THE PROJECT. THE ENGINEER AND OWNER SHALL BE INDEMNIFIED OF PROBLEMS AND/OR COST WHICH MAY RESULT FROM CONTRACTOR'S FAILURE TO NOTIFY ENGINEER AND OWNER.

Revision / Date

Project:
ATHLETICS COMPLEX IMPROVEMENTS AT JARRELL HIGH SCHOOL
FOR
JARRELL I.S.D.
1100 FM 487, JARRELL, TEXAS 76537

LANGAN | Adams

SWPPP: SCS
STATE OF TEXAS
JACK H. GARNER, JR.
98447
LICENSED PROFESSIONAL ENGINEER
11-8-2021
TBPE Registration #: F- 13,709

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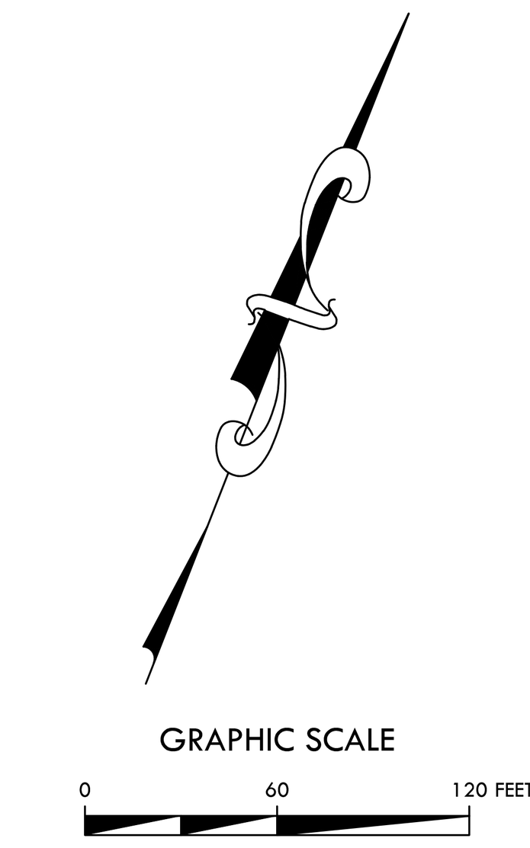
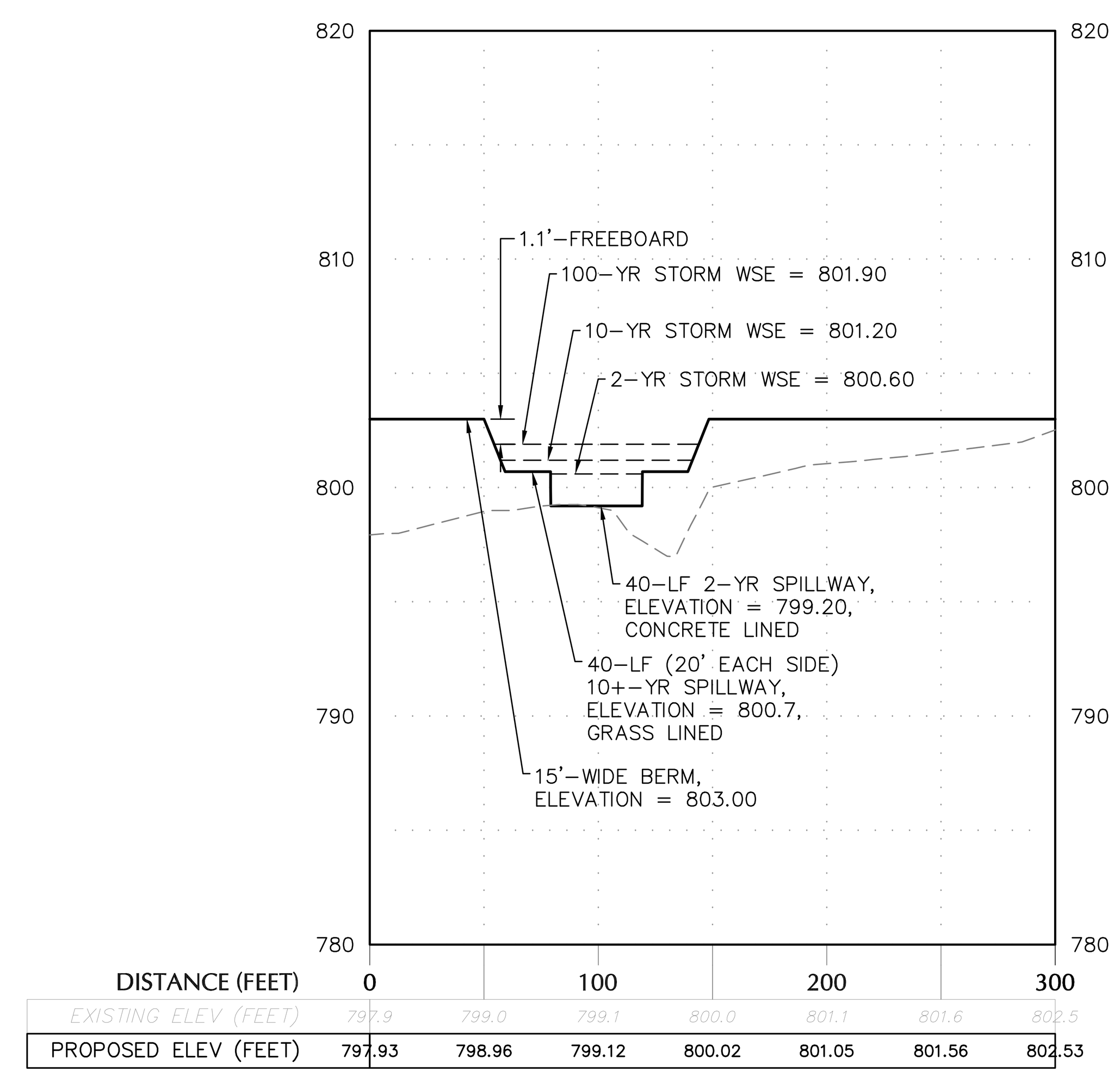
WATER QUALITY & DETENTION POND SWPPP

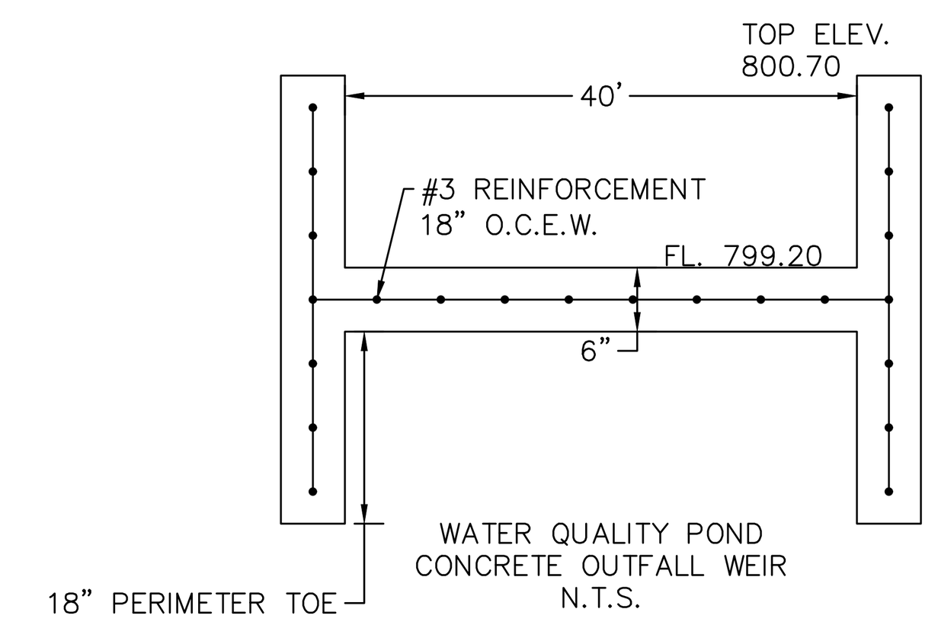
PACKAGE 1 1

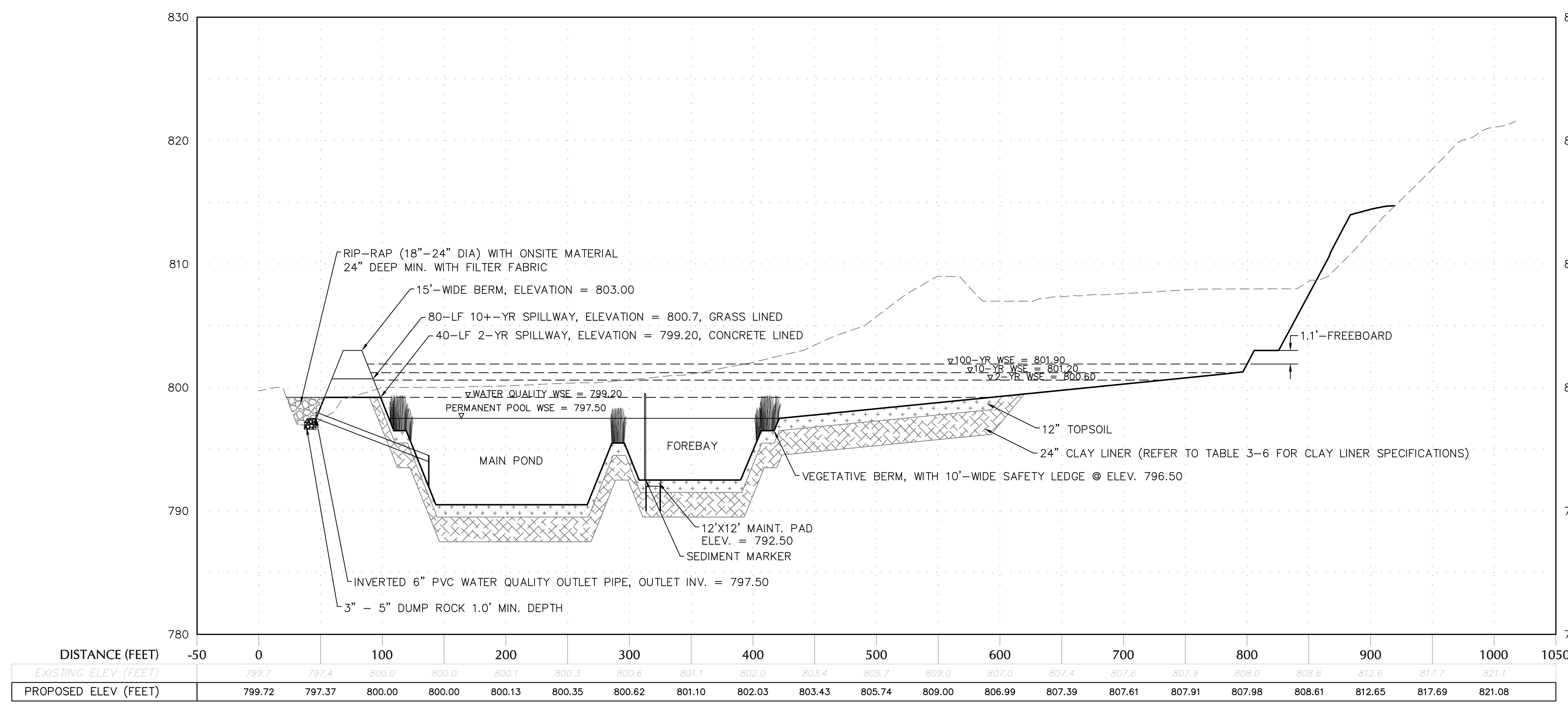
Job No. 1836-06-01	Sheet No. C3.05
Drawn By: ---	
Date: 10/28/2021	





B-B' (OUTLET) PROFILE





A-A' (POND) PROFILE

Table 3-6 Clay Liner Specifications (COA, 2004)

Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	1 x 10^{-6}
Plasticity Index of Clay	ASTM D-423 & D-424	%	Not less than 15
Liquid Limit of Clay	ASTM D-2216	%	Not less than 30
Clay Particles Passing	ASTM D-422	%	Not less than 30
Clay Compaction	ASTM D-2216	%	95% of Standard Proctor Density

Revision / Date

Project:
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AT JARRELL HIGH SCHOOL
FOR
JARRELL I.S.D.
1100 FM 487, JARRELL, TEXAS 76537

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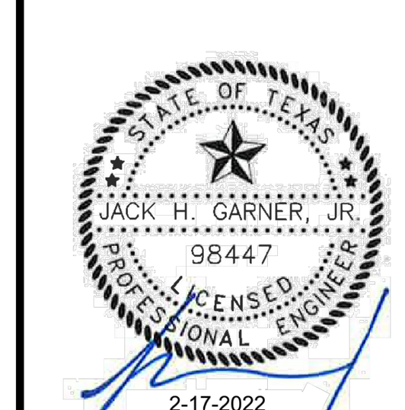

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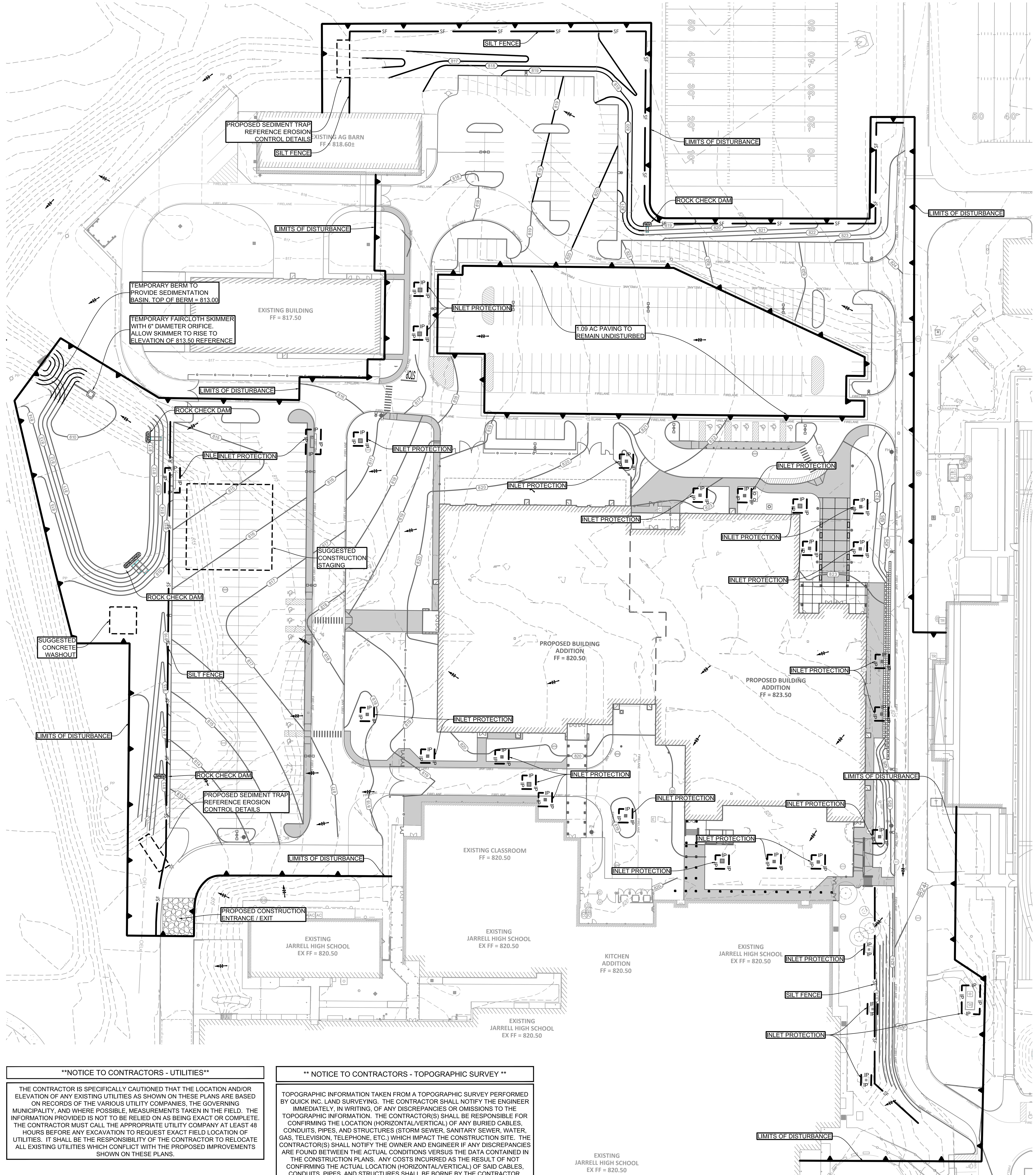
WATER QUALITY & DETENTION POND PROFILE VIEWS

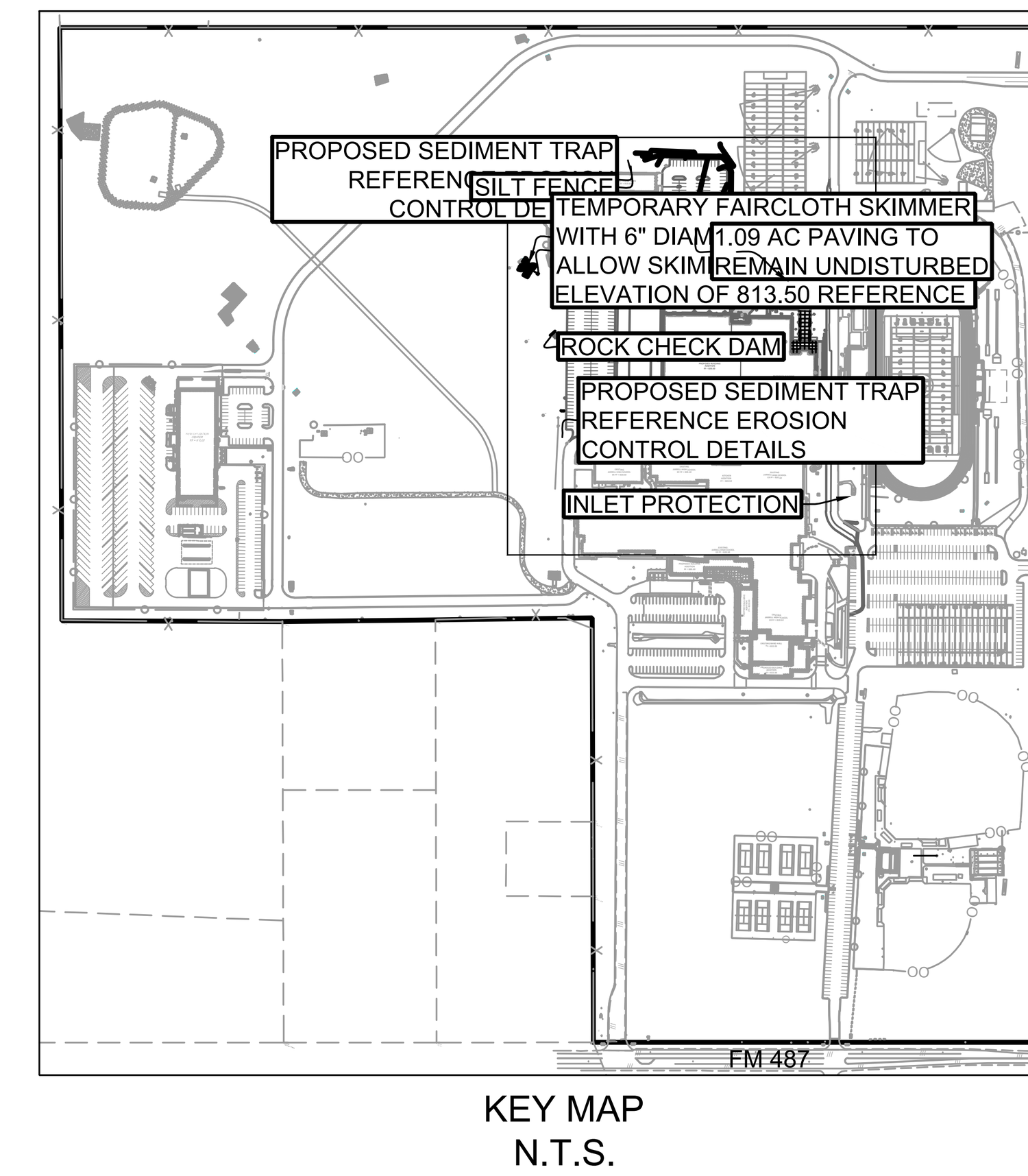
PACKAGE 1 1

Job No.: 1836-06-01
Drawn By: ---
Date: 10/28/2021
Sheet No.: C3.06

9/14/2021 1:57:27 PM

APPROVED PLAN SHEETS FROM
WPAP #9 & SCS MODIFICATION -
CURENTLY UNDER CONSTRUCTION





KEY MAP
N.T.S.

LEGEND

- INLET PROTECTION — IP — IP —
- SILT FENCE — SF —
- STRAW WATTLE — SW —
- LIMITS OF DISTURBANCE
- ROCK CHECK DAM
- EXISTING FLOW ARROW

TURF PROJECT NOTES

EROSION CONTROL:
Throughout the project and the maintenance period for turfgrass, it is the Contractor's responsibility to maintain the topsoil in place at specified grades. **Topsoil and turfgrass losses due to erosion or any construction disturbance will be replaced by the Contractor until ESTABLISHMENT and ACCEPTANCE is achieved**.

SOIL PREPARATION :
All slopes and areas disturbed by construction, except those occupied by buildings, structures, or paving shall be graded smooth and four (4") inches of topsoil applied. If adequate topsoil is not available onsite, the Contractor shall provide topsoil as approved by the Owner. The area shall be dressed to typical sections and plowed to a depth of five (5") inches. Soil shall be further prepared by the removal of debris, weeds and stones larger than 3/4 inch in diameter. After tillage and cleaning, all areas to receive turf shall be leveled, fine graded, and drug with a weighted spike harrow or float drag. The top two (2") inches shall be pulverized to provide a uniform bed for seeding or sod as described below.

GRASS SOD:
At a minimum, three feet (3') of solid sod shall be installed along all impervious edges. This includes, but is not limited to: curbing, sidewalks, building foundation, storm water inlets, manholes, and planting bed perimeter treatments. Additional areas of sod installation will be as indicated on the design plans. Should installation occur between November and March, sod shall include an over-seed of Annual Rye for a grown-in appearance.

SPRING AND SUMMER PERMANENT GRASSING (May 15 through September 15):
Hydromulch seed with hulled Common Bermuda at a rate of 4 lbs/1000 sf. Seeding shall be accomplished immediately after bed preparation. Hydroseed mixture shall contain cellulose mulch applied at a rate of 2000 lbs/acre, with a maximum of 50 lbs/100 gallons of water. If seeding is delayed after mixing 0.5 - 2 hours, add 50% seed mix. If delay is longer than 2 hours, begin with new mixture.

FALL AND WINTER TEMPORARY GRASSING (September 15 through May 15):
Seed with annual rye at a rate of 10 lbs/1000 sf. After May 15, Contractor shall remove rye to effectively establish permanent seeding.

SPRING AND SUMMER PERMANENT GRASSING (May 15 through September 15):
Installation and establishment of turf shall follow local DOT regional specifications and guidelines; seeding shall be accomplished immediately after bed prep and consist of the following:

Green Sprangletop……….0.3 lbs./acre
Bermuda Grass……………2.4 lbs./acre
Sideoats Grama…………..4.5 lbs./acre
Buffalo Grass....................1.6 lbs./acre

FALL AND WINTER TEMPORARY GRASSING (September 15 through May 15):
Installation and establishment of turf shall follow local DOT regional specifications and guidelines; seeding shall be accomplished immediately after bed prep and consist of the following:

Tall Fescue……………….4.5 lbs./acre
Oats………………………24 lbs./acre
Wheat…………………….34 lbs./acre

SEEDING ON SLOPES:
Hydroseed with appropriate season's grass seed as indicated above. All slopes 4:1 or greater and subject to erosion shall include a Bonded Fiber Matrix or be covered with appropriate "North American Green" blankets.

PROTECTION:
Protect newly seeded areas from excessive runoff and traffic until vegetation is established. Accumulated sediment deposited by runoff should be removed to prevent suppression of the vegetation. In addition, determine the source of excess sediment and implement appropriate BMPs to control the erosion. No heavy equipment shall be moved over the planted turf area unless the soil is again prepared, graded, leveled, and replanted. It will be the responsibility of the Contractor to protect all paving surfaces, curbs, utilities, plant materials, and any other existing improvements from damage. Any damages shall be repaired or replaced at no cost to the Owner.

IRRIGATION:
In the absence of an irrigation system or areas beyond the coverage limits of a permanent irrigation system, Contractor shall water sod/seed temporarily to develop adequate growth and establishment before regular maintenance begins. Turf shall be watered until firmly established.

Water shall be furnished by the Contractor with means and methods available to achieve acceptable turf. The water source shall be clean and free of industrial wastes or other substances harmful to the growth of the turf.

MAINTENANCE REQUIREMENTS:
Vegetation should be inspected regularly to ensure that plant material is established properly and remains healthy. Mowing, trimming and supervision of water applications shall be the responsibility of the Contractor until the Owner or Owner's Representative accepts and assumes regular maintenance.

ESTABLISHMENT AND ACCEPTANCE:
All disturbed areas being seeded shall receive topsoil as specified and be adequately established with turf such that any absence of water will not kill the turf, but promote a state of turf dormancy, until the next rainfall event.

Regardless of unseasonable climatic conditions or other adverse conditions affecting planting operations and the growth of the turf grass, it shall be the sole responsibility of the Contractor to establish a uniform stand of grass. UNIFORM STAND OF GRASS is defined as minimum 80% coverage per square foot (no bare areas).

Contractor to make a written request for inspection to Owner or Owner's representative a minimum of 5 days prior to the anticipated inspection date.

EROSION CONTROL MAINTENANCE NOTES

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTI0N PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON ON A SCHEDULE WHICH COMPLIES WITH THE GENERAL PERMIT REQUIREMENTS AND CLEANED AND REPAIRED WITHIN 48 HOURS OF THE INSPECTION IN ACCORDANCE WITH THE FOLLOWING:
   - 1.A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
   - 1.B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.
   - 1.C. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
   - 1.D. THE TEMPORARY PARKING AND STORAGE AREA (IF PRESENT) SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
   - 1.E. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS OR SEDIMENT TRAPS (IF PRESENT) SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
   - 1.F. MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED ARE GIVEN IN SECTION 5 OF THE STORM WATER POLLUTION PREVENTION PLAN.

NOTE - STABILIZATION

ALL DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND SEEDED OR SODDED AS NECESSARY AND BY DEFINITION 'MAINTAINED' UNTIL AN ESTABLISHED STAND OF GRASS CAN BE RELEASED TO THE OWNER. MATERIALS AND PROCEDURE TO BE IN ACCORDANCE WITH SPECIFICATION SECTION 32 9200 - TURF AND GRASSES.

SITE DATA

TOTAL LAND AREA: 119.54 AC
DISTURBED AREA: 11.01 AC
IMPERVIOUS: 7.29 AC
PERVIOUS: 3.72 AC

EROSION CONTROL SEQUENCE

1. INSTALL SILT FENCES AROUND PERIMETER OF PROPERTY AND DISTURBED AREAS AS SHOWN.
2. INSTALL INLET PROTECTION FOR ALL EXISTING GRATE INLETS, CURB INLETS.
3. INSTALL ROCK CHECK DAMS AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES, IF PRESENT.
4. CONSTRUCT TEMPORARY CONSTRUCTION EXIT.
5. COMMENCE GRUBBING AND REMOVAL OF VEGETATION IN AREA TO RECEIVE CUT OR FILL.
6. COMMENCE GRADING OPERATION FOR BUILDING PAD PREPARATION.
7. INSTALL ALL UNDERGROUND UTILITIES.
8. FINALIZE PAVEMENT SUBGRADE PREPARATION.
9. INSTALL ALL PROPOSED STORM SEWER PIPES AND INSTALL INLET PROTECTION SILT FENCES AT ENDS OF EXPOSED PIPES.
10. CONSTRUCT ALL GRATE INLETS AND DRAINAGE STRUCTURES. INLET PROTECTION SILT FENCES MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION.
11. REMOVE SILT FENCES AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
12. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT, CURB & GUTTER.
13. INSTALL ALL PAVING, CURB & GUTTER.
14. COMPLETE PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION, IN ACCORDANCE WITH THE TURF PROJECT NOTES.
15. REMOVE TEMPORARY CONSTRUCTION EXIT, SILT FENCES & ROCK CHECK DAMS.

MATERIAL STORAGE - NOTICE TO CONTRACTOR ***

THE CONTRACTOR SHALL NOTE ON SITE PLAN THE LOCATION OF ALL MATERIAL STORAGE AREAS, EQUIPMENT STORAGE AREAS, PETROLEUM TANKS, SOLID WASTE RECEPTACLES, SANITARY FACILITIES, ANY ON-SITE OR OFF-SITE BORROW OR STOCKPILE AREA, ANY ON-SITE OR OFF-SITE SUPPORT ACTIVITIES (SUCH AS ASPHALT OR CONCRETE PLANTS). CONTRACTOR SHALL ALSO PREPARE, KEEP ON SITE, AND MAINTAIN CURRENT A LIST OF MATERIALS WITH APPROXIMATE QUANTITIES, WHICH ARE STORED ON SITE.

NOTICE TO CONTRACTORS - UTILITIES

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VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES
BY VACUUM EXCAVATION OR OTHER POTHOLING TECHNIQUES.

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Revision / Date

Project:
ADDITIONS AND RENOVATIONS AT JARRELL HIGH SCHOOL FOR JARRELL I.S.D. JARRELL, TEXAS

STATE OF TEXAS
MATTHEW S. HARDY
134448
LICENSED PROFESSIONAL ENGINEER
02-07-2025
TBPE Registration #: F-13709

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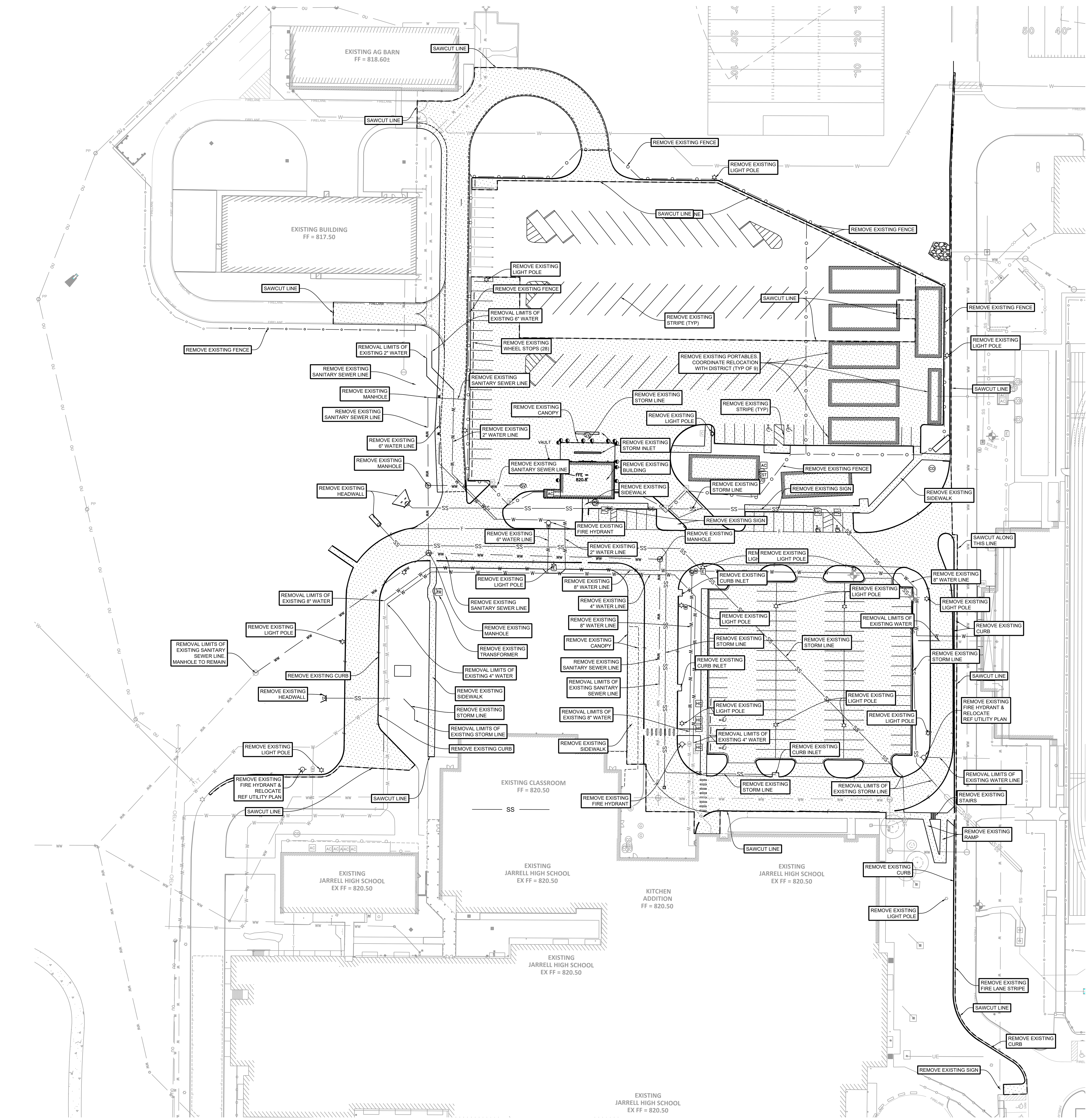
EROSION CONTROL PLAN
PACKAGE 2

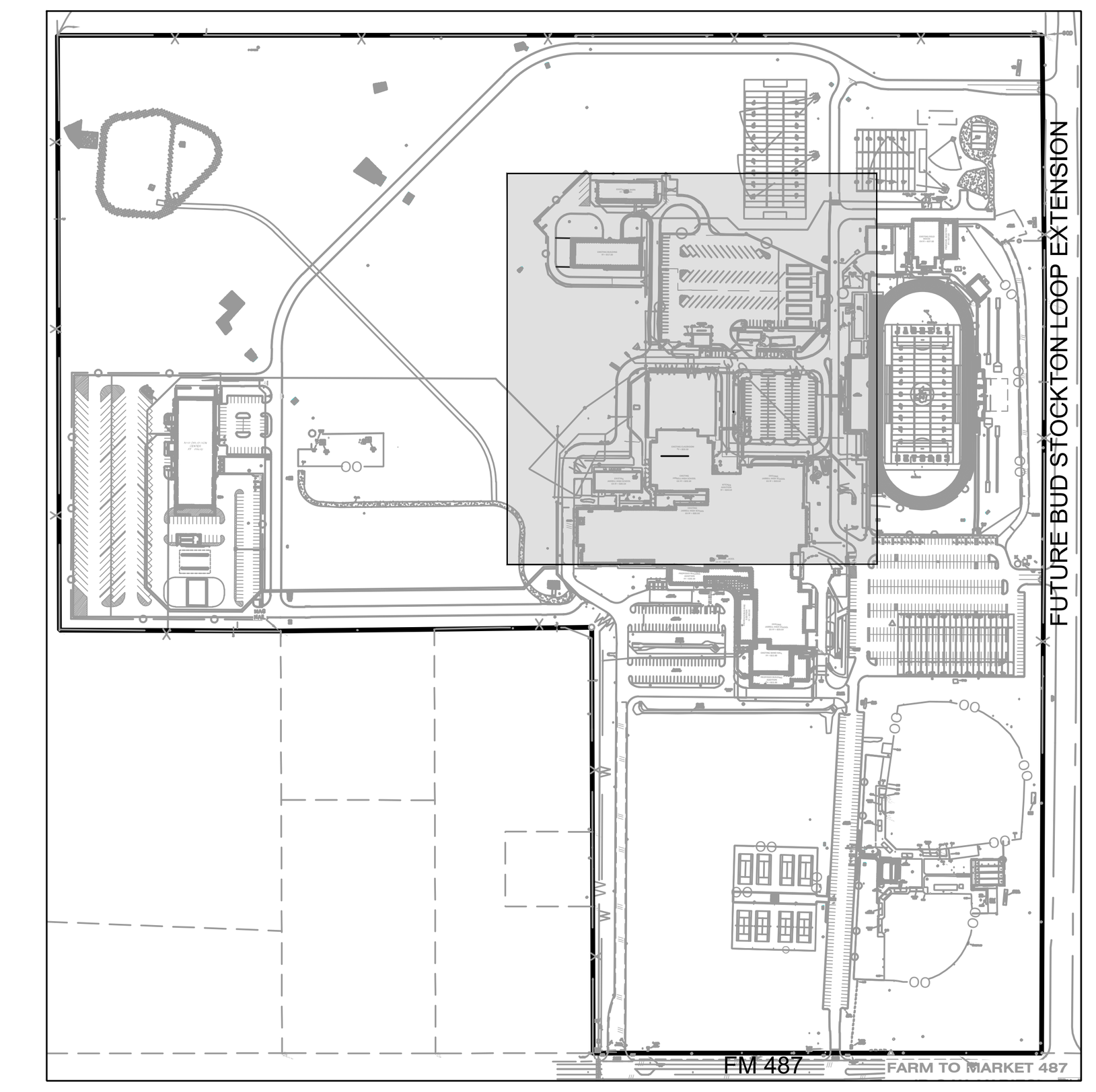
Job No. 01949-01-01	Sheet No.
Drawn By: AM	
Date: 01.21.2025	C2.00
95% CD	



GRAPHIC SCALE
0 40 80 FEET

LEGEND

PAVEMENT REMOVAL	
SAWCUT	



KEY MAP
N.T.S.

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** IMPORTANT DEMOLITION NOTE ***

IT IS NOT KNOWN BY LANGAN, THE INTEGRITY OF THE EXISTING IRRIGATION SYSTEM. THEREFORE, PRIOR TO ANY DEMOLITION, THE IRRIGATION CONTRACTOR SHALL MEET WITH DISTRICT MAINTENANCE PERSONNEL TO LOCATE LIMITS OF COVERAGE AND EXISTING SYSTEM FAILURES. WITH AN UNDERSTANDING OF PROPOSED IMPROVEMENTS, THE DISTRICT AND CONTRACTOR SHALL DETERMINE WHERE TO PRESERVE THE EXISTING IRRIGATION SYSTEM TO QUANTIFY PROPOSED INSTALLATION LIMITS. THE CONTRACTOR SHALL THEN CAP AND/OR TERMINATE THE EXISTING MAINLINE, CONTROL WIRES, AND LATERALS WITHIN APPROPRIATE IRRIGATION BOXES. ANY COMPONENTS OF THE EXISTING SYSTEM TO BE SALVAGED SHALL BE DETERMINED BY THE DISTRICT.

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Project:
ADDITIONS AND RENOVATIONS AT JARRELL HIGH SCHOOL FOR JARRELL I.S.D.
1100 FM 487, JARRELL, TEXAS 76537

LANGAN

STATE OF TEXAS
MATTHEW S. HARDY
134448
LICENSED PROFESSIONAL ENGINEER
11-13-2024
TBPE Registration #: F-13709

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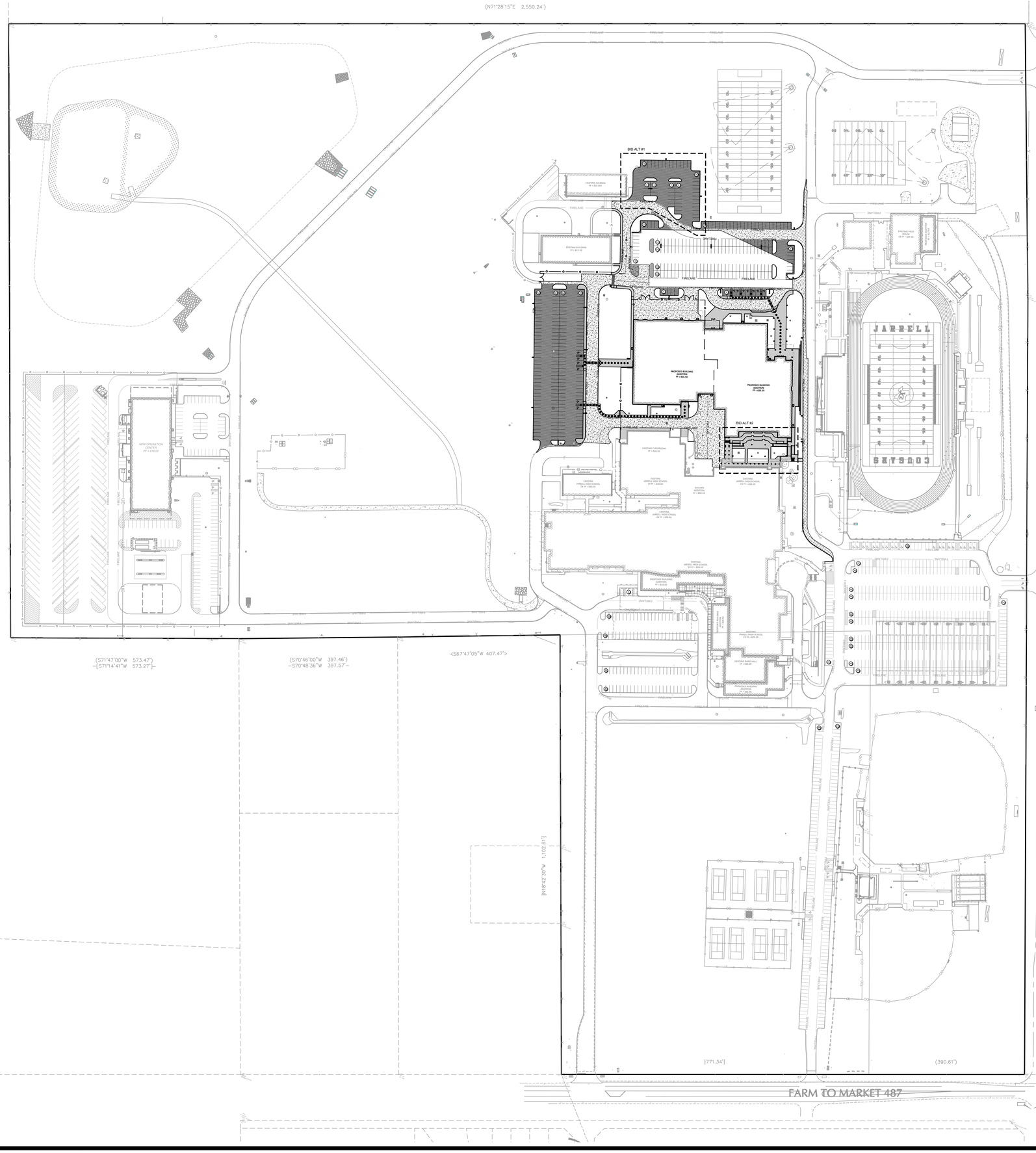
DEMOLITION PLAN

PACKAGE 2

Job No. 19419-01-01	Sheet No.
Drawn By: AM	C3.00
Date: 11.13.2024	



LEGEND

PROPOSED FACE AND BACK OF CURB	═
PROPOSED HEAVY DUTY PAVEMENT. 7" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT	▩
PROPOSED LIGHT DUTY PAVEMENT. 6" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT	▨
PROPOSED PASSENGER CAR PAVEMENT. 5" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT	░
PROPOSED SIDEWALK. REFERENCE PAVING DETAILS FOR PANEL SCHEDULE	▒

PARKING COUNT SUMMARY

EXISTING SPACES	TOTAL SPACES
688 SPACES	1028 SPACES
36 ACCESSIBLE SPACES	49 ACCESSIBLE SPACES
724 TOTAL EXISTING SPACES	1077 TOTAL SPACES

NEW SPACES

340 SPACES ADDED
13 ACCESSIBLE ADDED
353 TOTAL SPACES ADDED

WPAP CALCULATIONS

SITE AREA: 119.54 ACRES

IMPERVIOUS SUMMARY	
EXISTING IMPERVIOUS COVER	37.07 ACRES
DEMOLITION	169,160 SQ FT = 3.88 AC
STRUCTURES/ROOFTOPS	88,782 SQ FT = 2.04 AC
PARKING, ACCESS DRIVES & SIDEWALKS	201,474 SQ FT = 4.63 AC
RIPRAP	725 SQ FT = 0.02 AC
NET TOTAL IC INCREASE	121,821 SQ FT = 2.80 AC

**VALUES PRESENTED ABOVE ASSUME ACCEPTANCE OF BID ALTERNATES 1 & 2

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LANGAN

MATTHEW S. HARDY
134448
11-13-2024

TBPE Registration #: F-13709

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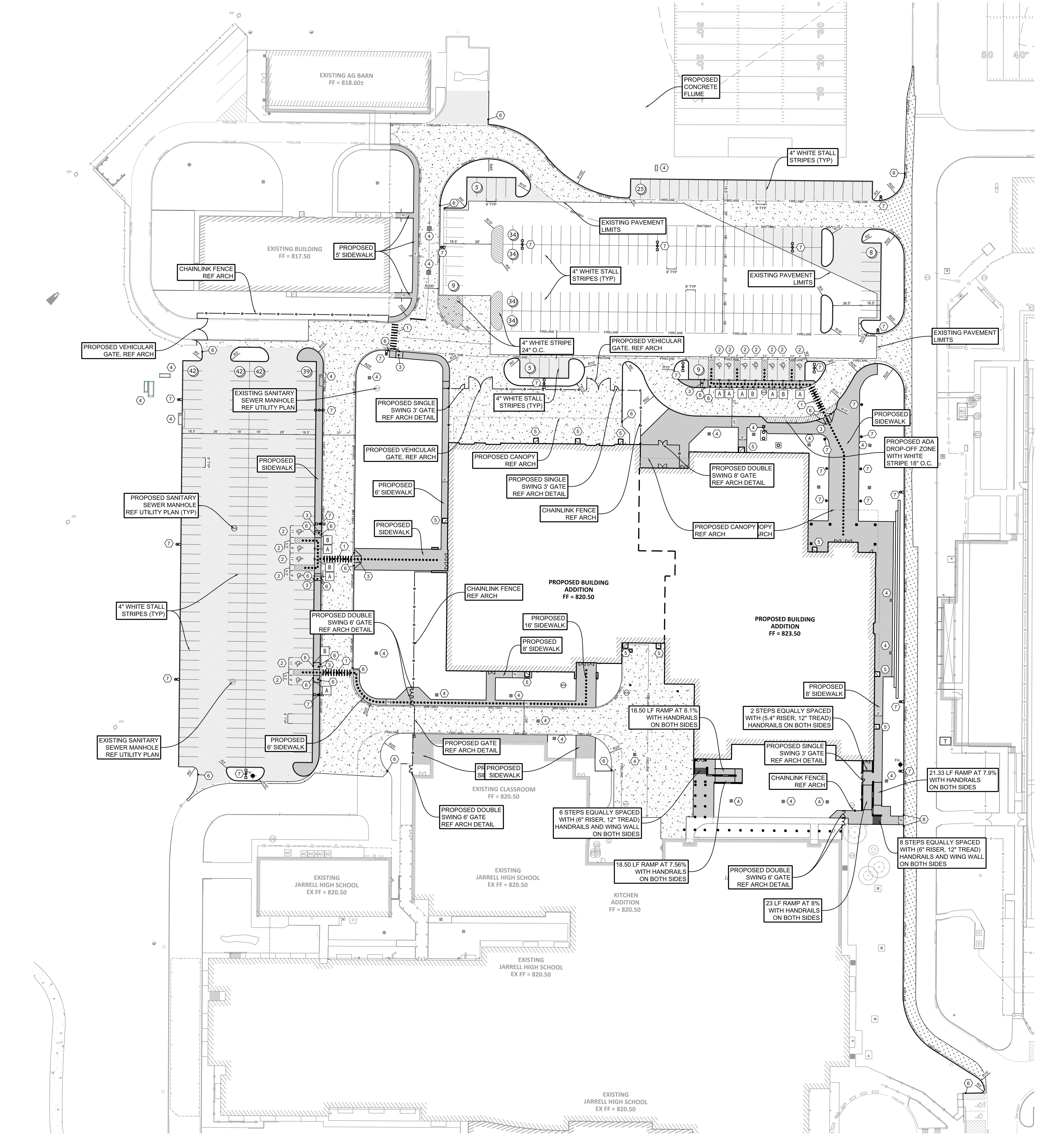
OVERALL SITE PLAN

PACKAGE 2

Job. No. 19419-01-01	Sheet No.
Drawn By: AM	C4.00
Date: 11.13.2024	



GRAPHIC SCALE

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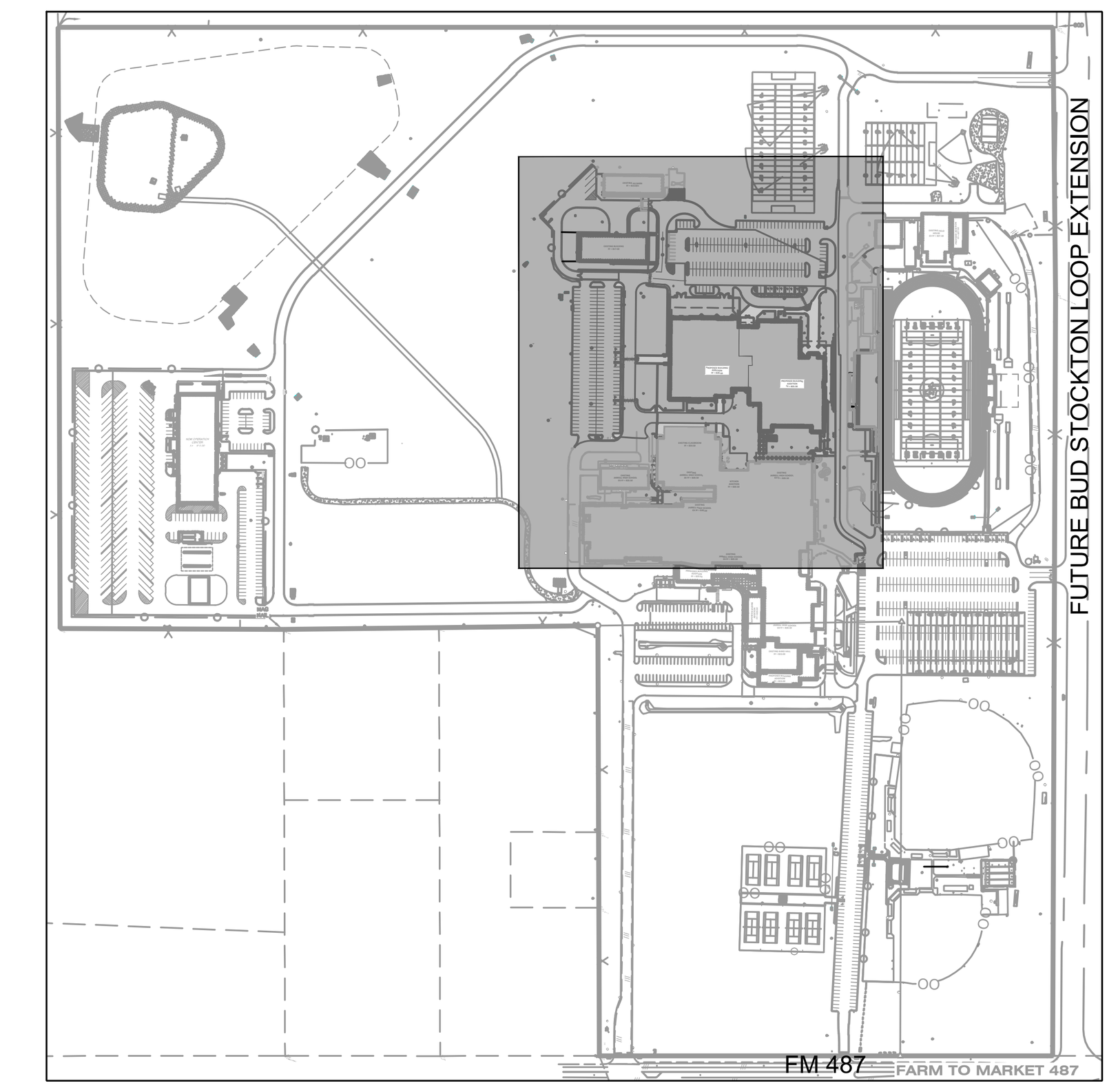

KEY MAP
N.T.S.

SIGNAGE SYMBOL KEY

A	ACCESSIBLE PARKING SIGNAGE IN BOLLARD
B	VAN ACCESSIBLE PARKING SIGNAGE IN BOLLARD

SYMBOL KEY

1. CROSSWALK / PED. CROSSING TYPICAL SEE PAVING DETAILS
2. TYPICAL ACCESSIBLE PARKING SPACES SEE PAVING DETAILS (TYP)
3. INSTALL BARRIER FREE RAMP (BFR) REFER TO PAVING DETAILS (TYP)
4. PROPOSED DRAINAGE STRUCTURE. REFER TO DRAINAGE PLAN (TYP)
5. PROPOSED STRUCTURAL STOOP REFER TO STRUCTURAL PLANS
6. TRANSITION CURB REFER TO PAVING DETAILS
7. PROPOSED LIGHT POLE REF. MEP PLANS
8. PROPOSED BOLLARD (TYP OF 18)

LEGEND

PROPOSED FACE AND BACK OF CURB

PROPOSED HEAVY DUTY PAVEMENT. 7" REINFORCED MIN. 3,600 PSI CONCRETE WITH #3 REBAR @ 18" O.C.E.W. OVER 4" FLEXIBLE BASE. REFERENCE GEOTECH REPORT

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PROPOSED SIDEWALK. REFERENCE PAVING DETAILS FOR PANEL SCHEDULE

PROPOSED SIGN

PAINTED TRAFFIC ARROW

FIRE LANE STRIPING (FIRELANE)

PROPOSED FIRE HYDRANT (FH)

PROPOSED SANITARY MANHOLE (WW)

PROPOSED CURB INLET

PROPOSED GRATE INLET

ACCESSIBLE ROUTE

PARKING COUNT

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STANDARD ACCESSIBILITY REQUIREMENTS

PARKING:

(A) ACCESSIBLE PARKING SPACES SHALL BE AS NOTED TO A MIN. 96" WIDE OR A MIN. 132" WIDE FOR VAN DESIGNATED SPACES WITH A MAXIMUM SLOPE OF 2% (IN ALL DIRECTIONS). ALL BUILDINGS SHALL CONTAIN AT LEAST ONE VAN ACCESSIBLE SPACE FOR NO LESS THAN ONE VAN SPACE FOR EVERY 6 ACCESSIBLE SPACES.

(B) EACH ACCESSIBLE PARKING SPACE SHALL HAVE A VERTICALLY MOUNTED (OR SUSPENDED) SIGN SHOWING THE SYMBOL OF ACCESSIBILITY. APPROPRIATE VAN ACCESSIBLE SPACES MUST INCORPORATE "VAN-ACCESSIBLE" BELOW THE SYMBOL OF ACCESSIBILITY. SIGNS SHALL BE LOCATED AS NOTED TO 80" (MIN.) ABOVE THE ADJACENT PAVED SURFACE TO BOTTOM OF SIGN.

(C) ALL ACCESS AISLES SERVING ACCESSIBLE PARKING SPACES SHALL BE AS NOTED TO A 60" WIDE MINIMUM.

RAMPS:

(D) RAMPS EXCEEDING 6" IN RISE (EXCLUDING CURB RAMPS) SHALL HAVE APPROPRIATE EDGE PROTECTION WITH HANDRAILS ON EACH SIDE AT BETWEEN 34" AND 38", AND EXTEND 12" BEYOND THE TOP AND BOTTOM OF RAMP. HANDRAIL SHALL NOT DIMINISH THE CLEAR AREA REQUIRED FOR TOP AND BOTTOM LANDINGS SERVING THE RAMPS.

(E) RAMPS SHALL HAVE A SURFACE ARRANGED SO THAT WATER WILL NOT ACCUMULATE. COLOR OF RAMP FINISH MATERIAL (INCLUDING CONCRETE) SHALL HAVE A LIGHT AND REFLECTIVE VALUE TO SIGNIFICANTLY CONTRAST FROM ADJACENT SURFACES OR COLORS ONLY IF REQUIRED BY LOCAL OR STATE JURISDICTION

(F) LANDINGS FOR RAMPS SHALL BE AS WIDE AS THE RAMP AND 60" LONG MINIMUM (36" MINIMUM FOR CURB RAMPS)

(G) RAMPS SHALL NOT EXCEED A 1:12 RUNNING SLOPE OR 30" RISE

(H) RAMPS AND LANDINGS SHALL NOT EXCEED 1:48 (2% CROSS SLOPE)

SIDEWALKS AND ACCESSIBLE ROUTES:

(I) SIDEWALKS MUST BE AT LEAST 36" WIDE WITH 5'X5' CLEAR PASSING OPPORTUNITIES IN INCREMENTS LESS THAN 150 LF
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 1:48 (2%)

(J) LONGITUDINAL SLOPE OF ANY SIDEWALK (ACCESSIBLE ROUTE) SHALL NOT EXCEED 1:20 (5%)

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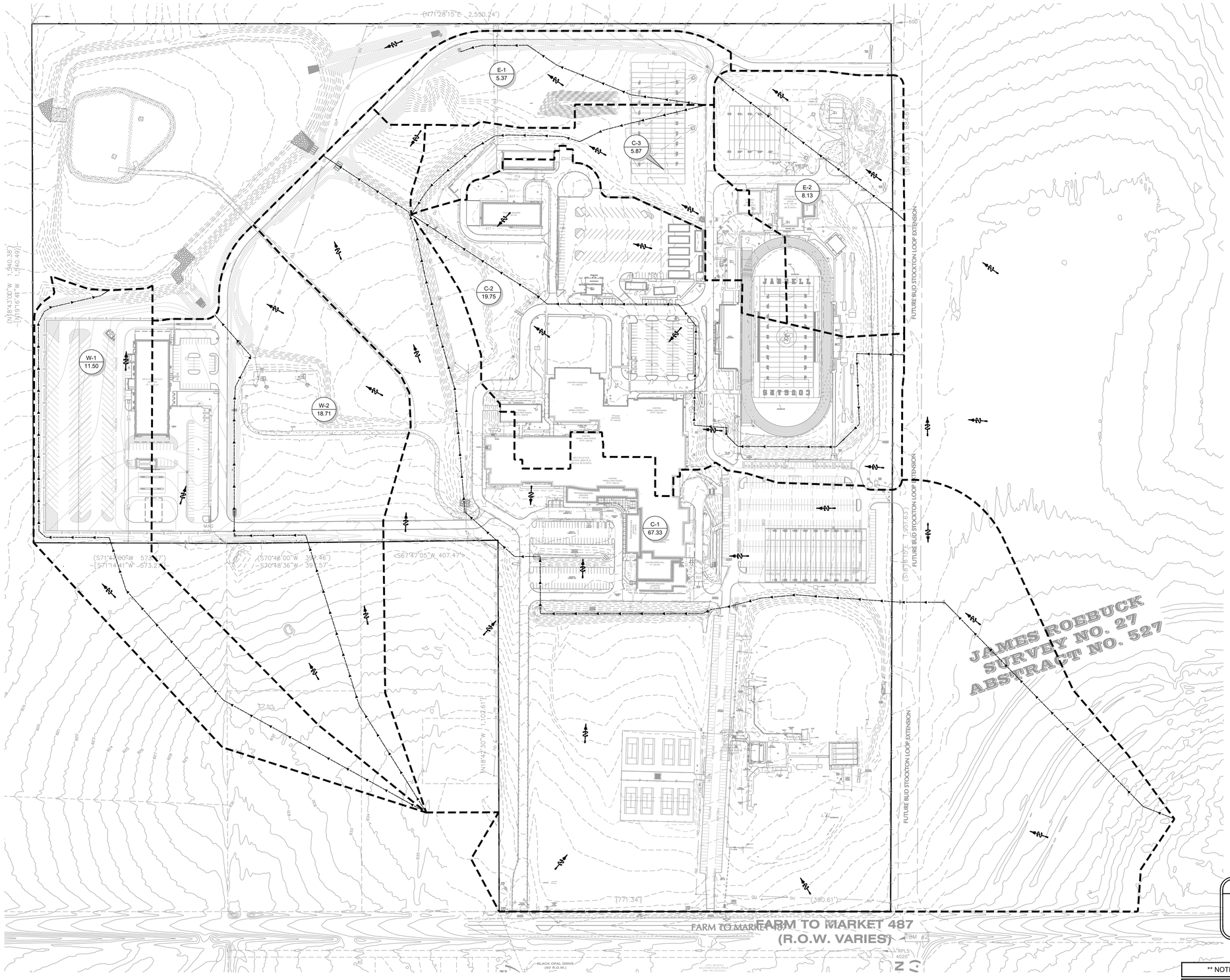
SITE PLAN	
PACKAGE 2	
Job. No. 19419-01-01	Sheet No.
Drawn By: AM	C4.01
Date: 11.13.2024	



GRAPHIC SCALE

0 120 240 FEET

LEGEND

- DRAINAGE BASIN — BASIN NAME / ACRES (e.g. DA-00 / 1.00)
- DRAINAGE AREA
- TC PATH
- EXISTING FLOW ARROW

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OFF-SITE TOPOGRAPHIC INFO

OFF-SITE TOPOGRAPHIC INFORMATION WAS ACQUIRED FROM THE WILLIAMSON COUNTY GIS DEPARTMENT THROUGH THE LIDAR REQUEST SYSTEM.

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STATE OF TEXAS — MATTHEW S. HARDY — 134448 — LICENSED PROFESSIONAL ENGINEER

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EXISTING DRAINAGE AREA MAP

PACKAGE 2

Job. No. 19419-01-01
Drawn By: AM
Date: 11.13.2024

Sheet No. C6.00

PRE-DEVELOPMENT DRAINAGE AREA CALCULATIONS

Drainage Area Designation	Drainage Area	Runoff Coefficient "C"				Time of Concentration	2-Year Rainfall Intensity (I2)	2-Year Peak Discharge (Q2)	10-Year Rainfall Intensity (I10)	10-Year Peak Discharge (Q10)	25-Year Rainfall Intensity (I25)	25-Year Peak Discharge (Q25)	100-Year Rainfall Intensity (I100)	100-Year Peak Discharge (Q100)
-	(ac)	2- Yr	10- Yr	25- Yr	100- Yr	(min)	(in/hr)	(cfs)	(in/hr)	(cfs)	(in/hr)	(cfs)	(in/hr)	(cfs)
W-1	11.50	0.48	0.54	0.59	0.66	25	3.25	17.94	4.84	30.20	5.98	40.33	7.91	60.38
W-2	18.71	0.38	0.44	0.48	0.55	20	3.64	26.12	5.43	44.53	6.70	60.10	8.84	91.40
C-1	67.33	0.40	0.45	0.49	0.57	22	3.47	92.54	5.17	157.47	6.38	212.29	8.43	322.20
C-2	19.65	0.55	0.62	0.66	0.74	24	3.37	36.32	5.02	60.72	6.20	80.50	8.18	119.33
C-3	5.87	0.39	0.45	0.49	0.56	14	4.33	9.92	6.46	16.89	7.94	22.72	10.46	34.42
E-1	5.37	0.38	0.43	0.47	0.54	15	4.20	8.46	6.26	14.45	7.71	19.48	10.15	29.63
E-2	8.13	0.40	0.45	0.50	0.57	11	4.92	15.94	7.35	27.16	9.04	36.46	11.89	55.13
Total	136.56							207.23		351.41		471.88		712.50

Note: Calculations based on the Rational Method: Q = C*I*A

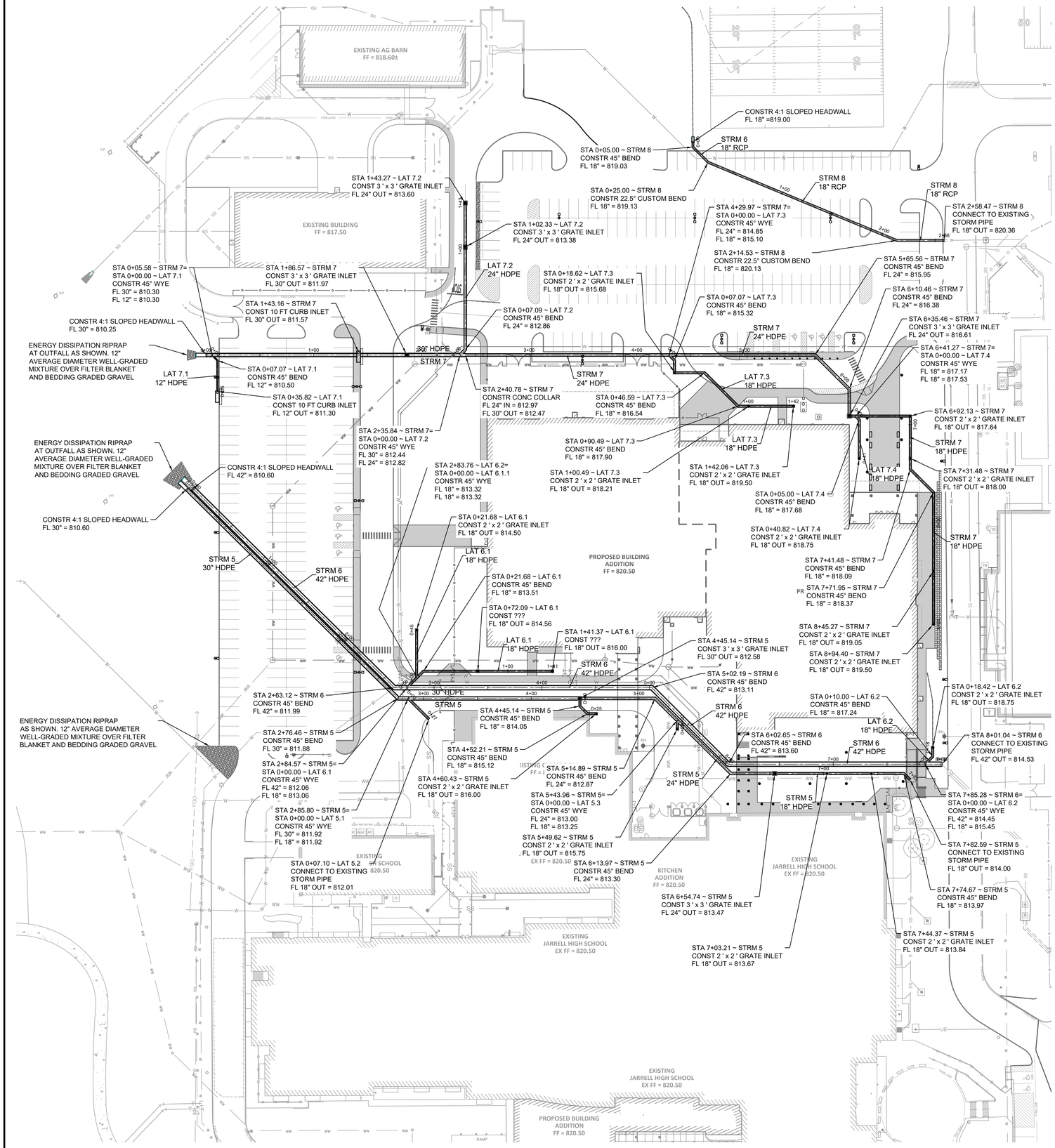
TIME OF CONCENTRATION CALCULATIONS

Drainage Area Designation	Sheet Flow					Shallow Concentrated Flow					Channel Flow				Total
	Manning's (n)	Length (L)	Slope (s)	2-Yr, 24-hr rainfall	Time (Tt)	Length (L)	Slope (s)	Cover Type	Velocity	Time (Tt)	Length (L)	Velocity	Time (Tt)		Time (Tc)
		(ft)	(ft/ft)	(in)	(min)	(ft)	(ft/ft)	-	(ft/sec)	(min)	(ft)	(ft/sec)	(min)		(min)
W-1	0.15	100	0.010	4.06	11.5	1188	0.014	Unpaved	1.91	10.4	1074	5.00	3.6		25
W-2	0.15	100	0.010	4.06	11.5	805	0.020	Unpaved	2.28	5.9	919	5.00	3.1		20
C-1	0.15	100	0.030	4.06	7.4	845	0.025	Unpaved	2.55	5.5	2865	5.00	9.6		22
C-2	0.15	100	0.005	4.06	15.1	312	0.013	Unpaved	1.84	2.8	1744	5.00	5.8		24
C-3	0.15	100	0.015	4.06	9.8	314	0.013	Unpaved	1.84	2.8	499	5.00	1.7		14
E-1	0.15	100	0.015	4.06	9.8	467	0.010	Unpaved	1.61	4.8	201	5.00	0.7		15
E-2	0.15	100	0.018	4.06	9.1	600	0.180	Unpaved	6.84	1.5	-	-	0.0		11

Note: The time of concentration for each watershed was calculated using equations given in Chapter 3 of TR-55 - Urban Hydrology for Small Watersheds. Values for each overland "n" are taken from Table 3-1 of the previously reference manual.

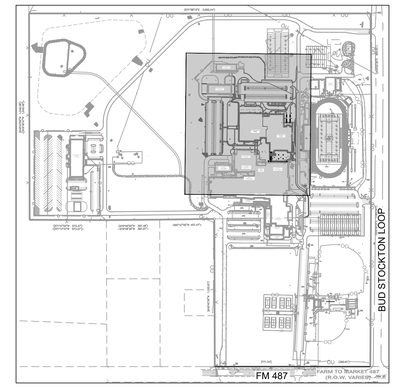
** NOTICE TO CONTRACTORS - TOPOGRAPHIC SURVEY **

TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY PERFORMED BY 4WARD LAND SURVEYING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, IN WRITING, OF ANY DISCREPANCIES OR OMISSIONS TO THE TOPOGRAPHIC INFORMATION. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR CONFIRMING THE LOCATION (HORIZONTAL/VERTICAL) OF ANY BURIED CABLES, CONDUITS, PIPES, AND STRUCTURES (STORM SEWER, SANITARY SEWER, WATER, GAS, TELEVISION, TELEPHONE, ETC.) WHICH IMPACT THE CONSTRUCTION SITE. THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY DISCREPANCIES ARE FOUND BETWEEN THE ACTUAL CONDITIONS VERSUS THE DATA CONTAINED IN THE CONSTRUCTION PLANS. ANY COSTS INCURRED AS THE RESULT OF NOT CONFIRMING THE ACTUAL LOCATION (HORIZONTAL/VERTICAL) OF SAID CABLES, CONDUITS, PIPES, AND STRUCTURES SHALL BE BORNE BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY ERRORS OR DISCREPANCIES ARE FOUND ON THE CONSTRUCTION DOCUMENTS (PS&E), WHICH NEGATIVELY IMPACT THE PROJECT. THE ENGINEER AND OWNER SHALL BE INDEMNIFIED OF PROBLEMS AND/OR COST WHICH MAY RESULT FROM CONTRACTOR'S FAILURE TO NOTIFY ENGINEER AND OWNER.



GRAPHIC SCALE

0 40 80 FEET



KEY MAP
N.T.S.

LEGEND

PROPOSED CURB INLET	
PROPOSED STORM LINE	
GRATE INLET	
FL	FLOWLINE
TI	TOP OF INLET
TC	TOP OF CURB

NOTICE TO CONTRACTORS - UTILITIES

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF ANY EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, THE GOVERNING MUNICIPALITY, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION PROVIDED IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

811 Know what's below. Call before you dig.

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!!!CAUTION!!!
EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY.
VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES
BY VACUUM EXCAVATION OR OTHER POTHOLING TECHNIQUES.

Revision / Date

Project:
ADDITIONS AND RENOVATIONS
AT JARRELL HIGH SCHOOL
FOR
JARRELL I.S.D.
JARRELL, TEXAS

LANGAN

STATE OF TEXAS
MATTHEW S. HARDY
134448
LICENSED
PROFESSIONAL ENGINEER
02-07-2025

TBPE Registration #: F-13709

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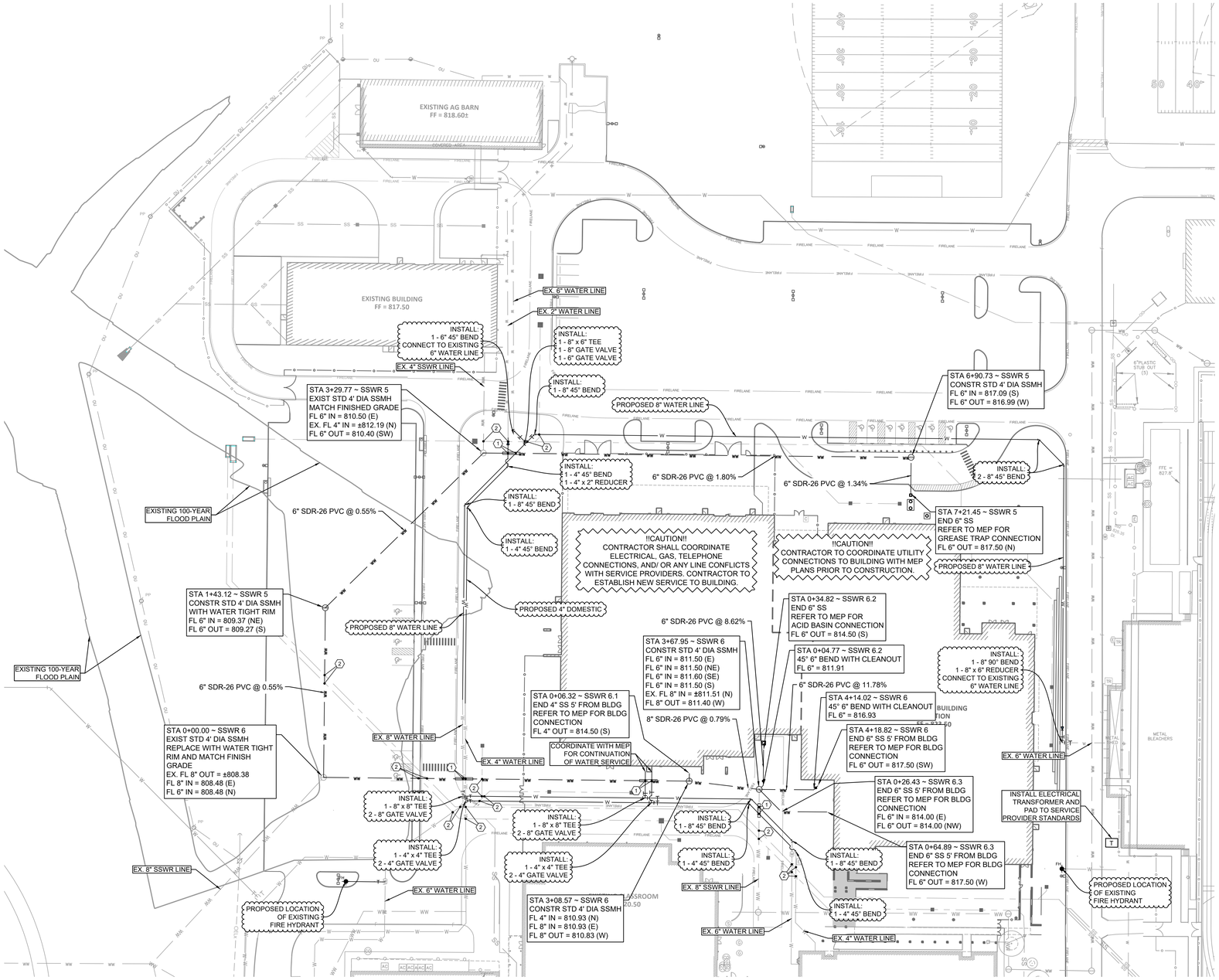
DRAINAGE PLAN

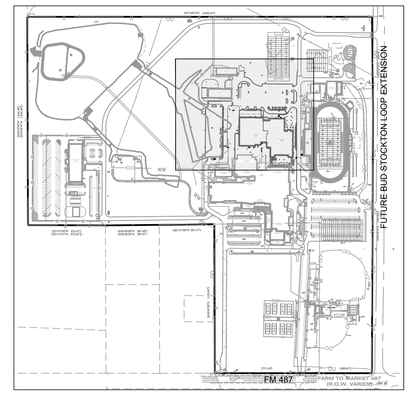
PACKAGE 2

Job No. 019469-01-01	Sheet No. C6.02
Drawn By: AM	
Date: 01.21.2025	
95% CD	



GRAPHIC SCALE

0 40 80 FEET



KEY MAP
N.T.S.

LEGEND

PROPOSED UNDERGROUND ELECTRIC	UE
PROPOSED GAS	GAS
PROPOSED SANITARY SEWER	WW
PROPOSED WATER	W
PROPOSED FIRE HYDRANT	FH
PROPOSED MANHOLE	

SYMBOL KEY

1. WATER-SANITARY SEWER CROSSING PER CITY AND TCEQ STANDARDS. ENCASE ALL PORTIONS OF SEWER WITHIN NINE FEET OF WATER LINE IN MIN. 150 PSI PIPE TWO NOMINAL SIZES LARGER THAN CARRIER PIPE. SUPPORT BY SPACERS AT 5' INTERVALS AND SEAL AT BOTH ENDS WITH CEMENT GROUT OR MANUFACTURED SEAL.
2. UTILITY CROSSINGS

WATER AND SEWER GENERAL NOTES

1. ALL WATER MAINS UNLESS OTHERWISE NOTED SHALL HAVE A MINIMUM COVER OF 48" BELOW FINISHED GRADE. PROVIDE VALVE EXTENSIONS TO ALL VALVES ON LINES DEEPER THAN 48".
2. WHEN WATER MAINS AND SANITARY SEWERS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO EACH OTHER THAN NINE FEET IN ALL DIRECTIONS, AND PARALLEL LINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING GUIDELINES SHALL APPLY:
   A. WHERE A SANITARY SEWER PARALLELS A WATERLINE, THE SEWER SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC MEETING ASTM SPECIFICATIONS WITH A PRESSURE RATING FOR BOTH THE PIPE AND JOINTS OF 150 PSI. THE VERTICAL SEPARATION SHALL BE A MINIMUM OF TWO FEET BETWEEN OUTSIDE DIAMETERS, AND THE HORIZONTAL SEPARATION SHALL BE A MINIMUM OF FOUR FEET BETWEEN OUTSIDE DIAMETERS. THE SEWER SHALL BE LOCATED BELOW THE WATERLINE.
   B. WHERE A SANITARY SEWER CROSSES A WATERLINE AND THE SEWER IS CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI, AN ABSOLUTE MINIMUM DISTANCE OF SIX INCHES BETWEEN OUTSIDE DIAMETERS SHALL BE MAINTAINED. IN ADDITION, THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
   C. WHERE A SEWER CROSSES UNDER A WATERLINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIPE WITH GASKETED JOINTS, A MINIMUM TWO FOOT SEPARATION DISTANCE SHALL BE MAINTAINED. IN ADDITION, THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
   D. WHERE A SEWER CROSSES OVER A WATERLINE, ALL PORTIONS OF THE SEWER WITHIN NINE FEET OF THE WATERLINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC PIPE WITH A PROCEDURE, THE NEW CONVEYANCE MAY BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE FEET INTERVALS WITH SPACERS OR BE FILLED TO THE SPRING LINE WITH WASHED SAND. THE ENCASEMENT PIPE SHOULD BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.
   E. THE SEWER NEED NOT BE DISTURBED WHERE A NEW WATERLINE IS TO BE INSTALLED PARALLEL TO AN EXISTING SEWER THAT SHOWS NO EVIDENCE OF LEAKAGE AND THE WATERLINE IS INSTALLED ABOVE THE SEWER A MINIMUM OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY. SHOULD EXCAVATION FOR THE WATERLINE PRODUCE EVIDENCE THAT THE SEWER IS LEAKING, THE SEWER MUST BE REPAIRED OR REPLACED AS DESCRIBED IN SUBPARAGRAPHS (A) OR (D) OF THIS PARAGRAPH.
   F. THE SEWER NEED NOT BE DISTURBED WHERE A NEW WATERLINE IS TO CROSS OVER (BY TWO FEET OR MORE) EXISTING SEWER SHOWING NO EVIDENCE OF LEAKAGE. SHOULD EXCAVATION FOR THE WATERLINE PRODUCE EVIDENCE THAT THE SEWER IS LEAKING, THEN THE SEWER MUST BE REPAIRED OR REPLACED AS DESCRIBED IN SUBSECTIONS (C) OR (D).
3. CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
4. ALL SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
5. THE UTILITY CONTRACTOR SHALL INSTALL THE WATER SERVICES TO A POINT AS SHOWN ON THE PLANS. THE METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER THE PAVING CONTRACTOR HAS COMPLETED THE FINE GRADING BEHIND THE BACK OF THE CURB. EACH SERVICE LOCATION WILL BE MARKED ON THE CURB, WITH A BLUE LETTER "W" BY THE UTILITY CONTRACTOR AND TIED TO PROPERTY CORNERS ON THE "RECORD DRAWINGS".
6. ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS.
7. VALVE BOXES SHALL BE FURNISHED AND SET ON EACH GATE VALVE. AFTER THE FINAL CLEANUP AND ALIGNMENT HAS BEEN COMPLETED, THE CONTRACTOR (UTILITY) SHALL POUR A CONCRETE BLOCK 24"X24"X6" AROUND ALL VALVE BOX TOPS SO THAT THE TOP OF BOX IS LEVEL WITH THE FINISHED GRADE. MARK WITH F OR O OR S IN CONCRETE.
8. CONTRACTOR SHALL RAISE/LOWER OR ADJUST ALL EXISTING UTILITY MAINS IN CONFLICT WITH PROPOSED UTILITIES AS PART OF THE BASE BIDS FOR ALL KNOWN OR UNKNOWN LINES.

!!!CAUTION!!!
EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY. VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES BY VACUUM EXCAVATION OR OTHER POTHOLING TECHNIQUES.

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Revision / Date

Project:
ADDITIONS AND RENOVATIONS
AT JARRELL HIGH SCHOOL
FOR
JARRELL I.S.D.
1100 FM 487, JARRELL, TEXAS 76537

LANGAN

STATE OF TEXAS
MATTHEW S. HARDY
134448
LICENSED
PROFESSIONAL ENGINEER
11-13-2024

TBPE Registration #: F-13709

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UTILITY PLAN AREA 1

PACKAGE 2

Job. No. 19419-01-01	Sheet No. C7.00
Drawn By: AM	
Date: 11.13.2024	

PLAN SHEETS FOR PROPOSED MODIFICATION

Plans for the Construction of

SANITARY SEWER FORCE MAIN IMPROVEMENTS

To Serve

ADDITIONS AND RENOVATIONS AT JARRELL HIGH SCHOOL

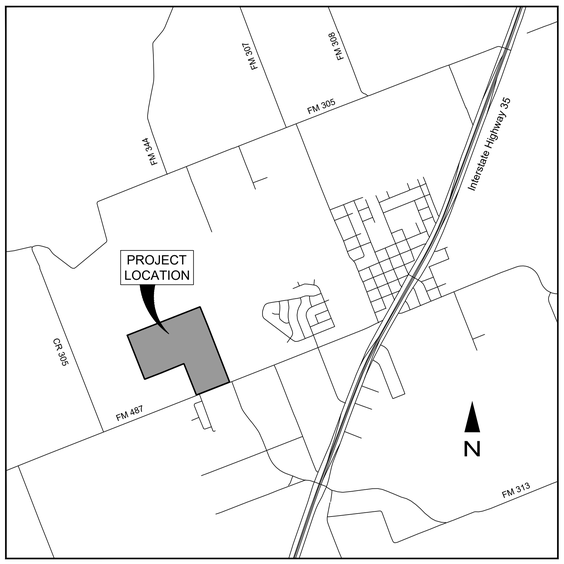
119.540 ACRES IN THE
NATHANIEL MOORE SURVEY, ABSTRACT NO. 410
JAMES ROEBUCK SURVEY, ABSTRACT NO. 527
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

STREET ADDRESS: 1100 FM 487

INDEPENDENT SCHOOL DISTRICT REPRESENTATIVE
SLEDGE ENGINEERING, LLC
CONTACT: STEPHEN DORMAN, PE
PHONE: (512) 415-0440
EMAIL: STEPHEN@SLEDGE.BIZ

CIVIL ENGINEER
LANGAN
9606 N. MOPAC EXPRESSWAY, SUITE 110
AUSTIN, TX 78759
CONTACT: MATT HARDY, PE
PHONE: (737) 289-7800
EMAIL: MHARDY@LANGAN.COM

SURVEYOR
QUICK INC. LAND SURVEYING
831 N MAIN ST
SALADO, TEXAS 76571
CONTACT: TRAVIS L. QUICKSALL, R.P.L.S.
PHONE: (512) 915-4950



SITE MAP
1" = 2,000'

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C1.0	COVER SHEET
C1.1	GENERAL NOTES
C1.2	TOPOGRAPHIC SURVEY (1 OF 2)
C1.3	TOPOGRAPHIC SURVEY (2 OF 2)
C2.0	DEMOLITION PLAN
C3.0	OVERALL SITE PLAN
C4.0	FORCE MAIN UTILITY PLAN PROFILE STA 0+00 TO STA 08+50
C4.1	FORCE MAIN UTILITY PLAN PROFILE STA 08+50 TO STA 15+00
C4.2	FORCE MAIN UTILITY PLAN PROFILE STA 15+00 TO STA END
C4.3	SANITARY SEWER LIFT STATION SITE PLAN
C5.0	SANITARY SEWER & WATER DETAILS
C5.1	SANITARY SEWER LIFT STATION DETAILS
C5.2	EROSION CONTROL DETAILS

LANGAN
9606 N. Mopac Expressway, Suite 110 ■ Austin, Texas 78759 ■ (737) 289-7800

LANGAN PROJECT NO. 531023304

October 2025

Date	Description	No.
Revisions		

STATE OF TEXAS
MATTHEW S. HARDY
124448
LICENSED
PROFESSIONAL ENGINEER
10/17/2025

TBPE Registration #: F-13709

LANGAN
Langan Engineering and Environmental Services, LLC.
9606 N. Mopac Expressway, Suite 110
Austin, TX 78759
T: 737.289.7800 F: 737.289.7801 www.langan.com
TBPE Firm REG. #F-13709

Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: COVER SHEET

Project No. 531023304
Date 09-05-2025
Drawn By AM
Checked By MH

C1.0
Sheet 1 of 13

Project No. 531023304

Texas Commission on Environmental Quality
Lift Station and Force Main
General construction notes

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 TCEQ-0591 (Rev. 2-26-2016) Page 2 of 2 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.

Austin Regional Office
12100 Park 35 Circle, Building a
Austin, Texas 78753-1808
Phone (512) 339-2929
Fax (512) 339-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329

TCEQ WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current texas commission on environmental quality (tceq) rules and regulations for public water systems 30 texas administrative code (tac) chapter 290 subchapter d. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet tceq's "rules and regulations for public water systems."
2. All newly installed pipes and related products must conform to american national standards institute (ansi)/nsf international standard 61 and must be certified by an organization accredited by ansi [§290.44(a)(1)].
3. Plastic pipe for use in public water systems must bear the nsf international seal of approval (nsf-pw) and have an astm design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(b)].
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11. Pursuant to 30 tac §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current awwa formulas for pvc pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
    - o The hydrostatic leakage rate for polyvinyl chloride (pvc) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in america water works association (awwa) c-605 as required in 30 tac §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$q = [ld(p)^{0.5}]/148,000$$

where:

- q = the quantity of makeup water in gallons per hour,
- l = the length of the pipe section being tested, in feet,
- d = the nominal diameter of the pipe in inches, and
- p = the average test pressure during the hydrostatic test in pounds per square inch (psi).

- o The hydrostatic leakage rate for ductile iron (di) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in america water works association (awwa) c-600 as required in 30 tac §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$l = [sd(p)^{0.5}]/148,000$$

where:

- l = the quantity of makeup water in gallons per hour,
- s = the length of the pipe section being tested, in feet,
- d = the nominal diameter of the pipe in inches, and
- p = the average test pressure during the hydrostatic test in pounds per square inch (psi).

12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17. The contractor shall disinfect the new waterlines in accordance with awwa standard c-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
18. Dechlorination of disinfecting water shall be in strict accordance with current awwa standard c655-09 or most recent.

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

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, i 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 an 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

    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 *(second)*	Maximum Length for Minimum Time *(sec)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.855
8	454	298	1.52
10	567	239	2.375
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	108	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 b 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 idof 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/ih 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.

GENERAL NOTES

1. All construction shall be in accordance with the City construction standards and specifications where applicable. In the event that the City standard details do not apply, applicable City of Round Rock standard construction details and specifications shall govern.
2. The Contractor shall begin work as directed by the Owner/City or the Notice to Proceed.
3. The Contractor is responsible for obtaining all necessary permits, approvals, and inspections prior to and throughout construction.
4. It is the Contractor's responsibility to maintain neat and accurate construction records for the Owner/City's use. The Contractor shall provide the City clean and accurate full size reproducible Record Drawings which clearly describe all construction and any deviations from the plans.
5. All shop drawings and submittals shall be proofread and reviewed by the General Contractor for approval prior to submittal to the Engineer. Subcontractor / General Contractor shall clearly indicate, mark, highlight, and properly clarify products to be considered for approval. Submittals not proofread or reviewed or clarified properly shall be returned unreviewed. Contractor shall resubmit shop drawings and allow for suitable review time. Suitable review time shall be seven (7) working days for typical submittals and longer depending on the size and nature of the submittal.
6. Contractor shall be responsible for quality control in the required construction surveying and materials testing. Dimensions shown and digital files provided shall be used to layout the site.
7. All adjacent property damaged by the proposed construction shall be restored to equal or better condition than which it was found before such work was undertaken (non-pay item).
8. All efforts shall be made to avoid damage to existing trees that are to remain. Trees shall be trimmed and painted only if necessary for the safe maneuvering of construction equipment. Contractor shall receive prior approval from the Owner's field representative for removal of any trees. When excavating around a tree, the roots shall be clean cut prior to any excavation work. Do not snag and tear tree roots.
9. All existing fences are to remain unless specified otherwise by the Owners representative. Any damage to fences shall be repaired at Contractor's expense with new and like materials. Temporary construction site security fences are required.
10. The Contractor is responsible for keeping existing driveways and sidewalks free of mud and debris from the construction at all times.
11. All excavation is unclassified and shall include all materials encountered to include but not be limited to rock, rubble, debris, trash, etc. Unusable excavated material and all waste resulting from site clearing and grubbing shall be disposed of off site at the Contractor's expense unless otherwise specified or agreed to by Owner.
12. The Contractor shall take all available precautions to control dust. Contractor shall control dust by sprinkling water, or by other means, approved by the City and Engineer.
13. The Contractor shall notify the Owner/City representative of off-site excess spoils sites that are to be utilized.
14. The Contractor shall maintain adequate site drainage during all phases of construction. The Contractor shall use silt fences (or other methods approved by the engineer and/or City of Jarrell) as required to prevent silt and construction debris from flowing onto adjacent properties. Contractor shall comply with all applicable federal, state, or local erosion, conservation, and siltation ordinances. Contractor shall remove all temporary erosion control devices upon completion of permanent drainage facilities for the establishment of grass or other growth to prevent erosion.
15. Disturbed areas that are seeded shall be checked periodically for full coverage of grass. All disturbed areas shall be watered, fertilized, and seeded or sodded as necessary and by definition 'maintained' until an established stand of grass can be released to the owner.
16. Contractor shall not store materials, equipment or other construction items on adjacent properties or adjacent right-of-ways without the prior written consent of the property Owner and the City. All construction waste materials to be removed shall be disposed of at a permitted location off site, unless written approval is obtained from the City.

SEQUENCING / TRAFFIC CONTROL NOTES

1. Contractor shall prepare, furnish, maintain, and remove all traffic control barricades, warning signs, lights, construction fences, etc. for the work throughout construction. All barricades, warning signs, lights, devices, etc., for the guidance and protection of traffic and pedestrians must conform to the installation shown in the Texas MUTCD, latest edition as currently amended by the Texas Department of Transportation.
2. Contractor shall provide access to all required entrances and exits at all times throughout construction. Contractor shall provide a traffic control and sequencing plan to the all authorities having jurisdiction and coordinate the plan and schedule with the Owner prior to the start of construction.

SOIL MANAGEMENT - TURF AND STABILIZATION NOTES

1. Erosion control:
   Throughout the project and the maintenance period for turf establishment, it is the contractor's responsibility to maintain the topsoil in place at specified grades. Topsoil and take off grass losses due to erosion will be replaced by the contractor until establishment and acceptance is achieved.
2. Placement of topsoil:
   To within 0.1' of finish grade. see topsoil specification should imported material be necessary.
3. Onsite topsoil:
   Contractor shall establish a soil management plan/operation throughout the construction process. All topsoil shall be salvaged and stockpiled on-site to cover the below noted top soil needs. Stockpiled topsoil may become sterile and non-fertile over time. The contractor shall amend and supplement the stockpiled topsoil as necessary to yield a fertile topsoil supply. The contractor's bid shall include all necessary topsoil (import may be required) as required to backfill all disturbed areas. The lack of available on-site topsoil will not be grounds for a change order or additional pay.
4. Soil preparation (stabilization for disturbed areas - 3" depth of finished soil):
   All slopes and areas disturbed by construction, except those occupied by structures or paving shall be graded smooth. contractor shall blend two (2") of onsite topsoil with one (1") inch of compost and redistribute on all disturbed areas to accept seeding for vegetation. The soil shall be free of stones, stumps, roots or other similar objects larger than 1".

   Seeding (stabilization for disturbed areas - 3" depth of finished soil):
   Spring and summer permanent grassing (May 1 through Oct 1):
   Installation and establishment in accordance with seed producer. (bamert or approved equal)
   Hill country blend - overall rate 10 lbs. per acre.
   30% sideoats
   20% little bluestem
   20% blue grama
   10% green sprangletop
   20% buffalograss
   Cool season temporary seeding (Oct 1 through May 1)
   100% western wheat - overall rate 7 lbs. per acre

   Surface treatment (stabilization for disturbed areas - 3" depth of finished soil):
   All areas shall have a fully biodegradable bonded fiber matrix (bfm) applied equal to 'soil guard'. The bfm is not hydro seeding and shall be installed by a contractor certified by the manufacturer to be trained in the proper procedures for mixing and application of the product. The bfm shall be mixed according to manufacturer's recommendations and contractor shall demonstrate "free liquid" test to inspector upon request. Bfm shall be spray-applied at a rate of 3000-4000 lb/acre, utilizing standard hydraulically seeding equipment in successive layers as to exceed the benefits of an erosion control blanket with 100% coverage of all exposed soil. The bfm shall not be applied immediately before, during or after rainfall, such that the matrix will have opportunity to dry for up to 24 hours after installation to be 100% effective.

DEMOLITION NOTES

1. No earth-disturbing activities shall commence until all permits are obtained and perimeter erosion control measures are in place.
2. All demolition shall be closely coordinated with the owner's representative regarding items to be salvaged, those to be removed, etc. including any and all tree preservation and transplanting activities, as outlined in the pre-construction meeting. Removal, relocation and/or disposal of any pre-existing on-site trash, debris, or stockpiles shall be included in the total cost of demolition and shall be coordinated with the owner's representative at all times.
3. Contractor shall comply to the fullest extent with all regulations governing agencies regarding the demolition, removal, transportation and disposal of all demolition debris.
4. Ingress and egress points, proposed disposal sites, and haul routes must be approved by City officials prior to removal of demolition debris off-site.
5. The contractor shall be responsible for coordinating disconnection of all utilities serving the existing site with the appropriate utility company, and shall obtain approval from same to commence demolition activities.
6. Contractor shall comply to the fullest extent with the latest OSHA standards for excavation and trenching procedures. Contractor shall use support systems, sloping, benching, etc. as necessary for these operations, and shall comply with all OSHA performance criteria.
7. The contractor shall assume responsibility for the protection of all property corner monuments, benchmarks, control points, etc, and shall have, at his expense, all corner monuments replaced which are disturbed by construction activities.
8. The contractor shall incur all costs for maintenance and repair of the existing fences to remain, irrigation systems to remain, utility lines, etc, as outlined in the specifications.
9. Notes shown hereon regarding specific items of demolition are general in nature, and are not intended to be wholly inclusive. The contractor shall demolish and remove all existing improvements to the satisfaction of the owner, as necessary for the construction of the proposed improvements, and to the extent as noted in the specifications.
10. The contractor shall create ample staging and stockpiling areas for the deliveries of construction materials, concrete deliveries, topsoil, etc. in accordance with the owner's representative and the project specifications.

UTILITY NOTES

1. The Contractor shall be responsible for locating all utilities, whether private or public, prior to mobilization. Contractor shall visit the site and make all necessary observations and inspections to familiarize themself with the site and the site facilities. The information and data shown with respect to existing underground facilities at or contiguous to the site is approximate and based on information furnished by the Owners of such underground facilities or on physical appurtenances observed in the field. The Owner and engineer shall not be responsible for the accuracy or completeness of any such information or data; and, the Contractor, shall have full responsibility for reviewing and checking all such information and data, for locating all underground facilities, for coordination of the work with the Owners of such underground facilities during construction, for the safety and protection thereof, and repairing any damage thereto resulting from the work. The cost of all will be considered as having been included in the contract price.
2. Contractor shall, in base bid provide all necessary fittings and appurtenances required to complete all connections, resolve utility conflicts and other incidental utility work shown on the plans or contained in the specifications or required by governing agencies to include, but not limited to temporary services: valves, boxes, meters, backflow preventers, fire department connections, etc. including the repair or replacement of any existing irrigation system. Contractor shall raise/lower or adjust all existing utility mains in conflict with proposed utilities as part of the base bid for all known or unknown lines.
3. The Contractor shall notify all affected utility companies or agencies in writing at least 1 week prior to beginning construction. The Contractor shall be responsible for and make arrangements for any and all temporary utilities, permits, and agreements.
4. The Contractor shall protect all utilities during the construction of this project. The Contractor shall give the City, residents and businesses affected by any anticipated water or sewer service disruptions at least forty-eight (48) hours prior notice.
5. Contractor shall exercise caution and maintain adequate clear zone between the Contractor's equipment and any power lines.
6. The Contractor shall protect all existing power poles, signs, manholes, telephones risers, water valves, utilities, etc. during all construction phases. Contractor will be responsible to replace any damaged items and restore any services that have been disturbed. All manholes, clean-outs, water valves, fire hydrants and other appurtenances must be adjusted to final grade before the Owner will accept the work.
7. The Contractor shall salvage all existing water utilities (including signs, valves, fire hydrants, etc.) in accordance with the service provider's requirements and provide to the City of Jarrell.
8. Testing of utility trench backfill compaction shall be at 75' intervals and each lift's backfill. Backfill shall be processed such that no dirt clods are in excess of 4" diameter. All sanitary sewer lines and storm sewer lines shall be TV tested at the completion of the project (in addition to minimum Code or other requirements) to check for damage caused by other trades, utility conflicts, trench settlement, etc. The cost of such shall be included in the contractors base price.

OFFSITE UTILITY CONSTRUCTION NOTES

1. Air/ vacuum release valve, including isolation valve, and minimum 48" diameter vault having a minimum 30" diameter vented access opening, at all high points in the force main (30TAC217.67.g).
2. Cleanout/ isolation valve assemblies at minimum 1000' intervals (see attached details).
3. Requirement for thrust blocks or MJ restraints at all alignment changes (30TAC217.65 and 217.67.j.) (add note to plans stating MJ restraints are preferred).
4. Detectable underground warning tape, compliant with TCEQ 30TAC217.66, shall be laid above and parallel to the force main pipe in the same trench, and shall bear the label "PRESSURIZED WASTEWATER" in at least 1.5" tall letters.
5. Detectable tracer wire, tracer wire connectors, ground rods, access points, and other required appurtenances, shall be laid above and parallel to the force main pipe in the same trench, and shall be compatible for use with a Radiodetection (www.radiodetection.com) transmitter/ receiver system, or Jarrell ISD-approved equal.
6. The force main must terminate in a manhole such that the flowline of the force main matches the flowline of the gravity pipe leaving the manhole. (30TAC217.67.f). The use of an internal or external drop pipe with the manhole is one method of compliance with this requirement.
7. Force main pressure testing shall be accomplished according to the requirements given in 217.68, with a minimum test pressure of 90 psi maintained for a minimum 4.0 hours, and a maximum acceptable leakage rate of 10.0 gal per inch of pipe diameter per mile of pipe length per day. The maximum leakage rate for the force main pipe section being pressure tested shall be calculated using Equation C.5 given in 217.68.g. (For a 4" diameter pipe, the maximum acceptable leakage rate for a 4-hr test is 0.126 gal/ 100 ft of pipe).

Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW C. HARDY — 134448 — LICENSED PROFESSIONAL ENGINEER
10/17/2025
TBPE Registration #: F-13709

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TBPE Firm REG. #F-13709

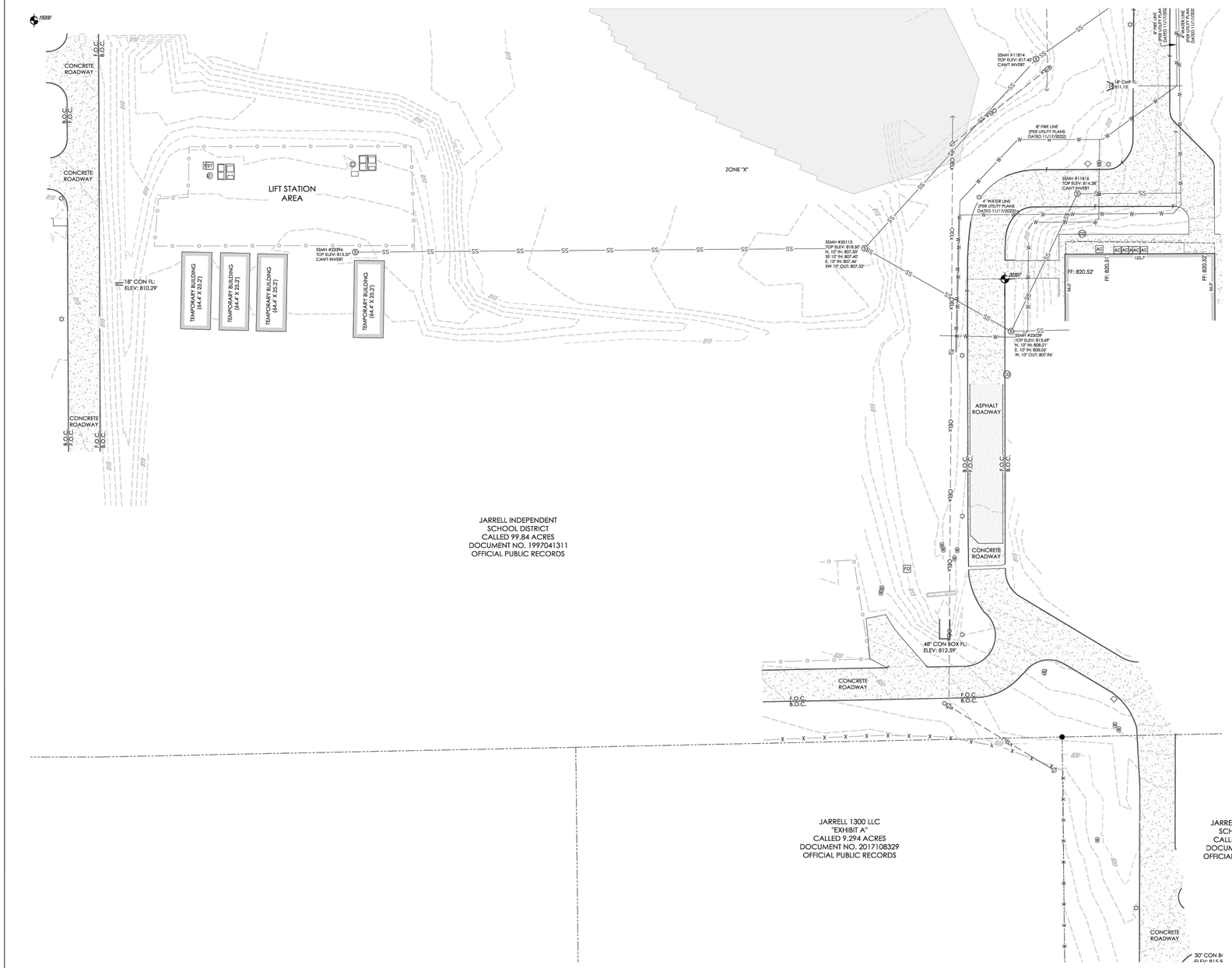
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: GENERAL NOTES

Project No. 531023304
Date 09-05-2025
Drawn By AM
Checked By MH

C1.1
Sheet 2 of 13

LANGAN
Project No. 531023304



SCALE: 1"=40'

0 20 40 60 80

LEGEND

F.O.C.	FACE OF CURB
B.O.C.	BACK OF CURB
●	1/2" IRON ROD FOUND
⊙	5/8" IRON ROD FOUND
SI	SIGN
TR	ELECTRIC TRANSFORMER
E	ELECTRIC BOX
EM	ELECTRIC METER
	UTILITY POLE
—3	UTILITY POLE WITH GUY WIRE
WM	WATER METER
WV	WATER VALVE
	LIGHT POLE
	FIRE HYDRANT
K	KEY PAD
D	STORM DRAIN MANHOLE
C	COMMUNICATION BOX
	BOLLARD POST
ST	SEPTIC TANK
SV	SEWER VALVE
S	SANITARY SEWER MANHOLE
SC	SANITARY SEWER CLEANOUT
AC	A/C PAD
HC	HANDICAP SIGN
—O—O—	CHAIN LINK FENCE
—OHx—	ELECTRIC (OVERHEAD)
—SS—	SANITARY SEWER
—Dx—	STORM DRAIN
—W—W—	WATER
—F—	FIRE LANE
—□—□—	IRON FENCE

BENCHMARK TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
4000	10272237.455	3145698.006	824.76	MAG NAIL SET IN CONCRETE
4002	10272400.282	3145710.663	825.93	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
4004	10271997.822	3145856.241	824.55	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
5000	10272236.359	3145639.446	824.73	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
14000	10270538.130	3145867.000	835.02	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
15000	10271683.690	3144369.793	814.21	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
20307	10271772.840	3145206.610	813.08	MAG NAIL SET IN CONCRETE

TOPOGRAPHIC SURVEY SHOWING THE EXISTING CONDITIONS OF A PORTION OF A TRACT OF LAND, LOCATED IN THE JAMES ROEBUCK SURVEY, ABSTRACT NO. 527, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF THAT CALLED 99.84 ACRE TRACT OF LAND RECORDED IN DOCUMENT NO. 9741311, AND BEING A PORTION OF THAT CALLED 19.71 ACRE TRACT OF LAND RECORDED IN DOCUMENT NO. 9741318, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.

NOTES:
1) FIELD WORK PERFORMED ON: SEPTEMBER 6, 2024
2) OWNER: JARRELL INDEPENDENT SCHOOL DISTRICT
3) ADDRESS: 1100 FM 487, JARRELL, TEXAS
4) HORIZONTAL DATUM: TEXAS STATE PLANE, CENTRAL ZONE, NAD83, GRID
5) VERTICAL DATUM: NAVD88
6) THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT, THEREFORE ALL SETBACKS, EASEMENTS, ENCUMBRANCES AND RESTRICTIONS MAY NOT BE SHOWN HEREON. THE SURVEYOR DID NOT COMPLETE AN ABSTRACT OF TITLE.
7) ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP FOR WILLIAMSON COUNTY, TEXAS, MAP NUMBER 48491C0150F, EFFECTIVE DATE DECEMBER 20, 2019, THIS PROPERTY LIES IN ZONE "X", WHICH IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE OF THE 100 YEAR FLOOD PLAIN. THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM; IT DOES NOT NECESSARILY IDENTIFY ALL AREAS SUBJECT TO FLOODING, PARTICULARLY FROM LOCAL DRAINAGE SOURCES OF SMALL SIZE, OR ALL PLANIMETRIC FEATURES OUTSIDE SPECIAL FLOOD HAZARD AREAS. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES LOCATED THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THE FLOOD HAZARD AREA IS SUBJECT TO CHANGE AS DETAILED STUDIES OCCUR AND/OR WATERSHED OR CHANNEL CONDITIONS CHANGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.
8) ILLUSTRATED UNDERGROUND UTILITIES ARE BASED ON FOUND VISIBLE EVIDENCE AND FILES PROVIDED BY LANGAN ENGINEERING, DATED 11/17/2022. THE LOCATION AND DEPTH SHOULD BE FIELD VERIFIED BEFORE CONSTRUCTION.
9) UTILITY LOCATED WERE COORDINATED WITH TEXAS 811, TICKET #2472818960. NO UTILITY MARKINGS WERE LOCATED ON THE GROUND AT THE TIME OF THE SURVEY.

STATE OF TEXAS
TRAVIS L. QUICKSALL
6447
REGISTERED PROFESSIONAL LAND SURVEYOR

I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND, AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PLAT CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THIS SURVEY.

TRAVIS L. QUICKSALL DATE: JUNE 23, 2025
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6447
JOB NO. 25-0211

Quick Inc.
Land Surveying. Development.
Firm:10194104 • 512-915-4920
Physical Address: 831 N. Main Street, Salado 76571
Mailing Address: P.O. Box 798, Salado 76571

Date	Description	No.
Revisions		

LANGAN
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TBPE Firm REG. #F-13709

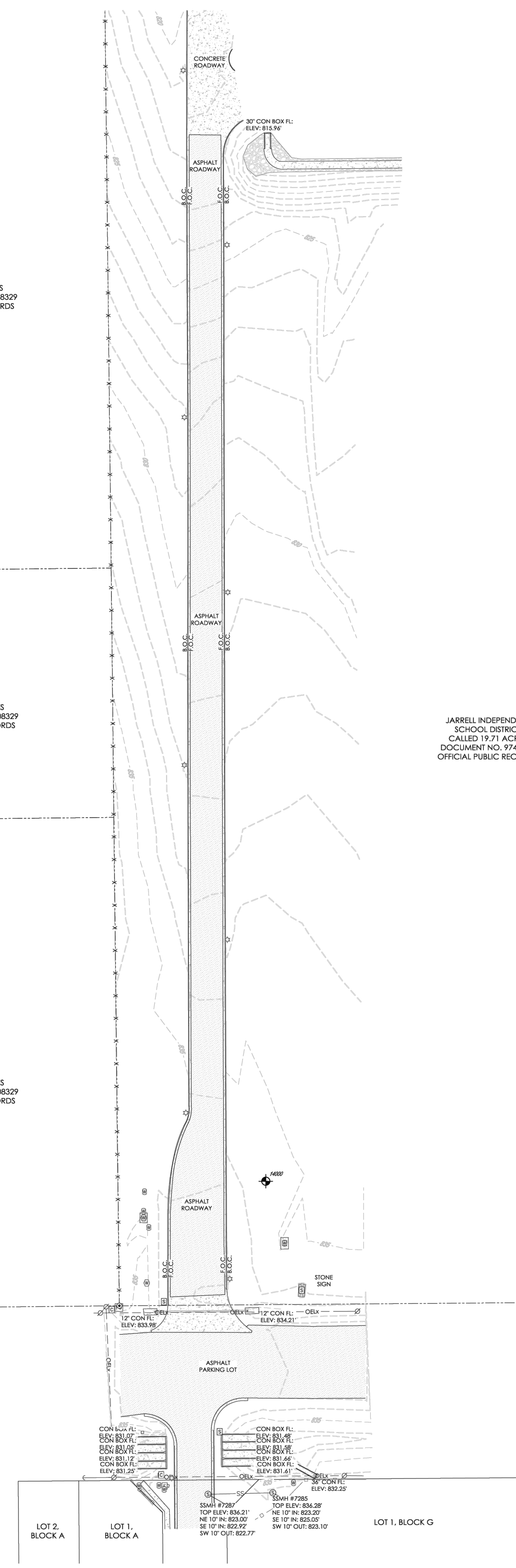
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: TOPOGRAPHIC SURVEY (1 OF 2)

Project No. 531023304
Date 09-05-2025
Drawn By
Checked By

C1.2
Sheet 3 of 13

Project No. 531023304



LEGEND

F.O.C.	FACE OF CURB
B.O.C.	BACK OF CURB
●	1/2" IRON ROD FOUND
⊙	5/8" IRON ROD FOUND
S	SIGN
TX	ELECTRIC TRANSFORMER
E	ELECTRIC BOX
E	ELECTRIC METER
Ø	UTILITY POLE
Ø→	UTILITY POLE WITH GUY WIRE
W	WATER METER
W	WATER VALVE
☼	LIGHT POLE
	FIRE HYDRANT
K	KEY PAD
D	STORM DRAIN MANHOLE
C	COMMUNICATION BOX
◐	BOLLARD POST
ST	SEPTIC TANK
	SEWER VALVE
S	SANITARY SEWER MANHOLE
CO	SANITARY SEWER CLEANOUT
AC	A/C PAD
HC	HANDICAP SIGN
—○—○—	CHAIN-LINK FENCE
—OELx—	ELECTRIC (OVERHEAD)
—SS—	SANITARY SEWER
—SDx—	STORM DRAIN
—W—W—	WATER
—F—	FIRE LANE
—□—□—	IRON FENCE

BENCHMARK TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
4000	10272237.455	3145698.006	824.76	MAG NAIL SET IN CONCRETE
4002	10272400.282	3145710.663	825.93	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
4004	10271997.822	3145856.241	824.55	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
5000	10272236.359	3145639.446	824.73	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
14000	10270538.130	3145867.000	835.02	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
15000	10271683.690	3144369.793	814.21	5/8" IRON ROD W / ORANGE CONTROL POINT CAP
20307	10271772.840	3145206.610	813.08	MAG NAIL SET IN CONCRETE

TOPOGRAPHIC SURVEY SHOWING THE EXISTING CONDITIONS OF A PORTION OF A TRACT OF LAND, LOCATED IN THE JAMES ROEBUCK SURVEY, ABSTRACT NO. 527, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF THAT CALLED 99.84 ACRE TRACT OF LAND RECORDED IN DOCUMENT NO. 9741311, AND BEING A PORTION OF THAT CALLED 19.71 ACRE TRACT OF LAND RECORDED IN DOCUMENT NO. 9741318, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.

NOTES:

1) FIELD WORK PERFORMED ON: JUNE 23, 2025
2) OWNER: JARRELL INDEPENDENT SCHOOL DISTRICT
3) ADDRESS: 1100 FM 487, JARRELL, TEXAS
4) HORIZONTAL DATUM: TEXAS STATE PLANE, CENTRAL ZONE, NAD83, GRID
5) VERTICAL DATUM: NAVD88
6) THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT, THEREFORE ALL SETBACKS, EASEMENTS, ENCUMBRANCES AND RESTRICTIONS MAY NOT BE SHOWN HEREON. THE SURVEYOR DID NOT COMPLETE AN ABSTRACT OF TITLE.
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TRAVIS L. QUICKSALL DATE: JUNE 25, 2025
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6447
JOB NO. 25-0211

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Land Surveying. Development.
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Date	Description	No.
Revisions		

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TBPE Firm REG. #F-13709

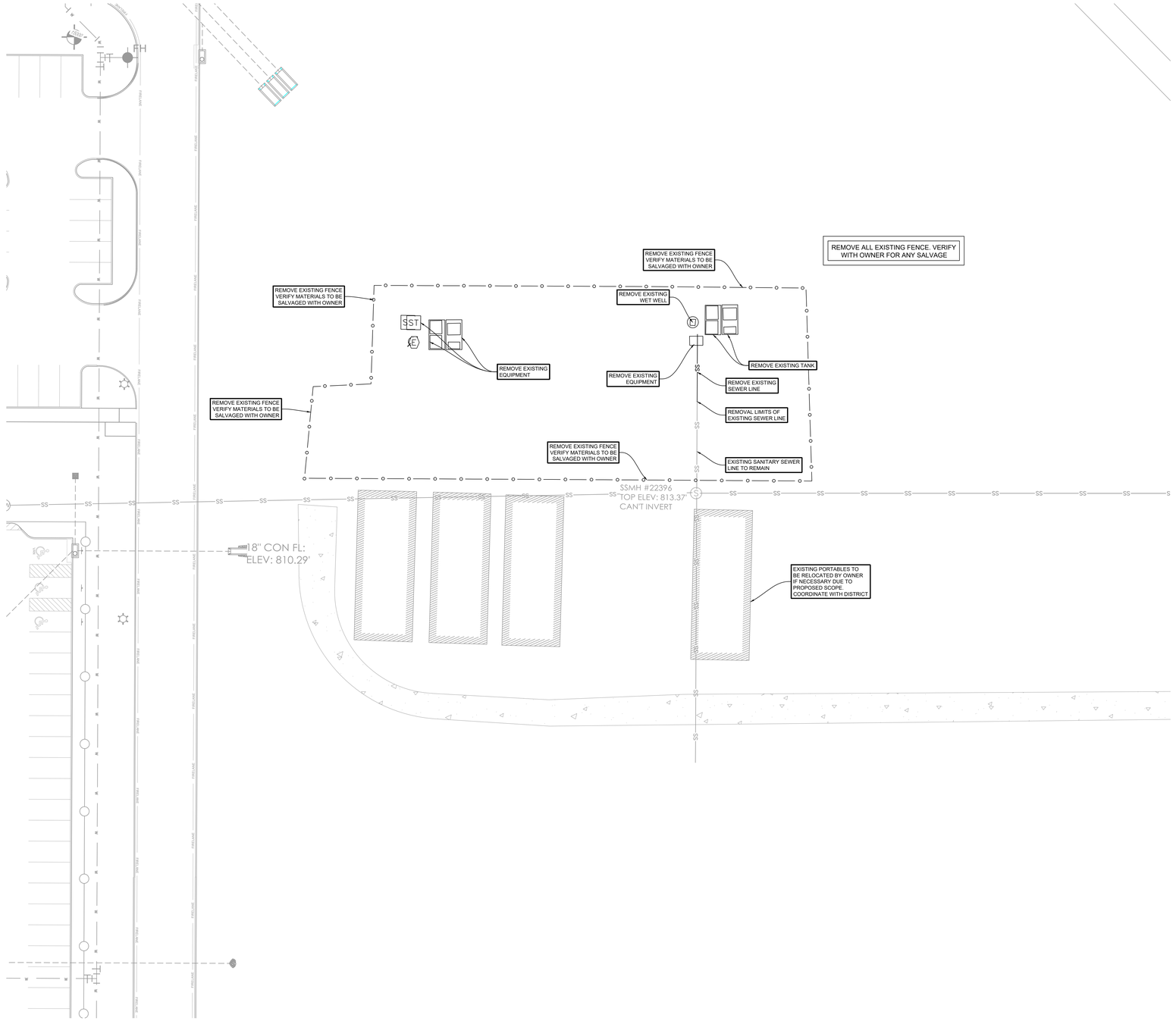
Project
JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title
TOPOGRAPHIC SURVEY (2 OF 2)

Project No. 531023304
Date 09-05-2025
Drawn By
Checked By

C1.3

Sheet 4 of 13



REMOVE ALL EXISTING FENCE. VERIFY WITH OWNER FOR ANY SALVAGE

GRAPHIC SCALE

0 20 40 FEET

LEGEND

FENCE REMOVAL

SANITARY SEWER REMOVAL

**** NOTICE TO CONTRACTORS - TOPOGRAPHIC SURVEY ****

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****NOTICE TO CONTRACTORS - UTILITIES****

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**** IMPORTANT DEMOLITION NOTE *****

IT IS NOT KNOWN BY LANGAN, THE INTEGRITY OF THE EXISTING IRRIGATION SYSTEM. THEREFORE, PRIOR TO ANY DEMOLITION, THE IRRIGATION CONTRACTOR SHALL MEET WITH DISTRICT MAINTENANCE PERSONNEL TO LOCATE LIMITS OF COVERAGE AND EXISTING SYSTEM FAILURES. WITH AN UNDERSTANDING OF PROPOSED IMPROVEMENTS, THE DISTRICT AND CONTRACTOR SHALL DETERMINE WHERE TO PRESERVE THE EXISTING IRRIGATION SYSTEM TO QUANTIFY PROPOSED INSTALLATION LIMITS. THE CONTRACTOR SHALL THEN CAP AND/OR TERMINATE THE EXISTING MAINLINE, CONTROL WIRES, AND LATERALS WITHIN APPROPRIATE IRRIGATION BOXES. ANY COMPONENTS OF THE EXISTING SYSTEM TO BE SALVAGED SHALL BE DETERMINED BY THE DISTRICT.

!!!CAUTION!!!

EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY.
VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES
BY GROUND PENETRATING RADAR, VACUUM EXCAVATION
OR OTHER POTHOLING TECHNIQUES.

811 Know what's below. Call before you dig.

THESE PLANS ARE SUBJECT TO REVIEW & APPROVAL BY JURISDICTIONAL ENTITIES.

Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW W. HAMOUZ — 134448 — LICENSED PROFESSIONAL ENGINEER
10/17/2025
TBPE Registration #: F-13709

LANGAN
Langan Engineering and Environmental Services, LLC.
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TBPE Firm REG. #F-13709

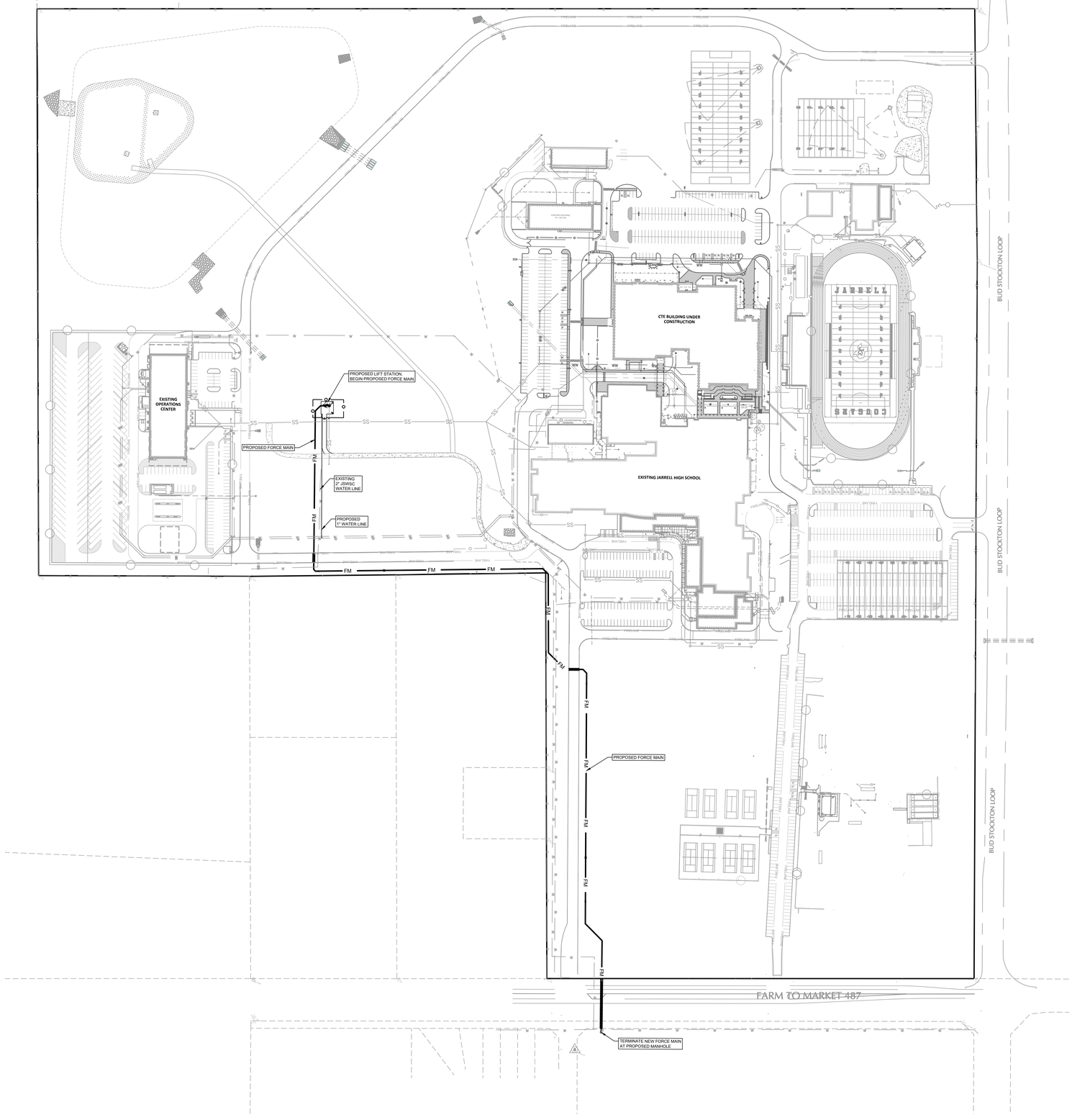
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: DEMOLITION PLAN

Project No. 53102330**4**
Date 09-05-2025
Drawn By AM
Checked By MH

C2.0
Sheet 5 of 13

Project No. 531023304



GRAPHIC SCALE

0 120 240 FEET

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!!!CAUTION!!!
EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY.
VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES
BY GROUND PENETRATING RADAR, VACUUM EXCAVATION
OR OTHER POTHOLING TECHNIQUES.

Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW T. HARRIS — 134448 — LICENSED PROFESSIONAL ENGINEER — 10/17/2025

TBPE Registration #: F-13709

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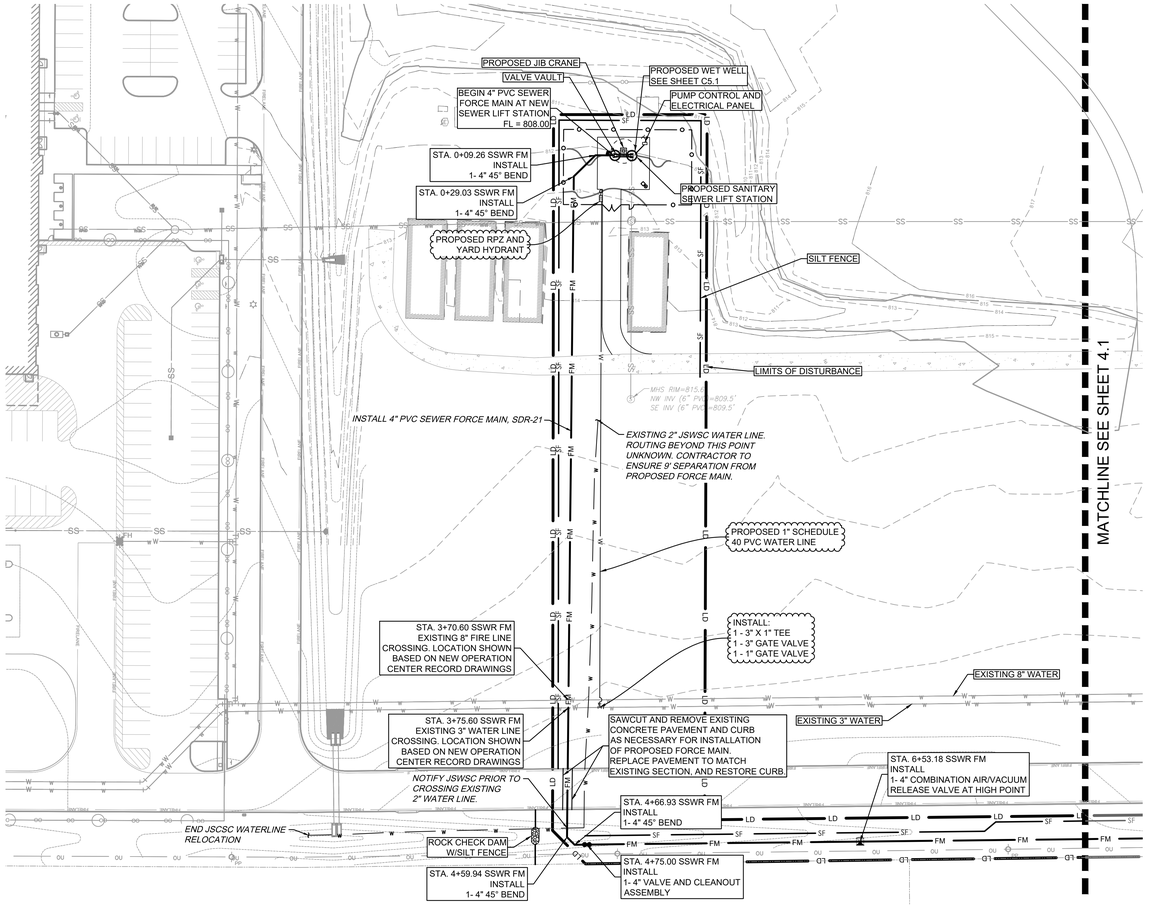
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: OVERALL SITE PLAN

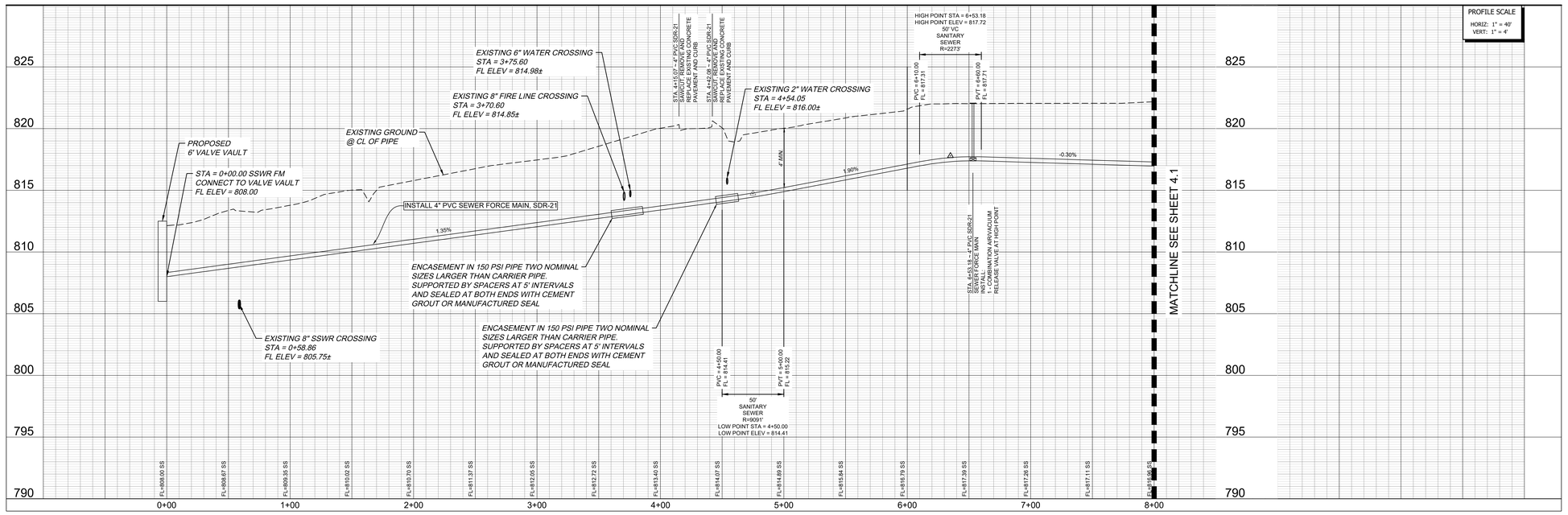
Project No. 531023304
Date 09-05-2025
Drawn By AM
Checked By MH

C3.0

Sheet 6 of 13



SSWR FM ~ STA 00+00 TO STA 08+00



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LEGEND

PROPOSED FORCE MAIN	FM
PROPOSED WATER LINE	W
LIMITS OF DISTURBANCE	LD
SILT FENCE	SF
EXISTING CONTOUR	900
PROPOSED SANITARY SEWER GATE VALVE	
PROPOSED AIR RELEASE VALVE	

GRAPHIC SCALE
0 40 80 FEET

CENTERLINE LINE DATA

LINE	LENGTH	BEARING	START POINT	END POINT
L1	9.26'	S69°17'46.64"W	N 10271633.87 E 3144661.70	N 10271630.60 E 3144653.04
L2	19.77'	S24°13'03.36"W	N 10271630.60 E 3144653.04	N 10271612.57 E 3144644.93
L3	430.90'	S20°51'39.92"E	N 10271612.57 E 3144644.93	N 10271209.91 E 3144798.37
L4	7.00'	S66°28'11.65"E	N 10271209.91 E 3144798.37	N 10271207.12 E 3144804.78
L5	618.09'	N67°55'16.61"E	N 10271207.12 E 3144804.78	N 10271439.44 E 3145377.54

NOTE - STABILIZATION

ALL DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND SEEDED OR SODDED AS NECESSARY AND BY DEFINITION 'MAINTAINED' UNTIL AN ESTABLISHED STAND OF GRASS CAN BE RELEASED TO THE OWNER. MATERIALS AND PROCEDURE TO BE IN ACCORDANCE WITH SPECIFICATION SECTION 32 9200 - TURF AND GRASSES.

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MECHANICAL JOINTS MAY BE USED AS AN ALTERNATIVE TO THRUST BLOCKING FOR FORCE MAIN PIPE DIRECTION CHANGES.

WARNING TAPE AND DETECTABLE TRACING WIRE SHALL BE INSTALLED ABOVE THE FORCE MAIN PIPE IN THE TRENCH.

EROSION CONTROL MAINTENANCE NOTES

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON ON A SCHEDULE WHICH COMPLIES WITH THE GENERAL PERMIT REQUIREMENTS AND CLEANED AND REPAIRED WITHIN 48 HOURS OF THE INSPECTION IN ACCORDANCE WITH THE FOLLOWING:
   - 1.A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
   - 1.B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.
   - 1.C. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
   - 1.D. THE TEMPORARY PARKING AND STORAGE AREA (IF PRESENT) SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
   - 1.E. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS OR SEDIMENT TRAPS (IF PRESENT) SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
   - 1.F. MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED ARE GIVEN IN SECTION 5 OF THE STORM WATER POLLUTION PREVENTION PLAN.

MATERIAL STORAGE - NOTICE TO CONTRACTOR ***

THE CONTRACTOR SHALL NOTE ON SITE PLAN THE LOCATION OF ALL MATERIAL STORAGE AREAS, EQUIPMENT STORAGE AREAS, PETROLEUM TANKS, SOLID WASTE RECEPTACLES, SANITARY FACILITIES, ANY ON-SITE OR OFF-SITE BORROW OR STOCKPILE AREA, ANY ON-SITE OR OFF-SITE SUPPORT ACTIVITIES (SUCH AS ASPHALT OR CONCRETE PLANTS). CONTRACTOR SHALL ALSO PREPARE, KEEP ON SITE, AND MAINTAIN CURRENT A LIST OF MATERIALS WITH APPROXIMATE QUANTITIES, WHICH ARE STORED ON SITE.

EROSION CONTROL SEQUENCE

1. INSTALL SILT FENCES AROUND PERIMETER OF PROPERTY AND DISTURBED AREAS AS SHOWN.
2. INSTALL INLET PROTECTION FOR ALL EXISTING GRATE INLETS, CURB INLETS.
3. INSTALL ROCK CHECK DAMS AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES, IF PRESENT.
4. CONSTRUCT TEMPORARY CONSTRUCTION EXIT.
5. COMMENCE GRUBBING AND REMOVAL OF VEGETATION IN AREA TO RECEIVE CUT OR FILL.
6. COMMENCE GRADING OPERATION FOR BUILDING PAD PREPARATION.
7. INSTALL ALL UNDERGROUND UTILITIES.
8. FINALIZE PAVEMENT SUBGRADE PREPARATION.
9. INSTALL ALL PROPOSED STORM SEWER PIPES AND INSTALL INLET PROTECTION SILT FENCES AT ENDS OF EXPOSED PIPES.
10. CONSTRUCT ALL GRATE INLETS AND DRAINAGE STRUCTURES. INLET PROTECTION SILT FENCES MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION.
11. REMOVE SILT FENCES AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
12. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT, CURB & GUTTER.
13. INSTALL ALL PAVING, CURB & GUTTER.
14. COMPLETE PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION, IN ACCORDANCE WITH THE TURF PROJECT NOTES.
15. REMOVE TEMPORARY CONSTRUCTION EXIT, SILT FENCES & ROCK CHECK DAMS.

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Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW W. HAMILTON — 134448 — LICENSED PROFESSIONAL ENGINEER — 10/17/2025

TBPE Registration #: F-13709

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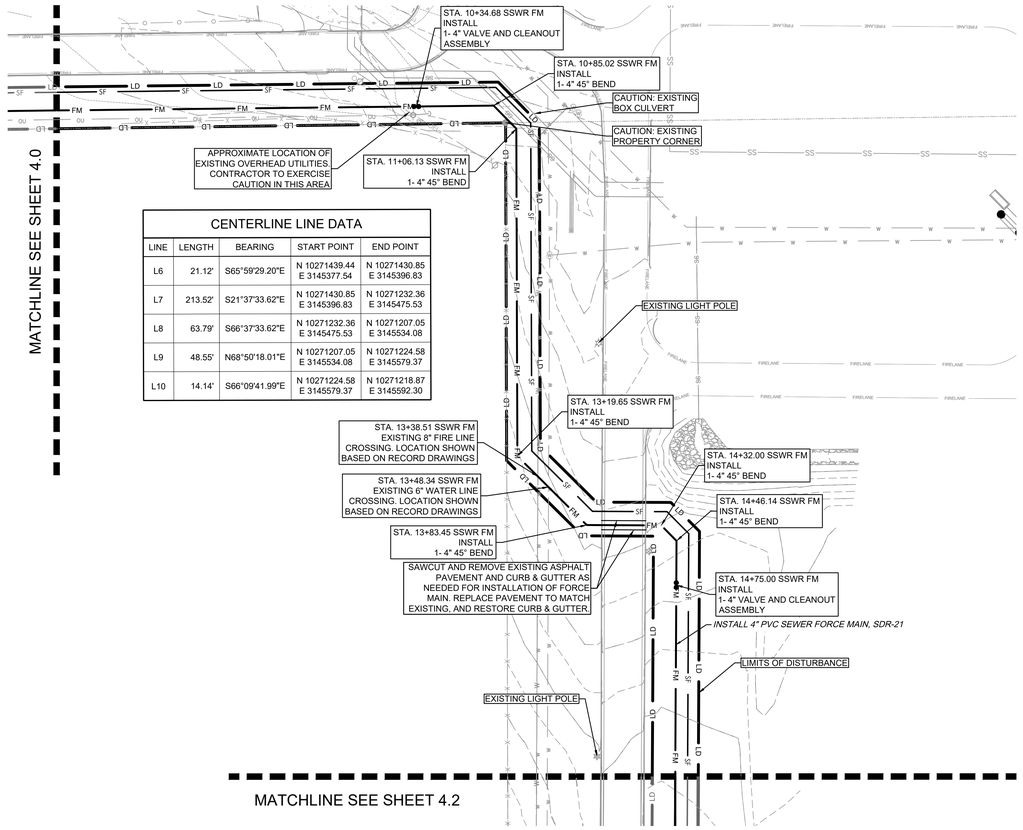
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: FORCE MAIN PLAN/PROFILE STA 00+00 TO STA 08+00

Project No. 53102330**4**
Date 09-05-2025
Drawn By AM
Checked By MH

C4.0
Sheet 7 of 13

Project No. 53102330**4**



CENTERLINE LINE DATA

LINE	LENGTH	BEARING	START POINT	END POINT
L6	21.12'	S65°59'29.20"E	N 10271439.44 E 3145377.54	N 10271430.85 E 3145396.83
L7	213.52'	S21°37'33.62"E	N 10271430.85 E 3145396.83	N 10271232.36 E 3145475.53
L8	63.79'	S66°37'33.62"E	N 10271232.36 E 3145475.53	N 10271207.05 E 3145534.08
L9	48.55'	N68°50'18.01"E	N 10271207.05 E 3145534.08	N 10271224.58 E 3145579.37
L10	14.14'	S66°09'41.99"E	N 10271224.58 E 3145579.37	N 10271218.87 E 3145592.30

EROSION CONTROL MAINTENANCE NOTES

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON ON A SCHEDULE WHICH COMPLIES WITH THE GENERAL PERMIT REQUIREMENTS AND CLEANED AND REPAIRED WITHIN 48 HOURS OF THE INSPECTION IN ACCORDANCE WITH THE FOLLOWING:

1.A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.

1.B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.

1.C. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.

1.D. THE TEMPORARY PARKING AND STORAGE AREA (IF PRESENT) SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.

1.E. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS OR SEDIMENT TRAPS (IF PRESENT) SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

1.F. MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED ARE GIVEN IN SECTION 5 OF THE STORM WATER POLLUTION PREVENTION PLAN.

EROSION CONTROL SEQUENCE

1. INSTALL SILT FENCES AROUND PERIMETER OF PROPERTY AND DISTURBED AREAS AS SHOWN.
2. INSTALL INLET PROTECTION FOR ALL EXISTING GRATE INLETS, CURB INLETS.
3. INSTALL ROCK CHECK DAMS AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES, IF PRESENT.
4. CONSTRUCT TEMPORARY CONSTRUCTION EXIT.
5. COMMENCE GRUBBING AND REMOVAL OF VEGETATION IN AREA TO RECEIVE CUT OR FILL.
6. COMMENCE GRADING OPERATION FOR BUILDING PAD PREPARATION.
7. INSTALL ALL UNDERGROUND UTILITIES.
8. FINALIZE PAVEMENT SUBGRADE PREPARATION.
9. INSTALL ALL PROPOSED STORM SEWER PIPES AND INSTALL INLET PROTECTION SILT FENCES AT ENDS OF EXPOSED PIPES.
10. CONSTRUCT ALL GRATE INLETS AND DRAINAGE STRUCTURES. INLET PROTECTION SILT FENCES MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION.
11. REMOVE SILT FENCES AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
12. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT, CURB & GUTTER.
13. INSTALL ALL PAVING, CURB & GUTTER.
14. COMPLETE PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION, IN ACCORDANCE WITH THE TURF PROJECT NOTES.
15. REMOVE TEMPORARY CONSTRUCTION EXIT, SILT FENCES & ROCK CHECK DAMS.

MATERIAL STORAGE - NOTICE TO CONTRACTOR ***

THE CONTRACTOR SHALL NOTE ON SITE PLAN THE LOCATION OF ALL MATERIAL STORAGE AREAS, EQUIPMENT STORAGE AREAS, PETROLEUM TANKS, SOLID WASTE RECEPTACLES, SANITARY FACILITIES, ANY ON-SITE OR OFF-SITE BORROW OR STOCKPILE AREA, ANY ON-SITE OR OFF-SITE SUPPORT ACTIVITIES (SUCH AS ASPHALT OR CONCRETE PLANTS). CONTRACTOR SHALL ALSO PREPARE, KEEP ON SITE, AND MAINTAIN CURRENT A LIST OF MATERIALS WITH APPROXIMATE QUANTITIES, WHICH ARE STORED ON SITE.

NOTE - STABILIZATION

ALL DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND SEEDED OR SODDED AS NECESSARY AND BY DEFINITION 'MAINTAINED' UNTIL AN ESTABLISHED STAND OF GRASS CAN BE RELEASED TO THE OWNER. MATERIALS AND PROCEDURE TO BE IN ACCORDANCE WITH SPECIFICATION SECTION 32 9200 - TURF AND GRASSES.

LEGEND

PROPOSED FORCE MAIN	FM
PROPOSED WATER LINE	W
LIMITS OF DISTURBANCE	LD
SILT FENCE	SF
EXISTING CONTOUR	900
PROPOSED SANITARY SEWER GATE VALVE	
PROPOSED AIR RELEASE VALVE	

GRAPHIC SCALE

0 40 80 FEET

** NOTICE TO CONTRACTORS - TOPOGRAPHIC SURVEY **

TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY PERFORMED BY QUICK INC. LAND SURVEYING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, IN WRITING, OF ANY DISCREPANCIES OR OMISSIONS TO THE TOPOGRAPHIC INFORMATION. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR CONFIRMING THE LOCATION (HORIZONTAL/VERTICAL) OF ANY BURIED CABLES, CONDUITS, PIPES, AND STRUCTURES (STORM SEWER, SANITARY SEWER, WATER, GAS, TELEVISION, TELEPHONE, ETC.) WHICH IMPACT THE CONSTRUCTION SITE. THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY DISCREPANCIES ARE FOUND BETWEEN THE ACTUAL CONDITIONS VERSUS THE DATA CONTAINED IN THE CONSTRUCTION PLANS. ANY COSTS INCURRED AS THE RESULT OF NOT CONFIRMING THE ACTUAL LOCATION (HORIZONTAL/VERTICAL) OF SAID CABLES, CONDUITS, PIPES, AND STRUCTURES SHALL BE BORNE BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR(S) SHALL NOTIFY THE OWNER AND ENGINEER IF ANY ERRORS OR DISCREPANCIES ARE FOUND ON THE CONSTRUCTION DOCUMENTS (PS&E), WHICH NEGATIVELY IMPACT THE PROJECT. THE ENGINEER AND OWNER SHALL BE INDEMNIFIED OF PROBLEMS AND/OR COST WHICH MAY RESULT FROM CONTRACTOR'S FAILURE TO NOTIFY ENGINEER AND OWNER.

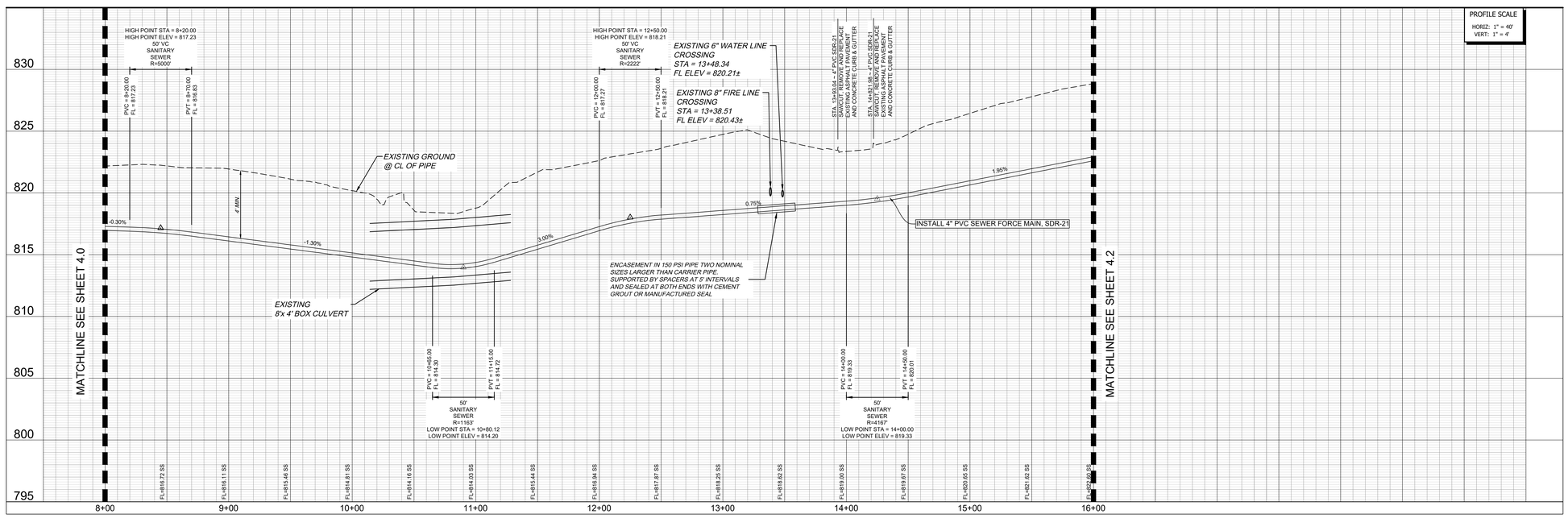
NOTICE TO CONTRACTORS - UTILITIES

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF ANY EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, THE GOVERNING MUNICIPALITY, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION PROVIDED IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

MECHANICAL JOINTS MAY BE USED AS AN ALTERNATIVE TO THRUST BLOCKING FOR FORCE MAIN PIPE DIRECTION CHANGES.

WARNING TAPE AND DETECTABLE TRACING WIRE SHALL BE INSTALLED ABOVE THE FORCE MAIN PIPE IN THE TRENCH.

SSWR FM ~ STA 08+00 TO STA 16+00



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Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW T. HARRIS — 134448 — LICENSED PROFESSIONAL ENGINEER — 10/17/2025

TBPE Registration #: F-13709

LANGAN
Langan Engineering and Environmental Services, LLC.
9606 N. Mopac Expressway, Suite 110
Austin, TX 78759
T: 737.289.7800 F: 737.289.7801 www.langan.com
TBPE Firm REG. #F-13709

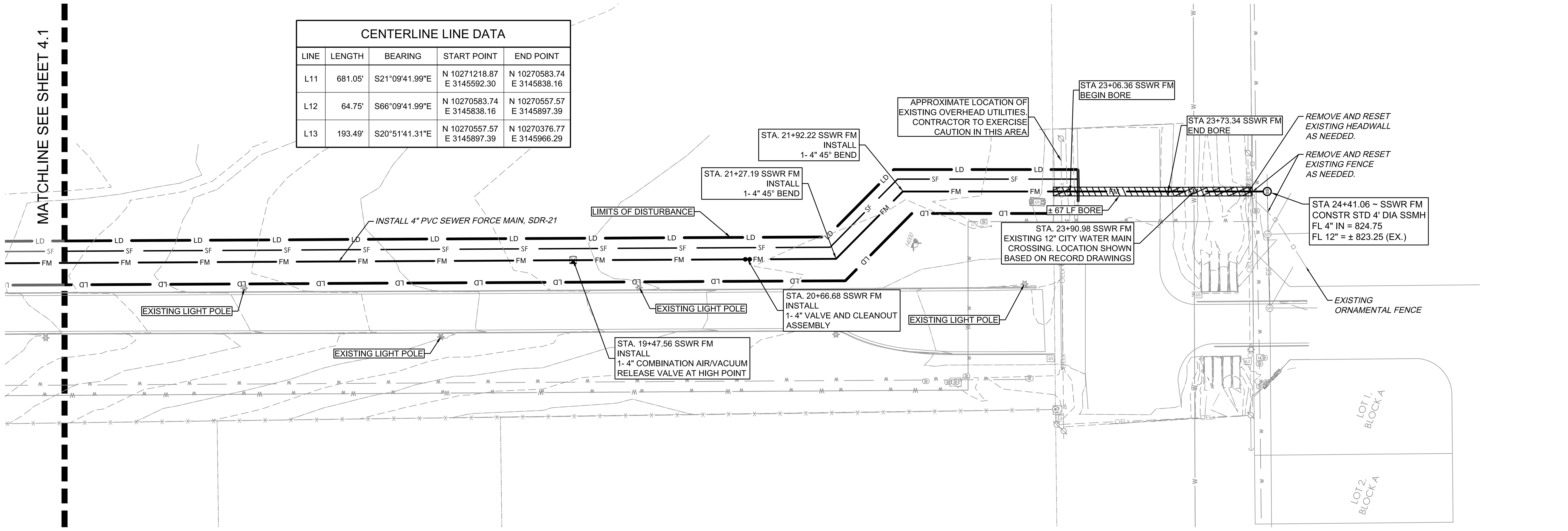
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: **FORCE MAIN PLAN/PROFILE STA 08+00 TO STA 15+00**

Project No. 531023304
Date 09-05-2025
Drawn By AM
Checked By MH

C4.1
Sheet 8 of 13

LANGAN
Project No. 531023304



CENTERLINE LINE DATA				
LINE	LENGTH	BEARING	START POINT	END POINT
L11	681.05'	S21°09'41.99"E	N 10271218.87 E 3145592.30	N 10270583.74 E 3145838.16
L12	64.75'	S66°09'41.99"E	N 10270583.74 E 3145838.16	N 10270557.57 E 3145897.39
L13	193.49'	S20°51'41.31"E	N 10270557.57 E 3145897.39	N 10270376.77 E 3145966.29

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GRAPHIC SCALE
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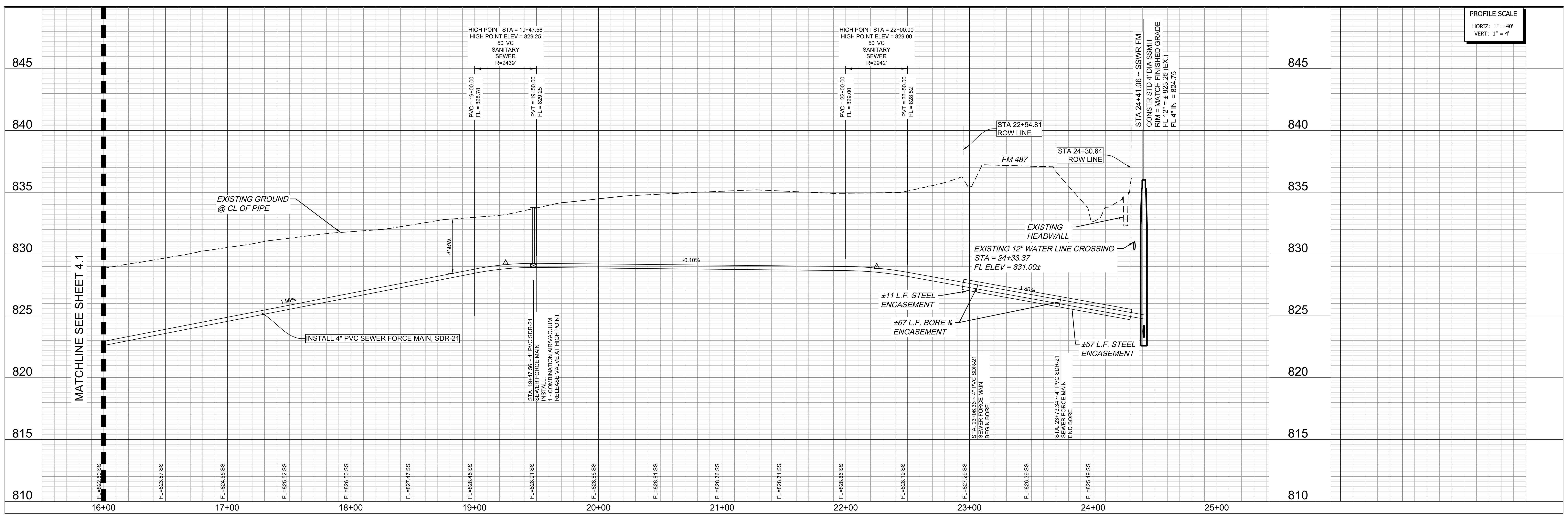
SSWR FM ~ STA 16+00 TO END



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MATTHEW S. HARDY 134448 LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS
10/17/2025
TBPE Registration #: F-13709

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TBPE Firm REG. #F-13709

Project
JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title
FORCE MAIN PLAN/PROFILE STA 15+00 TO STA END

Project No.	531023304
Date	09-05-2025
Drawn By	AM
Checked By	MH

C4.2

Sheet 9 of 13

Project No. 531023304

WATER AND SEWER GENERAL NOTES

1. ALL WATER MAINS UNLESS OTHERWISE NOTED SHALL HAVE A MINIMUM COVER OF 48" BELOW FINISHED GRADE. PROVIDE VALVE EXTENSIONS TO ALL VALVES ON LINES DEEPER THAN 48".
2. WHEN WATER MAINS AND SANITARY SEWERS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO EACH OTHER THAN NINE FEET IN ALL DIRECTIONS, AND PARALLEL LINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING GUIDELINES SHALL APPLY:
   A. WHERE A SANITARY SEWER PARALLELS A WATERLINE, THE SEWER SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC MEETING ASTM SPECIFICATIONS WITH A PRESSURE RATING FOR BOTH THE PIPE AND JOINTS OF 150 PSI. THE VERTICAL SEPARATION SHALL BE A MINIMUM OF TWO FEET BETWEEN OUTSIDE DIAMETERS, AND THE HORIZONTAL SEPARATION SHALL BE A MINIMUM OF FOUR FEET BETWEEN OUTSIDE DIAMETERS. THE SEWER SHALL BE LOCATED BELOW THE WATERLINE.
   B. WHERE A SANITARY SEWER CROSSES A WATERLINE AND THE SEWER IS CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI, AN ABSOLUTE MINIMUM DISTANCE OF SIX INCHES BETWEEN OUTSIDE DIAMETERS SHALL BE MAINTAINED. IN ADDITION, THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
   C. WHERE A SEWER CROSSES UNDER A WATERLINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIPE WITH GASKETED JOINTS, A MINIMUM TWO FOOT SEPARATION DISTANCE SHALL BE MAINTAINED. IN ADDITION, THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
   D. WHERE A SEWER CROSSES OVER A WATERLINE, ALL PORTIONS OF THE SEWER WITHIN NINE FEET OF THE WATERLINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC PIPE WITH A PROCEDURE, THE NEW CONVEYANCE MAY BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE FEET INTERVALS WITH SPACERS OR BE FILLED TO THE SPRING LINE WITH WASHED SAND. THE ENCASEMENT PIPE SHOULD BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.
   E. THE SEWER NEED NOT BE DISTURBED WHERE A NEW WATERLINE IS TO BE INSTALLED PARALLEL TO AN EXISTING SEWER THAT SHOWS NO EVIDENCE OF LEAKAGE AND THE WATERLINE IS INSTALLED ABOVE THE SEWER A MINIMUM OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY. SHOULD EXCAVATION FOR THE WATERLINE PRODUCE EVIDENCE THAT THE SEWER IS LEAKING, THE SEWER MUST BE REPAIRED OR REPLACED AS DESCRIBED IN SUBPARAGRAPHS (A) OR (D) OF THIS PARAGRAPH.
   F. THE SEWER NEED NOT BE DISTURBED WHERE A NEW WATERLINE IS TO CROSS OVER (BY TWO FEET OR MORE) EXISTING SEWER SHOWING NO EVIDENCE OF LEAKAGE. SHOULD EXCAVATION FOR THE WATERLINE PRODUCE EVIDENCE THAT THE SEWER IS LEAKING, THEN THE SEWER MUST BE REPAIRED OR REPLACED AS DESCRIBED IN SUBSECTIONS (C) OR (D).
3. CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
4. ALL SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
5. THE UTILITY CONTRACTOR SHALL INSTALL THE WATER SERVICES TO A POINT AS SHOWN ON THE PLANS. THE METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER THE PAVING CONTRACTOR HAS COMPLETED THE FINE GRADING BEHIND THE BACK OF THE CURB. EACH SERVICE LOCATION WILL BE MARKED ON THE CURB, WITH A BLUE LETTER "W" BY THE UTILITY CONTRACTOR AND TIED TO PROPERTY CORNERS ON THE "RECORD DRAWINGS".
6. ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS.
7. VALVE BOXES SHALL BE FURNISHED AND SET ON EACH GATE VALVE. AFTER THE FINAL CLEANUP AND ALIGNMENT HAS BEEN COMPLETED, THE CONTRACTOR (UTILITY) SHALL POUR A CONCRETE BLOCK 24"X24"X6" AROUND ALL VALVE BOX TOPS SO THAT THE TOP OF BOX IS LEVEL WITH THE FINISHED GRADE. MARK WITH F OR O OR S IN CONCRETE.
8. CONTRACTOR SHALL RAISE/LOWER OR ADJUST ALL EXISTING UTILITY MAINS IN CONFLICT WITH PROPOSED UTILITIES AS PART OF THE BASE BIDS FOR ALL KNOWN OR UNKNOWN LINES.

NOTES:

1. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES.
2. ALL VALVES, HYDRANTS, AND OTHER METAL FITTINGS THAT ARE NOT BRASS SHALL BE WRAPPED IN POLYETHYLENE SHEETING AND SEALED WITH TAPE TO PREVENT CORROSION. NUTS ON VALVES SHALL BE LEFT EXPOSED.
3. ALL WATER SERVICES SHALL BE HDPE SDR-9 COPPER TUBING SIZE.
4. ALL SERVICES SHALL BE ELECTROFUSED WITH BALL VALVE INSTALLED AT THE CONNECTION WITH THE MAIN.
5. HYDRANTS, VALVES, BLOW OFFS, AND FLUSH POINTS ARE SHOWN SCHEMATICALLY FOR VISUAL CLARIFICATION. ALL HYDRANTS, BLOW OFFS, AND FLUSH POINTS SHALL BE INSTALLED 2' FROM BACK OF CURB. ALL INLINE VALVES SHALL BE LOCATED WITHIN 2' OF THE TEE OR CROSS.
6. FRANCHISE UTILITIES SHALL BE INSTALLED WITHIN THE 10' UTILITY EASEMENT LOCATED ALONG THE ROADWAYS. ANY FRANCHISE UTILITY WORKS REQUIRED WITHIN THE PUBLIC R.O.W. MUST BE APPROVED BY THE CITY. FRANCHISE UTILITY LOCATIONS ARE SHOWN ON PAVING DETAILS SHEET, CITY DETAIL PV-3.
7. WATER AND SEWER SERVICE VALVE BOXES SHALL BE LOCATED TO AVOID CLASHES WITH DRIVEWAYS AND OTHER WATER & SEWER APPERTENANCES.

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811 Know what's below. Call before you dig.

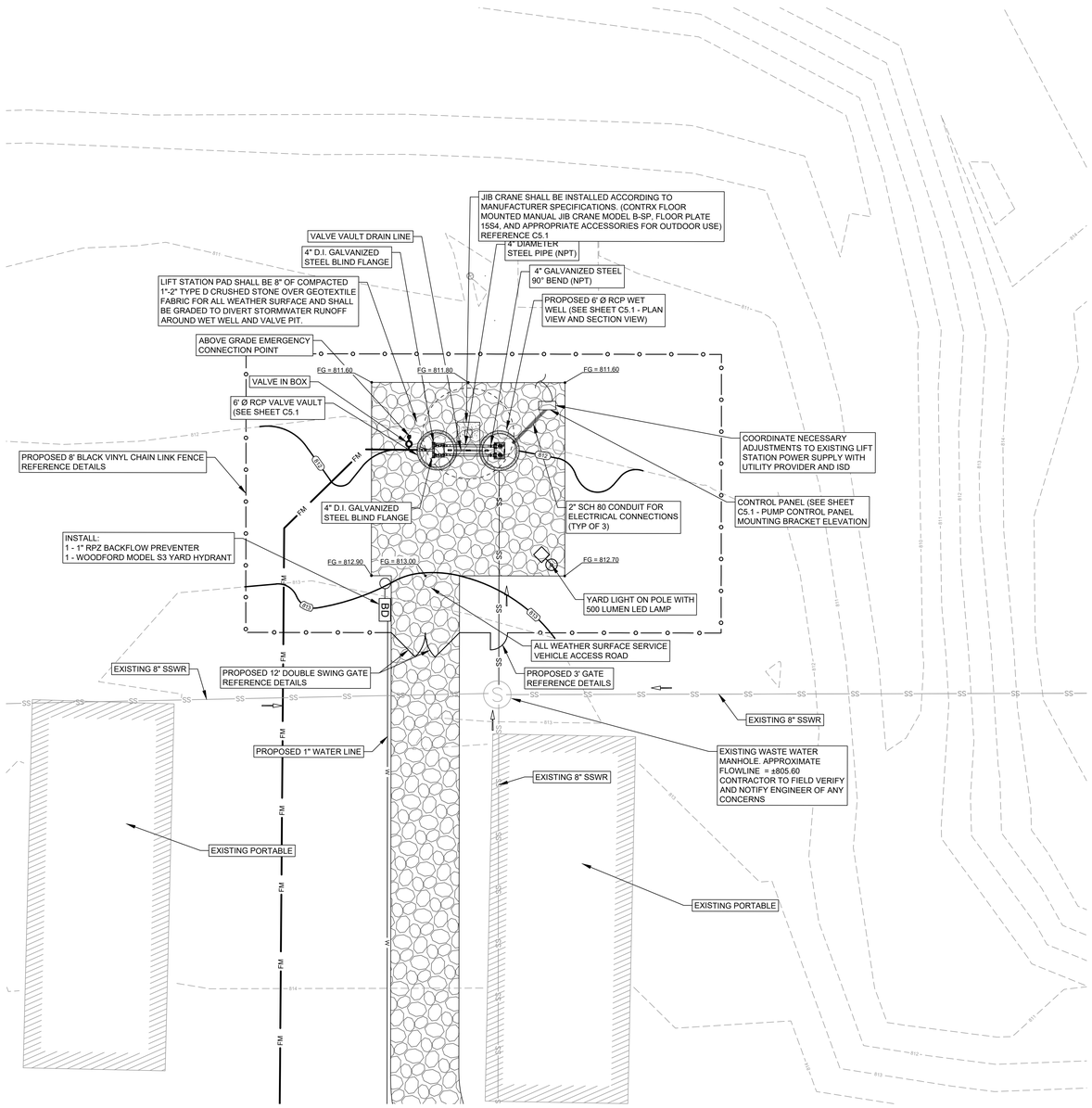
THESE PLANS ARE SUBJECT TO REVIEW & APPROVAL BY JURISDICTIONAL ENTITIES.

!!!CAUTION!!!
EXISTING OVERHEAD & UNDERGROUND UTILITIES IN THE VICINITY.
VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES
BY VACUUM EXCAVATION OR OTHER POTHOLING TECHNIQUES.

GRAPHIC SCALE
0 10 20 FEET

LEGEND

- PROPOSED FORCE MAIN — FM
- PROPOSED WATER LINE — W
- PROPOSES CHAINLINK FENCE — o — o —
- 1"-2" TYPE D CRUSHED STONE, 8" THICK OVER GEOTEXTILE FABRIC
- PROPOSED CONTOUR — 100
- EXISTING CONTOUR — 100
- SPOT GRADE — FG=100.50
- FG — FINISHED GRADE
- FLOW DIRECTION



Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW S. HARDY — 134448 — LICENSED PROFESSIONAL ENGINEER
10/17/2025
TBPE Registration #: F-13709

LANGAN
Langan Engineering and Environmental Services, LLC.
9606 N. Mopac Expressway, Suite 110
Austin, TX 78759
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TBPE Firm REG. #F-13709

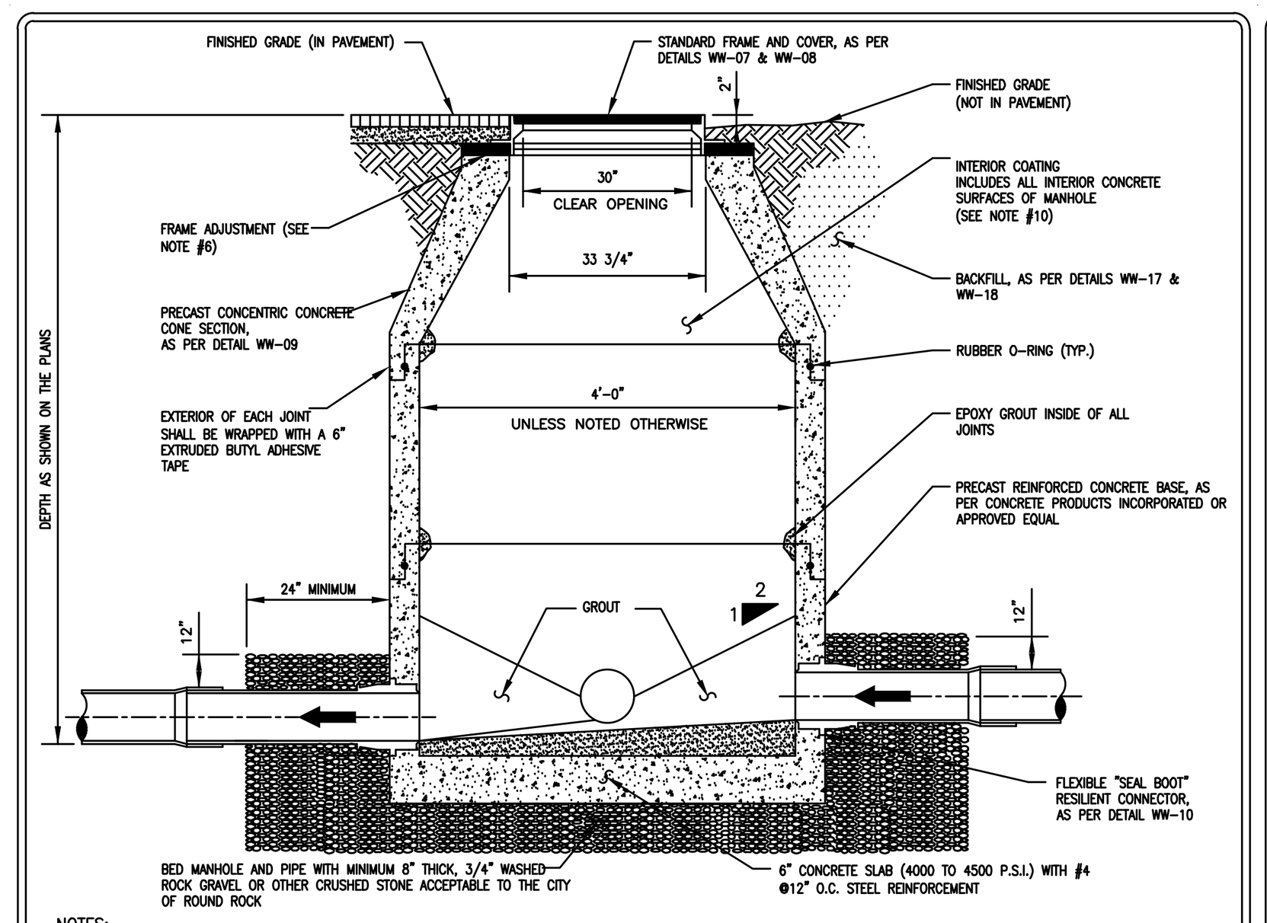
Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: SANITARY SEWER LIFT STATION SITE PLAN

Project No. 531023304
Date 09-05-2025
Drawn By AM
Checked By MH

C4.3
Sheet 10 of 13

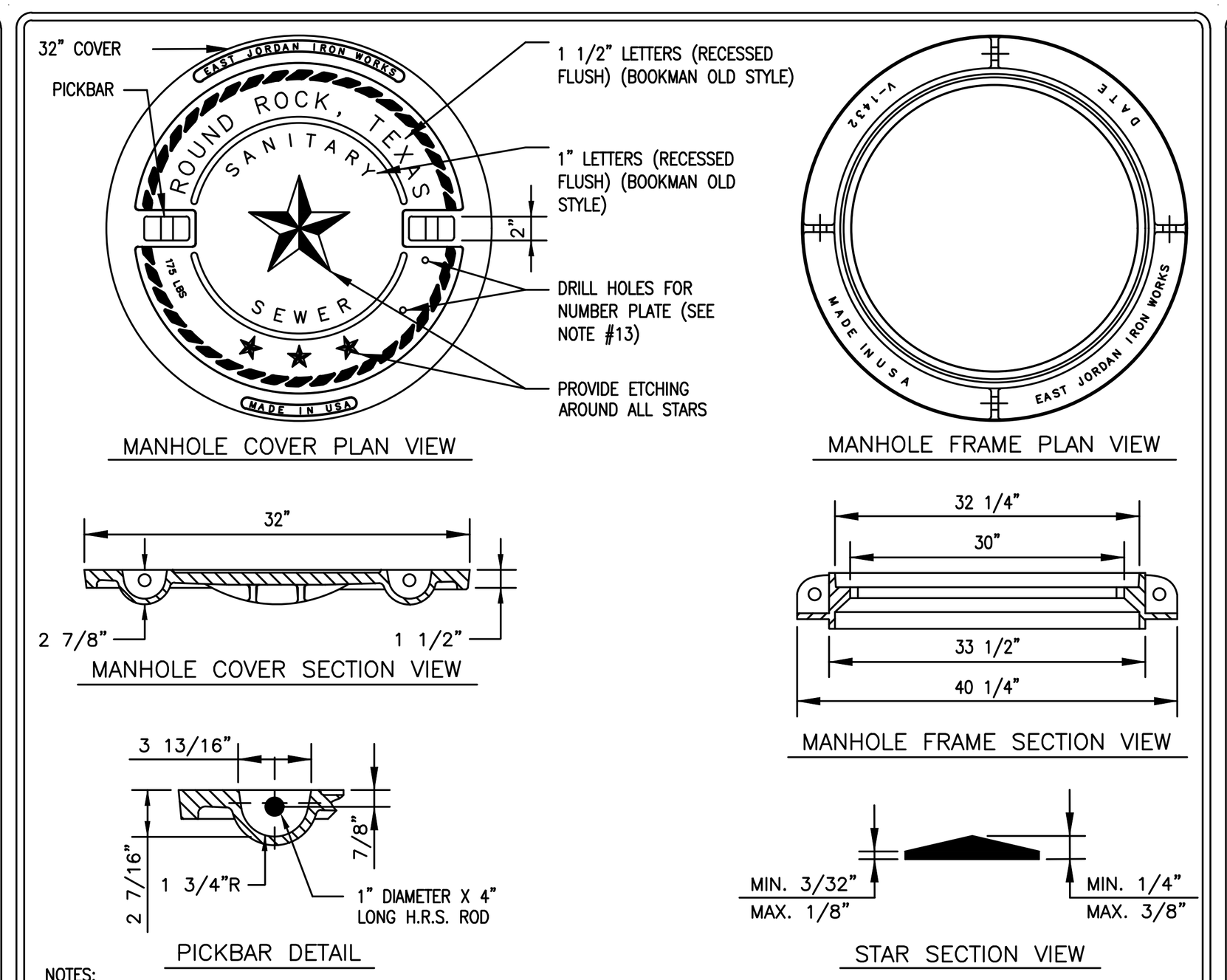
Project No. 531023304



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST A.S.T.M. C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MINIMUM THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

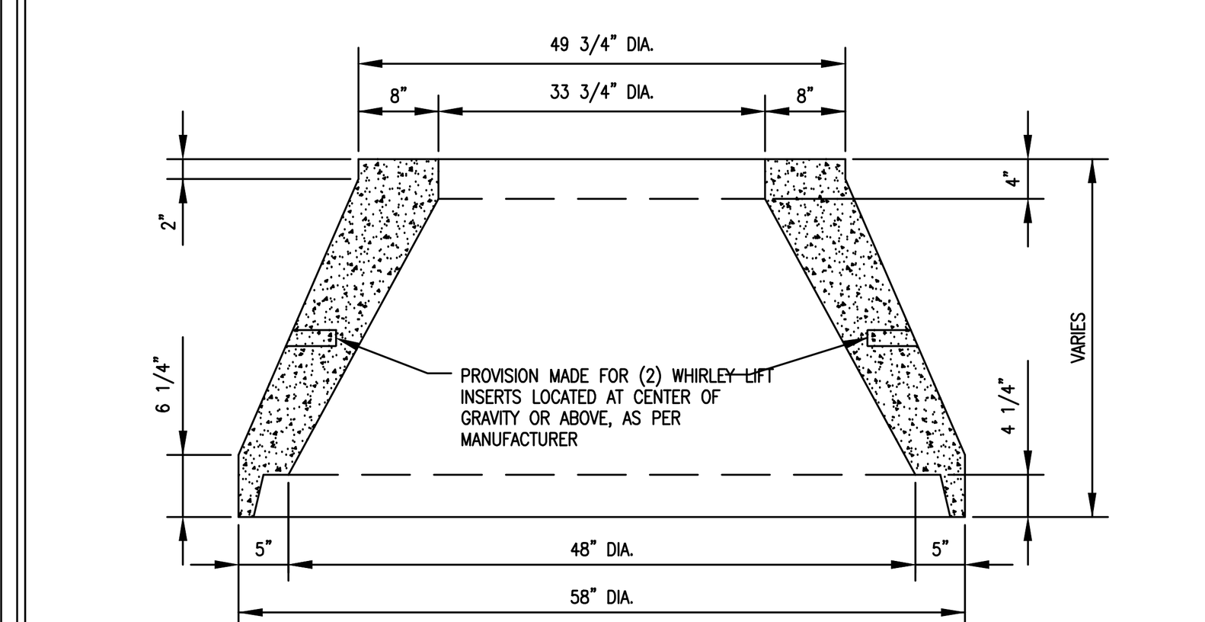
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	DRAWING NO: WW-01 ROUND ROCK TEXAS Utilities and Environmental Services



NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-1432-3 (PRODUCT NUMBER: 41432059), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432089), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. MANUFACTURER SHALL DRILL 2-3/16" X 1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

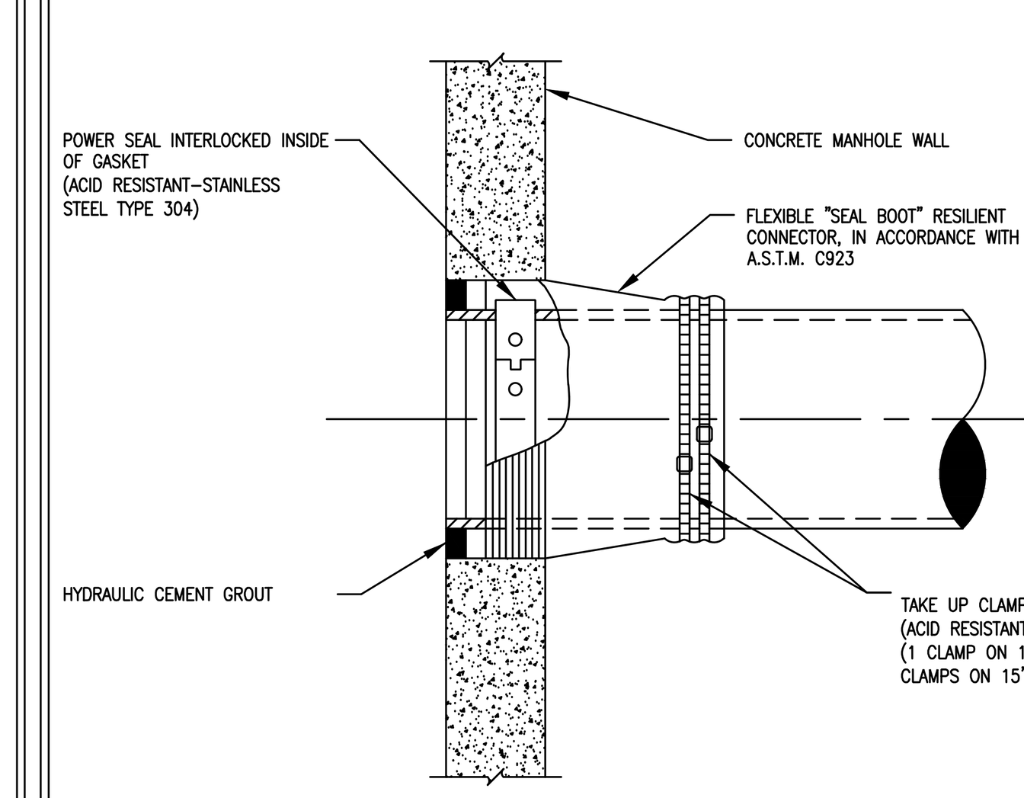
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK NON-BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	DRAWING NO: WW-08 ROUND ROCK TEXAS Utilities and Environmental Services



NOTE:

CONCENTRIC CONCRETE CONE SECTION SHALL BE MANUFACTURED USING 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH AND IN ACCORDANCE WITH A.S.T.M. C478, AS MANUFACTURED BY CONCRETE PRODUCTS INCORPORATED, OR APPROVED EQUAL.

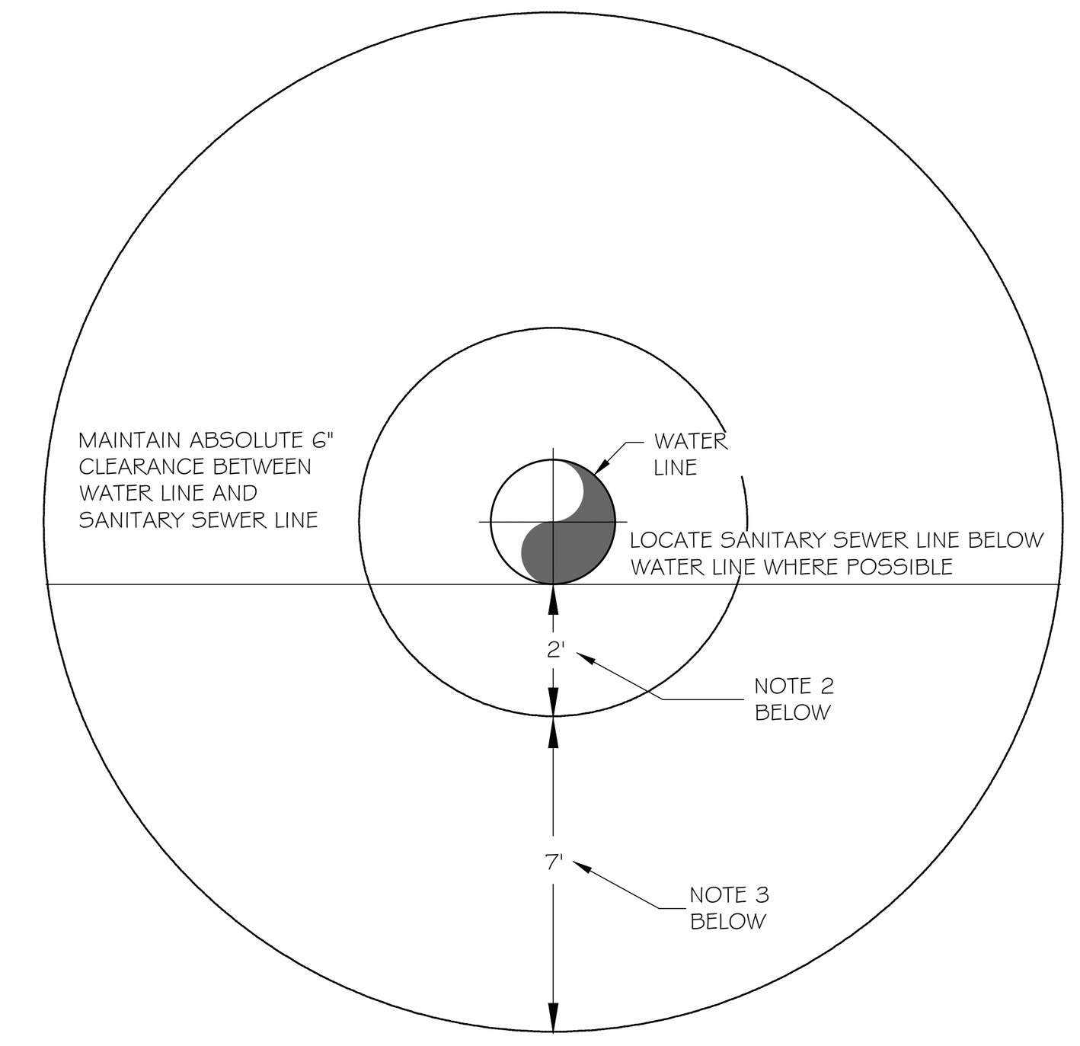
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK PRECAST 48" CONCENTRIC CONCRETE CONE SECTION DETAIL	DRAWING NO: WW-09 ROUND ROCK TEXAS Utilities and Environmental Services



NOTE:

1. FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR TO BE A MINIMUM OF 12 INCHES (12") FROM A MANHOLE JOINT.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR DETAIL	DRAWING NO: WW-10 ROUND ROCK TEXAS Utilities and Environmental Services



1 - WHEN POSSIBLE, LOCATE WATER LINE ABOVE SANITARY SEWER.

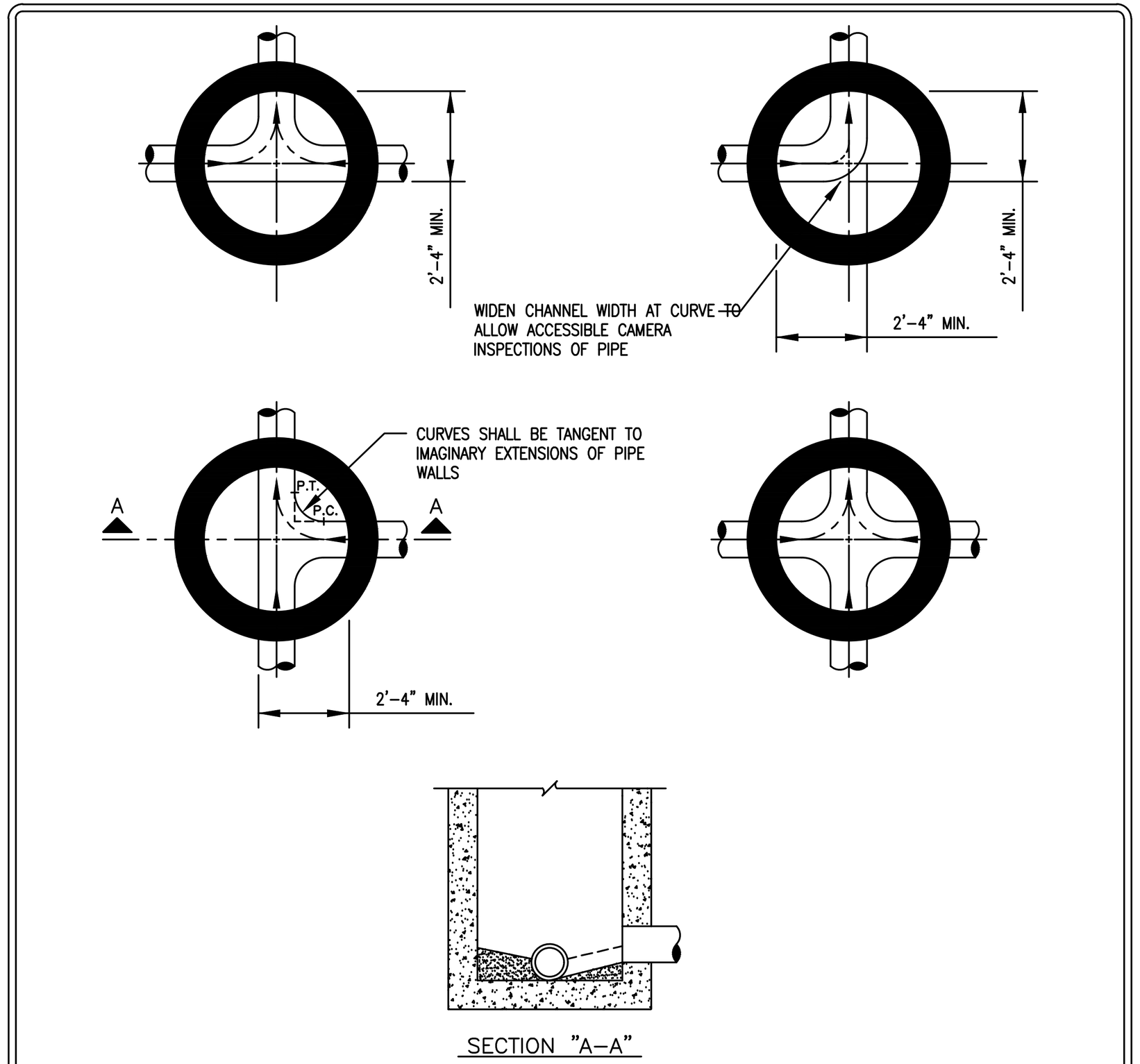
2- WHEN SEWER LINE IS WITHIN 6" - 2' OF THE WATER LINE CONSTRUCT SEWER OF C-900, CLASS 150 (DR-18) PIPE WITH JOINTS DESIGNED TO SEAL AT ATMOSPHERIC PRESSURE. CENTER ONE JOINT OF WATER PIPE OVER SANITARY SEWER PIPE
-OR-
NON-PRESSURE RATED SEWER PIPE (AS INDICATED ON THE PLANS) ENCASED IN C-900, CLASS 150 (DR-18) PIPE 2 NOMINAL SIZES LARGER THAN WASTEWATER PIPE, SUPPORTED BY SPACERS AT 5' INTERVALS, SEALED AT BOTH ENDS WITH CEMENT GROUT OR A MANUFACTURED SEAL. CENTER ONE JOINT OF WATER PIPE OVER SANITARY SEWER PIPE.

3 - WHEN SEWER LINE IS WITHIN 2' - 9' OF THE WATER LINE, SEWER MAY BE CONSTRUCTED OF NON-PRESSURE RATED PIPE (AS INDICATED ON THE PLANS) ENCASED IN CEMENT STABILIZED BACKFILL PER TCEQ STANDARDS.
-OR-
NON-PRESSURE RATED SEWER PIPE (AS INDICATED ON THE PLANS) ENCASED IN C-900, CLASS 150 (DR-18) PIPE 2 NOMINAL SIZES LARGER THAN WASTEWATER PIPE, SUPPORTED BY SPACERS AT 5' INTERVALS, SEALED AT BOTH ENDS WITH CEMENT GROUT OR A MANUFACTURED SEAL. CENTER ONE JOINT OF WATER PIPE OVER SANITARY SEWER PIPE.
-OR-
CONSTRUCT SEWER OF C-900, CLASS 150 (DR-18) PIPE WITH JOINTS DESIGNED TO SEAL AT ATMOSPHERIC PRESSURE. CENTER ONE JOINT OF WATER PIPE OVER SANITARY SEWER PIPE

4 - USE STANDARD PIPE MATERIAL AS INDICATED ON THE PLANS IF THE WATER LINE AND SEWER LINE SEPARATION DISTANCE IS GREATER THAN 9'.

WET UTILITY SEPARATION

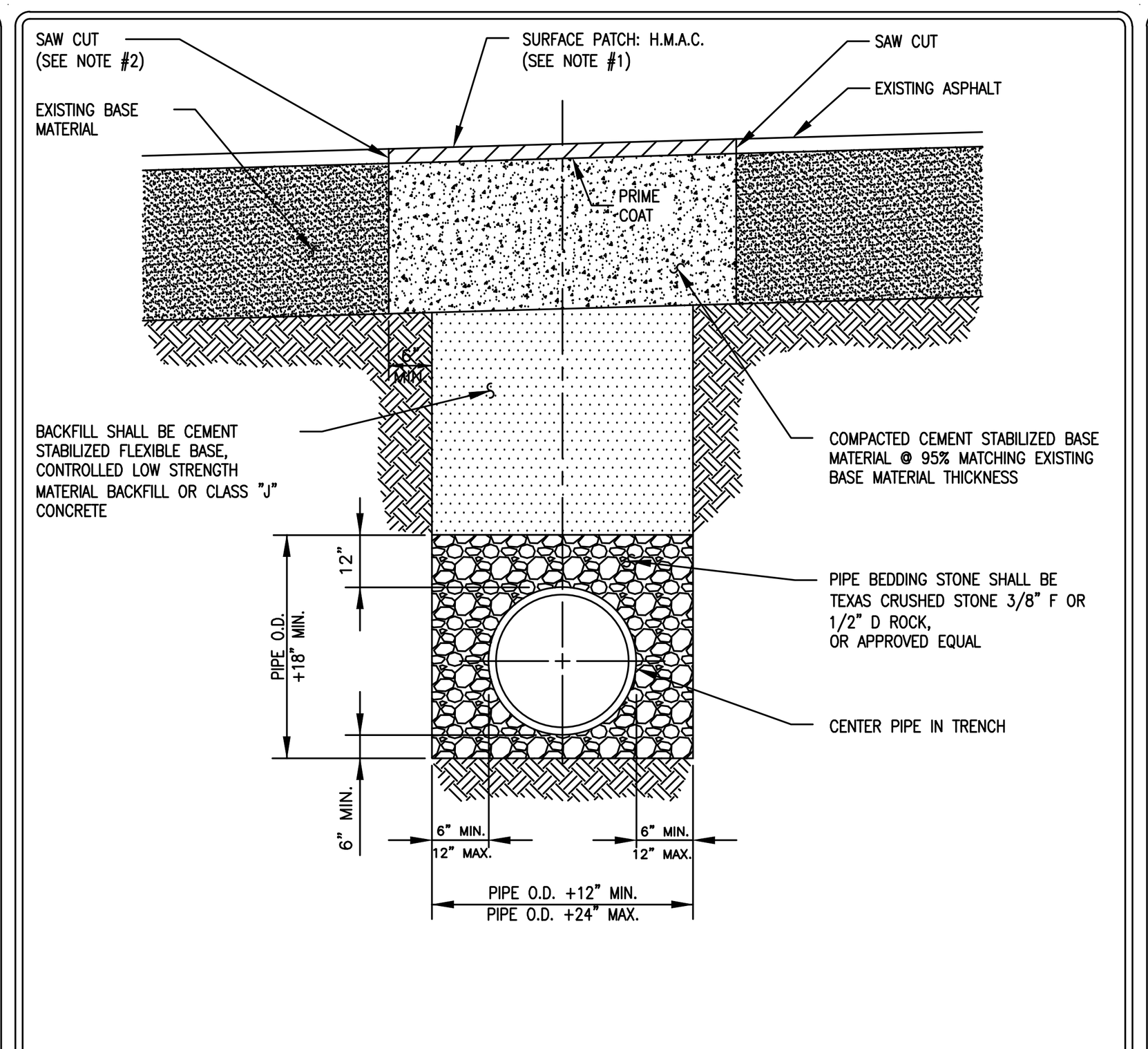
N.T.S.



NOTES:

1. MINIMUM DROP FROM INLET TO OUTLET OF MANHOLE IS 0.1 FEET AND MAXIMUM DROP IS 2 FEET, UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE CITY OF ROUND ROCK.
2. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
3. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
4. CHANNELS FOR FUTURE CONSTRUCTIONS, SHALL BE CONSTRUCTED WITH PIPE EXTENDING 3' BEYOND EXTERIOR OF MANHOLE WALL, WITH GLUED PLUG.
5. SLOPE MANHOLE BENCH AT 2:1 SLOPE FROM MANHOLE WALL TO CHANNEL.
6. INVERT CHANNEL SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR FOUR INCHES (4") DEEP.

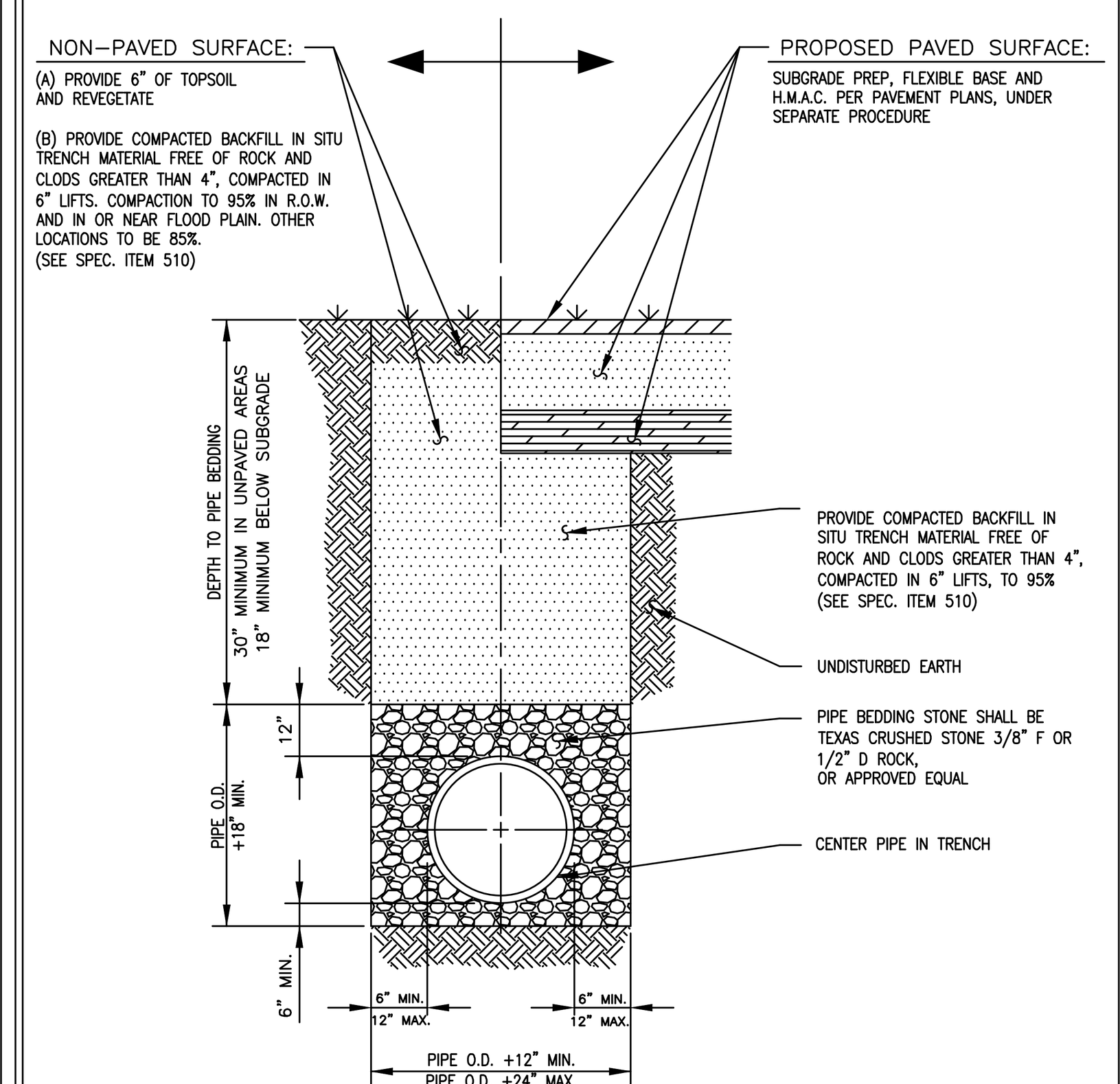
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK WASTEWATER FLOW PATTERNS FOR INVERT CHANNELS DETAIL	DRAWING NO: WW-11 ROUND ROCK TEXAS Utilities and Environmental Services



NOTES:

1. H.M.A.C. THICKNESS SHALL MATCH EXISTING ASPHALT THICKNESS AND NO LESS THAN 2".
2. THE CONTRACTOR SHALL SAW CUT, REMOVE AND REPLACE EXISTING PAVEMENT AND FLEXIBLE BASE A MINIMUM OF 6" BEYOND EITHER THE EDGE OF THE WASTEWATER LINE TRENCH OR THE POINT WHERE EXISTING PAVEMENT IS DAMAGED DUE TO TRENCHING OPERATIONS, WHICHEVER IS GREATER. FINISHED PATCH SHALL BE NEAT AND UNIFORM.
3. INSTALLATION OF BACKFILL, SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT AND SURFACE PATCH SHALL NOT BE PAID FOR SEPARATELY. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
4. THE CONTRACTOR SHALL PROVIDE STEEL PLATES TO SPAN THE TRENCH AS NECESSARY OR TO ALLOW BACKFILL TO CURE. SUCH PLATES SHALL BE SUITABLE FOR VEHICLE PASSAGE OVER THE TRENCH AND SHALL BE SATISFACTORILY ANCHORED IN PLACE. COSTS FOR THIS ITEM SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
5. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

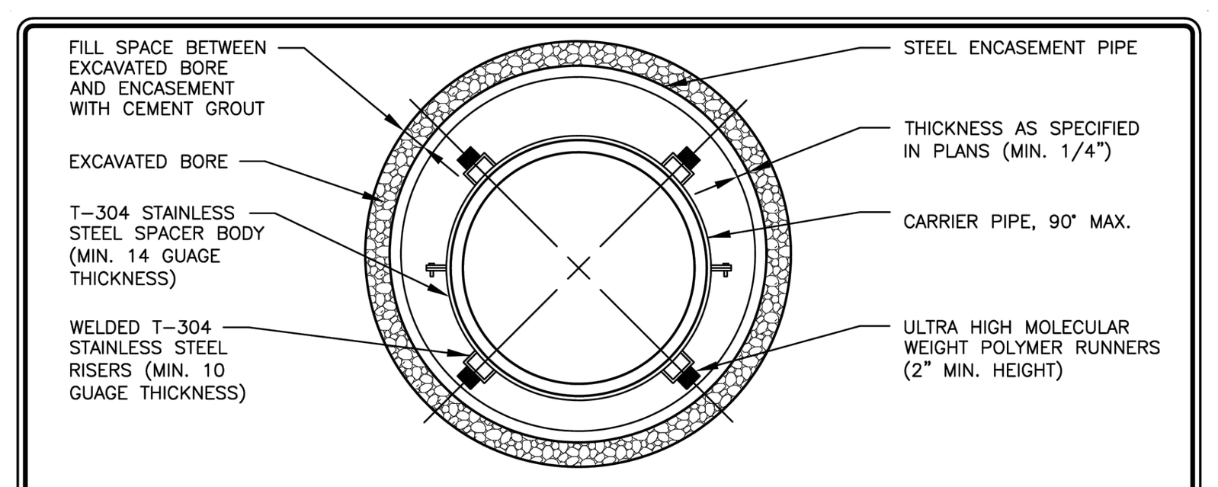
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (EXISTING PAVED SURFACE)	DRAWING NO: WW-17 ROUND ROCK TEXAS Utilities and Environmental Services



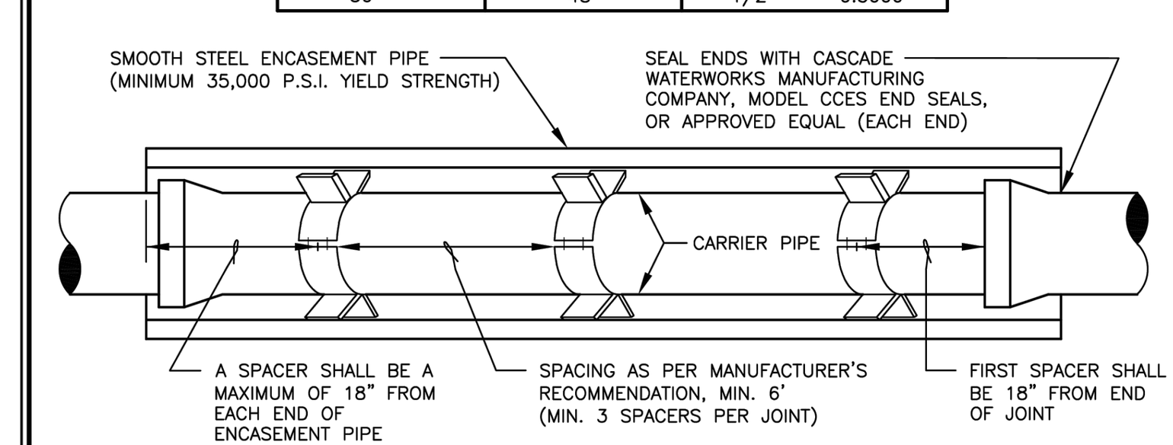
NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	DRAWING NO: WW-18 ROUND ROCK TEXAS Utilities and Environmental Services



PIPE SIZE–CARRIER (DIAMETER)	PIPE SIZE–CASING (DIAMETER) (MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"	1/4	0.2500
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" ~ 14"	24"	3/8	0.3750
16" ~ 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000



NOTES:

1. CASING SPACER CONFIGURATION AND SPACING SHALL BE AS SHOWN ON MANUFACTURER'S DRAWINGS FOR SPECIFIC WORK; THESE MUST BE ACCEPTABLE TO THE CITY OF ROUND ROCK.
2. CASING SPACER SHALL BE AS MANUFACTURED BY CASCADE WATERWORKS MANUFACTURING COMPANY, MODEL CCS, OR APPROVED EQUAL.

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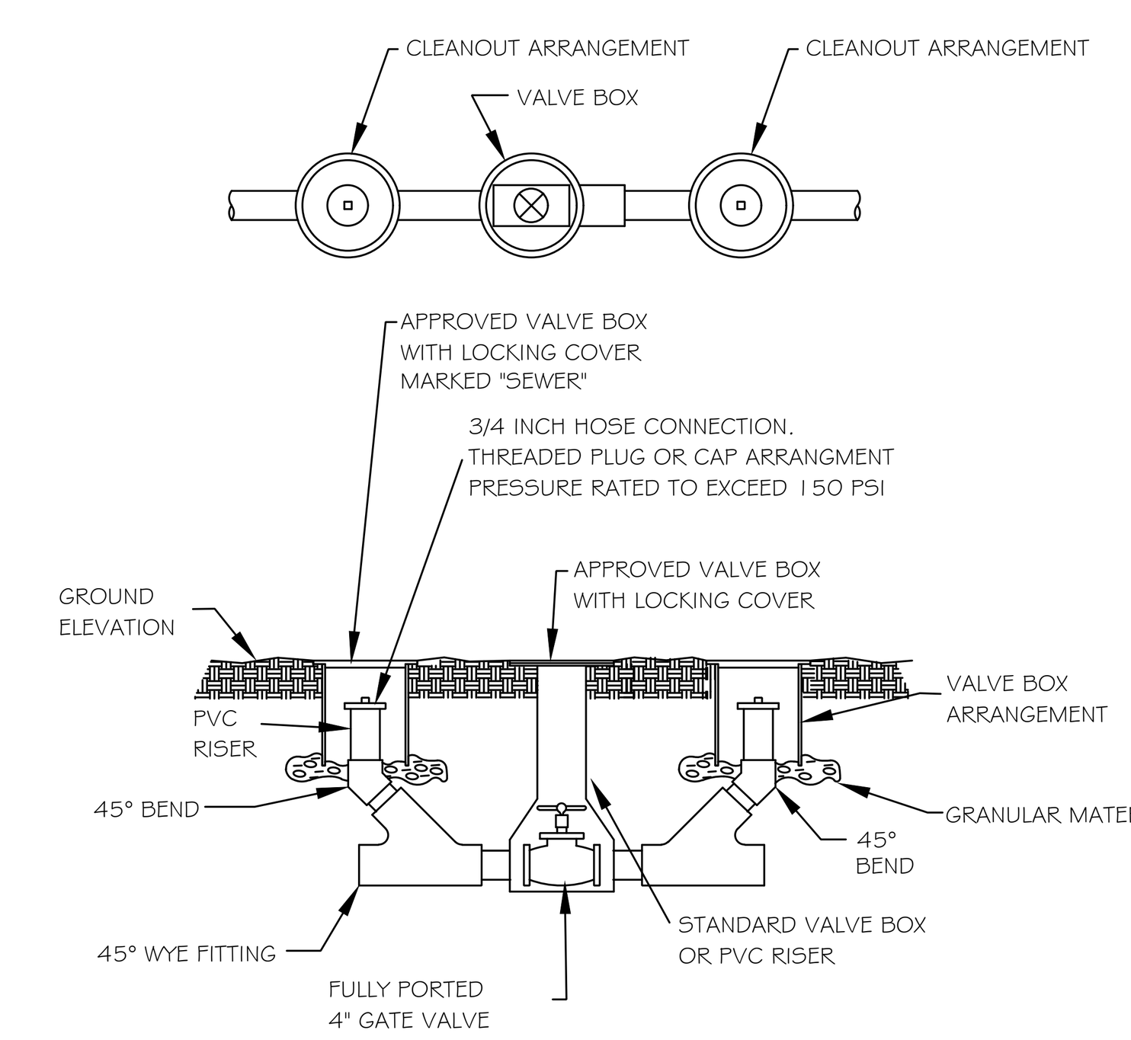
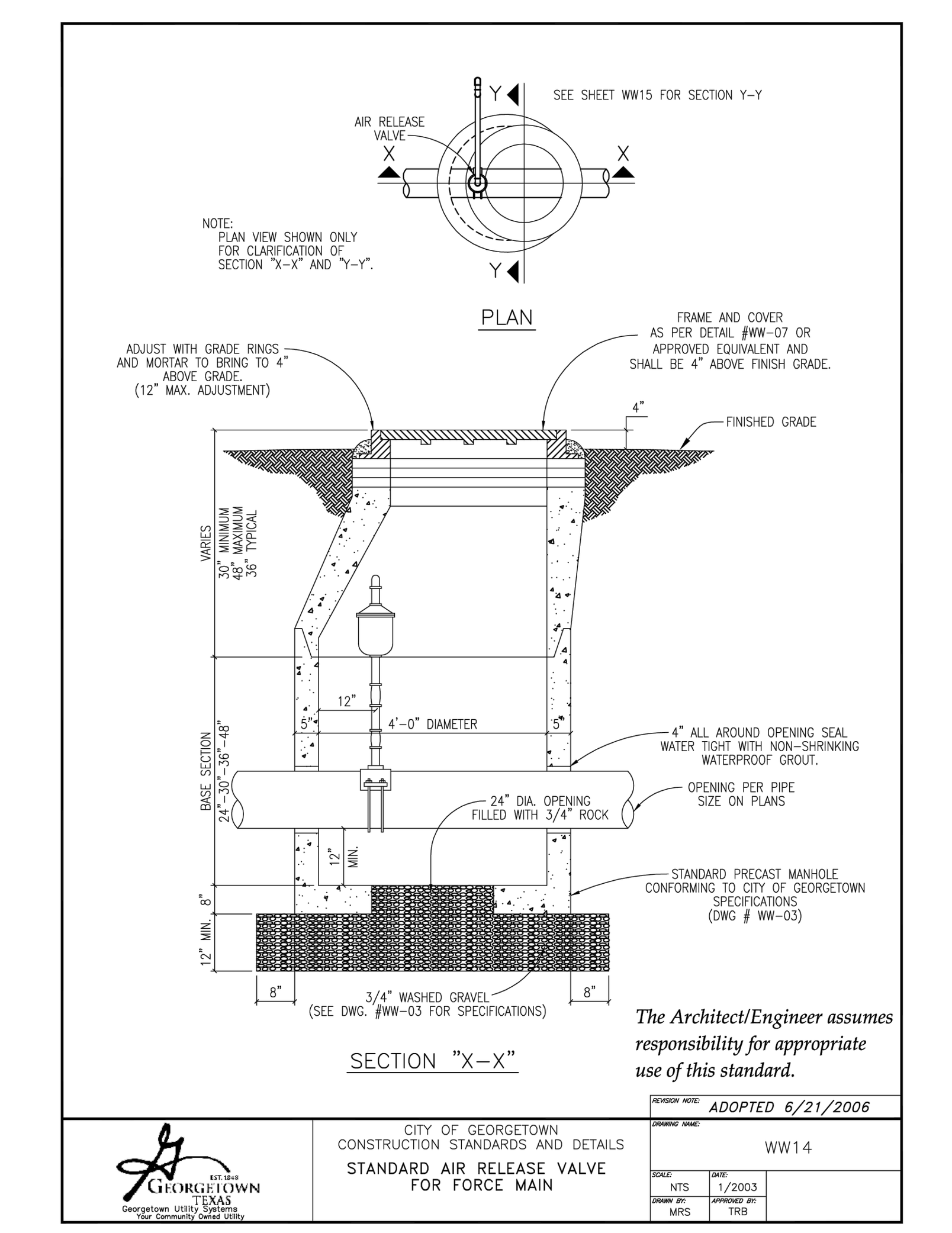
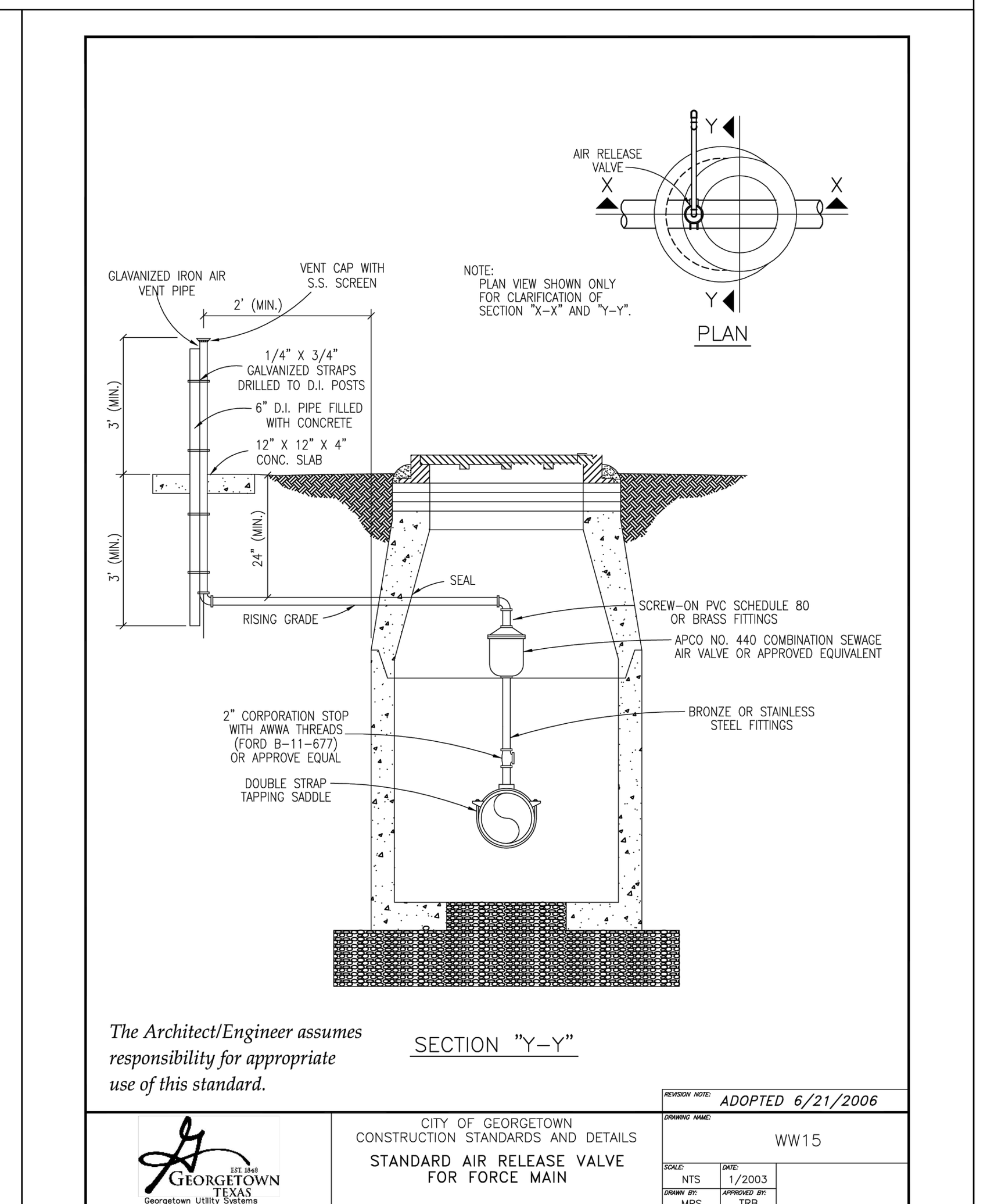
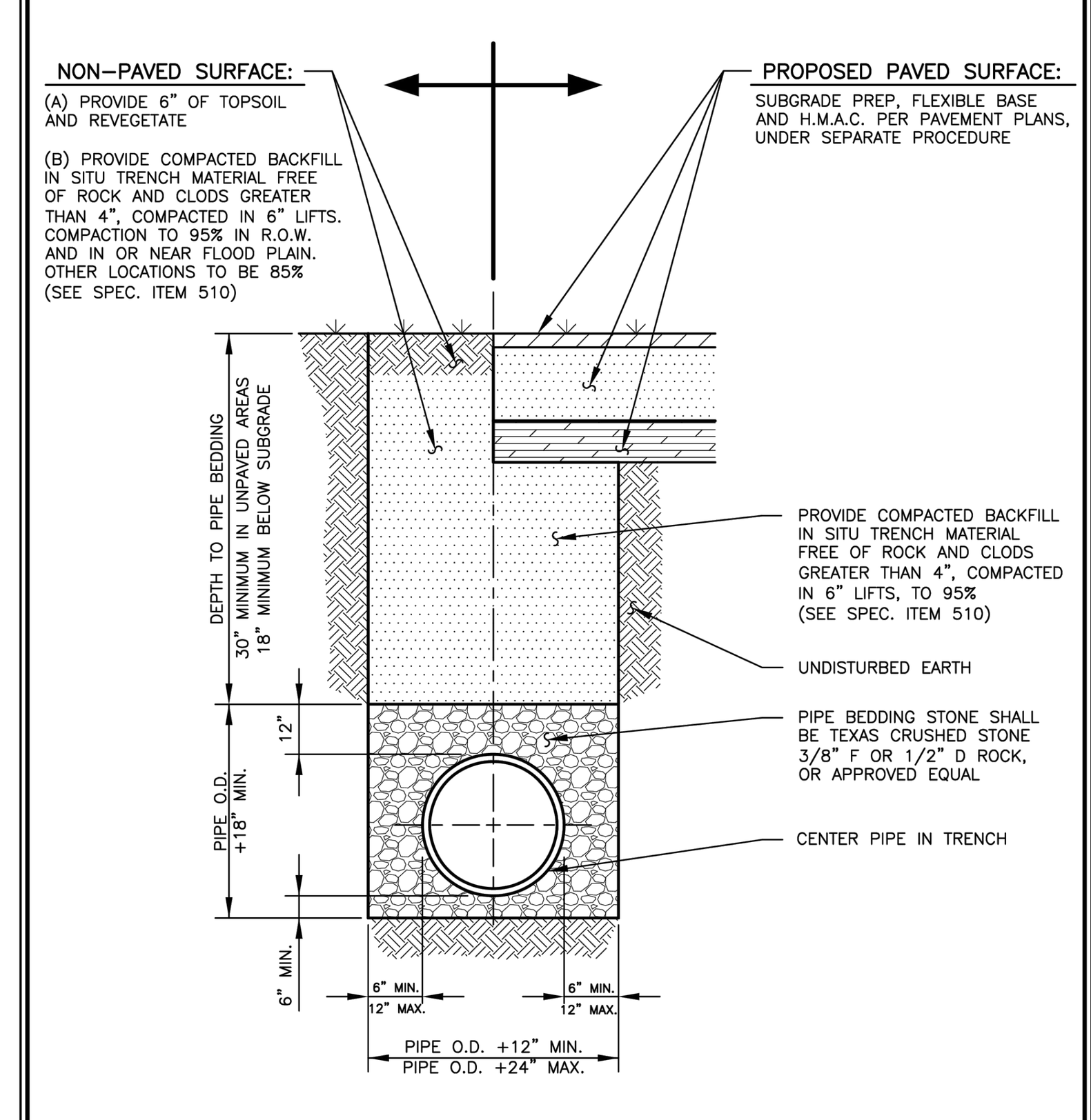


4" VALVE AND CLEANOUT ASSEMBLY

SCALE: NTS







NOTE:

1. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

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The Model S3 hydrant is designed for use anywhere potable water is required.

Unlike conventional hydrants which drain the water into the ground, the Model S3 employs a reservoir below frost line to contain the water. The hydrant is completely sealed to prevent surface and ground water from entering reservoir or service line. The valve, with it's unique venturi design, removes the stored water along with the water being used.

The Model S3 is equipped with a diverter spout, which allows the hydrant to be operated independently from the backflow preventer. When the hydrant is to be used with a hose, the diverter sleeve is pulled down during flow and water is automatically diverted to the backflow preventer hose connection. The diverter will work with or without a hose attached to the backflow preventer and will automatically release any time the hydrant is shut off.

An important feature of the S3 is easy maintenance. The entire working portion of the hydrant can be removed from the reservoir without any excavation.

SPECIFICATIONS:
HOSE CONNECTION BACKFLOW PREVENTER (BFP)

- NIDEL® Model 37HF
- ASSE 1052
- Field Testable (see instruction sheet)
- Two Check Valves

OPTIONAL: ASSE 1057 listed - Consists of NIDEL® Model 34HF Single Check Vacuum Breaker
Order example: S3-Bury Depth-SC

FEMALE INLET - 1" N.P.T.

MIN PRESSURE - 20 psi

MAX PRESSURE - 100 psi

MAX TEMPERATURE - 120° F

Patent Information:
https://www.woodfordmfg.com/patents/

Installation and Troubleshooting Instructions see https://www.woodfordmfg.com or call 1-800-621-6032

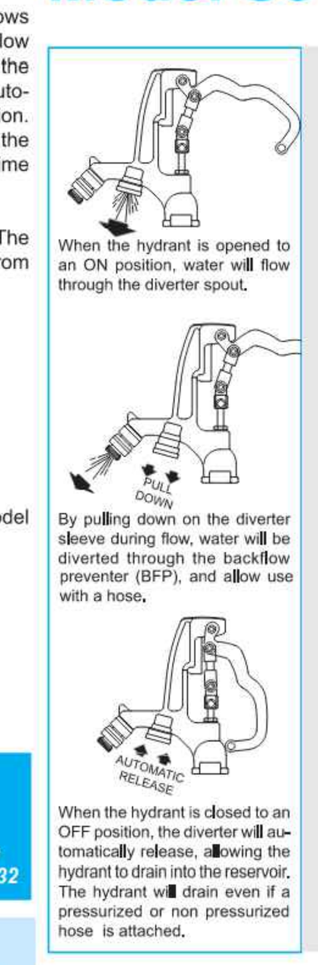
NOTICE

FOR WINTER USE: The hydrant must be operated at full flow, through the diverter, for a minimum of 30 seconds before and after each use to drain the hydrant and prevent freezing.

WOODFORD

Backflow Protected
Automatic Draining
Freezeless

Sanitary Yard Hydrant
Model S3



When the hydrant is opened to an ON position, water will flow through the diverter spout.

By pulling down on the diverter sleeve during flow, water will be diverted through the backflow preventer (BFP), and allow use with a hose.

When the hydrant is closed to an OFF position, the diverter will automatically release, allowing the hydrant to drain into the reservoir. The hydrant will drain even if a pressurized or non pressurized hose is attached.

When ordering, specify bury depth.

Rev. 04/24 Form No. S3.114

Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW S. HARDY — 134448 — LICENSED PROFESSIONAL ENGINEER — 10/17/2025

TBPE Registration #: F-13709

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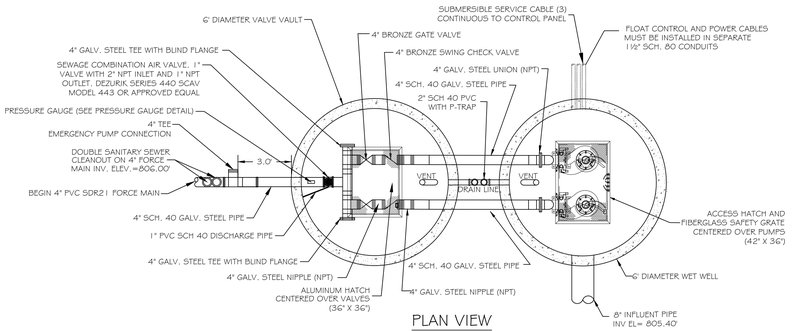
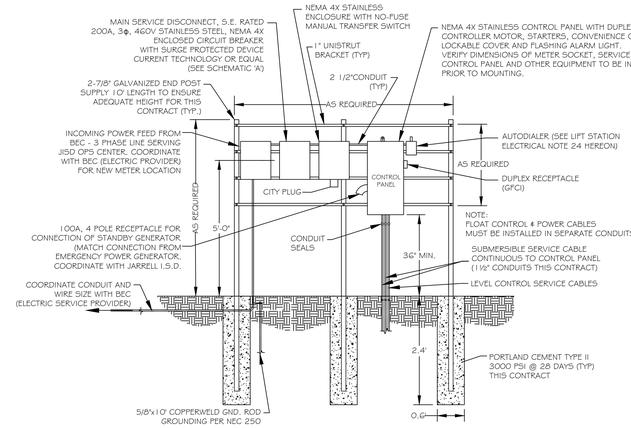
TBPE Firm REG. #F-13709

Project	Drawing Title		
JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL WILLIAMSON COUNTY TEXAS	SANITARY SEWER & WATER DETAILS	Project No. 531023304 Date 09-05-2025 Drawn By AM Checked By MH	C5.0 Sheet 11 of 13



PLAN VIEW

N.T.S



PUMP CONTROL PANEL MOUNTING BRACKET ELEVATION

N.T.S.

LIFT STATION ELECTRICAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL LOCAL AND STATE AUTHORITIES HAVING JURISDICTION THEREOF.
2. ALL EQUIPMENT SHALL BE SPECIFICATION GRADE AND SHALL HAVE U.L. LABEL FOR INTENDED USE.
3. ELECTRICAL SYSTEMS SHALL BE COMPLETE IN EVERY DETAIL, INCLUDING ALL INCIDENTAL ITEMS FOR A PROPER AND FUNCTIONING INSTALLATION SUBJECT TO FINAL APPROVAL OF ENGINEER. CONTRACTOR SHALL PROVIDE UNDERGROUND ELECTRIC SERVICE TO UTILITY CO. TRANSFORMER.
4. ALL REQUIRED PERMITS AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AND SUCH COSTS SHALL BE INCLUDED IN BID PRICE FOR WORK.
5. EXAMINATION OF SITE IS MANDATORY. CONTRACTOR IS HEREBY HELD TO EXAMINE THE SITE AND HAVE INCLUDED IN BID PRICE ALL COSTS DUE TO SITE AND FIELD CONDITIONS.
6. COMPLETE IDENTIFICATION OF PRODUCT AND ELECTRICAL COMPONENTS IS REQUIRED. IDENTIFY ALL PANELS, CONTROL DEVICES, ETC., WITH THE NOMENCLATURE REQUIRED USING PLASTIC LAMINATE NAMEPLATES. INSTALL TYPEWRITTEN DIRECTIONS OF ALL CIRCUITS ON INSIDE OF ALL PANELS.
7. GROUND CONTINUITY SHALL BE MAINTAINED THROUGHOUT ELECTRICAL SYSTEM. INSTALL GROUNDING SYSTEM PER NEC 250.
8. PUMP MOTOR MOISTURE SENSOR, TEMPERATURE SENSOR AND APPURTENANCES TO BE PROVIDED BY PUMP MANUFACTURERS WARRANTY OR RECOMMENDATION.
9. EXPLOSION PROOF CONDUIT OUTLET BODY TO INCLUDE NON-HARDENING SEAL COMPOUND.
10. RATE MAIN BREAKER, MCP, AND ASSOCIATED BREAKERS FOR 22,000 SYM AMP SHORT CIRCUIT INTERRUPTING CAPACITY.
11. POWER AND CONTROL CONDUIT SHALL BE INSTALLED IN THE STRUCTURAL LIFT STATION SLAB.
12. EQUIPMENT TO BE SERVICE ENTRANCE RATED AND UL LISTED. EQUIPMENT TO BE UL 1008 LISTED.
13. COORDINATE REQUIREMENTS OF UTILITY SERVICE WITH BUILDING MEP PLANS.
14. PUMP CONTROLS SHALL BE ALTERNATING START SEQUENCE.
15. CONTROL PANEL SHALL INCLUDE LIGHTNING-TRANSIENT PROTECTION, PHASE MONITOR, AND SCADA SYSTEM. PANEL TO HAVE DEAD FACE.
16. CONTROLS AND CONTROL PANEL TO BE SUPPLIED BY PUMP MANUFACTURER.
17. DRY CONTACTS SHALL BE PROVIDED FOR CONNECTION TO RTU.
18. ALL CONDUCTORS SHALL BE SOFT-DRAWN COPPER. ALL CONDUCTORS SHALL BE THWN INSULATED FOR 600 VOLTS AND WITH 75 DEGREES C CODE GRADE INSULATION.
19. ALL ELECTRICAL CONTROL EQUIPMENT FOR OUTDOOR INSTALLATION SHALL BE NEMA 4X RATED MINIMUM, WITH DEAD FRONT AND LOCKING PROVISIONS.
20. ALL CONDUCTORS #6 AWG AND LARGER SHALL BE MADE UP OF STRANDED SINGLE CONDUCTOR CABLE AND SHALL HAVE THWN INSULATION AS APPLICABLE. CONDUCTORS #5 AWG AND SMALLER SHALL BE SOLID WITH THWN OR THHN INSULATION AS APPLICABLE.
21. #12 AWG SHALL BE THE MINIMUM WIRE SIZE ALLOWED EXCEPT #14 AWG MAY BE USED FOR CONTROL WIRING UNLESS OTHERWISE NOTED. CONTROL WIRING SHALL BE MADE UP OF SINGLE CONDUCTOR CABLE.
22. PVC SCH. 80 CONDUIT SHALL BE USED FOR UNDERGROUND CIRCUITS.
23. CONDUIT EXPOSED TO WEATHER SHALL BE RIGID AND GALVANIZED.
24. AUTODIALER SYSTEM SHALL BE AS SPECIFIED BY JARRELL ISD PHYSICAL PLANT MAINTENANCE DEPARTMENT.
25. 1 - 110V SINGLE PHASE CONVENIENCE ELECTRIC OUTLET SHALL BE PROVIDED INSIDE CONTROL PANEL ENCLOSURE.

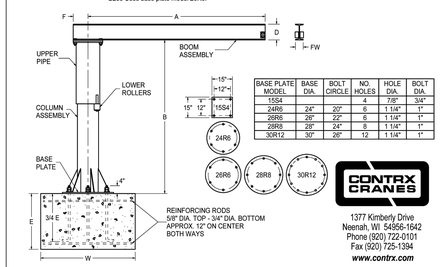
FLOOR MOUNTED 'B' SERIES JIB CRANE SPECIFICATIONS

Jib Crane Accessories:

- Anchor Bolt Kits
- Tagline Kits
- Templates (paper & plywood)
- Hoists & Trolleys (electric & manual)

CAP.	DIMENSIONS						BEAM	BASE PLATE	B = 8' HT.		B = 10' HT.		B = 12' HT.	
(LBS.)	A	D	FW	E	W	F	TYPE	MODEL	LBS.	MODEL	LBS.	MODEL	LBS.	MODEL
250	6'	5"	3"	3'	4'	4"	S	15S4	309	B2586	338	B25106	368	B25126
250	8'	5"	3"	3'	4'	4"	S	15S4	329	B2586	358	B25106	388	B25128
250	10'	5"	3"	3'	4'	4"	S	15S4	349	B25810	378	B2510106	408	B2512106
250	12'	5"	3"	3'	4'	4"	S	15S4	369	B25812	398	B2510112	428	B2512112
250	14'	6"	3-3/8"	3'	5'	4"	S	15S4	425	B25814	454	B2510114	484	B2512114
250	16'	6"	3-3/8"	3'	5'	5"	S	15S4	499	B25816	537	B2510116	575	B2512116
500	6'	5"	3"	3'	4'	5"	S	15S4	358	B586	396	B5106	434	B5126
500	8'	5"	3"	3'	4'	5"	S	15S4	378	B588	416	B5108	454	B5128
500	10'	5"	3"	3'	4'	5"	S	15S4	398	B5810	436	B51010	474	B51210
500	12'	6"	3-3/8"	3'	4'	6 1/2"	S	24R6	554	B5812	595	B51012	644	B51212
500	14'	8"	4"	3'	5'	6 1/2"	S	24R6	665	B5814	710	B51014	755	B51214
500	16'	8"	4"	3'	5'	6 1/2"	S	24R6	702	B5816	747	B51016	792	B51216
750	6'	5"	3"	3'	4'	6 1/2"	S	24R6	463	B7586	508	B75106	553	B75126
750	8'	6"	3-3/8"	3'	4'	6 1/2"	S	24R6	504	B7588	549	B75108	594	B75128
750	10'	6"	3-3/8"	3'	4'	6 1/2"	S	24R6	529	B75810	574	B751010	619	B751210
750	12'	6"	3-3/8"	3'	4'	7 1/2"	S	24R6	707	B75812	763	B751012	819	B751212
750	14'	8"	4"	3'	5'	7 1/2"	S	24R6	818	B75814	874	B751014	931	B751214
750	16'	8"	4"	3'	5'	7 1/2"	S	26R6	866	B75816	922	B751016	978	B751216
1000	6'	6"	3-3/8"	3'	4'	6 1/2"	S	26R6	490	B106	535	B1106	580	B1126
1000	8'	6"	3-3/8"	3'	4'	6 1/2"	S	26R6	515	B108	560	B1108	605	B1128
1000	10'	8"	4"	3'	4'	7 1/2"	S	26R6	756	B1810	812	B11010	868	B11210
1000	12'	8"	4"	3'	4'	7 1/2"	S	26R6	793	B1812	849	B11012	905	B11212
1000	14'	8"	4"	3'	5'	7 1/2"	S	26R6	848	B1814	904	B11014	960	B11214
1000	16'	10-3/8"	5-3/4"	3'	5'	8 1/2"	W	26R8	1070	B1816	1137	B11016	1204	B11216
2000	6'	8"	4"	4'	5'	8 1/2"	S	28R8**	745	B286 **	832	B2106	899	B2126
2000	8'	8"	4"	4'	5'	8 1/2"	S	28R8	802	B288	869	B2108	935	B2128
2000	10'	8"	4"	4'	5'	8 1/2"	S	28R8	739	B2810	905	B21010	972	B21210
2000	12'	10-3/8"	5-3/4"	4'	6'	9 1/2"	W	30R12	1091	B2812	1165	B21012	1238	B21212

"S" type beams are standard beams with tapered flanges. "W" type beams are wide-flange beams with flat flanges. The trolley used on a "W" type beam must be designed to operate on a wide-flange beam.
** B286 Uses base plate model 26R8.



BASE PLATE MODEL	BASE DIA.	BOLT CIRCLE	NO. HOLES	HOLE DIA.	BOLT DIA.
15S4			4	7/8"	3/4"
24R6	24"	20"	6	1 1/4"	1"
26R6	26"	22"	6	1 1/4"	1"
28R8	28"	24"	8	1 1/4"	1"
30R12	30"	26"	12	1 1/4"	1"

CONTRX CRANES
1377 Kimberly Drive
Neenah, WI 54956-1642
Phone (920) 722-0101
Fax (920) 725-1394
www.contrx.com

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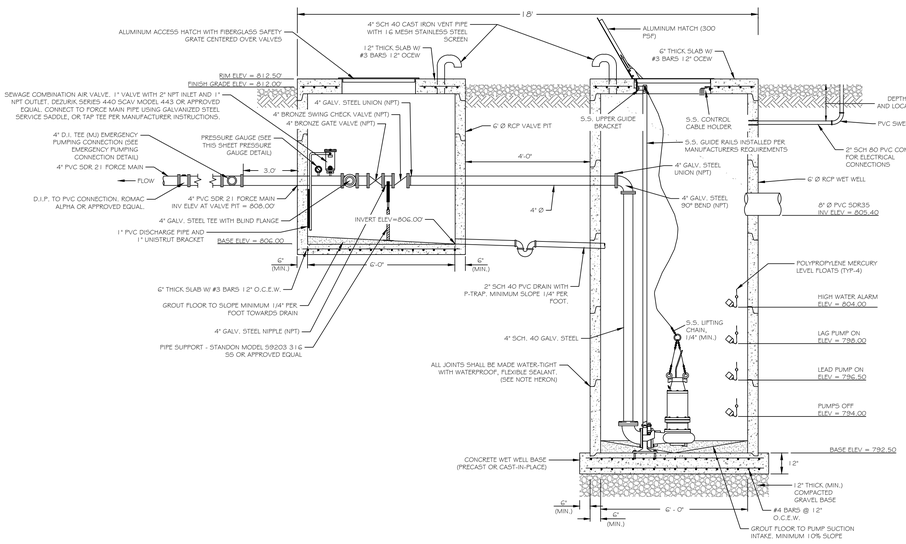
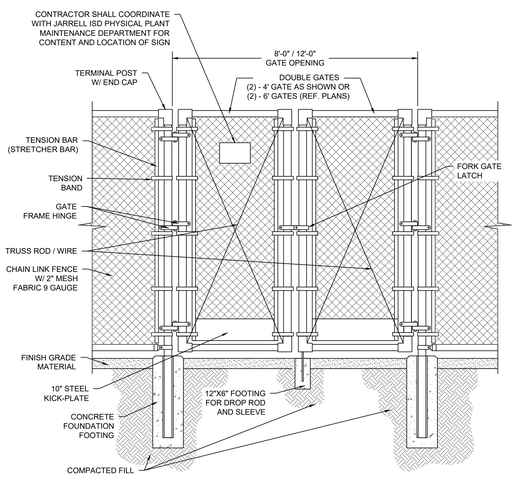


SECTION VIEW

N.T.S.

LINE POST DETAIL

N.T.S.

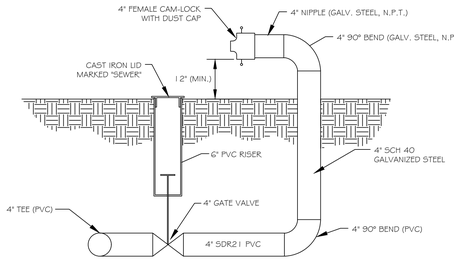


DOUBLE SWING GATE DETAIL

N.T.S.

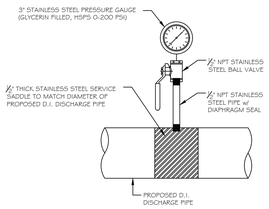
FENCING HEIGHT	4' TALL	8' TALL	12'+ GATE (6'+ PANEL)	18'+ GATE (9'+ PANEL)
POST SPACING	8' (10' MAX)	8'	N/A	N/A
CORNER POST	3"	4"	N/A	N/A
TERMINAL POST	3"	4"	6"	8"
LINE POST	2.5"	3"	N/A	N/A
FOOTING DEPTH	30"	42"	42"	42"
FOOTING DIAMETER	12"	15"	15"	18"
TOP/BOTTOM RAIL	1.5"	1.5"	1.5"	2"
TOP RAIL HEIGHT	4'	8'	8'	8'
INTERMEDIATE RAIL HEIGHT	N/A	4'	TRUSS ROD	TRUSS ROD
BOTTOM RAIL HEIGHT	REF DETAIL	REF DETAIL	REF DETAIL	REF DETAIL
TIES TO LINE POSTS	12"	12"	12"	12"
TIES TO RAILS / BRACES	24"	24"	24"	24"
TENSION BAND	12"	12"	12"	12"

PUMP SPECIFICATIONS:
LIBERTY LGV07, 7.5 HP GRINDER PUMP, 3 PHASE 460V, 3450 RPM, 6.2" IMPELLER OR ENGINEER-APPROVED EQUAL.
DESIGN POINT: 172 GPM AT 85' TDH.



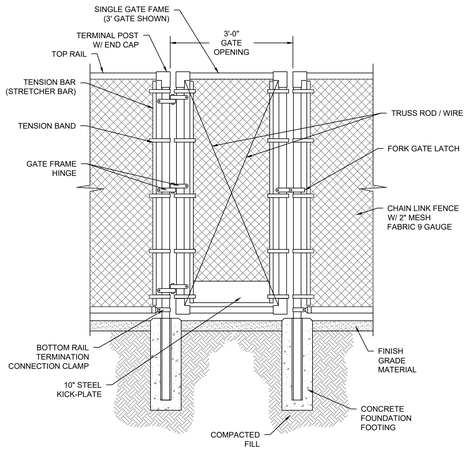
EMERGENCY PUMPING CONNECTION DETAIL

N.T.S.



PRESSURE GAUGE DETAIL

N.T.S.



SINGLE SWING GATE DETAIL

N.T.S.

Date	Description	No.
Revisions		

STATE OF TEXAS — MATTHEW S. HARDY — 134445 — LICENSED — PROFESSIONAL ENGINEER
10/17/2025
TBPE Registration #: F-13709

LANGAN
Langan Engineering and Environmental Services, LLC.
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TBPE Firm REG. #F-13709

Project: JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title: SANITARY SEWER LIFT STATION DETAILS

Project No. 531023304
Date 09-05-2025
Drawn By AM
Checked By MH

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Project No. 531023304

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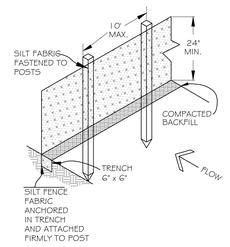
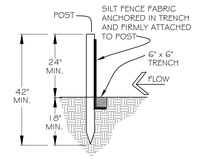


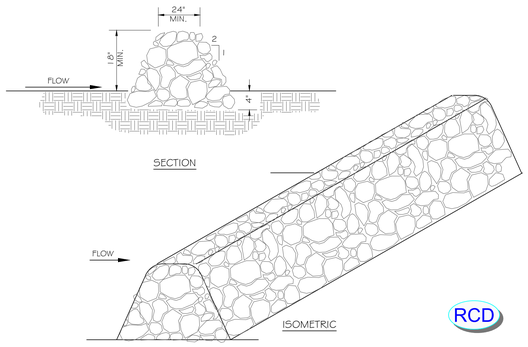


SF

SILT FENCE GENERAL NOTES:

1. STEEL 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 ONE FOOT.
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. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE IN ACCORDANCE WITH PERMIT REQUIREMENTS. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM WATER FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE

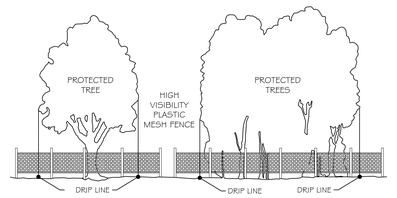


RCD

NOTES:
1. USE ONLY OPEN-GRADED ROCK, WITH MOST OF THE FINES REMOVED.
2. STONE SHALL BE CRUSHED, MIN. 3" DIAMETER, MAX. 1 CU. FT. IN VOLUME.
3. THE ROCK BERM SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF 4 INCHES.
4. INSPECT BERM AFTER EACH RAIN. REPLACE STONE WHEN THE STRUCTURE FAILS TO SERVE ITS PURPOSE DUE TO SILT ACCUMULATION, WASHOUT OR DAMAGE.
5. REMOVE SILT WHEN IT REACHES A DEPTH OF 12 INCHES, OR ONE-THIRD OF THE HEIGHT OF THE BERM, WHICHEVER IS LESS. DISPOSE OF SILT IN APPROVED LOCATIONS.
6. REMOVE BERM ONLY WHEN SITE IS COMPLETELY STABILIZED.

ROCK CHECK DAM

N.T.S.

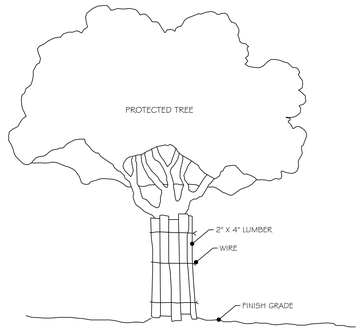


PROTECTIVE FENCING: Orange vinyl construction fencing, chain link fencing, snow fencing, or other similar fencing at least four feet (4') high and supported at a maximum of ten-foot (10') intervals by approved methods sufficient enough to keep the fence upright and in place. The fencing shall be of a highly visible material.

PRIOR TO CONSTRUCTION: The contractor or subcontractor shall construct and maintain, for each protected tree or group of trees on a construction site, a protective fencing which encircles the outer limits of the critical root zone of the trees to protect it from construction activity. All protective fencing shall be in place prior to commencement of any site work and remain in place until all exterior work has been completed.

TREE PROTECTION FENCING

N.T.S.



In situations where a protected tree remains in the immediate area of intended construction and the tree may be in danger of being damaged by construction equipment or other activity, the contractor or subcontractor shall protect the tree with 2" x 4" lumber encircled with wire or other means that do not damage the tree. The intent is to protect the trunk of the tree against incidental contact by large construction equipment.

BARK PROTECTION

N.T.S.

Date	Description	No.
Revisions		

STATE OF TEXAS
MATTHEW S. HARDY
134448
LICENSED
PROFESSIONAL ENGINEER
10/17/2025

TBPE Registration #: F-13709

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TBPE Firm REG. #F-13709

Project
JARRELL ISD - NEW LIFT STATION AND FORCE MAIN TO SERVE JARRELL HIGH SCHOOL
WILLIAMSON COUNTY TEXAS

Drawing Title
EROSION CONTROL DETAILS

Project No. **53102330**4
Date 09-05-2025
Drawn By AM
Checked By MH

C5.2
Sheet 13 of **13**

LANGAN
Project No. 53102330