



February 22nd, 2024

Sarah Patterson
License & Permit Specialist | Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
512-239-7009

Re: 105 W Palm Valley Blvd Wastewater Service - SCS - Administrative NOD
Proposed by Richard C. Baker, Trustee Joint Venture
Application No.
CN, RN
LJA Project No. A244

Dear Sarah:

Please find the responses related to the permit application for 105 W Palm Valley Blvd Wastewater Service received February 2th, 2024 below:

General Information Form (TCEQ-0587)

1. Line 7. Applicant name must applicant on the Agent Authorization Form.

Response: TCEQ-0587 applicant name has been updated.

2. Line 7. Please provide contact information for the applicant.

Response: TCEQ 0587 has been updated to reflect the current applicant.

Geologic Assessment Form (TCEQ-0585)

3. Please include form and attachments. If requesting an exception to the GA, please contact Mr. James "Bo" Slone (james.slone@tceq.texas.gov) and attach a copy of the correspondence to this application.

Response: See attached correspondence from Mr. Slone granting an exception to the GA.

Organized Sewage Collection System Plan (TCEQ-0582)

4. Line 2. Please see administrative NOD items #1 and #2.

Response: TCEQ 0582 has been updated with contact person's information.

Lift Station/ Force Main System Application (TCEQ-0624)

5. Line 1. Please see administrative NOD items #1 and #2.

Response: NOD items 1 and 2 have been updated for the current applicant.

6. Please date form.

Response: TCEQ 0624 Form has been updated.

Temporary Stormwater Section (TCEQ-0602)

Attachment G - Drainage Area Map

7. Please include attachment.

Response: See attached Drainage Area Map.

Application Fee Form (TCEQ-0574)

8. Please date fee schedule form.

Response: TCEQ 0574 has been updated to reflect the current date.

Should you have any questions or need any additional information, please do not hesitate to call.

Sincerely,

A handwritten signature in dark ink, reading 'Lauren Crone' in a cursive script.

Lauren Crone, P.E.

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWAGE COLLECTION SYSTEM PLAN**

FOR

105 W. PALM VALLEY BLVD. WASTEWATER SERVICE

FEBRUARY 2024

PREPARED FOR

**RICHARD C. BAKER, TRUSTEE JOINT VENTURE
BY: JOHN C. NELSON, MANAGING VENTURER
3404 GLENVIEW AVE.
AUSTIN, TEXAS 78703**

PREPARED BY

**LJA ENGINEERING, INC.
7500 RIALTO BLVD, BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
(512) 439-4700
FIRM NO. F-1386**



2/28/2024

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: 105 W. Palm Valley Blvd. Wastewater Service					2. Regulated Entity No.:				
3. Customer Name: Richard C. Baker, Trustee Joint Venture					4. Customer No.:				
5. Project Type: (Please circle/check one)	<input checked="" type="radio"/> New		Modification		Extension		Exception		
6. Plan Type: (Please circle/check one)	WPAP	CZP	<input checked="" type="radio"/> SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential		<input checked="" type="radio"/> Non-residential			8. Site (acres):		0.289	
9. Application Fee:	\$650		10. Permanent BMP(s):						
11. SCS (Linear Ft.):	141		12. AST/UST (No. Tanks):						
13. County:	Williamson		14. Watershed:			Brushy 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.)	—	—	<u>X</u>
Region (1 req.)	—	—	<u>X</u>
County(ies)	—	—	<u>X</u>
Groundwater Conservation District(s)	<u>—</u> Edwards Aquifer Authority <u>—</u> Barton Springs/ Edwards Aquifer <u>—</u> Hays Trinity <u>—</u> Plum Creek	<u>—</u> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<u>—</u> Austin <u>—</u> Buda <u>—</u> Dripping Springs <u>—</u> Kyle <u>—</u> Mountain City <u>—</u> San Marcos <u>—</u> Wimberley <u>—</u> Woodcreek	<u>—</u> Austin <u>—</u> Bee Cave <u>—</u> Pflugerville <u>—</u> Rollingwood <u>—</u> Round Rock <u>—</u> Sunset Valley <u>—</u> West Lake Hills	<u>—</u> Austin <u>—</u> Cedar Park <u>—</u> Florence <u>—</u> Georgetown <u>—</u> Jerrell <u>—</u> Leander <u>—</u> Liberty Hill <u>—</u> Pflugerville <u>X</u> Round Rock

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<u>—</u> Edwards Aquifer Authority <u>—</u> Trinity-Glen Rose	<u>—</u> Edwards Aquifer Authority	<u>—</u> Kinney	<u>—</u> EAA <u>—</u> Medina	<u>—</u> EAA <u>—</u> Uvalde
City(ies) Jurisdiction	<u>—</u> Castle Hills <u>—</u> Fair Oaks Ranch <u>—</u> Helotes <u>—</u> Hill Country Village <u>—</u> Hollywood Park <u>—</u> San Antonio (SAWS) <u>—</u> Shavano Park	<u>—</u> Bulverde <u>—</u> Fair Oaks Ranch <u>—</u> Garden Ridge <u>—</u> New Braunfels <u>—</u> Schertz	NA	<u>—</u> 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.

Lauren Crone

Print Name of Customer/Authorized Agent

Lauren Crone

Signature of Customer/Authorized Agent

1/17/2024

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: Lauren Crone, P.E.

Date: 2/22/24

Signature of Customer/Agent:

Lauren Crone

Project Information

1. Regulated Entity Name: 105 W. Palm Valley Blvd. Wastewater Service

2. County: Williamson

3. Stream Basin: Brushy Creek

4. Groundwater Conservation District (If applicable): N/A

5. Edwards Aquifer Zone:

- ☒ Recharge Zone
☐ Transition Zone

6. Plan Type:

- ☐ WPAP
☒ SCS
☐ Modification

- ☐ AST
☐ UST
☐ Exception Request

7. Customer (Applicant):

Contact Person: John C. Nelson
Entity: 105 W. Palm Valley Blvd. Wastewater Service
Mailing Address: 3404 Glenview Ave.
City, State: Austin, TX Zip: 78703
Telephone: 512-467-9686 FAX: _____
Email Address: nelsoninvest2005@aol.com

8. Agent/Representative (If any):

Contact Person: Lauren Crone, P.E.
Entity: LJA Engineering, Inc.
Mailing Address: 7500 Rilato Blvd, Bldg. II, Ste. 100
City, State: Austin, TX Zip: 78735
Telephone: 512-439-4700 FAX: _____
Email Address: lcrone@lja.com

9. Project Location:

- ☒ The project site is located inside the city limits of Round Rock.
☐ 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.
105 W. Palm Valley Blvd. Round Rock, TX 78664
11. ☒ **Attachment A – Road Map.** A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.
12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:
☐ Project site boundaries.
☐ USGS Quadrangle Name(s).
☐ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
☐ Drainage path from the project site to the boundary of the Recharge Zone.
13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.
☐ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

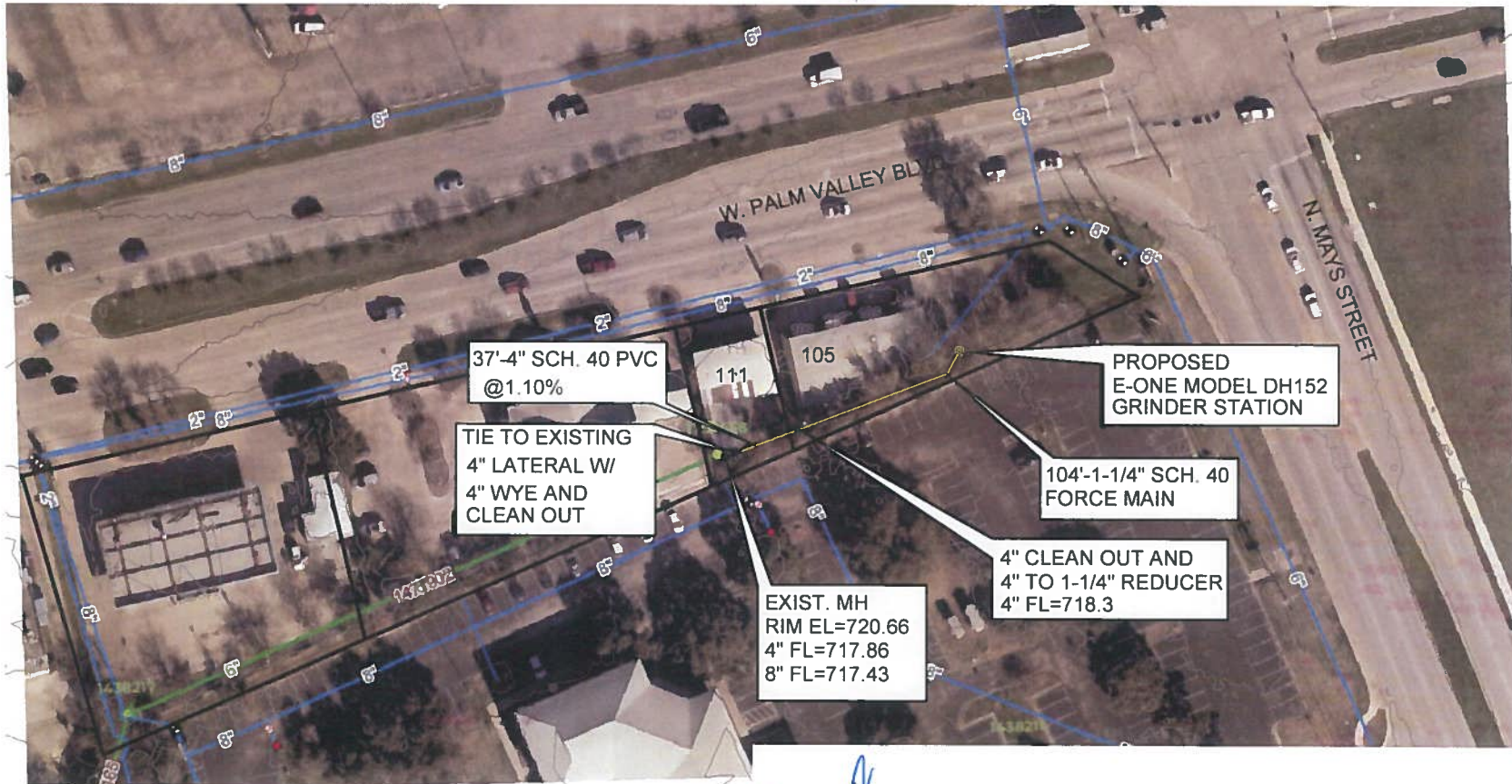
- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

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

- ☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
 - ☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
 - ☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
 - ☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
 - ☐ A request for an extension to a previously approved plan.
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:
- ☐ TCEQ cashier
 - ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
 - ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

ATTACHMENT A – ROAD MAP



NOTES:
1) CONTRACTOR TO VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.



LJA Engineering, Inc.

7500 Rialto Boulevard, Building II
Suite 100
Austin, Texas 78735



Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

SITE PLAN WASTEWATER SERVICE

FOR 105 W. PALM VALLEY BLVD.

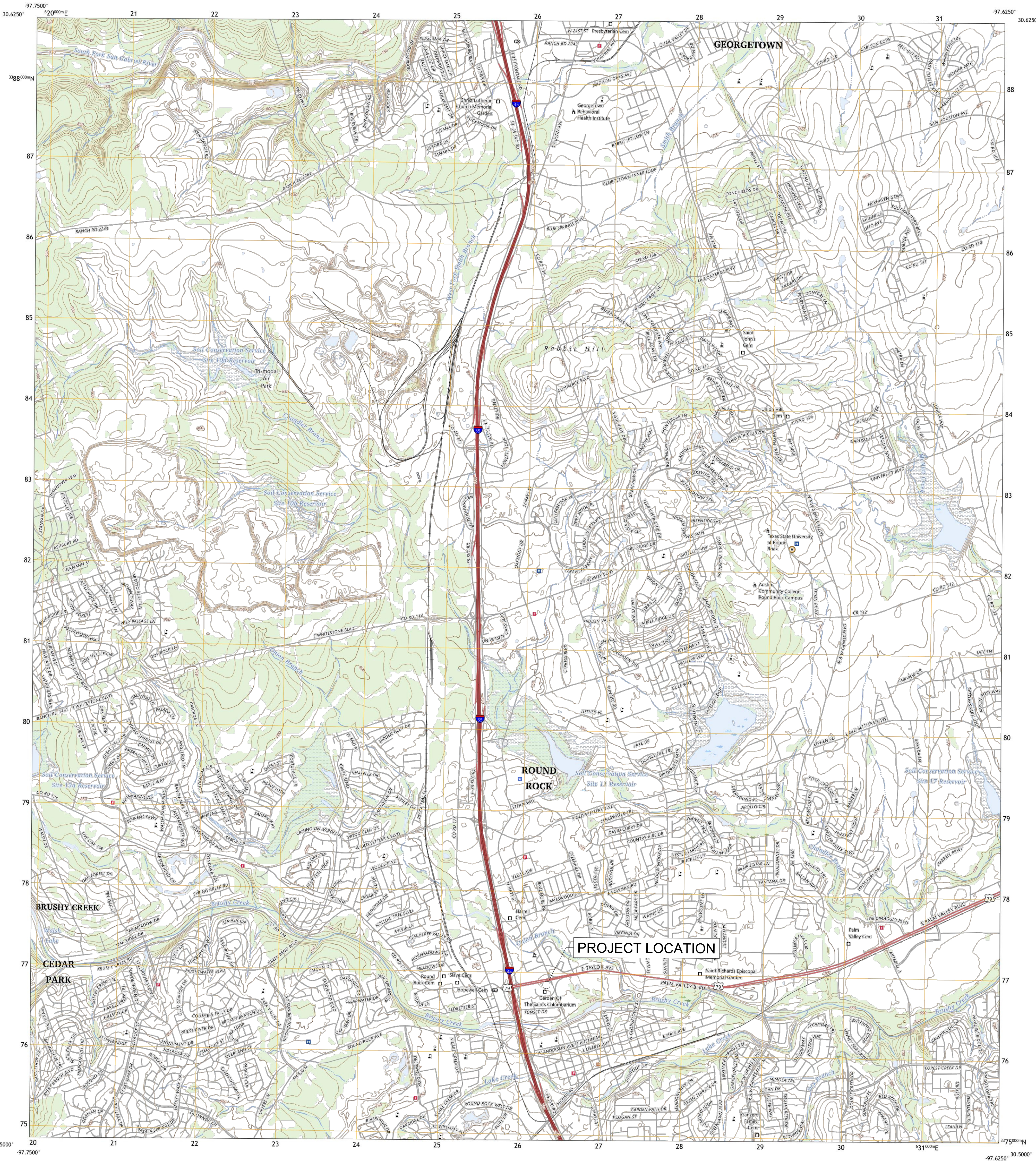
ATTACHMENT B – USGS QUADRANGLE MAP



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



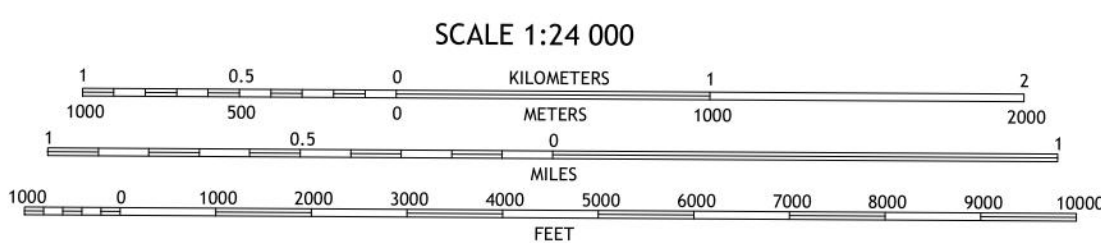
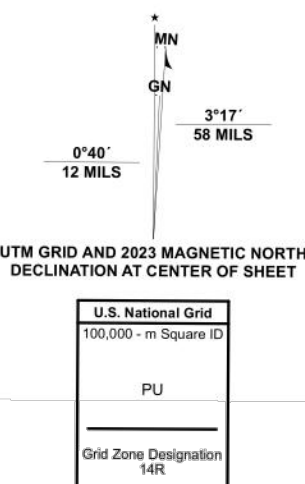
ROUND ROCK QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 14R
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.....NAP, September 2016 - November 2016
Roads.....U.S. Census Bureau, 2013 - 2019
Names.....GNS, 1979 - 2023
Hydrography.....National Hydrography Dataset, 2002 - 2020
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2021 - 2022
Wetlands.....FWS National Wetlands Inventory Not Available



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.



1	2	3
4	5	6
7	8	9

ROUND ROCK, TX
2023

LJA Engineering, Inc.

7500 Rialto Blvd. Building II
Suite 100
Austin, Texas 78735

Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

105 W. PALM VALLEY BLVD.
WASTEWATER SERVICE

USGS QUADRANGLE MAP

ATTACHMENT C – PROJECT DESCRIPTION

The 105 W. Palm Valley Blvd. Wastewater Service project is proposed to replace a failing septic system. The site is 0.289 acres with an existing commercial building and tenants.

As shown in Attachment A – Road Map, the new service will tie into an existing 4" service east of the site with a wye and cleanout. The 4" service line will then be extended to the property line. From there, a 1-1/4" force main will tie into the 4" service line and extend to a E-One DH152 Grinder Station. The E-One Grinder Station is a duplex system which pumps 11-15 gpm.

Lauren Crone

From: James Slone <james.slone@tceq.texas.gov>
Sent: Tuesday, February 20, 2024 12:51 PM
To: Lauren Crone
Subject: RE: 105 W Palm Valley Blvd Wastewater Service - SCS - Administrative NOD

[EXTERNAL EMAIL]

Lauren,
You can submit without a Geologic Assessment (GA) due to the existing development at the site listed above. Please note, if we find something during our site assessment, a GA may be required.
Please retain this email for your records. You may be asked for it during application submittal.
Take care,
Bo

James "Bo" Slone, P.G.
Geoscientist
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-5711

From: Lauren Crone <lcrone@lja.com>
Sent: Tuesday, February 20, 2024 10:43 AM
To: James Slone <james.slone@tceq.texas.gov>
Subject: FW: 105 W Palm Valley Blvd Wastewater Service - SCS - Administrative NOD

Bo,

We are requested an exception to the GA requirement associated with an SCS submittal. Please see the attached for an exhibit and correspondence with the City of Round Rock. Essentially, the site has a failing septic system and we're proposing installing a grinder pump and approximately 150 linear feet of wastewater pipe to connect to an existing manhole within the City's system. The City has agreed to the arrangement, but they need approval from TCEQ to finalize the process. Please let me know what you may need from me for the exception to the GA request.

Thank you,

Lauren Crone, P.E. | Senior Project Manager
Central Texas Land Development
O: 512.439.4700 | C: 512.971.7693
7500 Rialto Blvd. Building II, Suite 100 Austin, TX 78735
EMPLOYEE-OWNED. CLIENT FOCUSED.
www.lja.com



From: Lauren Crone <lcrone0728@gmail.com>
Sent: Friday, February 2, 2024 6:07 PM
To: Lauren Crone <lcrone@lja.com>
Subject: Fwd: 105 W Palm Valley Blvd Wastewater Service - SCS - Administrative NOD

[EXTERNAL EMAIL]

----- Forwarded message -----

From: EAAdmin <EAAdmin@tceq.texas.gov>
Date: Fri, Feb 2, 2024 at 5:09 PM
Subject: RE: 105 W Palm Valley Blvd Wastewater Service - SCS - Administrative NOD
To: lcrone0728@gmail.com <lcrone0728@gmail.com>

Good afternoon,

During the administrative review of the **105 W Palm Valley Blvd Wastewater Service – SCS** the following deficiencies were noted:

General Information Form (TCEQ-0587)

1. Line 7. Applicant name must applicant on the Agent Authorization Form.
2. Line 7. Please provide contact information for the applicant.

Geologic Assessment Form (TCEQ-0585)

3. Please include form and attachments. If requesting an exception to the GA, please contact Mr. James “Bo” Slone (james.slone@tceq.texas.gov) and attach a copy of the correspondence to this application.

Organized Sewage Collection System Plan (TCEQ-0582)

4. Line 2. Please see administrative NOD items #1 and #2.

Lift Station/ Force Main System Application (TCEQ-0624)

5. Line 1. Please see administrative NOD items #1 and #2.
6. Please date form.

Temporary Stormwater Section (TCEQ-0602)

Attachment G - Drainage Area Map

7. Please include attachment.

Application Fee Form (TCEQ-0574)

8. Please date fee schedule form.

Please ensure all documents and attachments are in order according to checklists found here <https://www.tceq.texas.gov/permitting/eapp/material.html> and upload the revised application to the TCEQ ftp site and share with EAdmin@tceq.texas.gov. EAPP staff will review the revisions within two weeks and notify you of any deficiencies not addressed or to request payment.

Thank you,

Sarah Patterson

License & Permit Specialist | Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
512-239-7009

sarah.patterson@tceq.texas.gov

From: EAdmin
Sent: Friday, January 19, 2024 3:05 PM
To: lcrone0728@gmail.com
Subject: RE: Shared files from lcrone0728@gmail.com

Good afternoon,

The application has been received.

We will review the application for administrative completeness within two weeks and will reach out with any comments after our administrative review.

A summary of the application review process is included below for your reference.

Once you have put together a complete application and are ready to submit for administrative and technical review, please follow the steps listed below.

1. Email EAdmin@tceq.texas.gov and state you have an application ready for submittal and have uploaded the application to the ftp site and shared.
2. Go to <https://ftp.tceq.texas.gov/> and upload your **one (1)** electronic file of your application and share the file to EAdmin@tceq.texas.gov Please name your file accordingly.
3. The administrative staff should acknowledge your correspondence and will relay an administrative review will take place within 2 weeks.
4. Once the administrative review has been completed you will either receive a set of deficiencies to address or an acknowledgement your application is ready to be accepted.
5. Payment will be requested once an application is deemed admin complete. Payment can be made through <https://www3.tceq.texas.gov/epay/> additional instructions will be provided

Application accepted for Technical Review

1. The application will be uploaded to the TCEQ Webpage for the 30-day public comment period at <https://www.tceq.texas.gov/permitting/eapp/eapp-applications-review>
2. The application will also be assigned to a technical reviewer. You are welcome to email EAdmin@tceq.texas.gov for any status update of your application. At that point, your email will be forwarded to your assigned technical reviewer to respond.
3. Technical review can include up to, two (2) deficiency comment periods and responses.
4. The program has 90-calendar days to determine if the application is approved or denied. A good quality application can usually be approved within 60 days.

Things to consider

1. Again, a poor-quality application will cause delays in technical review. Please make sure all attachments are provided and information describing the project is accurate. In addition, do not provide more information than what is requested resulting in a significantly large file.
2. Authorization issues (applicants are leases), permanent best management practices not sized accordingly, and proper authorization for construction activity outside the legal boundaries can all cause significant delays and possible denials of applications.
3. If during technical review a significant change takes place to the design, for example a new PBMP, changes to the layout resulting in revised drainage, or the type of activity proposed is altered (bank to gas station) can result in a mid-review modification and the application will be asked to be withdrawn.

Thank you,

Sarah Patterson

License & Permit Specialist | Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
512-239-7009

sarah.patterson@tceq.texas.gov

-----Original Message-----

From: lcrone0728@gmail.com <lcrone0728@gmail.com>

Sent: Friday, January 19, 2024 8:20 AM

To: EAAdmin <EAAdmin@tceq.texas.gov>

Subject: Shared files from lcrone0728@gmail.com

One or more files have been shared with you from lcrone0728@gmail.com. Login to <https://ftps.tceq.texas.gov> to retrieve the files. Files will be available until 01/26/2024.

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[EXTERNAL EMAIL] Exercise caution. Do not open attachments or click links from unknown senders or unexpected email

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: 105 W. Palm Valley Blvd. Wastewater Service

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: John C. Nelson

Entity: 105 W. Palm Valley Blvd. Wastewater Service

Mailing Address: 3404 Glenview Ave.

City, State: Austin, TX

Zip: 78703

Telephone: 512-467-9686

Fax: _____

Email Address: nelsoninvest2005@aol.com

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: Lauren Crone, P.E.

Texas Licensed Professional Engineer's Number: 128018

Entity: LJA Engineering, Inc.

Mailing Address: 7500 Rialto Blvd, Bldg. II, Ste. 100

City, State: Austin, TX

Zip: 78735

Telephone: 512-439-4700

Fax: _____

Email Address: lcrone@lja.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: _____

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

100% Domestic 200 gallons/day
_____% Industrial _____gallons/day
_____% Commingled _____gallons/day
Total gallons/day: 200

6. Existing and anticipated infiltration/inflow is _____gallons/day. This will be addressed by: _____.

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 _____. 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

<i>Pipe Diameter(Inches)</i>	<i>Linear Feet (1)</i>	<i>Pipe Material (2)</i>	<i>Specifications (3)</i>
4	37	SCH. 40 PVC	ASTM D1785
1-1/4	104	SCH. 40 PVC	ASTM D1785

Total Linear Feet: 141

- (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 _____ (name) Treatment Plant. The treatment facility is:

- ☐ Existing
☐ Proposed

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

- ☒ The City of Round Rock 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

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
4" WWGM	1 Of 1	1+00	Clean Out
4" WWGM	1 Of 1	1+37	Clean Out
	Of		
	Of		
	Of		
	Of		
	Of		

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
	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" = 100'.
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

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	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

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	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

<i>Line</i>	<i>Station or Closest Point</i>	<i>Crossing or Parallel</i>	<i>Horizontal Separation Distance</i>	<i>Vertical Separation Distance</i>

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

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>

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

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>

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

<i>Line</i>	<i>Profile Sheet</i>	<i>Station to Station</i>	<i>FPS</i>	<i>% Slope</i>	<i>Erosion/Shock Protection</i>

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

<i>Standard Details</i>	<i>Shown on Sheet</i>
Lateral stub-out marking [Required]	of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) [Required]	of
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	of
Typical trench cross-sections [Required]	of
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]	of
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	of

<i>Standard Details</i>	<i>Shown on Sheet</i>
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: Lauren Crone, P.E.

Date: 2/22/24

Place engineer's seal here:



Signature of Licensed Professional Engineer:

Lauren Crone

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

<i>Pipe Diameter(Inches)</i>	<i>% Slope required for minimum flow velocity of 2.0 fps</i>	<i>% Slope which produces flow velocity of 10.0 fps</i>
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)

R_h = hydraulic radius (ft)

S = slope (ft/ft)

**ORGANIZED SEWAGE COLLECTION SYSTEM (SCS)
ENGINEERING DESIGN REPORT**

FOR

105 W. PALM VALLEY BLVD. WASTEWATER SERVICE

FEBRUARY 2024

PREPARED FOR

**RICHARD C. BAKER, TRUSTEE JOINT VENTURE
BY: JOHN C. NELSON, MANAGING VENTURER
3404 GLENVIEW AVE.
AUSTIN, TEXAS 78703**

PREPARED BY

**LJA ENGINEERING, INC.
7500 RIALTO BLVD, BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
(512) 439-4700
FIRM NO. F-1386**

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105 W. Palm Valley Blvd. Wastewater Service

SCS Engineering Design Report

A. SITE DESCRIPTION

1. Project Name: 105 W. Palm Valley Blvd. Wastewater Service
2. Location: 105 W. Palm Valley Blvd. Round Rock, TX 78664 (see Appendix A).
3. Treatment Facility: Treatment is provided by on-site septic
4. Project Summary: The project consists of the installation of approximately 37 linear feet of 4" gravity wastewater pipe, 104 linear feet of 1-1/4" wastewater forcemain and a duplex grinder station to replace a failing septic system.

B. CAPACITY DESIGN

1. Basis for Average Flow: The average flow used for design of the collection system is based on Living Unit Equivalents (LUE). A LUE is defined as the typical flow that would be produced by a single family residence located in a typical subdivision.
2. Peak Flow Factor: The following equation is used to calculate the peak flow factor. A peak flow factor of at least 4 must be used.

Average Daily Flow, $F = \text{LUE} * 245 \text{ gpd}$

$$\text{Peak Flow Factor, PFF} = \frac{18 + (0.0206 * F)^{0.50}}{4 + (0.0206 * F)^{0.50}}$$

3. Flow/Capacity Analysis:

Q_{max} (from Appendix B) = 0.7665 gpm

Pipe Size = 4 in., $n = 0.013$

For the specified pipe at the design slope of 1.10% the,

$$\text{Line Capacity (Qfull)} = (1.49/n) * A * R^{2/3} * S^{1/2} = 89.87 \text{ gpm}$$

$$Q_{\text{max}} = 0.7665 \text{ gpm} < Q_{\text{full}} = 89.78 \text{ gpm}$$

Therefore, the line is of sufficient size to carry the peak flows.

4. Minimum/Maximum Slopes: All pipe must be designed with a slope that will provide a minimum velocity of at least 2 ft/s and a maximum velocity of at least 10 ft/s when flowing full. The design slope used is 1.10%. Maximum full flow velocity of the pipe is 2.29 ft/s. Minimum velocity is 0.61 ft/s however, The City of Round Rock requires minimum 4" pipe for maintenance and pipe slope cannot be increased due to site constraints.

C. STRUCTURAL COMPONENTS

1. Type of Pipe:

1-1/4" Schedule 40 ASTM D1785 Polyvinyl Chloride (PVC)

Product Standard:	ASTM 1785
Pipe Compound:	ASTM D1784 Cell Class 12454
Pipe Solvent Weld:	ASTM D2855
Pipe Stiffness:	ASTM D2412 , $F/\Delta Y = 1,397$ psi
Installation:	ASTM D2774
Tensile Strength:	7000 psi
Modulus of Elasticity:	400,000 psi
Nominal Inside Diameter:	1.380 inches
Average Outside Diameter:	1.660 inches
Wall Thickness:	0.140 inches
Approximate Weight:	0.43 lbs/ft

4" Schedule 40 ASTM D1785 Polyvinyl Chloride (PVC)

Product Standard:	ASTM 1785
Pipe Compound:	ASTM D1784 Cell Class 12454
Pipe Solvent Weld:	ASTM D2855
Pipe Stiffness:	ASTM D2412 , $F/\Delta Y = 307$ psi
Installation:	ASTM D2774
Tensile Strength:	7000 psi
Modulus of Elasticity:	400,000 psi
Nominal Inside Diameter:	4.026 inches
Average Outside Diameter:	4.500 inches
Wall Thickness:	0.237 inches
Approximate Weight:	2.01 lbs/ft

2. Pipe Bedding Class:

The pipe bedding class must comply with ASTM D2321 class IA, IB, II, or III for materials and densification. No sand bedding will be allowed. A class III material is assumed to be used, since it has the most conservative value for the Modulus of Soil Reaction, E' .

From Table 7.3, Pg. 207 of the UNI-BELL Handbook of PVC PIPE, 3rd Edition

Coarse-grained Soils with Fines (Bedding Class III) and 85% to 95% Compaction

$E_b = 1000$ psi

3. Buckling Analysis:

a) Allowable buckling pressure

$$R_w = 1 - 0.33 * (h_w / h)$$

$$B' = \frac{I}{1 + 4 * e^{-0.065H}}$$

$$I = (t^3 / 12) * (\text{inches}^4 / \text{Linch})$$

$$q_a = 0.4 * \sqrt[2]{32 * R_w * B' * E_b * (E * I / D^3)}$$

q_a = allowable buckling pressure, pounds per square inch (psi)

h = height of soil surface above top of pipe in inches (in)

h_w = height of water surface above top of pipe in inches (in) (groundwater elevation)

R_w = Water buoyancy factor. If $h_w = 0$, $R_w = 1$. If $0 \leq h_w \leq h$ (groundwater elevation is between the top of the pipe and the ground surface), calculate R_w with Equation 2

H = Depth of burial in feet (ft) from ground surface to crown of pipe.

B' = Empirical coefficient of elastic support

E_b = modulus of soil reaction for the bedding material (psi)

E = modulus of elasticity of the pipe material (psi)

I = moment of inertia of the pipe wall cross section per linear inch of pipe, $\text{inch}^4 / \text{lineal inch} = \text{inch}^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.

t = pipe structural wall thickness (in)

D = mean pipe diameter (in)

1-1/4" SCH40 ASTM D1785 PVC

H = Deepest bury depth = 4.5' (WWL 'A')

$h_w = 0$ (no ground water)

$$I = t^3 / 12 = (0.140)^3 / 12 = 0.00023 \text{ in}^4 / \text{in} \quad R_w = 1 - 0.33(h_w / h) = 1$$

$$B' = 1 / (1 + 4e^{-0.065H}) = 1 / (1 + 4e^{-0.065(4.5)}) = 0.251$$

$$q_a = 0.4 * [32 * 1 * 0.251 * 1000 * (400000 * 0.00023 / 1.380^3)]^{0.5}$$

$$q_a = 212.10$$

4" SCH40 ASTM D1785 PVC

H = Deepest bury depth = 4.5' (WWL 'A')

$h_w = 0$ (no ground water)

$$I = t^3/12 = (0.237)^3/12 = 0.00111 \text{ in}^4/\text{in} \quad R_w = 1 - 0.33(h_w/h) = 1$$

$$B' = 1/(1 + 4e^{-0.065H}) = 1/(1 + 4e^{-0.065(4.5)}) = 0.251$$

$$q_a = 0.4[32 \cdot 1 \cdot 0.251 \cdot 1000 \cdot (400000 \cdot 0.00111/4.026^3)]^{0.5}$$

$$q_a = 93.51$$

b) Calculate pressure applied to pipe under installed conditions:

$$W_c = \gamma_s * H * (D + t)/144$$

$$q_p = \gamma_w * h_w + R_w * (W_c/D) + L_l$$

q_p = pressure applied to pipe under installed conditions (psi)

γ_w = 0.0361 pounds per cubic inch (pci), specific weight of water

γ_s = specific weight of soil in pounds per cubic foot (pcf)

W_c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)

L_l = Live load = 0 (All bury depths are greater than 3 feet)

1-1/4" SCH40 ASTM D1785 PVC

$$W_c = 120 * 4.5 * (1.380 + 0.140)/144 = 5.70 \text{ lb/in}$$

$$q_p = (0.0361 * 0) + (1 * (5.70/1.380)) + (0)$$

$$q_p = 4.13 \text{ psi}$$

$$q_p < q_a \\ 4.13 < 212.10$$

The buckling pressure under installed conditions is less than the allowable buckling pressure of the specified pipe.

4" SCH40 ASTM D1785 PVC

$$W_c = 120 * 4.5 * (4.026 + 0.237)/144 = 15.99 \text{ lb/in}$$

$$q_p = (0.0361 * 0) + (1 * (15.99/4.026)) + (0)$$

$$q_p = 3.97 \text{ psi}$$

$$q_p < q_a \\ 3.97 < 93.51$$

The buckling pressure under installed conditions is less than the allowable buckling pressure of the specified pipe.

4. Wall Crushing:

There is no encased flexible pipe used, therefore the minimum wall crushing depth does not need to be calculated.

5. Deflection Analysis: Zeta Factor

Leonhard's Zeta Factor can be calculated using Equation 7.37 of the UNI-BELL Handbook of PVC PIPE, 3rd Edition.

$$zeta = \frac{1.44}{f + (1.44 - f) * (E_b / E'_n)}$$

$$f = \frac{b / d_a - 1}{1.154 + 0.444 * (b / d_a - 1)}$$

f = pipe/trench width coefficient

b = trench width = 2.7 ft = 32.4 in

d_a = pipe diameter

E_b = modulus of soil reaction for the bedding material (psi) = 1000

E'_n = modulus of soil reaction for the in-situ soil (psi) = 1000

1-1/4" SCH40 ASTM D1785 PVC

$$f = (32.4 / 1.66 - 1) / (1.154 + 0.444 * (32.4 / 1.66 - 1)) = 1.975$$

$$zeta = 1.44 / [1.975 + (1.44 - 1.975) * (1000 / 1000)]$$

$$zeta = 1.0$$

4" SCH40 ASTM D1785 PVC

$$f = (32.4 / 4.5 - 1) / (1.154 + 0.444 * (32.4 / 4.5 - 1)) = 1.587$$

$$zeta = 1.44 / [1.587 + (1.44 - 1.587) * (1000 / 1000)]$$

$$zeta = 1.0$$

6. Pipe Stiffness:

Using equation 7.1, from the Uni-Bell Handbook of PVC Pipe, 3rd Edition.

$$P_s = \frac{EI}{0.149 * r^3}$$

Ps = Pipe Stiffness (psi)

E = modulus of elasticity of the pipe material (psi)

I = moment of inertia of the pipe wall cross section per linear inch of pipe, inch⁴/lineal inch = inch³. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.

r = mean radius (in)

1-1/4" SCH40 ASTM D1785 PVC

$$P_s = (400000 * 0.00023) / (0.149 * 0.690^3) = 1879.55 \text{ psi}$$

4" SCH40 ASTM D1785 PVC

$$P_s = (400000 * 0.00111) / (0.149 * 2.013^3) = 365.31 \text{ psi}$$

7. Pipe Stiffness to Soil Stiffness Factor Ration (Ps / SSF):

The Pipe Stiffness to Soil Stiffness Factor must be greater than 0.15

Ps = Pipe Stiffness (psi)

Eb = modulus of soil reaction for the bedding material = 1,000 psi

zeta = 1.0

SSF = soil stiffness factor (0.061 * zeta * Eb) = 61

1-1/4" SCH40 ASTM D1785 PVC

$$P_s/SSF = 1879.55/61 = 30.81$$

4" SCH40 ASTM D1785 PVC

$$P_s/SSF = 365.31/61 = 5.99$$

8. Predicted Pipe Deflection:

Using equation 7.1, from the Uni-Bell Handbook of PVC Pipe, 3rd Edition.

$$\frac{\% \Delta Y}{D} = \frac{D_L K P (100)}{0.149 P_s + 0.061 E'}$$

$$P = y_s H / 144$$

$\% \Delta Y / D$ = Predicted % vertical deflection under load

P = Prism Load (psi)

K = Bedding angle constant. Assumed to be 0.1

E' = Modulus of soil reaction = 1000 psi

D_L = Deflection lag factor = 1.5

y_s = Unit weight of soil = 120 pcf

H = Depth of burial (ft) from ground surface to crown of pipe

1-1/4" SCH40 ASTM D1785 PVC

$$P = 120 \times 4.5 / 144 = 3.75 \text{ psi}$$

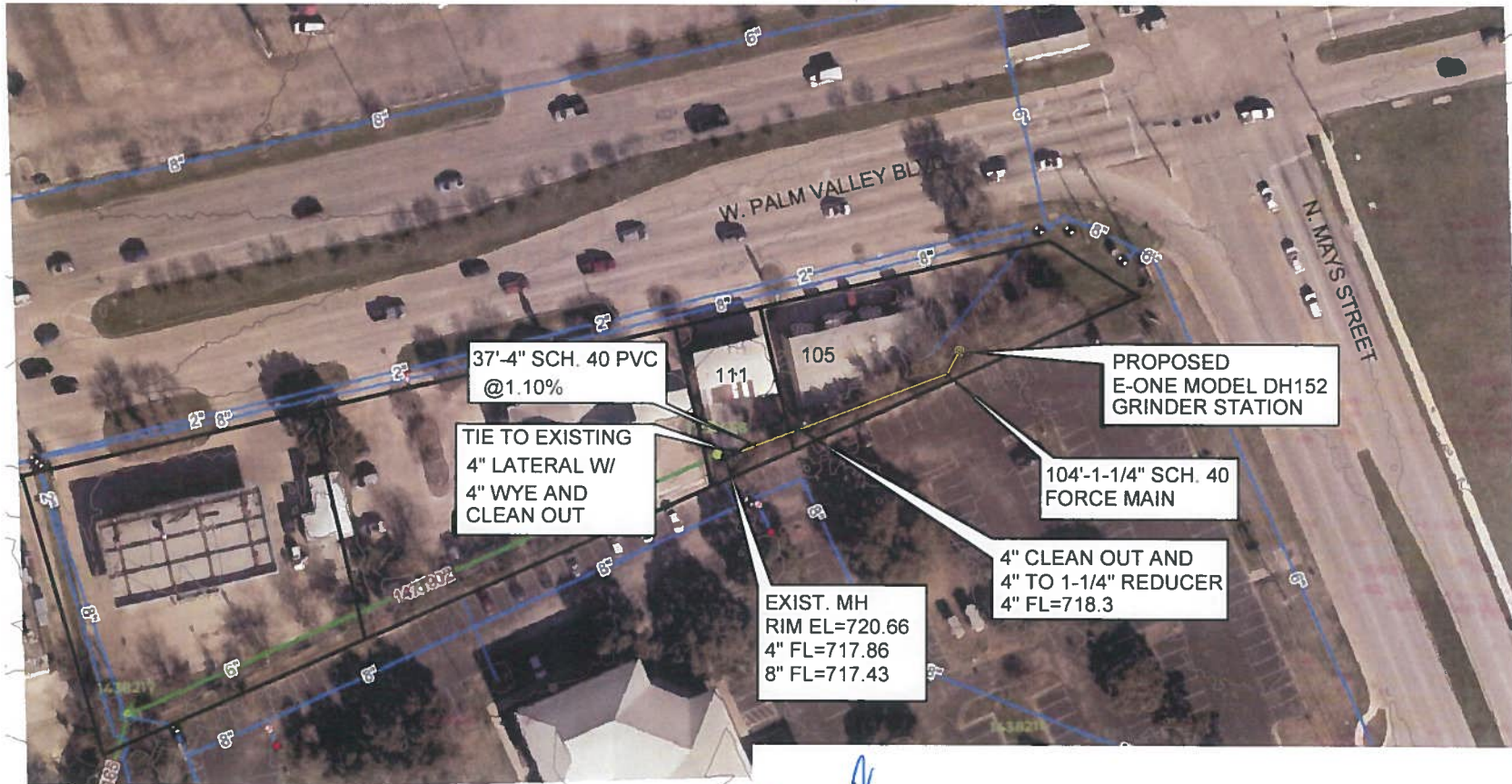
$$\% \Delta Y / D = (1.5)(0.1)(3.75)(100) / [(0.149)(1879.55) + (0.061)(1000)] = 0.16\%$$

4" SCH40 ASTM D1785 PVC

$$P = 120 \times 4.5 / 144 = 3.75 \text{ psi}$$

$$\% \Delta Y / D = (1.5)(0.1)(3.75)(100) / [(0.149)(365.31) + (0.061)(1000)] = 0.49\%$$

APPENDIX A - PROJECT LOCATION MAP



LJA Engineering, Inc.



7500 Rialto Boulevard, Building II
Suite 100
Austin, Texas 78735

Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

NOTES:
1) CONTRACTOR TO VERIFY ALL EXISTING UTILITIES
PRIOR TO CONSTRUCTION.

SITE PLAN WASTEWATER SERVICE

FOR 105 W. PALM VALLEY BLVD.

APPENDIX B - WASTEWATER FLOW CALCULATIONS

PEAKING FACTOR = PF = $\frac{(18 + 0.139 \times ADWF^{0.5})}{(4 + 0.139 \times ADWF^{0.5})}$

AVERAGE DRY WEATHER FLOW = ADWF = LUEs × 245 (gal/day)

INFLOW & INFILTRATION = I/I = 750 (gal/day/acre)

PEAK DRY WEATHER FLOW = PDWF = ADWF × PF

PEAK WET WEATHER FLOW = PWWF = PDWF + I/I

LUE =

245

 gal/day 0.170139 gal/min
I/I =

750

 gal/day/acre 0.520833 gal/min/acre

$$\frac{Qn}{1.486S^{1/2}} = \frac{D^2(2\theta - \sin(2\theta))}{8} \times \left(\frac{D(2\theta - \sin(2\theta))}{8\theta} \right)^{\frac{2}{3}}$$

$$eq1 = \frac{Qn}{1.486S^{1/2}} \qquad 1 \left(\frac{gal}{min} \right) = \frac{77}{34560} \left(\frac{ft^3}{s} \right)$$

$$eq2 = \frac{D^2(2\theta - \sin(2\theta))}{8} \times \left(\frac{D(2\theta - \sin(2\theta))}{8\theta} \right)^{\frac{2}{3}}$$

$$v = \frac{1.486}{n} R^{\frac{2}{3}} S^{\frac{1}{2}} \qquad depth = \frac{D}{2} (1 - \cos(\theta))$$

WASTEWATER LINE	STATION START	STATION END	LUEs	ADWF (gal/min)	PF	PDWF (gal/min)	CONTRIBUTING AREA (acre)	I/I (gal/min)	PWWF (gal/min)	PIPE SIZE (in)	PIPE SLOPE (%)	PDWF VELOCITY (ft/s)	PDWF DEPTH (in)	PWWF VELOCITY (ft/s)	PWWF DEPTH (in)	MAXIMUM CAPACITY FLOW (gal/min)	MAXIMUM CAPACITY VELOCITY (ft/s)
4" WWGM	1+37.00	1+00.00	1	0.17	4.45	0.7565	0.01	0.01	0.7665	4	1.10	0.62	0.24	0.61	0.24	89.78	2.29

APPENDIX C - TCEQ SCS GENERAL CONSTRUCTION NOTES

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

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

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

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

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

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

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

It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).
11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

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

Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

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

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

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

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

Equation C.3

$$T = \frac{0.085 \times D \times K}{Q}$$

Where:

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

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

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

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

- (D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
- (E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
- (F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
- (G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.
- (2) ***Infiltration/Exfiltration Test.***
- (A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
- (B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
- (C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
- (D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
- (E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce

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

- (b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:

- (1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.

(A) *Mandrel Sizing.*

- (i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
- (ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
- (iii) All dimensions must meet the appropriate standard.

(B) *Mandrel Design.*

- (i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
- (ii) A mandrel must have nine or more odd number of runners or legs.
- (iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
- (iv) Each size mandrel must use a separate proving ring.

(C) *Method Options.*

- (i) An adjustable or flexible mandrel is prohibited.
- (ii) A test may not use television inspection as a substitute for a deflection test.
- (iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.

- (2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
- (3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
- (4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
- (5) Gravity collection system pipe deflection must not exceed five percent (5%).
- (6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.

- (a) All manholes must pass a leakage test.
- (b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
 - (1) Hydrostatic Testing.

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

(2) Vacuum Testing.

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

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

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

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: 105 W. Palm Valley Blvd. Wastewater Service

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: John C. Nelson

Entity: 105 W. Palm Valley Blvd. Wastewater Service

Mailing Address: 3404 Glenview Ave.

City, State: Austin, TX

Zip: 78703

Telephone: 512-467-9686

Fax: _____

Email Address: nelsoninvest2005@aol.com

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

Contact Person: Lauren Crone, P.E.

Entity: LJA Engineering, Inc.

Mailing Address: 7500 Rialto Blvd, Bldg. II, Ste. 100

City, State: Austin, TX

Zip: 78735

Telephone: 512-439-4700

Fax: _____

Email Address: lcrone@lja.com

Texas Licensed Professional Engineer's Serial Number: 128018

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 _____ (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 Round Rock 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" = 100'.

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

<i>Line</i>	<i>Station to Station</i>	<i>Type of Feature</i>
	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 _____ 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): FEMA FIRM map No. 48491C0493F effective 12/20/2019

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

<i>Line</i>	<i>Sheet</i>	<i>Station to Station</i>
	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 _____ (#) 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" = _____ '.
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

<i>Line</i>	<i>Station</i>	<i>Sheet</i>
		of
		of
		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: Lauren Crone, P.E.

Place engineer's seal here:

Date: 2/22/24

Signature of Licensed Professional Engineer:

Lauren Crone



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: Lauren Crone, P.E.

Date: 1/17/2024

Signature of Customer/Agent:

Lauren Crone

Regulated Entity Name: 105 W. Palm Valley Blvd. Wastewater Service

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: Brushy 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.

ATTACHMENTS TO FORM 0602 - SCS

ATTACHMENT A - Spill Response Actions

The only possible source of a hydrocarbon or other hazardous substance spill would be from a construction vehicle leaking fuel, lubricants, coolants, etc. Any potential leakage is not likely to be significant and any soil that appears to be contaminated will be removed and disposed of in a TCEQ certified landfill. If it is determined that a reportable spill has occurred as defined in 30 TAC Chapter 327, the TCEQ shall be notified by phone at the regional office (512) 339-2929 or at the State Emergency Response Center (800) 832-8224 as soon as possible. Requirements under 30 TAC Chapter 327 will be followed to ensure that the spill is contained and disposed of in an expedient and thorough manner and that proper authorities are kept informed throughout the process.

ATTACHMENT B – Potential Sources of Contamination

Other potential sources of contamination could come from solid waste. Solid waste will be placed in on-site containers and will be disposed of in permitted dump sites.

ATTACHMENT C – Sequence of Major Activities

The sequencing of construction will generally take place in the following manner:

1. Assign an environmental project manager who will be onsite greater than 90% of the time during construction activity.
2. Install temporary erosion controls and tree/natural area protection fencing as indicated on the approved plans prior to preconstruction meeting and any site clearing and grubbing. (± 0.1 Ac)
3. The Environmental Project Manager must contact the city inspector to schedule a preconstruction coordination meeting to be held on site.
4. Erosion controls will be revised, if needed, to comply with City of Round Rock inspectors' directives and revised construction schedule relative to the water quality plan requirements and the erosion/sedimentation control and tree protection plan. (± 0.1 Ac)
5. Temporary Controls to be inspected and maintained weekly and prior to anticipated rainfall events, and after rainfall events, as needed. (± 0.1 Ac)
6. Rough cut utility trenches. (± 0.1 Ac)
7. Install all utilities. (± 0.1 Ac)
8. Revegetate disturbed areas, including the removal of any remaining temporary controls, or execute a developer's contract for the revegetation along with the Engineer's Concurrence Letter submitted to the City after the engineer inspects the site. (± 0.1 Ac)
9. Remove and dispose of temporary controls. (± 0.1 Ac)

10. Complete any necessary final dress up and revegetation of areas disturbed by item 20. (± 0.1 Ac)

ATTACHMENT D – Temporary Best Management Practices and Measures

- a. No upgradient water flows across the site.
- b. Silt fence is used throughout the project to prevent pollution of runoff. Silt fence is used for areas with sheet flow. Before construction begins, all silt fence and tree protection will be in place. The principal potential pollutant on site is sediment caused by disturbance of construction. The controls installed will be monitored on a regular basis and after any significant rainfall to ensure effective operation. Throughout construction, inspection forms will be used to record the condition of the controls after rainfall events.
- c. The runoff leaving the site to enter creeks will have been treated through silt fence.
- d. No Sensitive features were identified in the Geologic Assessment.

ATTACHMENT E – Request to Temporarily Seal a Feature

No request is anticipated for this project.

ATTACHMENT F – Structural Practices

Contractor will construct and maintain silt fence and other temporary and permanent erosion and sedimentation controls as appropriate to prevent pollutants from exiting the site during construction.

ATTACHMENT G – Drainage Area Map

A drainage area map is not required.

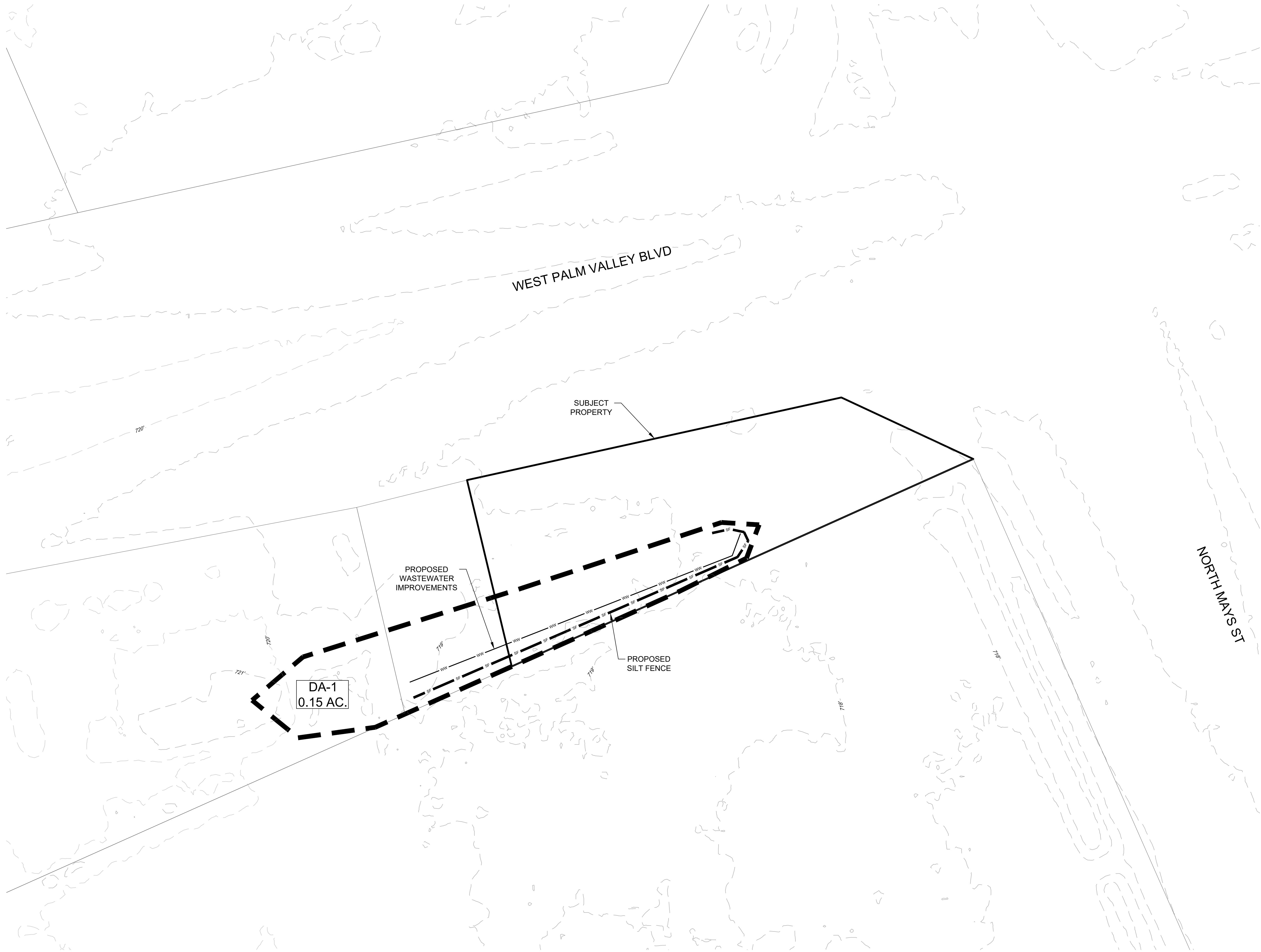
ATTACHMENT H – Temporary Sediment Pond(s) Plans and Calculations

No temporary sediment ponds are used on this project.

ATTACHMENT I – Inspection and Maintenance for BMPs.

Inspection and maintenance for Best Management Practices is taken from the TCEQ Manual, "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices", dated July 2005.

\\VA\244 - Nelson Homestead\SCS\Nelson DA1.dwg
User: cormier
Last Modified: Feb 22, 2011 11:23
Print Date: Feb 22, 2011 11:23



NELSON HOMESTEAD
SCS DRAINAGE AREA MAP

REVISIONS		DATE
NO.	DESCRIPTION	BY

DATE: _____	DESIGNED BY: _____
DRAWN BY: _____	CHECKED BY: _____
PRN: _____	NAME: _____

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
PRN - F-1386

JOB NUMBER:
A244

SHEET NO.

OF SHEETS

Silt Fence:

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

ATTACHMENT J – Schedule of Interim and Permanent Soil Stabilization Practices

The following are the proposed stabilization (temporary and permanent) practices:

A. Temporary Erosion Control:

Disturbed areas, including spoils disposal sites, where construction activity temporarily ceases for at least 21 days will be stabilized with seeding and/or mulching by the 14th day after the last disturbance.

1. From October through February, seeding shall be with winter rye at a rate of 300 pounds per acre.
2. From March through September, seeding shall be with a combination of equal amounts of fescue, green sprangletop, and blue grama applied at a rate of 30 pounds per acre.
3. Mulch type used shall be fiber, applied at a rate of 2,100 pounds per acre.

B. Permanent Erosion Control:

All disturbed areas shall be revegetated as noted below. A minimum of four inches of topsoil shall be placed in all disturbed areas. A topsoil with a P.I. of 15 to 20 shall be used.

The seeding for permanent erosion control shall be applied over areas disturbed by construction as follows:

For areas within the right of way or on lots:

A. Broadcast Seeding:

1. From September 15 to March 1, seeding shall be with a combination of 2 pounds per 1,000 SF of unhulled Bermuda and 1 pounds per 1,000 SF of winter rye with a purity of 95% with 90% germination.

2. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 2 pounds per 1,000 SF with a purity of 95% with 85% germination. Fertilizer shall be pelleted or granular slow release with an analysis of 15-15-15 to be applied once at planting and once during the period of establishment at a rate of 1 pound per 1,000 SF.
 3. Mulch type used shall be hay, straw or mulch applied at a rate of 45 pounds per 1,000 SF.
- B. Hydraulic Seeding:
1. From September 15 to March 1, seeding shall be with a combination of 2 pounds per 1,000 SF of unhulled Bermuda and 1 pounds per 1,000 SF of winter rye with a purity of 95% with 90% germination.
 2. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 1 pound per 1,000 SF with a purity of 95% with 85% germination. Fertilizer shall be a water soluble fertilizer with an analysis of 15-15-15 at a rate of 1.5 pounds per 1,000 SF.
 3. Mulch type used shall be hay, straw or mulch applied at a rate of 45 pounds per 1,000 SF, with soil tackifier at a rate of 1.4 pounds per 1,000 SF.
- C. The planted area shall be irrigated or sprinkled in a manner that will not erode the topsoil, but will sufficiently soak the soil to a depth of six inches. The irrigation shall occur at ten-day intervals during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the water schedule for one week.
- D. Restoration shall be acceptable when the grass has grown at least 1-1/2 inches high with 95% coverage, provided no bare spots larger than 16 square feet exist.

For areas outside the right of way and lots:

The seed mixture and the rate of application for permanent erosion control shall be applied over areas disturbed by construction as follows unless otherwise indicated on the plans:

COMMON NAME	COMMENTS	SEED APPLICATION RATE (lbs / 1000 sq. ft.)
Buffalo Grass	Grass	0.3
Blue Grama	Grass	0.2
Green Sprangletop	Grass	0.4
Indian Grass	Grass	0.2

Little Bluestem	Grass	0.2
Prairie Wild Rye	Grass	0.2
Purple Threeawn	Grass	0.2
Sideoats Grama	Grass	0.3
Bluebonnet	Wildflower	0.4
Clover (Purple Prairie)	Wildflower	0.1
Coreopsis (Plains)	Wildflower	0.05
Goldenrod	Wildflower	0.02
Greenthread	Wildflower	0.075
Indian Blanket	Wildflower	0.15
Lemon Mint	Wildflower	0.06
Mexican Hat	Wildflower	0.05
Pink Evening Primrose	Wildflower	0.02
Sunflower(Common)	Wildflower	0.075
Cereal Rye Grain*	Cool Season Cover Crop	0.5
Oats*	Cool Season Cover Crop	0.2
Wheat*	Cool Season Cover Crop	0.3
Total**		Winter: 4.0 Summer: 3.0

* Plant only between Oct. 1 and Jan. 31. Non-persistent winter cover crop for erosion control.

** Any unavailable species can be substituted with the same quantity of another species from this list or another species approved by the engineer or designate representative.

1. In lieu of the native seed mix above, type 609 buffalo sod may be installed on disturbed areas.
2. Fertilizer shall be milorganite, or approved equivalent, natural organic fertilizer with an analysis of 5-2-4 with a rate of ½ pound of nitrogen per 1000 square feet shall be applied at a rate of 436 pounds per acre.

3. Mulch type used shall be hay, straw, or mulch applied at a rate of 45 pounds per 1000 square feet.
4. The planted area shall be irrigated or sprinkled in a manner that will not erode the topsoil and at sufficient quantities and intervals to achieve restoration requirements at no additional cost to owner.
5. Restoration shall be deemed complete when grass has grown at least 1.5 inches high with 95% coverage and no bare areas greater than 16 square feet exist. Acceptable coverage shall be based on cool season cover crop during the months of October through March, and native mix grass during the months of April through September.

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

I John C. Nelson,
Print Name

Managing Venturer,
Title - Owner/President/Other

of Richard C. Baker, Trustee Joint Venture,
Corporation/Partnership/Entity Name

have authorized Lauren Crone, P.E.
Print Name of Agent/Engineer

of LJA Engineering, Inc.
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:

By: John C. Nelson
Applicant's Signature

1/15/2023
Date

THE STATE OF TEXAS §

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared JOHN C. NELSON 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 15 day of JANUARY, 2024.

Gloria Velasquez
NOTARY PUBLIC
Gloria Velasquez
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 01/03/2028

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: 105 W. Palm Valley Blvd. Wastewater Service

Regulated Entity Location: 105 W Palm Valley Blvd.

Name of Customer: Richard C. Baker, Trustee Joint Venture

Contact Person: John C. Nelson,

Phone: 512-467-9686

Customer Reference Number (if issued):CN _____

Regulated Entity Reference Number (if issued):RN _____

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

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

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	141 L.F.	\$ 650.00
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: Laura Oure

Date: 2/22/24

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

<i>Project</i>	<i>Project Area in Acres</i>	<i>Fee</i>
One Single Family Residential Dwelling	< 5	\$650
Multiple Single Family Residential and Parks	< 5	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1	\$3,000
	1 < 5	\$4,000
	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$10,000

Organized Sewage Collection Systems and Modifications

<i>Project</i>	<i>Cost per Linear Foot</i>	<i>Minimum Fee- Maximum Fee</i>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

<i>Project</i>	<i>Cost per Tank or Piping System</i>	<i>Minimum Fee- Maximum Fee</i>
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

Exception Requests

<i>Project</i>	<i>Fee</i>
Exception Request	\$500

Extension of Time Requests

<i>Project</i>	<i>Fee</i>
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.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> 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		RN

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership			
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)			
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>			
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)		<i>If new Customer, enter previous Customer below:</i>	
Richard C. Baker, Trustee Joint Venture; By: John C. Nelson, Managing Venturer			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0031320280	17461859401	746185940	
11. Type of Customer:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input checked="" type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:			
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant			
15. Mailing Address:	3404 Glenview Ave.		
City	Austin	State	TX
ZIP	78703	ZIP + 4	
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
		nelsoninvest2005@aol.com	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	

512 - 467-9686

512 - 467-8558

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If "New Regulated Entity" is selected, a new permit application is also required.)								
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> 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.)								
105 W. Palm Valley Blvd. Wastewater Service								
23. Street Address of the Regulated Entity: (No PO Boxes)		105 W Palm Valley Boulevard						
City	Round Rock	State	TX	ZIP	78664	ZIP + 4		
24. County								

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

25. Description to Physical Location:								
26. Nearest City				State		Nearest ZIP Code		
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:		30.51741		28. Longitude (W) In Decimal:		-97.683687		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	31	2.676	-97	41	1.2732			
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)		
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Commercial								
34. Mailing Address:		3404 Glenview Ave.						
City	Austin	State	TX	ZIP	78703	ZIP + 4		
35. E-Mail Address:		nelsoninvest2005@aol.com						
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)		
512 - 467-9686						512 - 467-8558		

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.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Lauren Crone, P.E.	41. Title:	Senior Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 439-4700		() -	lcrone@lja.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:	Richard C. Baker, Trustee Joint Venture	Job Title:	Managing Venturer
Name (In Print):	By: John C. Nelson	Phone:	(512) 467-9686
Signature:	By: John C. Nelson, Manager	Date:	1/15/2023

October 26, 2023

Jeff Brooks
Planning & Development Services
City of Round Rock
301 W. Bagdad, Suite 210
Round Rock, Tx. 78664

Re: Small Site Permit for: 105 W. Palm Valley Blvd.
LJA Job No. A244-401-301

Dear Mr. Brooks:

Please find attached the proposed Small Site Development Permit Plan for 105 W. Palm Valley Blvd., Round Rock Texas. The site is a 0.289 acre site with an existing building and tenants. I believe John Nelson has spoken with you about the failing septic system and inquired about tying into the City's wastewater system (I have attached email). There is an existing wastewater manhole in the adjacent property (111 W. Palm Valley Blvd.), approximately 39.6 feet to the southwest of the common property line. The adjacent site (111 W. Palm Valley Blvd.) ties into the manhole through a 4-inch service lateral (FL=717.86). The line out of the manhole is an 8-inch (FL=717.43). Top of Rim elevation is 720.66. The existing ground elevation at 105 W. Palm Valley Blvd. is approximately 718.00. Therefore, the line cannot gravity flow into the existing manhole.

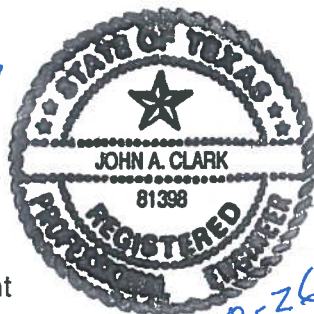
We are proposing to tie into the existing 4" service with a wye and cleanout, then extend the 4" service to property line. Then tie into the new 4" service with a 1-1/4" force main from a E-One DH152 Grinder Station (attached). The E-One Grinder Station is a duplex system which pumps 11-15 gpm. Based on the water records provided for the last nine months, assuming a 5 day work week, the average daily flow is 200 gal./day. The last two months the flow is approximately 114 gal./day.

We have reached out to TCEQ about review. Based on our communication, as long as the line is less than 6-inches in size, they will not require review (see attached email).

Sincerely,

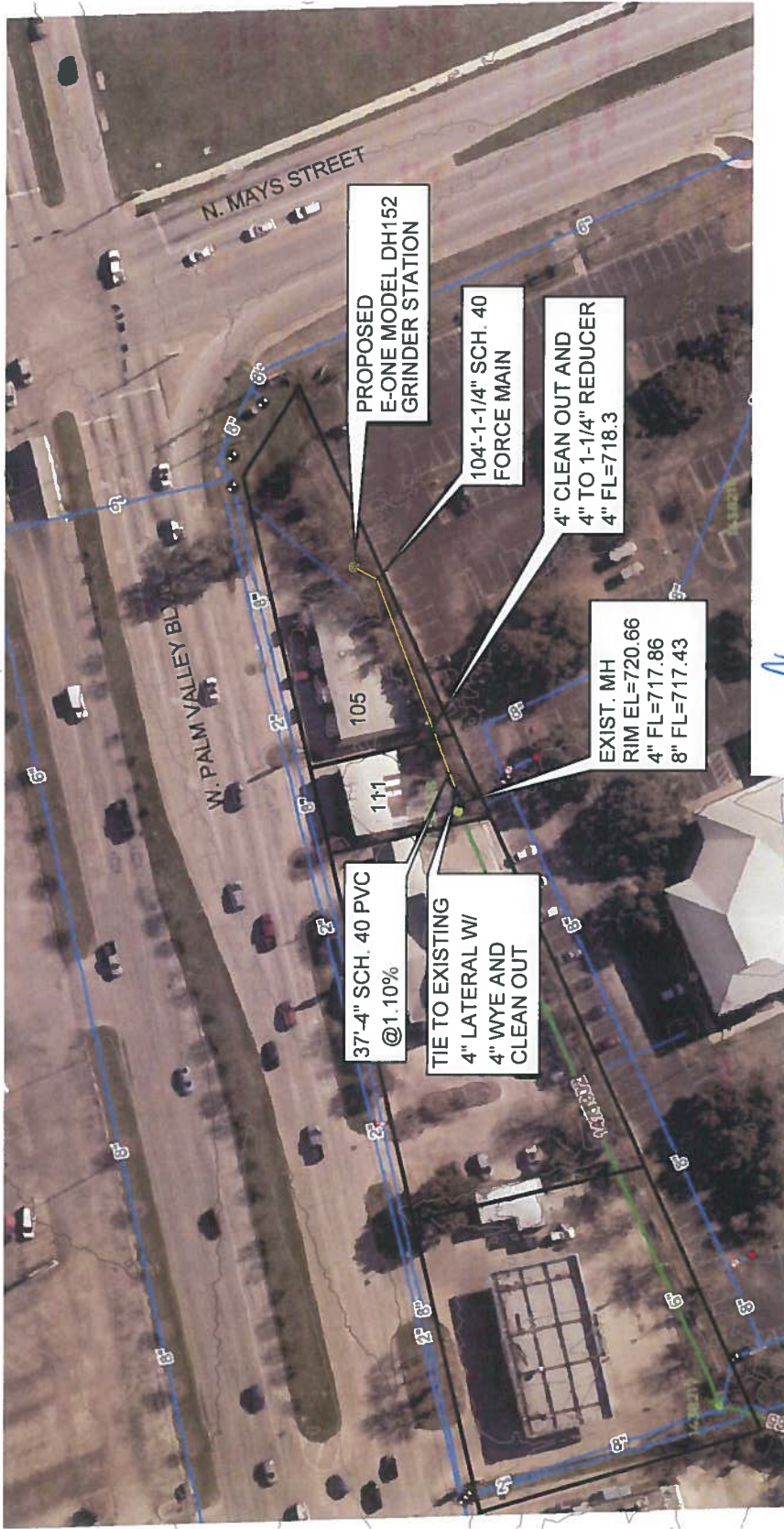


John A. Clark, P.E.
Senior Vice President
Central Texas Manager



10-26-23

Attachment



LJA Engineering, Inc.
7500 Rialto Boulevard, Building II
Suite 100
Austin, Texas 78735
Phone 512 439 4700
Fax 512 439 4716
FRN - F-1386

SITE PLAN
WASTEWATER SERVICE
FOR 105 W. PALM VALLEY BLVD.



NOTES:
1) CONTRACTOR TO VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

John Clark

From: Lauren Crone
Sent: Wednesday, October 25, 2023 4:24 PM
To: John Clark
Subject: FW: Wastewater Line/SCS Requirement

From: Colin Gearing <Colin.Gearing@tceq.texas.gov>
Sent: Tuesday, October 10, 2023 3:47 PM
To: Lauren Crone <lcrone@lja.com>
Subject: RE: Wastewater Line/SCS Requirement

[EXTERNAL EMAIL]

Good afternoon,

If the wastewater line is only 4" in diameter than an SCS would not be required (we do not regulate 4" piping). If the ww line is 6" or greater in diameter there is likely an existing SCS. If so, could you please provide the EAPP ID Number and the site plan from the approved SCS so we could better determine if a modification would be required? Lastly, could you please clarify the nature of the project (residential, commercial, etc.)?

Have a great night!

Best,

Colin

From: Lauren Crone <lcrone@lja.com>
Sent: Tuesday, October 10, 2023 1:12 PM
To: Colin Gearing <Colin.Gearing@tceq.texas.gov>
Subject: RE: Wastewater Line/SCS Requirement

Colin,

Thanks for getting back to me. An exhibit showing the proposed 50' extension is attached. Essentially the property to the east has a failing septic system and would like to connect to the centralized system. The only necessary upgrades will be this 50' extension outside of their property boundaries to connect to the manhole located on the adjacent tract. Please let me know if you need any more information.

Thank you,

Lauren Crone, P.E.
Senior Project Manager

LJA Engineering | TBPE Firm No F-1386
o [Austin Office](#)
7500 Rialto Boulevard, Building II Suite 100
Austin, TX 78735
P 512 439 4700
D 512 439 4737
C 512 971 7693
www.lja.com

From: Colin Gearing <Colin.Gearing@tceq.texas.gov>
Sent: Monday, October 9, 2023 3:35 PM
To: Lauren Crone <lcrone@lja.com>, lcrone0728@gmail.com
Subject: Wastewater Line/SCS Requirement

[EXTERNAL EMAIL]

Good afternoon,

I received your voicemail regarding the extension of a wastewater line and was wondering if you could please provide a site plan showing where the proposed extension would be added and also provide a very brief description of the project? I just want to make sure I fully understand the project so I can provide the best answer. Thank you!

Best,

Colin Gearing
Environmental Investigator
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Phone: (512) 239-7015

[EXTERNAL EMAIL] Exercise caution. Do not open attachments or click links from unknown senders or unexpected email

DH152/DR152

General Features

The model DH152 or DR152 grinder pump station is a complete unit that includes: two grinder pumps, check valve, polyethylene tank, controls, and alarm panel. A single DH152 or DR152 is ideal for up to four, average single-family homes and can also be used for up to 12 average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 3000 gpd (11,356 lpd)
- 150 gallons (568 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 93 inches to 160 inches

The DH152 is the "hardwired," or "wired," model where a cable connects the motor controls to the level controls through watertight penetrations.

The DR152 is the "radio frequency identification" (RFID), or "wireless," model that uses wireless technology to communicate between the level controls and the motor controls.

Operational Information

Motor

1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

Inlet Connections

4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

Discharge Connections

Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Discharge

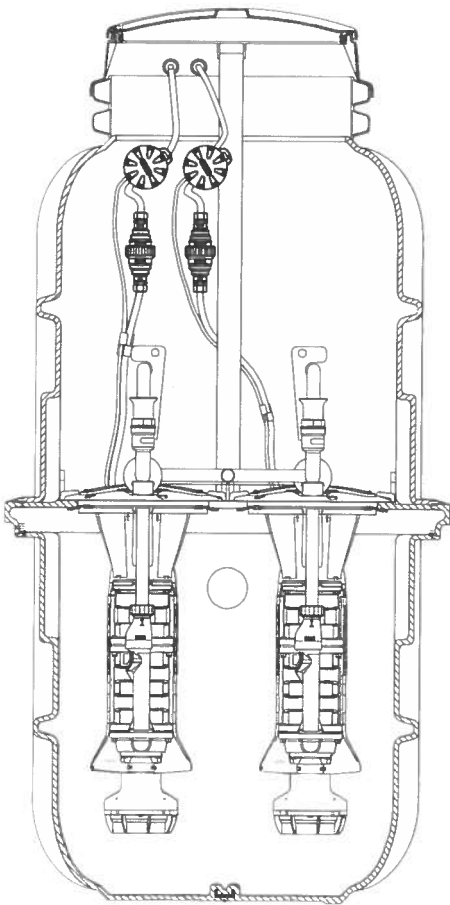
15 gpm at 0 psig (0.95 lps at 0 m)
11 gpm at 40 psig (0.69 lps at 28 m)
7.8 gpm at 80 psig (0.49 lps at 56 m)

Accessories

E/One requires that the Uni-Lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

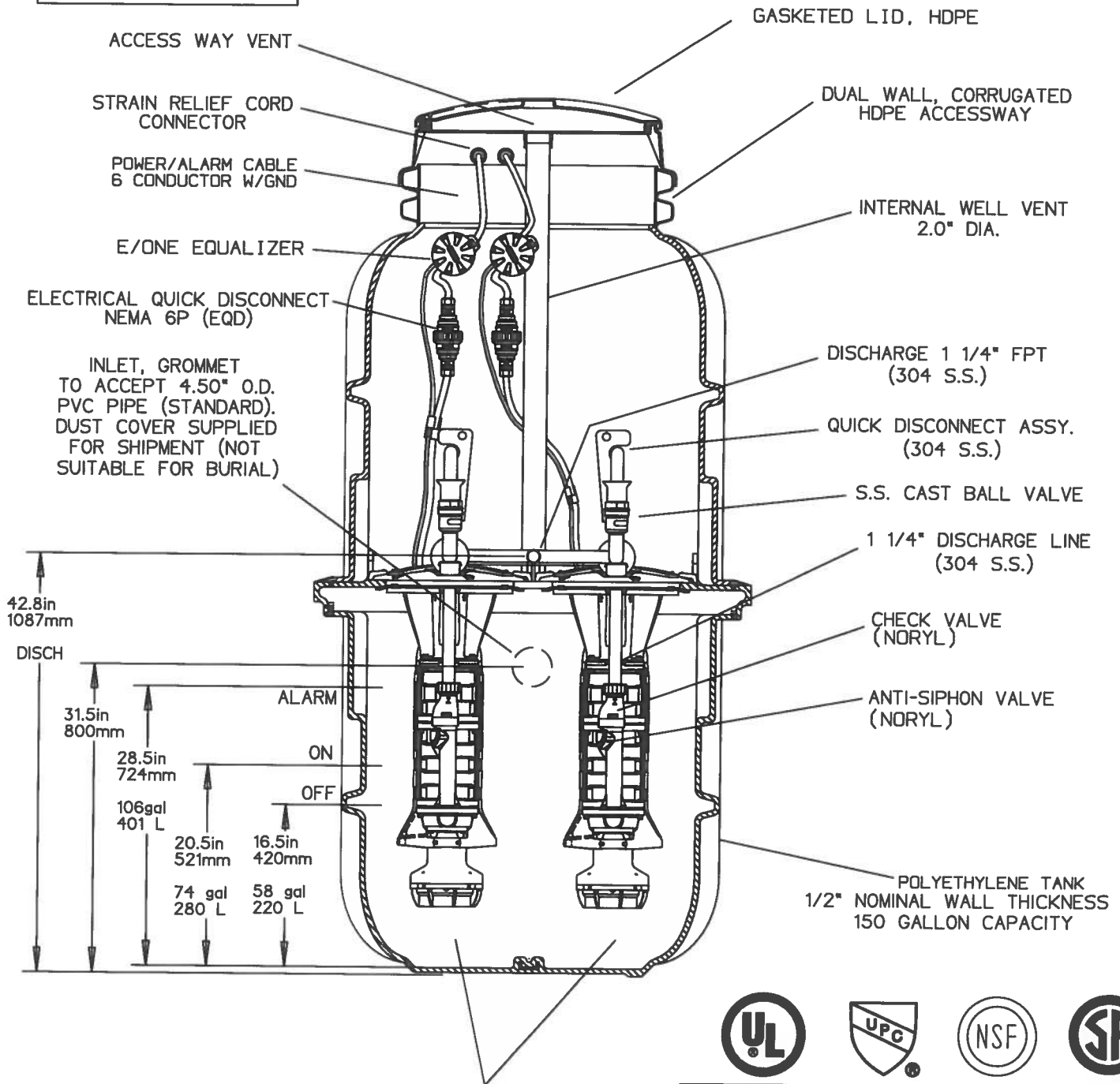
Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.



FIELD JOINT REQUIRED
FOR MODELS
DH152-129 / DR152-129
&
DH152-160 / DR152-160

OPTIONS: ☐ DH152 (HARD WIRED
LEVEL CONTROLS)
☐ DR152 (WIRELESS
LEVEL CONTROLS)



SEMI-POSITIVE DISPLACEMENT TYPE PUMP
EACH DIRECTLY DRIVEN BY A 1 HP MOTOR

CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTIONS
FOR DETAILS

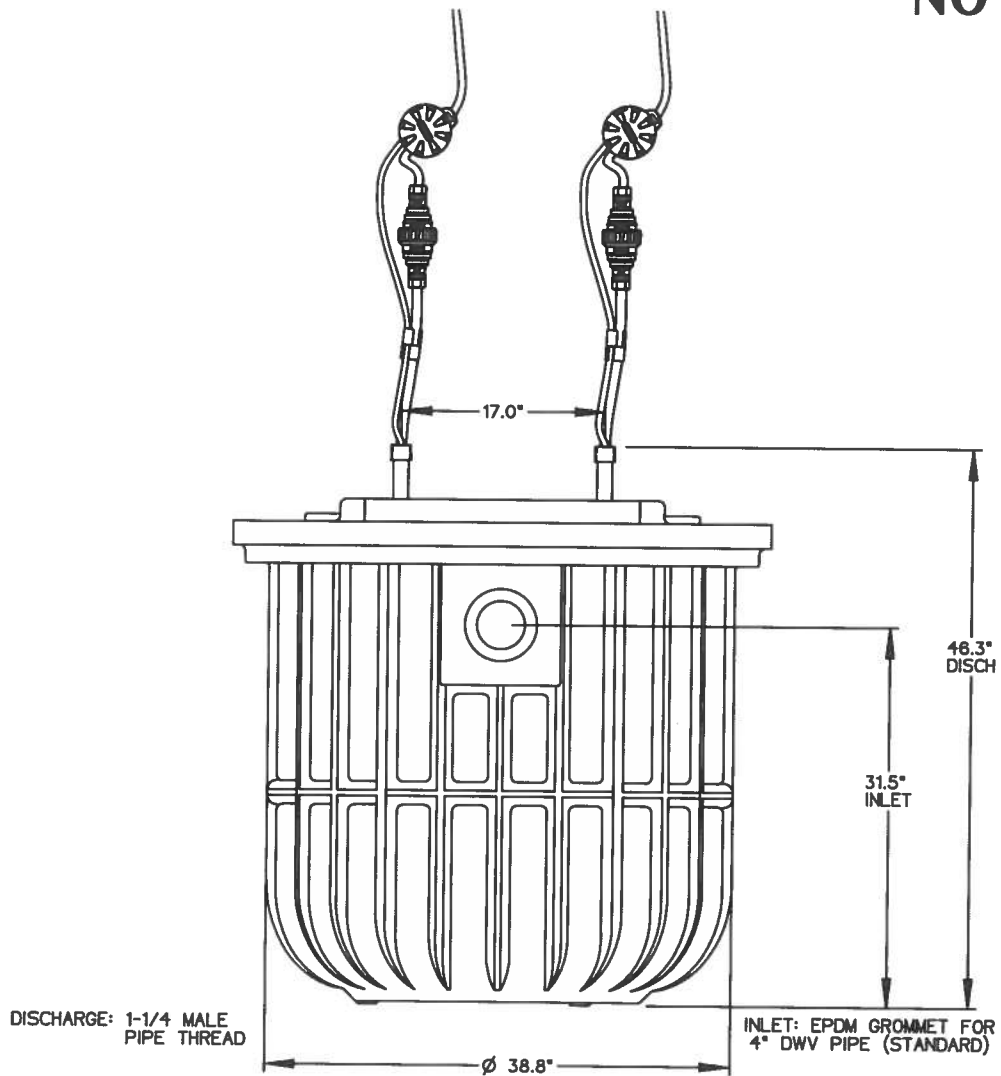
NOTE: DIMENSIONS ARE FOR REF ONLY



KC	PD	09/30/19	F	
DR BY	CHK'D	DATE	ISSUE	SCALE
 SEWER SYSTEMS				
MODEL DH152 / DR152 DETAIL SHEET				
NA0052P02				

DH152-38

NO BAFFLE



NOTE: DIMENSIONS ARE FOR REF ONLY



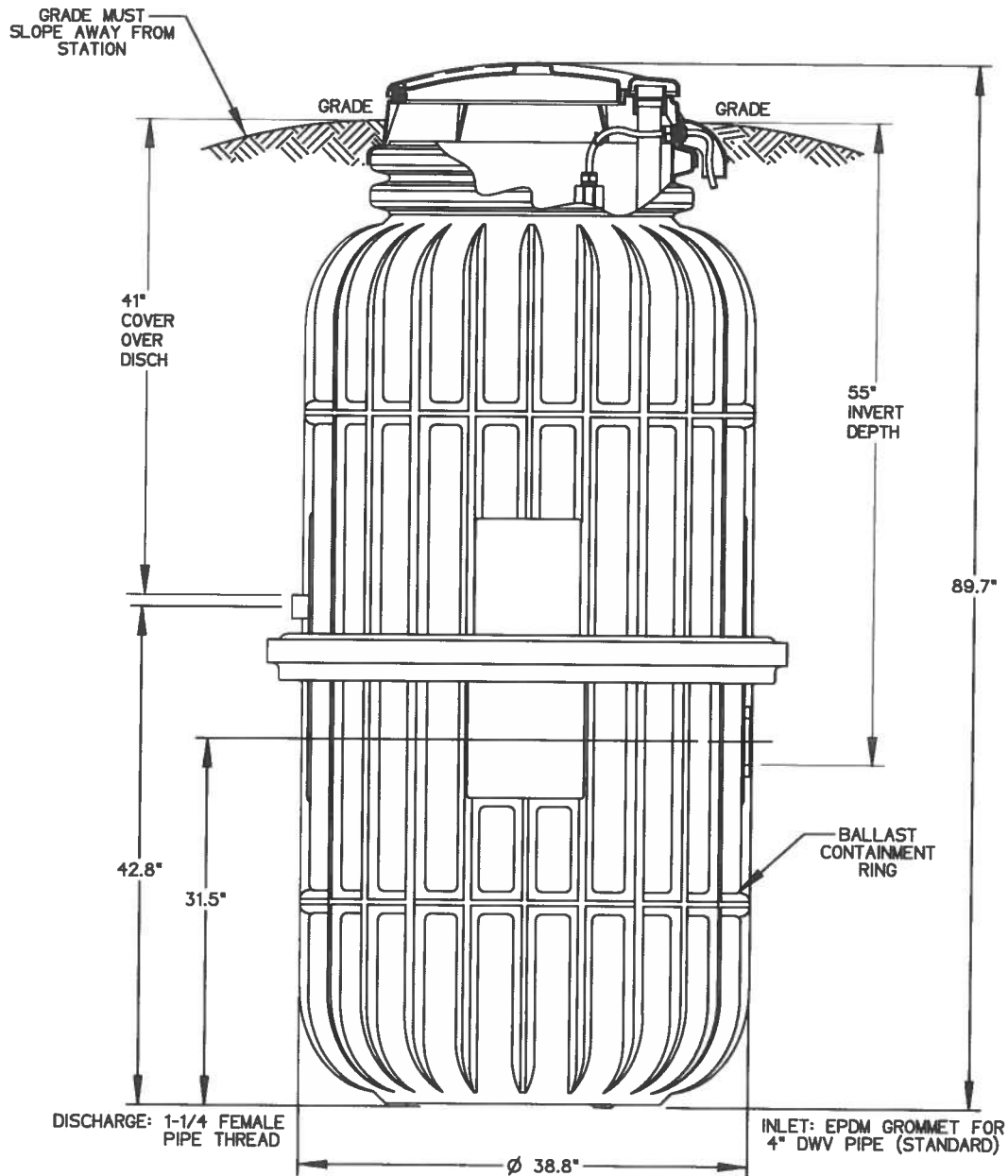
CTT	CH	10/19/12	D	
DR BY	CHK'D	DATE	ISSUE	SCALE
MODEL DH152-38, NO BAFFLE				
NA0052P03				

OPTIONS : ☐ **DH152 - 93**

(HARD WIRED
LEVEL CONTROLS)

☐ **DR152 - 93**

(WIRELESS
LEVEL CONTROLS)



CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTIONS
FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY



AD	CAH	7/13/07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

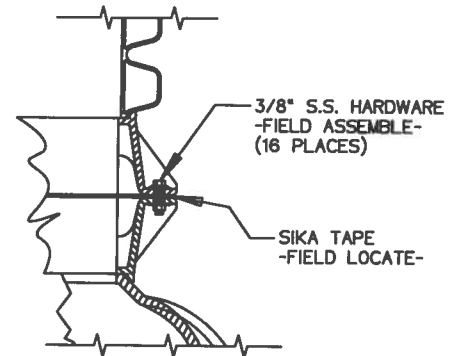
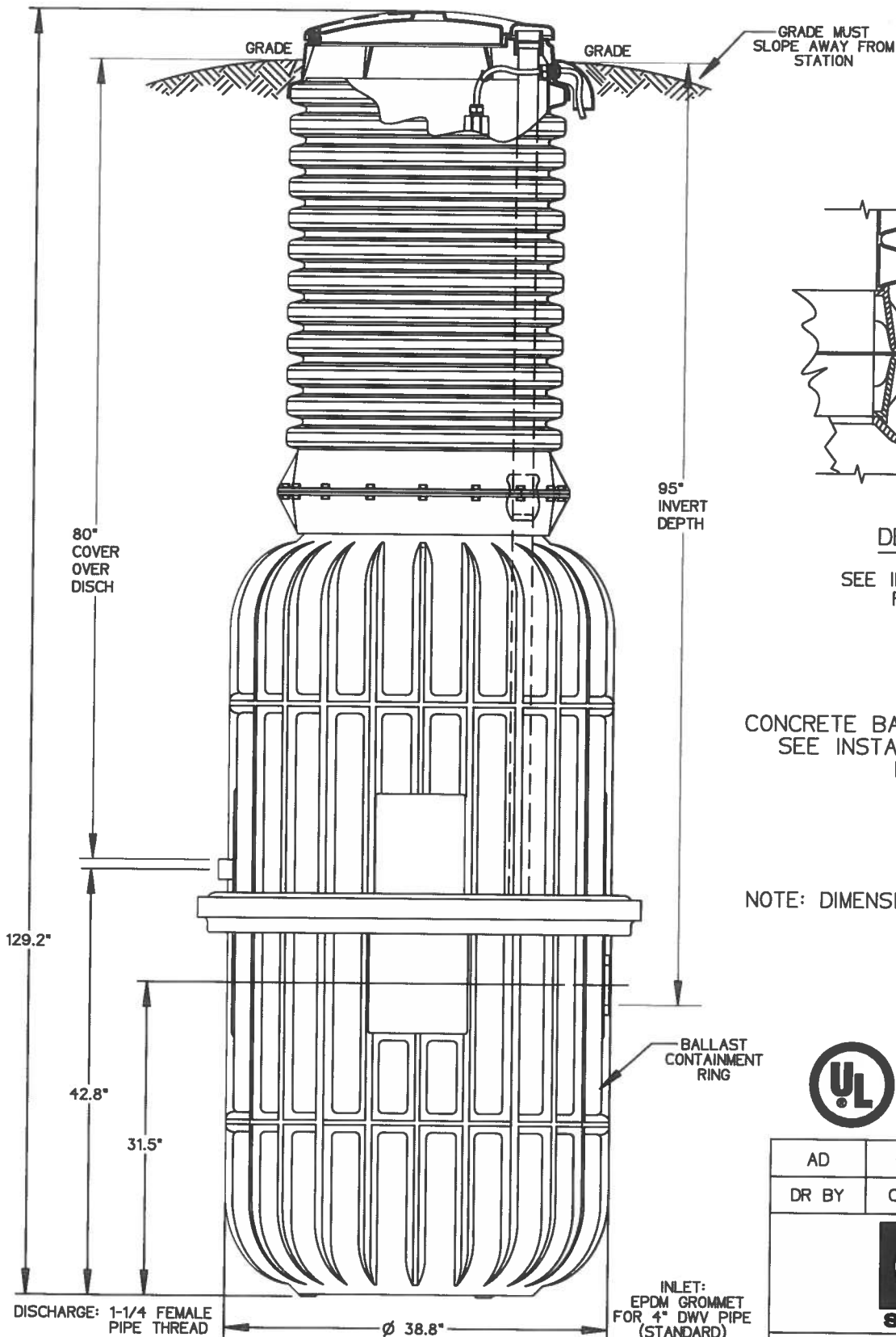
eone
SEWER SYSTEMS

MODEL DH152-93 / DR152-93

NA0052P04

OPTIONS : ☐ **DH152 -129** (HARD WIRED
LEVEL CONTROLS)

☐ **DR152 -129** (WIRELESS
LEVEL CONTROLS)



DETAIL, FIELD JOINT

SEE INSTALLATION INSTRUCTIONS
FOR FURTHER DETAILS

CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTIONS
FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY



AD	CAH	7/13/07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

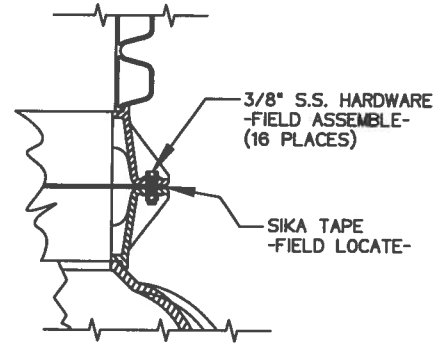
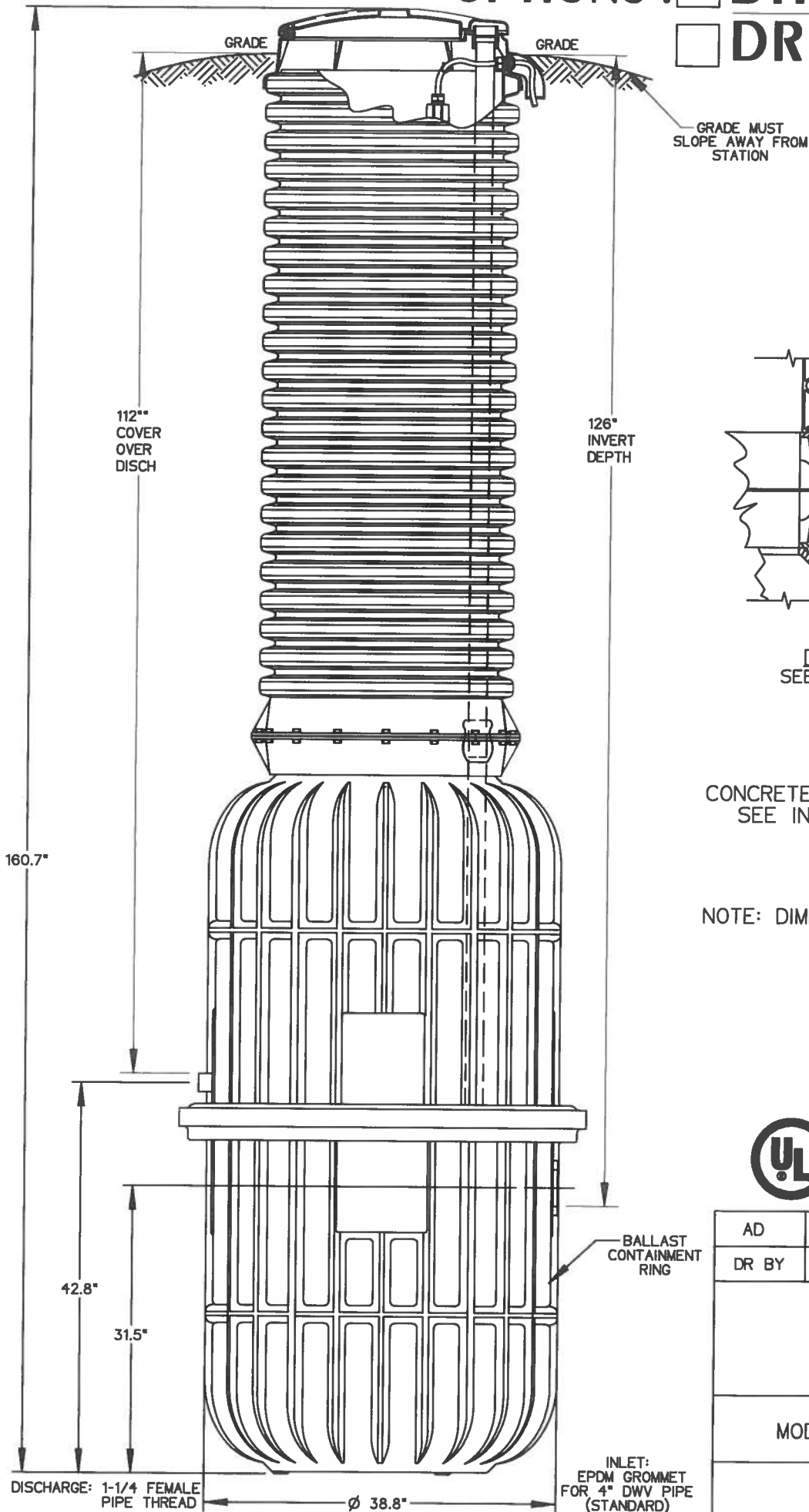
eone
SEWER SYSTEMS

MODEL DH152-129 / DR152-129

NA0052P05

OPTIONS : ☐ **DH152 -160** (HARD WIRED LEVEL CONTROLS)

☐ **DR152 -160** (WIRELESS LEVEL CONTROLS)



DETAIL, FIELD JOINT
SEE INSTALLATION INSTRUCTIONS
FOR FURTHER DETAILS

CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTIONS
FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY



AD	CAH	7/13/07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

eone
SEWER SYSTEMS

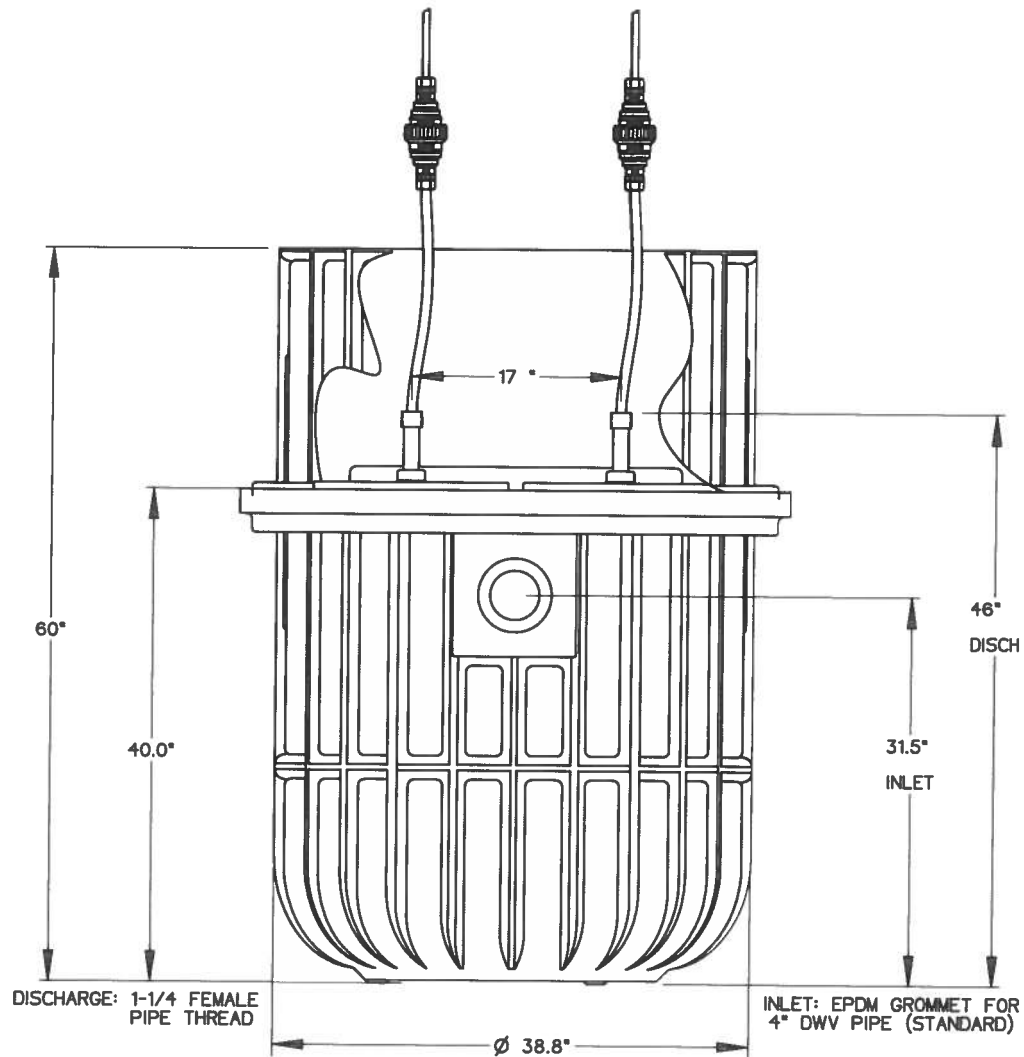
MODEL DH152-160 / DR152-160

NA0052P06

DH152 -57


BUILDERS MODEL

STRAIGHT DISCHARGE



NOTE: DIMENSIONS ARE FOR REF ONLY

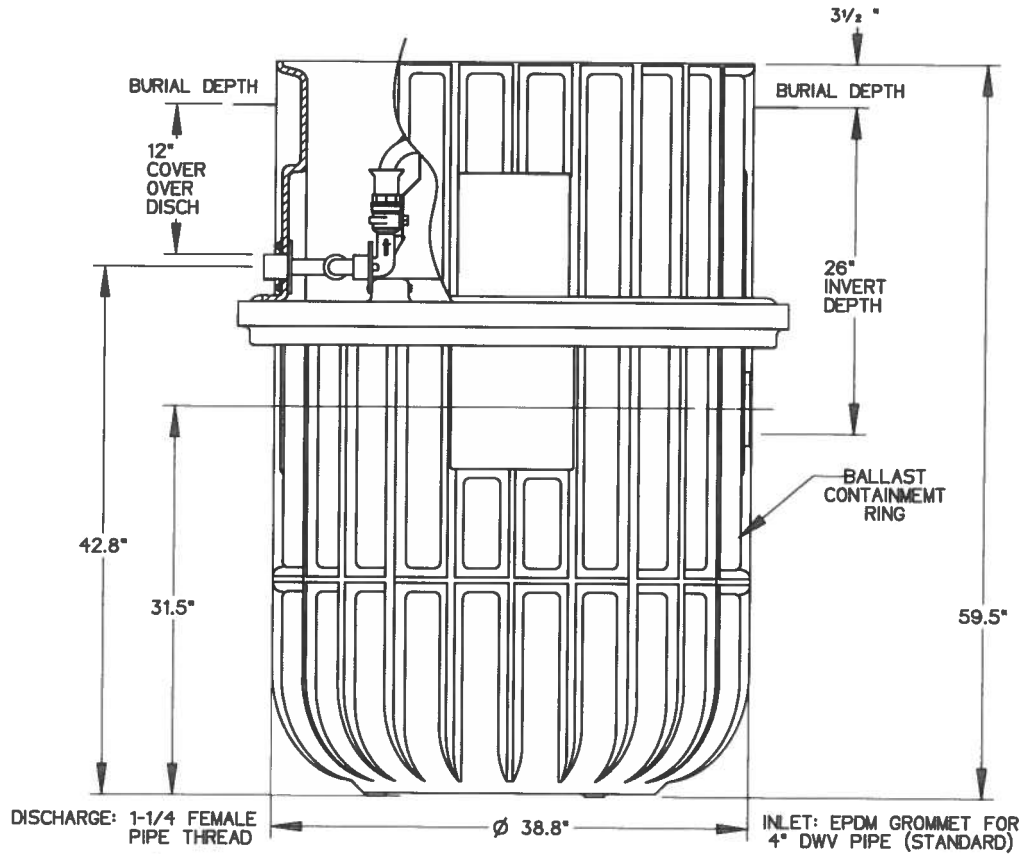


AD	CAH	06-27-07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE
 SEWER SYSTEMS				
MODEL DH152-57 BUILDERS				
NA0052P07				


DH152 -57

BUILDERS MODEL

DISCHARGE VALVE



NOTE: DIMENSIONS ARE FOR REF ONLY

AD	CAH	06/27/07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE
 SEWER SYSTEMS				
MODEL DH152-57 BUILDERS				
NA0052P08				