The Backyard Irrigation Wells No. 1 and 2: Production Authorization Application

for

JPD Backyard Finance, LLC 1401 Lavaca Street PMB 40869 Austin, Texas 78701

Travis County, Texas
February 2022

WRGS Project No. 197-001-22



Wet Rock Groundwater Services, L.L.C.

Groundwater Specialists
317 Ranch Road 620 South, Suite 303
Austin, Texas 78734
Phone: 512-773-3226 • www.wetrockgs.com
TBPG Firm No: 50038

(This Page Left Blank Intentionally)



Table of Contents

- 1. Application Form
- 2. Foreclosure Sale Deed
- 3. Plat and Property Survey
- 4. Site Map
- 5. Written Descriptive Statement
- 6. User Conservation Plan and User Drought Contingency Plans
- 7. Hydrogeologic Report
- 8. Public Notice Contact List/Map



1 – Application Form



DocuSign Envelope ID: FC6041A9-8AE5-416D-A3B3-EFC99FAEEEFB \^/^II No. 1



Application for Well Production Authorization

P.O. Box 340595, Austin, TX 78734 · Tel. 512-276-2875 · www.swtcgcd.org

Complete this application to receive a permit to produce and use groundwater from any type of well in the District requiring either an Operating Permit or a General Permit by Rule. Consult with the District to confirm what type of authorization is required for your well, and what processes and schedule will be involved in approving your permit. Select the type and category of permit that you are requesting below, and then complete and submit this application form to the District, along with its supporting documentation and all applicable fees per the District Fee Schedule. You may mail the completed form and other materials to the address above, or scan the form and supplemental materials and email it to staff@swtcgcd.org.

Type of Production Authorization and Its Associated *Application* Fee (check one):

□ \$400 – General Permit by Rule (Non-exempt Domestic Use (NDU) Permit or Test Well Permit)

□ \$ 400 – General Permit by Rule (Limited Production Permit)

	rmit for Major Modification, Agricultural Use rmit for Major Modification, Non-agricultural Use hit by Rule for Major Modification
For Well Registration/ID N	Number 58415JB1
Section I. Owner Contact Information	
Please check the box that appropriately describes the applicant Well Owner /Applicant (Entity name): JPD Backyard Finance, LLC Contact Person: Kyle McDaniel	
Physical Well Address: 13801 Bee Cave Pkwy	City: Austin Zip: 78738 County: Travis
Property lot/tract size: 35.14 acres	,
Email: kyle@backyardaustin.com Primary Phone: Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869	
☐ Check this box if the mailing address is the same as the physical address	
☐ Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite
□ Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869
□ Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf.	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869 City: Austin , Texas Zip: 78701
□ Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869 City: Austin , Texas Zip: 78701 Primary Phone: 512-809-0898
□ Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869 City: Austin , Texas Zip: 78701 Primary Phone: 512-809-0898 Secondary Phone:
Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303 City: Lakeway , Texas Zip: 78734	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869 City: Austin , Texas Zip: 78701 Primary Phone: 512-809-0898
□ Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303 City: Lakeway , Texas Zip: 78734 Primary Phone: 512-773-3226	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869 City: Austin , Texas Zip: 78701 Primary Phone: 512-809-0898 Secondary Phone:
Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303 City: Lakeway , Texas Zip: 78734	City: Austin Zip: 78701 County: Travis Alternate Point of Contact (Well Site Access) Contact Name: Christi Van Rite Mailing Address: 1401 Lavaca Street PMB 10869 City: Austin , Texas Zip: 78701 Primary Phone: 512-809-0898 Secondary Phone:

Section II. Supporting Ownership Documentation

- 1. **Property Deed.** Provide a complete copy of the recorded deed, showing current ownership, legal description, and a date recorded. If the applicant is a lessee/grantee then provide a copy of the recorded easement, lease, or memorandum of lease
- 2. **Property Survey.** Provide a certified copy of the most recent property survey. If a subdivision plat is applicable, please also provide a recorded copy of the subdivision plat.
- 3. **Site Plan and Coordinates.** Provide a map of the property or a site plan showing the location of the well relative to adjacent property lines AND the GPS <u>coordinate locations</u> of the following:

 the well to be permitted, 		
 the nearest septic tank and septic absorption 		
 the nearest source(s) of potential contam 	ination (within 150ft of well).	
Section III. Permit Request		
Requested Permit Type (e.g. Operating - Non-Ag; Ope	erating - Ag; General Permit - NDU, e	tc.): Operating-Non Ag
	year Aquifer To Be Used for Produc	
Proposed Primary Use Type: Irrigation fields	Other Proposed Use Types:	
Is this request for: a new well, a change to an existing	gwell, or an amendment to an existin	ng permit? (specify one)
Section IV. Declarations		
Initial to indicate that the applicant has read and	understands the following declar	ations
The applicant agrees that water produced/withdra	_	
The applicant understands that failure to submit a in an administratively incomplete application and	all required application items within t	
The applicant will comply with the District Rules, a		pursuant to the District Rules.
Kuthe applicant will comply with well plugging and		
required in Rule 4.4.	52	
 <u>KwY</u> Many of the incorporated cities within Travis Cour		
and Travis County also has groundwater supply-re		
regulations and your city ordinances regarding the	_	
District do not confer any right to violate any cour		
प्रिक्रोभें he applicant understands that this permit confers	_	-
notice must be given to the District by the permit	tee prior to any sale or lease of the v	well covered by the permit.
Control Manufacture and Australia of Amount C	0.00	
Section V. Applicant or Authorized Agent S		
I hereby make application to the Southwestern Travis C	*	
for the water well described herein, and I certify that I and that each and all the statements begin are true and agr		
that each and all the statements herein are true and cor		
and groundwater use permit and plan requirements. I he advance notice or, in an emergency, immediately, with s		
possible. The District may access the well for the purpose		
relating to the withdrawal, waste, water quality, pollutio	, ,	ity Sallipies, aliu ilivestigatilig colidition
—DocuSigned by:	in, or contamination of groundwater.	
(VALLANDS	Kyle W McDaniel	02/23/2023 7:50 AM CS
Signature of Applicant or Authorized Agent*	Print Name	Date
(*Notarized Agent Authorization Form Required)		
State of Texas, County of S	SWORN TO AND SUBSCRIBED befor	re me by the said owner or agent on this
theday of20		e,
Notary Public, State of Texas	My commission expires	
I Notally Fublic, State of Texas	My commission expires	

SUPPLEMENTAL APPLICATION INFORMATION

The following Items must be completed and submitted with your Production Authorization Application form.

Item 1. Written Descriptive Statements

The applicant must provide a written detailed statement that addresses all of the following components in one "type-written" statement in a Word document format. The submitted Word document should be signed and dated.

a) Permit Type

- State the type of permit that you are applying for (for example, Non-exempt Domestic Use General Permit; Non-Ag
 Operating Permit; etc.)
- State whether this is for a previously existing well or for a new well that has not yet been put into production for beneficial use.

b) Nature, Purpose & Location

- Indicate on a map and with GPS coordinates, the total number of existing wells on the entire property, in use and not in use.
- Identify the well(s) from which the proposed groundwater volume will be produced. Provide any available drilling reports or geophysical logs of the well(s) to be produced.
- Describe the well location (GPS coordinates) and the proposed receiving area(s) of groundwater produced from the well, including the characteristics and uses of any surface impoundments.
- Describe the nature and purpose of the various proposed uses including proposed uses by persons other than the well owner.
- Describe Proposed Transfers or Transports Location and purpose of any water to be resold, leased, transferred or transported.

c) Pumpage Volume

- State the requested permit pumpage volume and provide a description of how the requested pumpage volume was determined. The applicant shall provide pumpage volume calculations based on the type of use, anticipated pumping capabilities, pumping times, pumping frequency, and other pertinent data to substantiate approximate groundwater production. The requested pumpage volume should demonstrate reasonable nonspeculative demand.
- Describe the anticipated pumping rate at which water will be withdrawn from each well. Also provide the anticipated pump size, pump depth.
- Apportion the annual volume by typical use per calendar month and quarter (approximations/estimates are okay.)

d) Demand Trends (for Public Water Supply Providers only)

- Describe any anticipated future demand trends, long-term system growth, and associated pumpage needs related to those trends.
- List a breakdown of the projected annual volume by types of use (DWS, commercial, irrigation, industrial, etc.).
- Provide a projected quarterly timeline detailing the anticipated pumpage volumes for the first three to five years of pumping.
- For retail public water suppliers, provide an estimated or calculated per capita and/or household consumption.

e) Conservation Practices

Describe any water conservation measures or practices that are anticipated or are currently in place.

Item 2. Related Permits and Authorizations

Provide a copy of any notices of application made to the TCEQ to obtain or modify a CCN in order to provide water or wastewater service with water obtained pursuant to the requested production permit. Also, provide notice of any pending, denied, or remanded authorization from a local, state, or federal agency relating to water or wastewater.

Item 3. Transfers Documentation

If the groundwater is to be resold, leased, or otherwise transferred to others, provide the location to which the groundwater will be delivered, the purpose for which the groundwater will be used, and a copy of the legal documents establishing the right for the groundwater to be sold, leased, or otherwise transferred, including but not limited to any contract for sale, lease, or transfer of groundwater. Otherwise, state "Groundwater from this well will be used solely on-site by well owner or agent."

Item 4. User Conservation Plan and User Drought Contingency Plans

District staff can provide you templates for a User Conservation Plan (UCP) and a User Drought Contingency Plan (UDCP), upon request. Each permittee, including both Operating Permittees and General Permit holders, are required to develop and comply with their own, permittee-specific UCP and UDCP. Both will need to be completed, signed, and submitted to the District.

Item 5. Hydrogeological Report

Owners of all existing wells seeking an Operating Permit and or proposed new wells with annual production less than 1 million gallons and seeking an Operating Permit are required to conduct or have previously conducted a specific capacity test of the well and report that in this part of the application. For wells seeking an Operating Permit and having production volumes equal to or greater than 1 million gallons per year, a prescribed aquifer test must be performed on the well to be permitted and a defined hydrogeological report is required to be included in this part of the application. A satisfactory hydrogeological report can only be performed on a well that is constructed to discretely produce from the target production zone and equipped for the ultimate planned use. If a hydrogeological report is required, District staff will coordinate with the applicant on fulfilling this component of the application. Please refer to guidance document: *Guidelines for Hydrogeologic Reports and Aquifer Testing*.

Item 6. Public Notice Contact List/Map

For both existing and proposed new wells seeking an Operating Permit, a public hearing and a published public notice are required. For new and modified existing wells seeking an Operating Permit for over 1 million gallons per year, notice of application must also be mailed to all Public Water Suppliers and persons who own property located within a ¼-mile radius of the proposed well site by certified mail, return receipt requested. District staff can provide the type of information that must be contained in the notice.

□ Location map showing:

- o GPS coordinates AND latitude/longitude location of the proposed well/existing well to be modified.
- o mapped property parcels and mapped wells within ¼-mile radius of the proposed well/existing well in reference.
- o mapped CCNs or PWS Service areas within ¼-mile radius of the proposed well/existing well in reference.

☐ Mailing List: Property Owners

- Owner name, mailing address, physical addresses of all property owners within ¼-mile radius that will receive notice.
 - Note This is only applicable for new and modified existing wells seeking an Operating Permit for over 1 million gallons per year.

☐ Mailing List: Public Water Suppliers

o Name/Mailing address/Physical addresses of all the Public Water Suppliers within ¼-mile radius that will receive notice.

Item 7. Additional clarifying information requested by District General Manager

In response to submitted information, the applicant may be asked to submit other clarifying facts, information and considerations deemed necessary by the General Manager for protection of the public health and welfare, and conservation and management of natural resources in the District. If it is determined that additional information is needed, District staff will provide guidance in fulfilling this component of the application.

For District Personnel Use Only

Application Fee Submitted on://_ 90 day// 180 day//	_ Staff Initials Application Fee Amount:\$_	Chk #:
Administratively Complete/Incomplete	on ://_ Signature of Staff	
Signature of General Manager	Date://	
Permit Approval Date// Appro	oved by: Board or General Manager	
Drought Delay □Yes □No Author	rized Pumpage Volume:	Aquifer :
Use Type: P	ermit Type & Term:	_

Well No. 2 DocuSign Envelope ID: FC6041A9-8AE5-416D-A3B3-EFC99FAEEEFB



Application for Well Production Authorization

P.O. Box 340595, Austin, TX 78734 · Tel. 512-276-2875 · www.swtcgcd.org

Complete this application to receive a permit to produce and use groundwater from any type of well in the District requiring either an Operating Permit or a General Permit by Rule. Consult with the District to confirm what type of authorization is required for your well, and what processes and schedule will be involved in approving your permit. Select the type and category of permit that you are requesting below, and then complete and submit this application form to the District, along with its supporting documentation and all applicable fees per the District Fee Schedule. You may mail the completed form and other materials to the address above, or scan the form and supplemental materials and email it to staff@swtcgcd.org.

Type of Production Authorization and Its Associated *Application* Fee (check one):

□ \$400 – General Permit by Rule (Non-exempt Domestic Use (NDU) Permit or Test Well Permit)

□ \$ 400 – General Permit by Rule (Limited Production Permit)

 \$ 300 - Amendment of Existing Operating Per \$ 400 - Amendment of Existing Operating Per \$ 400 - Amendment of Existing General Perm 	mit for Major Mo	odification, No	n-agricultural Use
For Well Registration/ID N	lumber <u>58</u>	415JB2	
Section I. Owner Contact Information			
Please check the box that appropriately describes the applicant Well Owner / Applicant (Entity name): JPD Backyard Finance, LLC	nt: 🗵 Landowner/0	Grantor □ Le	essee/Grantee
Contact Person: Kyle McDaniel Physical Well Address: 13801 Bee Cave Pkwy	City:_Austin	7in: 78738	County: Travis
	City	ZIP	county
Property lot/tract size: <u>35.14</u> acres			
Property lot/tract size: 35.14 acres Email: kyle@backyardaustin.com			
Email: kyle@backyardaustin.com Primary Phone: 5		Zip:_78701	County: <u>Travis</u>
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869	City: Austin Alternate Point of Contact Name:	Zip: 78701 of Contact (Well S	County: <u>Travis</u>
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant	City: Austin Alternate Point of Contact Name: Contact Nam	Zip:_78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree	County: Travis Site Access) et PMB 10869
Email: kyle@backyardaustin.com Primary Phone: Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf.	City: Austin Alternate Point of Contact Name: Contact Nam	Zip: 78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree	County: Travis Site Access) et PMB 10869 Texas Zip: 78701
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC	City: Austin Alternate Point of Contact Name: Grant Mailing Address: City: Austin Primary Phone:	Zip: 78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree	County: Travis Site Access) et PMB 10869 Texas Zip: 78701
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303	Alternate Point of Contact Name: Contact Nam	Zip:_78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree 512-809-0898	County: Travis Site Access) et PMB 10869 Texas Zip: 78701
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303 City: Lakeway , Texas Zip: 78734	City: Austin Alternate Point of Contact Name: Grant Mailing Address: City: Austin Primary Phone:	Zip:_78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree 512-809-0898	County: Travis Site Access) et PMB 10869 Texas Zip: 78701
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303 City: Lakeway , Texas Zip: 78734 Primary Phone: 512-773-3226	Alternate Point of Contact Name: Contact Nam	Zip:_78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree 512-809-0898	County: Travis Site Access) et PMB 10869 Texas Zip: 78701
Email: kyle@backyardaustin.com Primary Phone: 5 Check this box if the mailing address is the same as the physical address Mailing Address: 1401 Lavaca Street PMB 10869 Technical Consultant This is the person who may be employed by the applicant to complete this application on the applicant's behalf. Consultant Name: Wet Rock Groundwater Services, LLC Mailing Address: 317 RR 620 S., Suite 303 City: Lakeway , Texas Zip: 78734	Alternate Point of Contact Name: Contact Nam	Zip:_78701 of Contact (Well S Christi Van Rite 1401 Lavaca Stree 512-809-0898	County: Travis Site Access) et PMB 10869 Texas Zip: 78701

Section II. Supporting Ownership Documentation

- 1. **Property Deed.** Provide a complete copy of the recorded deed, showing current ownership, legal description, and a date recorded. If the applicant is a lessee/grantee then provide a copy of the recorded easement, lease, or memorandum of lease
- 2. **Property Survey.** Provide a certified copy of the most recent property survey. If a subdivision plat is applicable, please also provide a recorded copy of the subdivision plat.
- 3. **Site Plan and Coordinates.** Provide a map of the property or a site plan showing the location of the well relative to adjacent property lines AND the GPS coordinate locations of the following:
 - the well to be permitted,

 the nearest septic tank and septic absorptio the nearest source(s) of potential contamination 		
Section III. Permit Request Requested Permit Type (e.g. Operating - Non-Ag; Operating	ear Aquifer To Be Used for Production (sp Other Proposed Use Types:	pecify): <u>Lower Trinity</u>
Section IV. Declarations Initial to indicate that the applicant has read and until the applicant agrees that water produced/withdraw the applicant understands that failure to submit all rein an administratively incomplete application and notifice must be given to the District Rules, all of the applicant will comply with the District Rules, all of the applicant will comply with well plugging and carrequired in Rule 4.4. What Many of the incorporated cities within Travis County and Travis County also has groundwater supply-relar regulations and your city ordinances regarding the understands that this permit confers motice must be given to the District by the permittee.	rn from the well in reference will be put to required application items within the appon-issuance of a permit. Orders, and permits promulgated pursuar pping guidelines set forth in these Rules whave ordinances concerning the drilling of ted regulations. It is your responsibility to use of groundwater and drilling of wells. They regulations or city ordinances regarding no vested rights in the holder and the permitted required applications.	o beneficial use at all times. lication review period will result to the District Rules. and will report well closures a of wells within their city limits, o comply with County The permits issued by the groundwater. mit is non-transferable. Writter
Section V. Applicant or Authorized Agent Sw. I hereby make application to the Southwestern Travis Coufor the water well described herein, and I certify that I amount that each and all the statements herein are true and correct and groundwater use permit and plan requirements. I here advance notice or, in an emergency, immediately, with successible. The District may access the well for the purposes relating to the withdrawal, waste, water quality, pollution,	unty Groundwater Conservation District for the property owner/grantor or lessee/grant ct, and that I will comply with District Rules, beby authorize the District access to this prop th emergency access reported to the owner of inspecting, collecting water quality samp	tee or an Authorized Agent, and , Well Construction Standards, perty following reasonable r if advance notice was not
Signature of Applicant or Authorized Agent* (*Notarized Agent Authorization Form Required)	Print Name	Date
State of Texas, County of SW theday of	ORN TO AND SUBSCRIBED before me by	the said owner or agent on this
Notary Public, State of Texas	My commission expires	

SUPPLEMENTAL APPLICATION INFORMATION

The following Items must be completed and submitted with your Production Authorization Application form.

Item 1. Written Descriptive Statements

The applicant must provide a written detailed statement that addresses all of the following components in one "type-written" statement in a Word document format. The submitted Word document should be signed and dated.

a) Permit Type

- State the type of permit that you are applying for (for example, Non-exempt Domestic Use General Permit; Non-Ag
 Operating Permit; etc.)
- State whether this is for a previously existing well or for a new well that has not yet been put into production for beneficial use.

b) Nature, Purpose & Location

- Indicate on a map and with GPS coordinates, the total number of existing wells on the entire property, in use and not in use.
- Identify the well(s) from which the proposed groundwater volume will be produced. Provide any available drilling reports or geophysical logs of the well(s) to be produced.
- Describe the well location (GPS coordinates) and the proposed receiving area(s) of groundwater produced from the well, including the characteristics and uses of any surface impoundments.
- Describe the nature and purpose of the various proposed uses including proposed uses by persons other than the well owner.
- Describe Proposed Transfers or Transports Location and purpose of any water to be resold, leased, transferred or transported.

c) Pumpage Volume

- State the requested permit pumpage volume and provide a description of how the requested pumpage volume was determined. The applicant shall provide pumpage volume calculations based on the type of use, anticipated pumping capabilities, pumping times, pumping frequency, and other pertinent data to substantiate approximate groundwater production. The requested pumpage volume should demonstrate reasonable nonspeculative demand.
- Describe the anticipated pumping rate at which water will be withdrawn from each well. Also provide the anticipated pump size, pump depth.
- Apportion the annual volume by typical use per calendar month and quarter (approximations/estimates are okay.)

d) Demand Trends (for Public Water Supply Providers only)

- Describe any anticipated future demand trends, long-term system growth, and associated pumpage needs related to those trends.
- List a breakdown of the projected annual volume by types of use (DWS, commercial, irrigation, industrial, etc.).
- Provide a projected quarterly timeline detailing the anticipated pumpage volumes for the first three to five years of pumping.
- For retail public water suppliers, provide an estimated or calculated per capita and/or household consumption.

e) Conservation Practices

Describe any water conservation measures or practices that are anticipated or are currently in place.

Item 2. Related Permits and Authorizations

Provide a copy of any notices of application made to the TCEQ to obtain or modify a CCN in order to provide water or wastewater service with water obtained pursuant to the requested production permit. Also, provide notice of any pending, denied, or remanded authorization from a local, state, or federal agency relating to water or wastewater.

Item 3. Transfers Documentation

If the groundwater is to be resold, leased, or otherwise transferred to others, provide the location to which the groundwater will be delivered, the purpose for which the groundwater will be used, and a copy of the legal documents establishing the right for the groundwater to be sold, leased, or otherwise transferred, including but not limited to any contract for sale, lease, or transfer of groundwater. Otherwise, state "Groundwater from this well will be used solely on-site by well owner or agent."

Item 4. User Conservation Plan and User Drought Contingency Plans

District staff can provide you templates for a User Conservation Plan (UCP) and a User Drought Contingency Plan (UDCP), upon request. Each permittee, including both Operating Permittees and General Permit holders, are required to develop and comply with their own, permittee-specific UCP and UDCP. Both will need to be completed, signed, and submitted to the District.

Item 5. Hydrogeological Report

Owners of all existing wells seeking an Operating Permit and or proposed new wells with annual production less than 1 million gallons and seeking an Operating Permit are required to conduct or have previously conducted a specific capacity test of the well and report that in this part of the application. For wells seeking an Operating Permit and having production volumes equal to or greater than 1 million gallons per year, a prescribed aquifer test must be performed on the well to be permitted and a defined hydrogeological report is required to be included in this part of the application. A satisfactory hydrogeological report can only be performed on a well that is constructed to discretely produce from the target production zone and equipped for the ultimate planned use. If a hydrogeological report is required, District staff will coordinate with the applicant on fulfilling this component of the application. Please refer to guidance document: *Guidelines for Hydrogeologic Reports and Aquifer Testing*.

Item 6. Public Notice Contact List/Map

For both existing and proposed new wells seeking an Operating Permit, a public hearing and a published public notice are required. For new and modified existing wells seeking an Operating Permit for over 1 million gallons per year, notice of application must also be mailed to all Public Water Suppliers and persons who own property located within a ¼-mile radius of the proposed well site by certified mail, return receipt requested. District staff can provide the type of information that must be contained in the notice.

□ Location map showing:

- o GPS coordinates AND latitude/longitude location of the proposed well/existing well to be modified.
- o mapped property parcels and mapped wells within ¼-mile radius of the proposed well/existing well in reference.
- o mapped CCNs or PWS Service areas within ¼-mile radius of the proposed well/existing well in reference.

☐ Mailing List: Property Owners

- Owner name, mailing address, physical addresses of all property owners within ¼-mile radius that will receive notice.
 - Note This is only applicable for new and modified existing wells seeking an Operating Permit for over 1 million gallons per year.

☐ Mailing List: Public Water Suppliers

o Name/Mailing address/Physical addresses of all the Public Water Suppliers within ¼-mile radius that will receive notice.

Item 7. Additional clarifying information requested by District General Manager

In response to submitted information, the applicant may be asked to submit other clarifying facts, information and considerations deemed necessary by the General Manager for protection of the public health and welfare, and conservation and management of natural resources in the District. If it is determined that additional information is needed, District staff will provide guidance in fulfilling this component of the application.

For District Personnel Use Only

Application Fee Submitted on://_ 90 day// 180 day//	_ Staff Initials Application Fee Amount:\$_	Chk #:
Administratively Complete/Incomplete	on ://_ Signature of Staff	
Signature of General Manager	Date://	
Permit Approval Date// Appro	oved by: Board or General Manager	
Drought Delay □Yes □No Author	rized Pumpage Volume:	Aquifer :
Use Type: P	ermit Type & Term:	_

2 – Foreclosure Sale Deed



ELECTRONICALLY RECORDED

2018174111

TRV 7 PGS

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

THE STATE OF TEXAS \$

COUNTY OF TRAVIS \$

FORECLOSURE SALE DEED BY SUBSTITUTE TRUSTEE (BACKYARD)

Effective as of April 15, 2016, BACKYARD PARTNERS LLC, a Delaware limited liability company ("Mortgagor"), executed and delivered to CLIFTON M. DUGAS, II, as trustee ("Trustee"), a Deed of Trust, Assignment of Leases and Rents, Security Agreement and Fixture Filing ("Security Instrument") that is recorded in the Official Public Records of Travis County, Texas, at Document Number 2016058101, as thereafter renewed and extended, to secure JPD BACKYARD FINANCE, LLC, a Texas limited liability company ("Mortgagee), as successor-in-interest to Romspen Mortgage Limited Partnership, an Ontario limited partnership, in the payment of all Debt (as that term is defined in the Security Instrument) owing by Mortgagor to Mortgagee, by Mortgagor granting, selling and conveying to the Trustee, in trust, certain real and personal property located in the County of Travis, State of Texas, as more particularly described in Exhibit A attached hereto (the "Property").

Default has occurred in the payment of the Debt when due, and Mortgagee, the holder of the Debt, and of all liens and security interests, assignments and encumbrances in the Property that secures the payment of the Debt pursuant to the Security Instrument, has since the default appointed the undersigned, as substitute trustee ("Substitute Trustee"), in an instrument that is recorded in the Official Public Records of Travis County, Texas, at Document Number 2018143015 and Mortgagee, because the Debt remains unpaid, has instructed the undersigned, as Substitute Trustee, to sell the Property in accordance with the provisions of the Security Instrument, the Mortgagee having elected to proceed against and sell the Property in accordance with Mortgagee's rights and remedies under the Security Instrument.

Pursuant to Mortgagee's request and the provisions of said Security Instrument, and after complying with all notice provisions of Section 51.002(b) of the Texas Property Code, and after complying with all other prerequisites required by law, the Security Instrument and/or other documents creating, evidencing, describing or securing the Debt, I proceeded, as Substitute Trustee, to sell the Property at public auction (the "Foreclosure Sale") at the west steps of the Travis County Courthouse located at 1000 Guadalupe Street, Austin, Texas, said area being the area designated by the Commissioners' Court of Travis County, Texas, on Tuesday, November 6, 2018, at approximately 10:35 a.m.

Mortgagee was the highest bidder for the Property at the Foreclosure Sale, and I sold the Property, acting as Substitute Trustee, to Mortgagee for the bid amount ("Bid Amount").

Substitute Trustee, subject to any prior liens and other exceptions to conveyance and warranty in the Security Instrument, in consideration of the foregoing, and in further consideration of the payment by Mortgagee to Substitute Trustee of the Bid Amount, by the authority conferred on Substitute Trustee by the Security Instrument, grants, sells and conveys the Property to Mortgagee, whose mailing address is

8911 N. Capitol of Texas Hwy., Suite 3210, Austin, Texas 78749, "AS IS," AT GRANTEE'S OWN RISK, AND WITHOUT ANY EXPRESSED OR IMPLIED WARRANTIES, EXCEPT AS TO WARRANTIES OF TITLE AS TO THE PROPERTY (all as further provided in Section 51.009, Texas Property Code), together with all and singular the rights, privileges, and appurtenances thereto in any way belonging, to have and hold the Property, together with, all and singular the rights, privileges and appurtenances thereto, to Grantee and Grantee's heirs, legal representatives, successors and assigns forever. Substitute Trustee binds Mortgagor and Mortgagor's heirs, legal representatives, successors and assigns to warrant and forever defend all and singular the Property and the rights, privileges and appurtenances thereto, to Grantee and Grantee's heirs, legal representatives, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to any prior liens and other exceptions to conveyance and warranty in the Security Instrument.

SUBSTITUTE TRUSTEE HAS NOT MADE, AND DOES NOT MAKE, ANY REPRESENTATIONS, EXPRESS OR IMPLIED, WITH RESPECT TO THE PERSONAL PROPERTY, AND THE PERSONAL PROPERTY IS SOLD TO GRANTEE "AS IS," WHERE IS AND WITH ALL FAULTS. THERE IS NO WARRANTY RELATING TO TITLE, POSSESSION, QUIET ENJOYMENT, OR THE LIKE IN THIS DISPOSITION OF PERSONAL PROPERTY.

[Signature page follows.]

Executed effective as of November 6, 2018.

Matthew R. Bair, Substitute Trustee

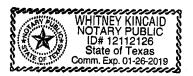
THE STATE OF TEXAS

§

COUNTY OF TRAVIS

8

This instrument was acknowledged before me on November 6, 2018, by Matthew R. Bair, as Substitute Trustee appointed under that certain Appointment of Substitute Trustee recorded as Document Number 2018143015 in the Official Public Records of Travis County, Texas.



Notary Public, State of Texas My Commission Expires:

AFTER RECORDING RETURN TO:

Karl P. Baker Golden Steves & Gordon LLP 200 East Basse Road, Suite 200 San Antonio, Texas 78209

EXHIBIT A Property

- (a) <u>Land</u>. The real property described in <u>Schedule I</u> attached hereto and made a part hereof (the "Land");
- (b) <u>Additional Land</u>. All additional lands, estates and development rights (including without limitation any rights of Mortgagor or the Land in connection with any offsite detention or other facilities) acquired by Mortgagor and all additional lands and estates therein;
- (c) <u>Improvements</u>. The buildings, structures, fixtures, additions, enlargements, extensions, modifications, repairs, replacements and improvements erected or located on the Land (collectively, the "*Improvements*");
- (d) <u>Easements</u>. All easements, rights-of-way or use, rights, strips and gores of land, streets, ways, alleys, passages, sewer rights, water, water courses, water rights and powers, air rights and development rights, and all estates, rights, titles, interests, privileges, liberties, servitudes, tenements, hereditaments and appurtenances of any nature whatsoever, in any way belonging, relating or pertaining to the Land and the Improvements and the reversion and reversions and remainders, and all land lying in the bed of any street, road or avenue, opened or proposed, in front of or adjoining the Land, to the center line thereof and all the estates, rights, titles, interests, dower and rights of dower, curtesy and rights of curtesy, property, possession, claim and demand whatsoever, both at law and in equity, of Mortgagor of, in and to the Land and the Improvements and every part and parcel thereof, with the appurtenances thereto;
- (e) Equipment. All "goods" and "equipment," as such terms are defined in Article 9 of the as adopted and enacted by the state or states where any of the Property is located (the "Uniform Commercial Code"), now owned or hereafter acquired by Mortgagor, which is used at or in connection with the Improvements or the Land or is located thereon or therein (including all machinery, equipment, furnishings, and electronic data-processing and other office equipment and any and all additions, substitutions and replacements of any of the foregoing), together with all attachments, components, parts, equipment and accessories installed thereon or affixed thereto (collectively, the "Equipment");
- (f) Fixtures. All Equipment owned by Mortgagor which is so related to the Land and Improvements forming part of the Property that it is deemed fixtures or real property under the law of the particular state in which the Equipment is located, including all building or construction materials intended for construction, reconstruction, alteration or repair of or installation on the Property, construction equipment, appliances. machinery, plant equipment, fittings, apparatuses, fixtures and other items now or hereafter attached to, installed in or used in connection with (temporarily or permanently) any of the Improvements or the Land, including engines, devices for the operation of pumps, pipes, plumbing, cleaning, call and sprinkler systems, fire extinguishing apparatuses and equipment, heating, ventilating, laundry, incinerating, electrical, air conditioning and air cooling equipment and systems, gas and electric machinery, appurtenances and equipment, pollution control equipment, security systems, disposals, dishwashers, refrigerators and ranges, recreational equipment and facilities of all kinds, and water, gas, electrical, storm and sanitary sewer facilities, utility lines and equipment (whether owned individually or jointly with others, and, if owned jointly, to the extent of Mortgagor's interest therein) and all other utilities whether or not situated in easements, all water tanks, water supply, water power

- sites, fuel stations, fuel tanks, fuel supply, and all other structures, together with all accessions, appurtenances, additions, replacements, betterments and substitutions for any of the foregoing and the proceeds thereof (collectively, the "Fixtures");
- (g) Personal Property. All furniture, furnishings, objects of art, machinery, goods, tools, supplies, appliances, general intangibles, entitlements, approvals, authorizations, contract rights, accounts, accounts receivable, franchises, licenses, certificates and permits, and all other personal property of any kind or character whatsoever as defined in and subject to the provisions of the Uniform Commercial Code, other than Fixtures, owned by Mortgagor and which are located within or about the Land and the Improvements, together with all accessories, replacements and substitutions thereto or therefor and the proceeds thereof (collectively, the "Personal Property"), and the right, title and interest of Mortgagor in and to any of the Personal Property which may be subject to any security interests, as defined in the Uniform Commercial Code, superior in lien to the lien of the Security Instrument and all proceeds and products of the above;
- (h) Leases and Rents. All leases, subleases or subsubleases, lettings, licenses, concessions or other agreements (whether written or oral) pursuant to which any Person is granted a possessory interest in, or right to use or occupy all or any portion of the Land and the Improvements, and every modification, amendment or other agreement relating to such leases, subleases, subsubleases, or other agreements entered into in connection with such leases, subleases, subsubleases, or other agreements and every guarantee of the performance and observance of the covenants, conditions and agreements to be performed and observed by the other party thereto, heretofore or hereafter entered into (collectively, the "Leases"), whether before or after the filing by or against Mortgagor of any petition for relief under the Bankruptcy Code and all right, title and interest of Mortgagor, its successors and assigns therein and thereunder, including cash or securities deposited thereunder to secure the performance by the lessees of their obligations thereunder and all rents, additional rents, revenues, issues and profits (including all oil and gas or other mineral royalties and bonuses) from the Land and the Improvements whether paid or accruing before or after the filing by or against Mortgagor of any petition for relief under the Bankruptcy Code (collectively, the "Rents") and all proceeds from the sale or other disposition of the Leases and the right to receive and apply the Rents to the payment of the Debt. "Rents" shall include all revenues, deposits (including security, utility and other deposits and Lease termination payments and tenant reimbursements), accounts, cash, issues, fees, profits, charges for services rendered, and other consideration of whatever form or nature received by or paid to or for the account of or benefit of Mortgagor or its agents or employees from any and all sources (including any Service Rights granted to any Person and any warrants, stock options or other rights granted to Mortgagor or its Affiliates in connection with any Lease) whether or not arising from or attributable to the Property, and proceeds, if any, from business interruption or other loss of income insurance, together with all proceeds from the sale or other disposition of the Leases and the right to receive and apply the Rents to the payment of the Debt and all right, title and interest of Mortgagor, its successors and assigns therein and thereunder, including all guarantees, letters of credit (including the proceeds thereof) and any other credit support given by any guarantor in connection therewith, and all rents, additional rents, revenues, issues and profits (including all oil and gas or other mineral royalties and bonuses) from the Property and the Improvements whether paid or accruing before or after the filing by or against Mortgagor of any petition for relief under the Bankruptcy Code and all proceeds from the sale or other disposition of the Leases and the right to receive and apply the Rents to the payment of the Debt.

- (i) <u>Condemnation Awards</u>. All awards or payments, including interest thereon, which may heretofore and hereafter be made with respect to the Property, whether from the exercise of the right of eminent domain (including any Transfer made in lieu of or in anticipation of the exercise of the right), or for a change of grade, or for any other injury to or decrease in the value of the Property;
- (j) <u>Insurance Proceeds</u>. All proceeds in respect of the Property under any insurance policies covering the Property, including the right to receive and apply the proceeds of any insurance, judgments, or settlements made in lieu thereof, for damage to the Property;
- (k) <u>Tax Certiorari</u>. All refunds, rebates or credits in connection with reduction in real estate taxes and assessments charged against the Property as a result of tax certiorari or any applications or proceedings for reduction;
- (l) <u>Conversion</u>. All proceeds of the conversion, voluntary or involuntary, of any of the foregoing including proceeds of insurance and condemnation awards, into cash or liquidation claims;
- (m) <u>Rights</u>. The right, in the name and on behalf of Mortgagor, to appear in and defend any action or proceeding brought with respect to the Property;
- (n) <u>Agreements</u>. All agreements, contracts, certificates, instruments, franchises, permits, licenses, plans, specifications and other documents, and all rights therein and thereto, respecting or pertaining to the use, occupation, development, construction, renovation, management or operation of the Land and any part thereof and any Improvements or respecting or pertaining to any business or activity conducted on the Land and any part thereof and all right, title and interest of Mortgagor therein and thereunder, including the right to receive and collect any sums payable to Mortgagor thereunder;
- (o) <u>Trademarks</u>. All tradenames, trademarks, servicemarks, logos, copyrights, goodwill, books and records and all other general intangibles relating to or used in connection with the operation of the Property;
- (p) <u>Accounts</u>. All reserves, escrows and deposit accounts maintained by Mortgagor, together with all deposits or wire transfers made to such accounts, all cash, checks, drafts, certificates, securities, investment property, financial assets, instruments and other property held therein from time to time and all proceeds, products, distributions or dividends or substitutions thereon and thereof;
- (q) <u>Letter of Credit</u>. All letter-of-credit rights (whether or not the letter of credit is evidenced by a writing) Mortgagor has relating to the properties, rights, titles and interests set forth in this **Exhibit A**;
- (r) <u>Tort Claims</u>. All commercial tort claims Mortgagor now has or hereafter acquires relating to the properties, rights, titles and interests referred to in this <u>Exhibit A</u>; and
- (s) Other Rights. Any and all other rights of Mortgagor in and to the items set forth in this Exhibit A.

SCHEDULE I Legal Description of the Land

Lots 1 and 2, Block A, PLANET EARTH MUSIC, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 201000097 of the Official Public Records of Travis County, Texas.

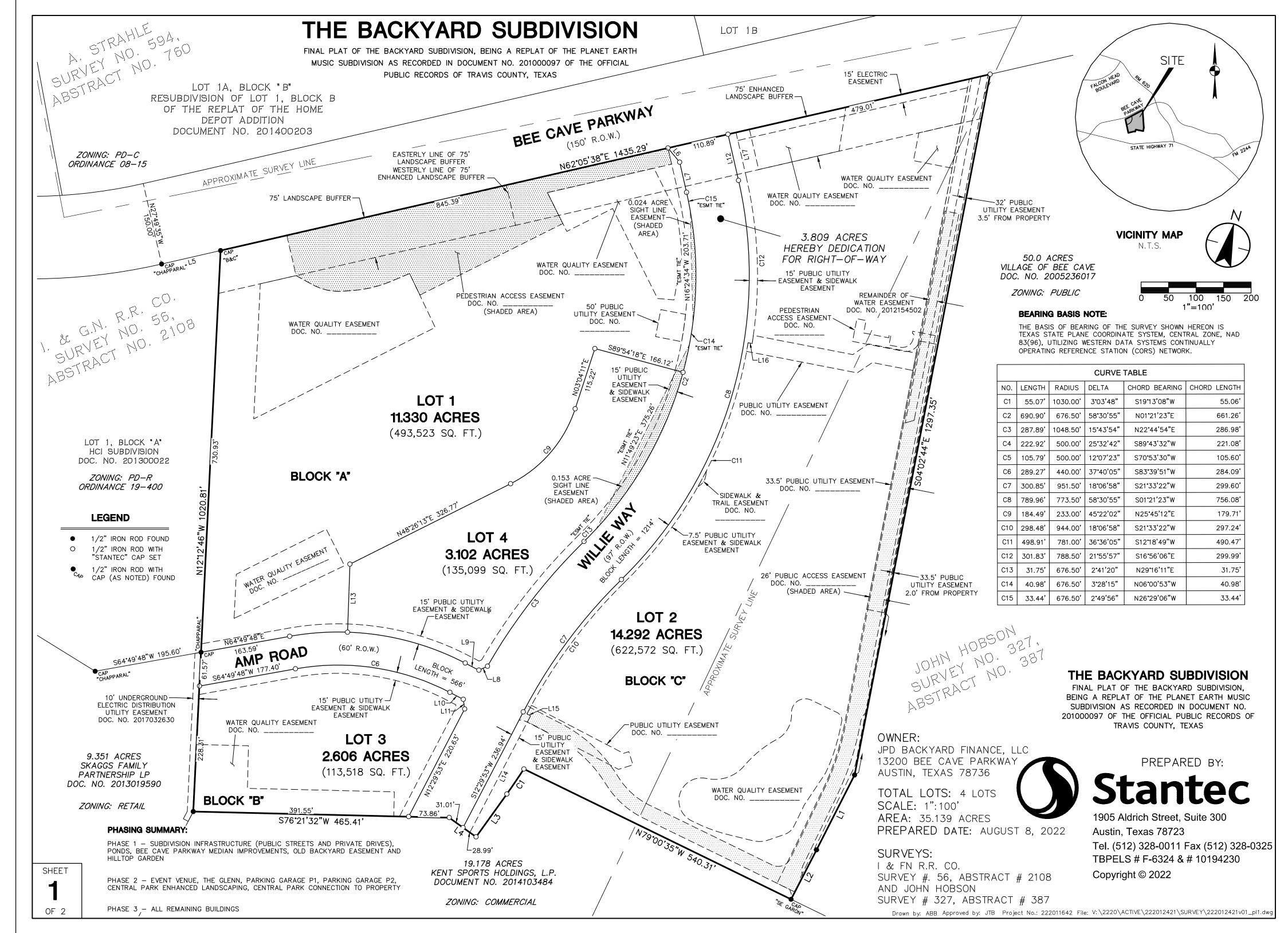
FILED AND RECORDED
OFFICIAL PUBLIC RECORDS

DANA DEBEAUVOIR, COUNTY CLERK TRAVIS COUNTY, TEXAS

Mucallance.

November 06 2018 12:26 PM FEE: \$ 50.00 **2018174111** 3 – Property Survey





STATE OF TEXAS KNOW ALL MEN BY THESE PRESENTS COUNTY OF TRAVIS § THAT JPD BACKYARD FINANCE, LLC., A DELAWARE LIMITED LIABILITY COMPANY ACTING HEREIN BY AND THROUGH KYLE McDANIEL, MANAGER, OWNER OF THAT CERTAIN 35.139 ACRE TRACT OF LAND SITUATED IN THE CITY OF BEE CAVE, TRAVIS COUNTY, TEXAS, BEING ALL OF LOTS AND 2. BLOCK "A" PLANET EARTH MUSIC, A SUBDIVISION OF RECORD IN DOCUMENT NO. 201000097 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS; SAID LOTS 1 AND 2 CONVEYED TO JPD BACKYARD FINANCE, LLC BY DEED OF RECORD IN DOCUMENT NO. 2018174111 OF SAID OFFICIAL PUBLIC RECORDS, DO HEREBY DEDICATE ALL OF SAID TRACT SHOWN HEREOF TO BE KNOWN AS "THE BACKYARD SUBDIVISION", WITNESS MY HAND, THIS THE _____ DAY OF _____, 20____ A.D. KYLE McDANIEL, MANAGER DATE JPD BACKYARD FINANCE, LLC 13200 BEE CAVE PARKWAY AUSTIN, TEXAS 78736 STATE OF TEXAS § KNOW ALL MEN BY THESE PRESENTS COUNTY OF TRAVIS § BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED KYLE McDANIEL, MANAGER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HAS ACKNOWLEDGED TO ME THAT HE/SHE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED ON BEHALF OF SAID COMPANY. NOTARY PUBLIC IN AND FOR THE COUNTY OF TRAVIS, TEXAS. NOTARY PUBLIC MY COMMISSION EXPIRES IN AND FOR THE STATE OF TEXAS. FLOOD PLAIN NOTE: NO PORTION OF THE SUBJECT PROPERTY LIES WITHIN A FLOODPLAIN OR FLOOD PRONE AREA OR A FLOOD WAY OF ANY BODY OF WATER PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY RATE MAP, COMMUNITY F.I.R.M. MAP PREPARED FOR TRAVIS COUNTY, DATED

JANUARY 22, 2020, AS SHOWN ON COMMUNITY PANEL NO. 48453C0405J AND PANEL NO. 48453C0415J.

STATE OF TEXAS § KNOW ALL MEN BY THESE PRESENTS COUNTY OF TRAVIS §

THAT I, LANCE R. ORITI, A LICENSED PROFESSIONAL ENGINEER, LINCENSED IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THE PROPER ENGINEERING CONSIDERATIONS HAVE BEEN GIVEN TO THIS PLAT AND THAT IT MEETS THE REQUIREMENTS OF THE SUBDIVISION ORDINANCE OF THE CITY OF BEE CAVE, TEXAS.

LANCE R. ORITI, P.E. DATE TEXAS REGISTRATION NO. 96173 KIMLEY-HORN TBPELS #928 5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100 AUSTIN, TEXAS 78735

STATE OF TEXAS

SHEET

OF 2

§ KNOW ALL MEN BY THESE PRESENTS

DATE

COUNTY OF TRAVIS §

THAT I, AUSTIN B. BURKLUND, DO HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY OF THE LAND SHOWN HEREON AND THAT THE SURVEY MONUMENTS SHOWN HEREON WERE SET UNDER MY SUPERVISION IN ACCORDANCE WITH THE SUBDIVISION ORDINANCE OF THE CITY OF BEE CAVE, TEXAS.

AUSTIN B. BURKLUND, R.P.L.S. TEXAS REGISTRATION NO. 6879 STANTEC CONSULTING SERVICES, INC. 1905 ALDRICH STREET, SUITE 300 AUSTIN, TEXAS 78723

> LINE TABLE LINE TABLE NO. BEARING NO. BEARING DISTANCE DISTANCE L1 S11°54'54"W | L10 | N77°30'07"W 152.56 27.42 L2 S12*18'13"W L11 N22°53'17"W 17.66 101.12 L3 | S20°45'02"W L12 | S27°54'04"E 96.00' 85.98 L4 N69°14'58"W 60.00 | L13 | N13°02'49"W 123.82 L5 L14 S12°29'53"W S6210'25"W 110.04 239.11 L6 N54*37'59"W | L15 | N77°30'07"W 33.35 7.50 L7 N27°54'04"W 56.18 | L16 | N85**°**57'16"E 7.50 L8 N50°15'36"E L17 S27°54'04"E 17.23 85.98 L9 S77**°**30'07"E 28.00'

THE BACKYARD SUBDIVISION

FINAL PLAT OF THE BACKYARD SUBDIVISION, BEING A REPLAT OF THE PLANET EARTH MUSIC SUBDIVISION AS RECORDED IN DOCUMENT NO. 201000097 OF THE OFFICIAL

GENERAL NOTES:

1. THIS SUBDIVISION IS LOCATED WITHIN THE CITY LIMITS OF BEE CAVE AND IS SUBJECT TO APPLICABLE CITY OF BEE CAVE ORDINANCES.

PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS

- THIS PLAT REPLACES THE PLANET EARTH MUSIC FINAL PLAT EVIDENCED IN DOC. NO. 201000097, O.P.R.T.C. ALL NOTES, LOTS AND EASEMENTS CREATED WITH THE PREVIOUS PLAT SHALL BE VACATED WITH THE RECORDATION OF THIS PLAT.
- THIS SUBDIVISION IS LOCATED WITHIN THE LITTLE BARTON CREEK WATERSHED.
- THIS SUBDIVISION IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE.
- ELECTRIC SERVICE WILL BE PROVIDED BY AUSTIN ENERGY. THIS SUBDIVISION IS ENCUMBERED BY A BLANKET ELECTRIC DISTRIBUTION UTILITY EASEMENT TO AUSTIN ENERGY RECORDED AS DOC. NO. 2022077250 O.P.R.T.C.T.
- AUSTIN ENERGY HAS THE RIGHT TO PRUNE AND/OR REMOVE TREES, SHRUBBERY, AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR. AUSTIN ENERGY WILL PERFORM ALL TREE WORK IN COMPLIANCE WITH THE LAND DEVELOPMENT CODE AND THE CITY OF BEE CAVE OAK WILT REGULATIONS.
- 7. THE OWNERS OF THIS SUBDIVISION SHALL PROVIDE AUSTIN ENERGY WITH AN EASEMENT AND/OR ACCESS REQUIRED IN ADDITION TO THOSE INDICATED, EXCLUSIVELY FOR THE INSTALLMENT AND ONGOING MAINTENANCE OF FACILITIES FOR IMPROVEMENTS TO THIS SUBDIVISION AND FOR NO OTHER PURPOSE. THESE EASEMENTS AND/OR ACCESS ARE REQUIRED TO PROVIDE ELECTRICAL SERVICE TO THE BUILDINGS AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH THE LAND DEVELOPMENT CODE
- THE OWNER SHALL BE RESPONSIBLE FOR INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY INITIAL TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE PROPOSED ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT. THE OWNER SHALL INCLUDE AUSTIN ENERGY'S WORK WITHIN THE LIMITS OF CONSTRUCTION FOR THIS PROJECT.
- THE OWNER OF THE PROPERTY OR HIS/HER ASSIGNS IS RESPONSIBLE FOR MAINTAINING CLEARANCES REQUIRED BY THE NATIONAL ELECTRIC SAFETY CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A) REGULATIONS, AUSTIN ENERGY RULES AND REGULATIONS AND STATE LAWS PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD POWER LINES AND EQUIPMENT. AUSTIN ENERGY WILL NOT RENDER ELECTRIC SERVICES UNLESS REQUIRED CLEARANCES ARE MAINTAINED. ALL COSTS INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGED TO THE OWNER.
- 10. THIS SUBDIVISION RECEIVES POTABLE WATER AND WASTEWATER SERVICE FROM THE WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY (WTCPUA).
- 11. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN APPROVED PUBLIC WATER AND WASTEWATER SYSTEM.
- 12. ALL PUBLIC RIGHT OF WAY AND PUBLIC UTILITY EASEMENTS (P.U.E.S) MAY BE USED BY TEXAS GAS SERVICE OR ITS ASSIGNS FOR THE PROVISION OF NATURAL GAS SERVICE.
- 13. THE WATER SYSTEM FOR THIS SUBDIVISION SHALL BE DESIGNED TO SUPPLY THE FIRE FLOWS AS REQUIRED BY ORDINANCE 2010-1 ENACTED BY TRAVIS COUNTY EMERGENCY SERVICES DISTRICT NO. 6. PLANS SHALL BE REVIEWED AND APPROVED BY TRAVIS COUNTY EMERGENCY SERVICES DISTRICT NO. 6 FOR CONSTRUCTION OF THE SUBDIVISION IMPROVEMENTS AND SITE DEVELOPMENT OF ALL LOTS,
- 14. IN APPROVING THIS PLAT. THE CITY OF BEE CAVE, TEXAS ASSUMES NO OBLIGATION TO BUILD STREETS OR ROADS SHOWN ON THIS PLAT. OR BUILD ANY BRIDGES, CULVERTS OR DRAINAGE STRUCTURES IN CONNECTION THEREWITH, OR PROVIDE ANY TRAFFIC CONTROL DEVICES OR SIGNS IN CONNECTION THEREWITH. THE BUILDING OF ALL STREETS OR ROADS SHOWN ON THIS PLAT, AND ALL BRIDGES, CULVERTS, DRAINAGE STRUCTURES CONSTRUCTED OR IN PLACE IN SUCH STREETS OR ROADS OR IN CONNECTION THEREWITH IS THE RESPONSIBILITY OF THE OWNER AND/OR DEVELOPER OF THE TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PRESCRIBED BY THE CITY OF BEE CAVE, TEXAS,
- 15. THE PROPERTY HAS ACCESS TO AND FROM A DEDICATED PUBLIC ROADWAY.
- DRAINAGE AND WATER QUALITY EASEMENTS ARE FOR THE PROTECTION OF THE ENVIRONMENT BY IMPROVING THE QUALITY OF STORM WATER RUNOFF FROM DEVELOPED LANDS. THE NATIVE LAND OR MANAGEMENT PRACTICES WITHIN THESE EASEMENTS ARE TO HELP MAINTAIN CLEAN WATER IN CREEKS, RIVERS, AND LAKES. NO STRUCTURE OR IMPROVEMENTS, OTHER THAN NATIVE PLANT ENHANCEMENTS, OR WATER QUALITY CONTROL IMPROVEMENTS IN ACCORDANCE WITH THE NON- POINT SOURCE POLLUTION CONTROL PERMIT FOR THE SUBDIVISION, OR MAINTENANCE TO THE AREAS IN ACCORDANCE WITH THE NON-POINT SOURCE POLLUTION CONTROL PERMIT FOR THE SUBDIVISION MAY BE PLACED OR PERFORMED WITH IN THESE EASEMENTS WITHOUT PRIOR AUTHORIZATION AND APPROVAL IN WRITING FROM THE CITY OF BEE CAVE. THESE EASEMENTS SHALL BE MAINTAINED BY THE OWNER OR ITS APPROVED ASSIGNS IN ACCORDANCE WITH THE MAINTENANCE PLAN OF THE NON-POINT SOURCE POLLUTION CONTROL PERMIT APPLICABLE TO THE LOT. THESE EASEMENTS MAY NOT BE AMENDED OR ALTERED
- 17. PROPERTY OWNER AND/OR HIS/HER ASSIGNS SHALL PROVIDE FOR ACCESS TO DRAINAGE EASEMENTS/STORM SEWER EASEMENTS AS MAY BE NECESSARY AND SHALL NOT PROHIBIT ACCESS BY THE CITY OF BEE CAVE FOR INSPECTION OR MAINTENANCE OF SAID EASEMENTS.
- 18. DEVELOPMENT OF THIS PROPERTY SHALL NOT COMMENCE UNTIL A NON-POINT SOURCE POLLUTION CONTROL PERMIT AS REQUIRED BY THE CITY OF BEE CAVE, TEXAS HAS BEEN ISSUED BY THE CITY OF BEE CAVE, TEXAS.
- 19. ALL PROPERTY HEREIN IS SUBJECT TO THE CITY OF BEE CAVE NON-POINT SOURCE POLLUTION CONTROL PERMIT FOR THIS SUBDIVISION. SHOULD THE USE OF THIS PROPERTY CHANGE, ALTER, OR AMEND THE USE AS PERMITTED IN THE NON-POINT SOURCE POLLUTION CONTROL PERMIT, THEN AN AMENDED NON-SOURCE POLLUTION CONTROL PERMIT SHALL BE REQUIRED.
- 20. THE DETENTION AND WATER QUALITY FACILITIES LOCATED IN LOTS 1-4 SHALL BE MAINTAINED IN ACCORDANCE WITH THE DECLARATION OF RESTRICTIONS AND EASEMENTS RECORDED IN DOC. NO.
- 21. SELLING A PORTION OF THIS LAND BY METES AND BOUNDS IS A VIOLATION OF THE CITY OF BEE CAVE ORDINANCES AND STATE LAW, AND IS SUBJECT TO FINES AND THE WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
- 22. NO CONVEYANCE OR SALES OF ANY PORTION OR LOT OF THIS PROPERTY MAY OCCUR UNTIL AFTER THE FINAL PLAT IS RECORDED WITH THE CLERK OF TRAVIS COUNTY, TEXAS.
- 23. THIS SUBDIVISION IS SUBJECT TO THE DECLARATIONS OF THE COVENANTS, CONDITIONS AND RESTRICTIONS AS RECORDED IN DOC. NO. O.P.R.T.C.T. COMMON AREAS WITHIN THE SUBDIVISION SHALL BE DEFINED ON THE RECORDED COVENANTS, CONDITIONS AND RESTRICTIONS.
- 24. ALL LANDSCAPE IMPROVEMENTS COMMON TO THE SUBDIVISION WILL BE MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION OR ITS
- 25. AN INTEGRATED PEST MANAGEMENT PLAN SHALL BE PROVIDED AT THE SUBDIVISION CONSTRUCTION PLAN STAGE TO THE CITY OF BEE
- 26. THIS SUBDIVISION IS ZONED PLANNED DEVELOPMENT OFFICE DISTRICT, AS ESTABLISHED AND MODIFIED BY CITY ORDINANCE 428.
- 27. ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF BEE CAVE SIGN ORDINANCE.
- 28. THE APPROVAL BY THE CITY COUNCIL OF THIS PLAT SHALL NOT, IN AND OF ITSELF, BE DEEMED TO CONSTITUTE OR IMPLY THE ACCEPTANCE BY THE CITY OF ANY STREET, PUBLIC AREA, EASEMENT OR PARK SHOWN ON THE PLAT.
- 29. THE ALLOWABLE IMPERVIOUS COVER FOR THE SUBDIVISION MUST BE ALLOCATED AMONG THE LOTS BY SEPARATE INSTRUMENT AT FINAL PLAT AS RECORDED IN DOCUMENT NO. ______ O.P.R.T.C.T. THE ALLOCATION MAY BE AMENDED BY A RECORDED INSTRUMENT SIGNED BY ALL LOT OWNERS. THE IMPERVIOUS COVER SHALL COMPLY WITH THE WATER QUALITY PLAN APPROVED FOR THIS SUBDIVISION AND MAY ONLY BE ALTERED WITH APPROVAL FROM THE CITY OF BEE CAVE AND THE TEXAS COMMISION ON ENVIRONMENTAL QUALITY
- 30. BUILDING, PARKING AND LANDSCAPE SETBACKS FOR THIS SUBDIVISION ARE ESTABLISHED IN CITY ORDINANCE NO. 428.
- 31. PUBLIC UTILITY AND SIDEWALK EASEMENTS MAY CONTAIN RETAINING WALLS AND OTHER STRUCTURES THAT ARE ALLOWED TO ENCROACH THE BUILDING SETBACK PER CITY ORDINANCE NO. 428.
- 32. ALL RETAINING WALLS SHALL BE MAINTAINED BY THE OWNER OF THE PROPERTY ON WHICH THE WALL IS LOCATED.
- 33. PHASING SHALL BE ESTABLISHED BY CITY ORDINANCE 428. SEE PHASE SUMMARY ON SHEET 1.
- 34. ALL PROPERTY HEREIN IS SUBJECT TO THE CITY OF BEE CAVE NON-POINT SOURCE POLLUTION CONTROL PERMIT FOR THIS SUBDIVISION. SHOULD THE USE OF THIS PROPERTY CHANGE, ALTER, OR AMEND THE USE AS PERMITTED IN THE NON-POINT SOURCE POLLUTION CONTROL PERMIT, THEN AN AMENDED NON-SOURCE POLLUTION CONTROL PERMIT SHALL BE REQUIRED.
- 35. WATER SATISFACTORY FOR HUMAN CONSUMPTION SHALL BE AVAILABLE TO EACH LOT IN THE PROPOSED SUBDIVISION FROM A SOURCE ON THE LAND, A COMMUNITY SOURCE, OR A PUBLIC UTILITY SOURCE, IN ADEQUATE AND SUFFICIENT SUPPLY FOR THE INTENDED USES ON EACH LOT WITHIN THE SUBDIVISION.

- 36. NO LOTS IN THIS SUBDIVISION CONTAIN USFWS STREAM BUFFERS AND/OR SENSITIVE FEATURE BUFFER ZONES.
- 37. THE PUBLIC ACCESS EASEMENT ALONG THE SOUTHERN PROPERTY LINE FROM WILLIE WAY TO THE EASTERN PROPERTY LINE DOES NOT COMPLY WITH CITY OF BEE CAVE PUBLIC STREET STANDARDS. IF THE CITY DESIRES THE EASEMENT TO BE DEDICATED AS A PUBLIC STREET, ALL IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO PAVEMENT WIDENING, SIDEWALK CONSTRUCTION, STREET TREE PLANTING AND UTILITY INSTALLATION SHALL BE INSTALLED AT THE CITY'S EXPENSE. ANY SUCH IMPROVEMENTS REQUIRING MODIFICATIONS TO FACILITIES CONSTRUCTED IN THIS SUBDIVISION MUST BE APPROVED BY THE LOT OWNERS. IF APPROVED, THE CITY WILL BE RESPONSIBLE FOR THE REDESIGN OR RECONSTRUCTION OF THE MODIFICATIONS. POTENTIAL MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO DETENTION POND RETAINING WALLS AND OUTFALL STRUCTURE, PRIVATE WASTEWATER LIFT STATION, GROUND WATER WELL, STORM SEWER IMPROVEMENTS, ELECTRIC FACILITIES, SIGNAGE, RAILINGS AND LANDSCAPING. CONVERTING THE PUBLIC ACCESS EASEMENT TO A PUBLIC STREET RESULTS IN NON-CONFORMANCE TO STANDARD PUBLIC STREET DESIGN CRITERIA, INCLUDING STREET WIDTH, SIDEWALK LOCATIONS, STREET TREE LOCATIONS, FIRE HYDRANT LOCATIONS, STREET PROFILE GRADIENTS, PUBLIC UTILITY EASEMENT LOCATIONS AND SETBACK REQUIREMENTS. ANY IMPERVIOUS COVER THAT IS PART OF A PRIVATE DRIVE WITHIN THE PUBLIC ACCESS EASEMENT THAT CONVERTS TO PUBLIC RIGHT OF WAY, SHALL BE SUBTRACTED FROM THE PROVIDED IMPERVIOUS COVER TOTAL FOR THE PROJECT. IN ADDITION, IF THE CONVERSION OF THE PUBLIC ACCESS EASEMENT TO A PUBLIC STREET RESULTS IN AN INCREASE IN IMPERVIOUS COVER, THE CITY WILL BE RESPONSIBLE FOR WATER QUALITY TREATMENT AND STORM WATER DETENTION, INCLUDING TOEQ PERMITTING, IF THE ON-SITE PONDS DO NOT HAVE SUFFICIENT CAPACITY TO DETAIN OR TREAT THE STORMWATER RUNOFF FROM THE INCREASED IMPERVIOUS COVER.
- STORMWATER DRAINAGE DISCHARGE FROM WATER QUALITY POND AT THE SOUTHEAST AND NORTHEAST CORNERS OF THE PROPERTY SHALL BE ACROSS THE CITY OF BEE CAVE PROPERTY THROUGH THE DRAINAGE EASEMENT RECORDED UNDER DOC. NO. 2022078107 OF THE O.P.R.T.C.T. THE CITY SHALL HAVE THE RIGHT TO RELOCATE THIS DRAINAGE EASEMENT ON CITY PROPERTY AT ITS OWN EXPENSE.
- 39. DRAINAGE EASEMENTS SHALL BE PROVIDED ON LOTS 2 AND 3 FOR THE BENEFIT OF LOTS 1 AND 4 RECORDED UNDER DOC. NO. _____
- ANY EASEMENT REQUIRED BY THE CITY OF BEE CAVE OR OTHER AGENCY NOT DEDICATED BY THIS PLAT SHALL BE DEDICATED BY SEPARATE INSTRUMENT PRIOR TO ACCEPTANCE OF IMPROVEMENTS AND ISSUANCE OF CERTIFICATES OF OCCUPANCY.

CITY CERTIFICATIONS

CHAIRPERSON

THIS SUBDIVISION PLAT IS APPROVED BY THE CITY OF BEE CAVE FOR FILING AT THE OFFICE OF THE COUNTY CLERK OF TRAVIS

APPROVED BY: PLANNING AND ZONING COMMISSION, CITY OF BEE CAVE, TEXAS.

ATTEST:									
APPROVED BY:	CITY COUNCIL,	CITY OF BE	E CAVE,	TEXAS.					
MAYOR ATTEST:	DATE		CITY	SECRETARY	,	DATE			
THIS PROPERTY	IS LOCATED IN	THE CITY	LIMITS OF	THE CITY	OF BEE	CAVE,	TRAVIS	COUNTY,	TEXAS.

CITY SECRETARY

MAYOR	DATE	CITY SECRETARY	DATE
ATTEST:			

I, THE UNDERSIGNED MAYOR OF THE CITY OF BEE CAVE, HEREBY CERTIFY THAT THIS SUBDIVISION PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THIS CITY, AND AM HEREBY AUTHORIZED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF BEE CAVE FOR RECORDING IN THE PLAT RECORDS

MAYOR	DATE	CITY SECRETARY	DATE
ATTECT.			

STATE OF TEXAS §

COUNTY OF TRAVIS §

I, REBECCA GUERRERO, CLERK OF TRAVIS COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING AND ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON

IHE	_ DAY OF	, 20, A.L). AI	. O CLOCK	M.,	AND DUI	Y RECO	RDED ON			
THE	DAY OF	20, A.D	. AT	O'CLOCK _	M.,	OFFICIAL	PUBLIC	RECORDS	OF	SAID	COUNTY

AND STATE IN DOCUMENT NO. _____

SURVEY #. 56, ABSTRACT # 2108

SURVEY # 327, ABSTRACT # 387

PREPARED DATE: AUGUST 8, 2022

JPD BACKYARD FINANCE, LLC

13200 BEE CAVE PARKWAY

AUSTIN, TEXAS 78736

TOTAL LOTS: 4 LOTS

AREA: 35.139 ACRES

SCALE: 1":100'

WITNESS MY HAND AND SEAL OF OFFICE OF THE COUNTY CLERK, THE ___ DAY OF _____, 20___, A.D.

REBECCA GUERRERO, COUNTY CLERK TRAVIS COUNTY, TEXAS

′:		
PUTY		

SURVEYS:

OWNER:

I & FN R.R. CO.

AND JOHN HOBSON

THE BACKYARD SUBDIVISION

FINAL PLAT OF THE BACKYARD SUBDIVISION, BEING A REPLAT OF THE PLANET EARTH MUSIC SUBDIVISION AS RECORDED IN DOCUMENT NO. 201000097 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS



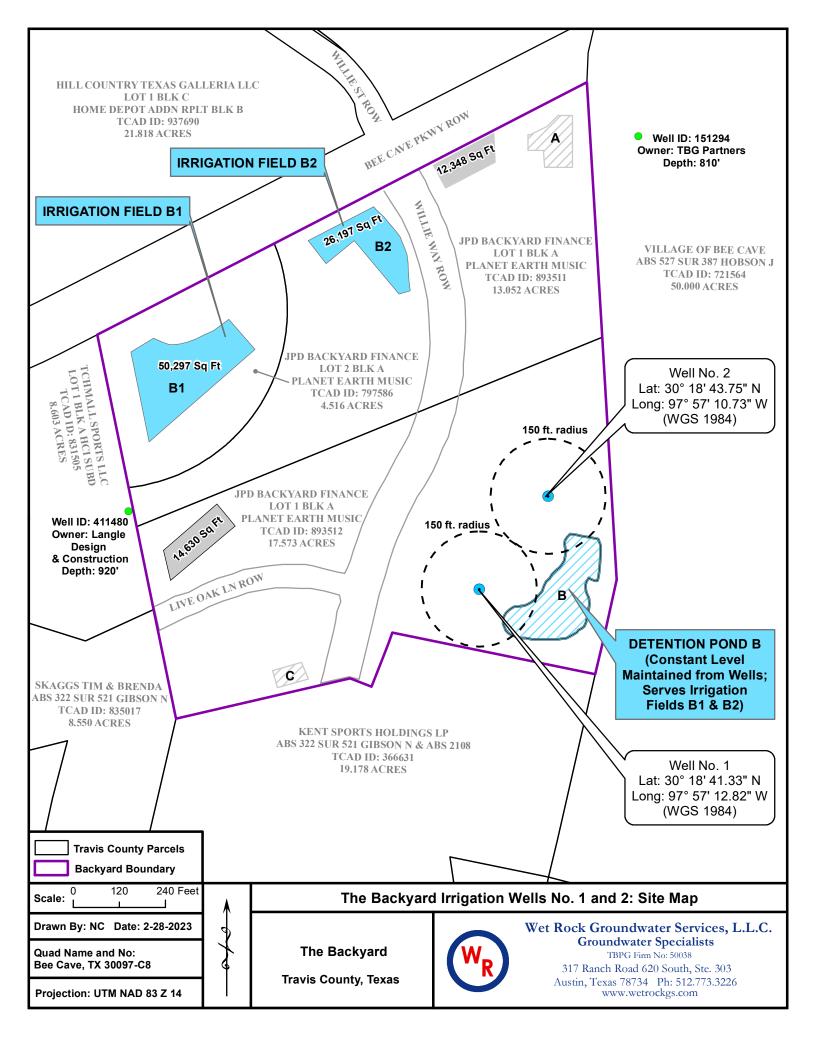
1905 Aldrich Street, Suite 300 Austin, Texas 78723 Tel. (512) 328-0011 Fax (512) 328-0325 TBPELS # F-6324 & # 10194230

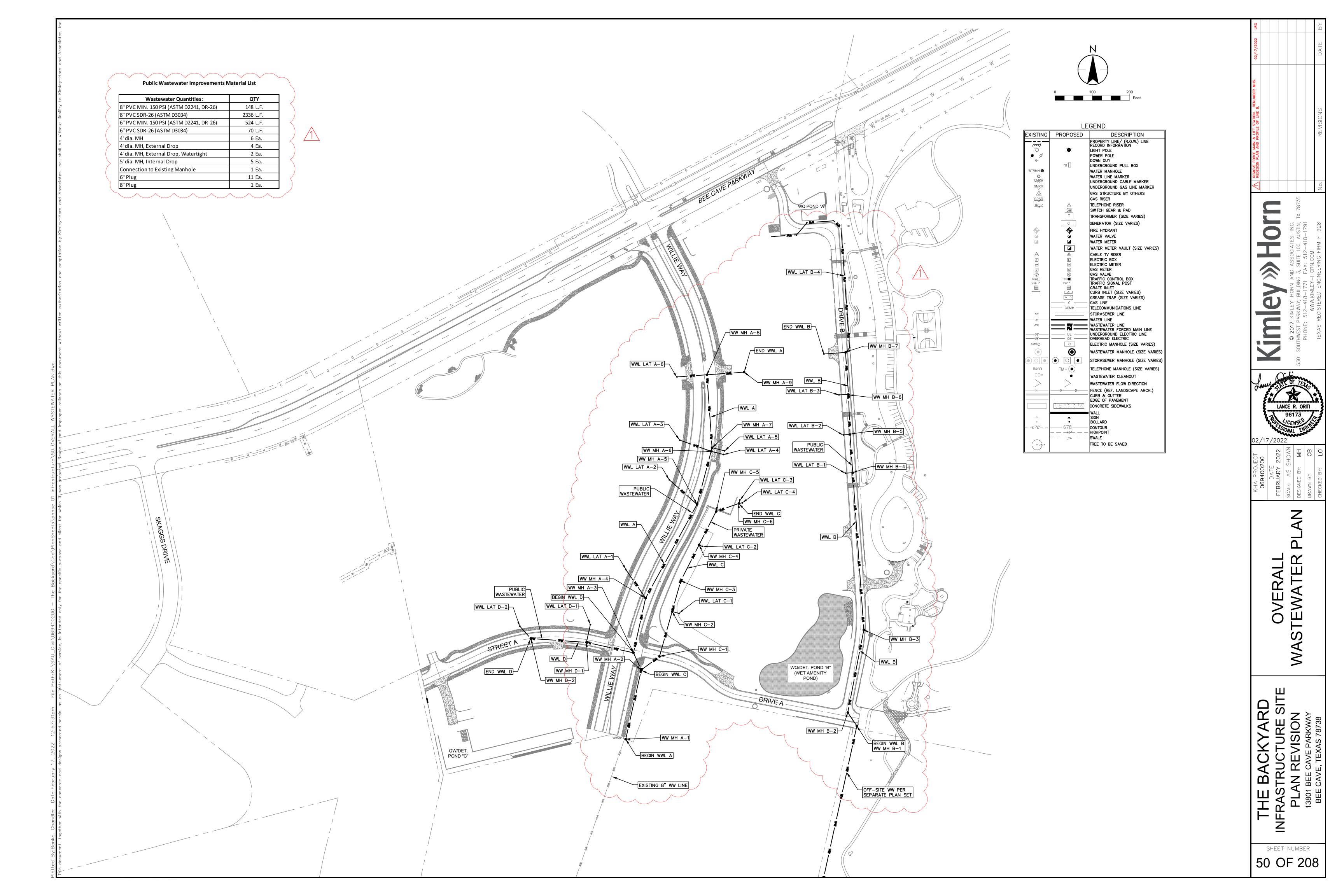
Copyright © 2022

Drawn by: ABB Approved by: JTB Project No.: 222011642 File: V:\2220\ACTIVE\222012421\SURVEY\222012421v01_pl1.dwg

4 – Site Map and Coordinates







5 – Written Descriptive Statement



Permit Type

JPD Backyard Finance, LLC ("Backyard) is currently seeking a Non-Agricultural Operating Permit for two (2) new wells with a combined annual pumpage of 3,700,492 gallons per year. A Drilling Authorization was approved by Southwestern Travis County Conservation District for Wells No. 1 (58415JB1) and 2 (58415JB2) on October 27, 2022.

Nature, Purpose, Location

Please refer to the Hydrogeological Report for all pertinent mapping, well reports, and geophysical logs.

The Backyard is currently constructing a facility along Bee Cave Parkway in which 2 wells have been drilled and constructed. The wells will discharge into a detention pond (Pond B; Site Map) located on the southeast corner of the property. Once water has been collected into the detention pond it will then be distributed to two respective irrigation fields (natural areas) (B1 and B2; Site Map) that totals approximately 76,494 square feet. The water will be used solely for irrigation purposes and characteristics of Pond B are expressed below.

Pond B (Detention Pond) and Irrigation Field Characteristics

- 177,407 cubic feet (cf) (1,327,097 gallons) volume at constant level
- Lining type: 12" clay liner
- Pond B will serve primarily as a re-irrigation reservoir along with being a site water feature and water-quality pond
- Associated B1 and B2 irrigation fields will serve primarily as re-irrigation for future planted areas

Ponds A and C Purpose

Additionally on the property there will be two other ponds (Ponds A & C) that are characterized as rainwater detention ponds. Ponds A & C will irrigate the remaining irrigation fields (natural areas) which totals approximately 26,978 square feet. The proposed water wells shall only serve to maintain constant level of 941 feet Mean Sea Level (177,407 cf) in Pond B and will not contribute to these additional ponds or irrigation fields. On the attached Site Map, ponds are color coded along with their respective irrigation field(s) in which they will serve.

Pumpage Volume

The anticipated combined pumpage volume is 3,700,492 gallons per year. The total annual water demand for the Backyard facility. Anticipated operations of irrigation would occur 4 to 6 nights/week with one cycle lasting up to 10 hours with each well discharging up to 32 (Well No. 1) and 39 (Well No. 2)

gallons per minute (gpm). Both wells will be equipped with 10 horsepower pumps and set to depths of 819 (Well No. 1) and 798 (Well No. 2) feet below ground level. Below is an estimated monthly apportionment:

•	January	(100,906 gallons)
•	February	(117,570 gallons)
•	March	(241,413 gallons)
•	April	(252,264 gallons)
•	May	(392,101 gallons)
•	June	(473,374 gallons)
•	July	(562,809 gallons)
•	August	(581,635 gallons)
•	September	(396,856 gallons)
•	October	(307,046 gallons)
•	November	(174,039 gallons)
•	December	(100,479 gallons)

Conservation Practices

The Backyard intends to utilize the groundwater in an efficient, responsible manner. The Backyard will abide by the User Conservation Plan and User Drought Contingency Plans submitted in this application package.

6 – User Conservation Plan and User Drought Contingency Plans





User Conservation Plan

8656 Highway 71 West, Building A, Suite 224, Austin TX 78735 · Tel. 512-276-2875 · www.swtcgcd.org

Operating Permitholder	JPD Backyard Finance, LLC (Kyle McDaniel)	
Permitted Type of Wate	er Use(s): Non-Agricultural Irrig	ation	
Registered Well Identific	cation Number(s): ^{58415JB1} a	and 58415JB2	
	undwater Use Under Permit (gal norized use during non-drought is to	· · · · · · · · · · · · · · · · · · ·	
	has adopted this User Conservation Plastrict and agrees to comply with all the a		
Permittee Signature:	DocuSigned by: EB6C12D591D7439		02/23/2023 10:15 AM CS
Accepted:			
(Signature	of District General Manager)		(Date)

Section I. Background and Purpose of Plan

The Southwestern Travis County Groundwater Conservation District (District) manages all groundwater resources in its jurisdictional area under the authority granted under Chapter 36 of the Texas Water Code and the District's enabling legislation. Conservation and Drought Contingency planning are among the management goals the District must include in its Management Plan that is approved by the Texas Water Development Board no less than every five years. District Rule 3.5(B)(3) requires adoption and implementation of use-specific User Conservation Plans (UCPs) for all well owners/operators that are authorized to use groundwater under an Operating Permit issued by the District. The UCP is complementary to the separate User Drought Contingency Plan (UDCP) that is also a requirement of each Operating Permitholder.

The intent of the UCP is to set forth guidelines and ongoing conservation measures that will maximize the availability of the groundwater remaining in the aquifer and the utilization efficiency of the water withdrawn. The guidelines in this section are continuously in effect and may only be replaced by more restrictive requirements as ordered by the Board under an Extreme or Exceptional declared drought stage.

Section II. Ongoing Conservation Measures for All Operating Permitholders

Each Operating Permitholder will adopt and make best efforts to follow these general water-conservation measures all the time, as applicable:

- 1. Replace faulty or unusable plumbing fixtures or appliances with water saving devices such as low-flow toilets, shower and faucet aerators, and water-efficient devices.
- 2. Choose and install water-efficient appliances and fixtures in new construction.
- 3. Check for leaks in toilets at least every six months.
- 4. Repair dripping faucets and leaky plumbing promptly.
- 5. At least once each year, cease all water usage and check installed meters to determine if leaks exist in underground transmission lines.
- 6. Utilize water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping.
- 7. When planning to replace turf and landscape plants, convert high water use turf and landscapes to native and waterwise designs for existing turf and landscaping.
- 8. Select drought-tolerant vegetation from the list of appropriate native and naturalized plants compiled by the Lady Bird Johnson Wildflower Center (https://www.wildflower.org/collections/collection.php?collection=centex_drought) when installing new or replacing landscape vegetation.
- 9. Implement a watering schedule endorsed by the District that includes watering restrictions for hose-end and underground irrigation systems.
- 10. Maximize efficient operation of automatic sprinkler systems to avoid waste by conducting periodic irrigation audits, frequently adjusting controllers based on conditions, installing rainwater shutoff devices, smart clocks and controllers, etc.
- 11. Wash vehicles using a hose-end sprayer with an automatic shut off or with buckets full of water and not allowing the water to continue to run from the hose when not in use.
- 12. Use a cover on swimming pools when possible to minimize evaporative loss of water.
- 13. When possible, consider alternative water supplies including but not limited to rainwater collection and alternative irrigation strategies to improve conservation of water on site.
- 14. Regularly monitor submitted water meter readings to facilitate detection of possible future system leaks and to quantify success of conservation practices and steps taken for reducing water use during drought conditions.
- 15. Periodically review and evaluate this User Conservation Plan and implement revisions to the Plan as necessary.

Section III. Additional Conservation Measures Specific to the Designated Type of Groundwater Use for Applicable Operating Permitholders

In addition to the general UCP measures identified in Section II of this Plan, the Operating Permitholder has use-specific water-conservation measures to follow. Accordingly, by initialing the appropriate subsection heading below for the type of use of groundwater under the permit (as designated in the descriptive info at the top of the first page of this Plan), the Operating Permitholder agrees to adopt and make best efforts to follow these water-use efficiency measures at all times. Each permitholder must initial at least one of these types of water use.

A. Agricultural Use

(Initial Here)

- 1. Investigate and implement efficient irrigation practices and utilization of alternate watering sources where possible.
- 2. Follow a schedule of irrigating in morning and evening times to prevent inefficient evaporation losses.
- 3. Continue an on-going program of irrigation system leak detection and repair which shall include the consideration and utilization of improved technology when possible.
- 4. Manage the agricultural areas in such a way that emphasizes precise nutrient management, soil preparation techniques, and adequate watering.
- 5. Install automatic irrigation systems and controllers for all new irrigation systems. Retrofit manual control systems with automatic systems when feasible.
- 6. Limit access to irrigation system equipment and controllers only to authorized personnel to prevent inefficient use, unauthorized use, and vandalism of equipment.
- 7. Implement proper soil management practices such as proper aeration, nutrient management, mowing and soil testing.
- 8. Implement proper irrigation management practices to prevent overwatering, flooding, pooling, evaporation, and runoff.
- 9. Implement water use and management practices to protect water quality by preventing organic matter, phosphorus, nitrogen and pathogens from leaching into groundwater or from entering local surface waters with stormwater runoff.
- 10. Install flow check valves on troughs to reduce waste and overflow.
- 11. Minimize surface area of stock water tanks/ ponds to reduce evaporative losses.
- 12. Notify all employees of User Conservation Plan and provide notification of drought stage declarations.
- 13. Periodically review and evaluate this conservation plan and implement District-approved revisions to the plan as necessary.

B. Commercial/Institutional/Other Use

(Initial Here)

1. General Facility Management

- a. Periodically review and evaluate this conservation plan and implement revisions to the plan as necessary.
- b. When possible, consider alternative water supplies including but not limited to rainwater collection and alternative irrigation strategies to improve conservation of water on site.
- c. Maintain record of submitted meter readings as record for future determination of possible system leaks and to quantify success of conservation practices and steps for usage reduction during drought conditions.
- d. Set system conservation goals for overall water use reductions and develop policies to monitor, mediate and enforce compliance with this User Conservation Plan.
- e. Implement general prohibition on water wasting activities or practices. During staff meetings and when appropriate, suggest ways for employees to reduce water consumption in order to promote and encourage voluntary conservation measures. Require employees to report any water wasting practices and all faulty fixtures or leaks to maintenance for repair.
- f. Require water efficient internal recycling equipment and air cooled equipment for cooling systems in any new construction and in retrofits where feasible.
- g. Implement water reuse from sources such as air conditioner condensate, treated effluent, and collected stormwater where feasible.
- h. Implement submetering for systems with multiple buildings and uses to account for water usage.
- i. Assist District in the distribution of conservation and educational materials or post signs at all faucets, sinks, outdoor spigots, and other water sources reminding employees to use water wisely.
- j. Implement an on-going program of system leak detection and repair which shall include the consideration and utilization of improved technology when possible.
- k. Require low flow/low volume fixtures, HET toilets, and water efficient appliances to be installed in all new construction or retrofits.

2. Outdoor Measures – Landscape Irrigation

- a. Utilize water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping.
- b. When planning to replace turf and landscape plants, convert high water use turf and landscapes to native and waterwise designs for existing turf and landscaping.
- c. Select vegetation from the list of appropriate native and naturalized plants compiled by the Lady Bird Johnson Wildflower Center when installing new or replacing landscape vegetation.
- d. Implement a watering schedule endorsed by the District that includes watering restrictions for hose-end and underground irrigation systems.
- e. Adopt a 2 day/week or every-5th day schedule for lawn watering and always only water between 8pm and 8am.
- f. Maximize efficient operation of automatic sprinkler systems:
 - 1) frequently adjusting controllers based on conditions
 - 2) check sprinkler heads regularly to prevent clogging or replace broken heads
 - 3) adjust to eliminate overspray
 - 4) installing rainwater shutoff devices, smart clocks and controllers
 - 5) adjust run times and frequency monthly to respond to and changing rainfall and temperature conditions.
- g. Use hand held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- h. Avoid watering on windy days.
- i. Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- j. For hose-end sprinklers use sprinkler timers to limit water duration.
- k. Use mulch to conserve soil moisture.
- I. Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week watering schedule between the hours of 8pm and 8am

- m. Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- n. Use of soaker hoses for foundation protection shall be limited to designated water days and times

3. Outdoor Measures – Vehicle Washing

- a. Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- b. Wash vehicles over lawn areas where possible.

4. Outdoor Measures – Pools and Fountains

- a. Use a cover on swimming pools when possible to minimize evaporative loss of water.
- b. Limit pool filter backwashing to only when necessary.
- c. Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- d. Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- e. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

5. Non-essential Uses

The following uses of water are considered as non-essential and should be avoided when possible:

- a. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- b. use of water to wash down buildings or structures for purposes other than immediate fire protection;
- c. use of water for dust control;
- d. flushing gutters or permitting water to run or accumulate in any gutter or street;
- e. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

C. Industrial Use

(Initial Here)

1. General Facility Management

- a. Periodically review and evaluate this conservation plan and implement revisions to the plan as necessary.
- b. When possible, consider alternative water supplies including but not limited to rainwater collection and alternative irrigation strategies to improve conservation of water on site.
- c. Maintain record of submitted meter readings as record for future determination of possible system leaks and to quantify success of conservation practices and steps for usage reduction during drought conditions.
- d. Set system conservation goals for overall water use reductions and develop policies to monitor, mediate and enforce compliance with this User Conservation Plan.
- e. Implement general prohibition on water wasting activities or practices. During staff meetings and when appropriate, suggest ways for employees to reduce water consumption in order to promote and encourage voluntary conservation measures. Require employees to report any water wasting practices and all faulty fixtures or leaks to maintenance for repair.
- f. Require water efficient internal recycling equipment and air-cooled equipment for cooling systems in any new construction and in retrofits where feasible.
- g. Implement water reuse from sources such as air conditioner condensate, treated effluent, and collected stormwater where feasible.
- h. Implement submetering for systems with multiple buildings and uses to better account for water usage.
- i. Assist District in the distribution of conservation and educational materials or post signs at all faucets, sinks, outdoor spigots, and other water sources reminding employees to use water wisely.
- j. Implement an on-going program of system leak detection and repair which shall include the consideration and utilization of improved technology when possible.
- k. Require low flow/low volume fixtures, HET toilets, and water efficient appliances to be installed in all new construction or retrofits.

2. Outdoor Measures – Landscape Irrigation

- a. Utilize water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping.
- b. When planning to replace turf and landscape plants, convert high water use turf and landscapes to native and waterwise designs for existing turf and landscaping.
- c. Select vegetation from the list of appropriate native and naturalized plants compiled by the Lady Bird Johnson Wildflower Center when installing new or replacing landscape vegetation.
- d. Implement a watering schedule endorsed by the District that includes watering restrictions for hose-end and underground irrigation systems.
- e. Adopt a 2-day/week or once/5-day schedule for lawn watering and always only water between 8pm and 8am.
- f. Maximize efficient operation of automatic sprinkler systems:
 - 1) frequently adjusting controllers based on conditions
 - 2) check sprinkler heads regularly to prevent clogging or replace broken heads
 - 3) adjust to eliminate overspray
 - 4) installing rainwater shutoff devices, smart clocks and controllers
 - 5) adjust run times and frequency monthly to respond to and changing rainfall and temperature conditions.
- g. Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- h. Avoid watering on windy days.
- i. Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- j. For hose-end sprinklers use sprinkler timers to limit watering duration.
- k. Use mulch to conserve soil moisture.
- I. Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5th day watering schedule between the hours of 8pm and 8am

- m. Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- n. Use of soaker hoses for foundation protection shall be limited to designated water days and times

3. Outdoor Measures – Vehicle Washing

- a. Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- b. Wash vehicles over lawn areas where possible.

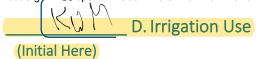
4. Outdoor Measures – Pools and Fountains

- a. Use a cover on swimming pools when possible to minimize evaporative loss of water.
- b. Limit pool filter backwashing to only when necessary.
- c. Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- d. Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- e. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

5. Non-essential Uses

The following uses of water are considered as nonessential and should be avoided when possible:

- a. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- b. use of water to wash down buildings or structures for purposes other than immediate fire protection;
- c. use of water for dust control;
- d. flushing gutters or permitting water to run or accumulate in any gutter or street;
- e. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.



This category of water use pertains to irrigation of large non-agricultural areas such as golf courses, athletic fields, and common areas of community developments; it does not relate to lawn and landscape irrigation of individual residences, although some of the conservation measures are essentially similar.

User Conservation Plan Checklist - Irrigation Water Use Provide a descriptive statement that addresses each of the requirements.

	Requirement	Details
1.	Description of Irrigation Use Process	Describe overall irrigation processes including all water sources, overall distribution, and turf/vegetation type and irrigation area.
2.	Description of Irrigation Method or System	Describe the existing irrigation system including system layout and design, specifics on the control system, controllers, valves, and irrigation heads, and average run times.
3.	Measuring Device/Water Accounting	Describe the methods or devices which will be used to measure and account for water used for irrigation including all meter locations within the system.
4.	Specific 5- and 10-Year Water Conservation Goals	Describe specific 5- and 10-year water conservation goals for the site.
5.	Water Conserving Irrigation Equipment and Operations	Describe all water conserving equipment and operations utilized including specifics on turf grass and landscaping management practices.
6.	Irrigation System Monitoring and Maintenance	Describe all irrigation system maintenance and monitoring practices used to insure optimum performance including leak detection and repair, and equipment and system maintenance regimes.
7.	Irrigation Testing and Scheduling	Describe all irrigation testing and scheduling procedures including scheduling procedures to be utilized in the application of water (night/day), and winterization and spring startup procedures.
8.	Equipment Upgrades	Describe any and all equipment upgrades installed in the last two years.
9.	Future Conversions	Describe any future plans to incorporate additional water conserving equipment and operations.
10.	Alternative Water Supplies	Describe alternative water supplies being utilized on site including any direct reuse and/or recycling practices.

E. Public Water Supply

(Initial Here)

1. Conservation Measures Relating to Retail Customers

- a. Promote and encourage installation and use of water saving plumbing fixtures in existing homes. Promotion will take place through information mail outs and/or distribution of water saving devices.
- b. Promote the replacement of water using appliances with more water efficient varieties. Promotion will take place through mail outs and creation of incentive programs.
- c. Promote customer household leak detection and repair.
- d. Promote and encourage water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping. Promotion will take place through mail outs and creation of incentive programs.
- e. Promote and encourage conversion of high water-use turf and landscapes to native and water-wise designs for existing turf and landscaping. Promotion will take place through mail outs and creation of incentive programs.
- f. Implement a watering schedule that limits landscape irrigation to no more frequently than once every 5 days or every-5th day, and to only between the hours of 8 pm and 8 am, unless the TCEQ tariff specifies use of different hours.
- g. Encourage and promote minimum soil depth (6" or greater) for new residential turf and landscaping.
- h. Send notices at the start and end of the District Water Conservation Period to remind customers to check, repair, and make adjustment to automatic sprinkler systems as necessary.
- i. Require dedicated irrigation meters for all new industrial and commercial customers.
- j. Assist customers with automatic sprinkler systems by providing information and materials on conducting irrigation audits and efficient operation of the sprinkler system to avoid waste (adjustment of controllers, installation of rainwater shutoff devices, etc.).

Conservation Measures Relating to System Operations

- a. Conduct periodic system water audits and system water loss assessment to determine illegal connections, abandoned services, etc. Use results to revise meter testing and repair practices, reduce unauthorized water use, improve accounting for unauthorized water use, and implement effective water loss management strategies.
- b. Implement and continue an on-going program of system leak detection and repair, which shall include the consideration and utilization of improved technology when possible. Cut off vacant houses; verify there are no leaks.
- c. Monitor high usage customers and provide additional support and encouragement to promote efficient and effective use and to reduce wasteful practices.
- d. Limit flushing of dead-end mains and fire hydrants.
 - 1) Dead-end mains drain only as needed to prevent stale water and/or customer complaints.
 - 2) Fire hydrants open twice yearly to maintain proper operation.
- e. In next rate case for consideration by the Texas Commission on Environmental Quality (TCEQ), consider implanting a conservation-oriented rate structure which may include conservation oriented amendments to the tariff to include authorization to implement temporary water rates, the assessment of surcharges to encourage water conservation, and other available measures to encourage water conservation.
- f. Require applicants for service to comply with the permittee rules, plans, and regulations as approved by the District and the TCEQ.
- g. Continue customer meter testing and meter repair and replacement programs. Set a goal of achieving accuracy of within plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply.
- h. Implement system-wide prohibition on water waste. Enforce prohibitions with applicable authority, including citations or notices to violators. Set up a special water waste line that will be listed on the billings. Follow up and investigate calls.

3. General Conservation Measures

- a. Develop five-year and ten-year targets for water savings. Include goals for water loss programs and for municipal use (in gallons per capita per day).
- b. Promote and encourage voluntary indoor and outdoor conservation measures through examples at Company office(s).
- c. Include drought stage and conservation information in customer billings. Include historic water use and customer water use comparisons in customer billings.
- d. Assist the District in the distribution of conservation and educational materials.
- e. Periodically review and evaluate this conservation plan and implement revisions to the plan as necessary.

4. Plan Adoption & Enforcement Procedure

The User Conservation Plan must include a means of implementation and enforcement which shall be evidenced by 1) a copy of the ordinance, regulations, resolution, contractual agreements, or tariff indicating **official adoption** of the water conservation plan by the water supplier; and 2) a description of the authority by which the water supplier will implement and enforce the conservation plan.

Section IV. Monthly Groundwater Use with Conservation Measures During Non-Drought

The Operating Permitholder warrants that it agrees the following monthly allocations of authorized annual use are reasonable and it will use best efforts to implement applicable provisions of this UCP to achieve them. The permitholder understands these allocations are before any declared-drought curtailments are applied:

Monthly Non-Drought Volumes (multiply "Percent of Annual" shown by Authorized Annual Use at top of first page)

Month	Percent of Annual	Monthly Amount	Month	Percent of Annual	Monthly Amount
October	8.30%	307,141	April	7.40%	273,836
November	7.00%	259,035	May	8.00%	296,039
December	6.30%	233,132	June	9.50%	351,546
January	6.30%	233,132	July	12.10%	447,759
February	6.50%	240,532	August	12.00%	444,059
March	6.60%	244,232	September	10.00%	370,049
				100.00%	=Authorized Amount

Percent of Annual values are monthly averages based on historical metered-volume records and best estimates by permitholder. Monthly Amount is calculated by correcting the average monthly percentages specific to the permitholder and applying those to the annual permit amounts. (The percentages currently shown in the table are simply default averages based mostly on seasonal water-use factors and generally may not represent the water-use profile of an individual permitholder.) The corrected average-percentages and calculated values must be entered by the permitholder before the UCP is submitted for approval.



User Drought Contingency Plan

8656 Highway 71 West, Building A, Suite 224, Austin TX 78735 · Tel. 512-276-2875 · www.swtcgcd.org

IDD Dealmand Finance LLO (Idda MaDanial)		
Operating Permitholder: JPD Backyard Finance, LLC (Kyle McDaniel)		
Permitted Type of Water Use(s): Non-Agricultural Irrigation		
Registered Well Identification Number(s):58415JB1 and 58415JB2		
270	0.402	
Additionized Affiddi Grodinawater Ose Orider Ferrine (ganons).	0,492	
Monthly distribution of authorized use during non-drought and drought is to be t	abulated ir	n Section 6.
The permittee named above has adopted this User Drought Contingency Plan (UCP) a County Groundwater Conservation District of each Operating Permitholder and agrees to Rules in implementing and enforcing the measures of the enclosed plan. The Permitholog UDCP to the District.	o comply w	vith all the applicable District
Docusigned by:	Data	02/23/2023 7:50 AM CS
Permittee Signature:EB0C12D591D7439	Date:	
Accepted:		
(Signature of District General Manager)		(Date)
Table of Contents		
Section 1 Background and Purpose of Plan	2	
Section 2. Drought Notice		
Section 3. Alternate Water Sources		
Section 4. Facility Information	3	
Section 5. Enforcement Procedure	3	
Section 6. Drought Stage Triggers and General Responses	3	
Drought Responses for Stage D-1 Moderate Drought	4	
Drought Responses for Stage D-2 Severe Drought	5	
Drought Responses for Stage D-3 Extreme Drought	6	
Drought Responses for Stage D-4 Exceptional Drought	7	
Appendix - Water Use-Specific Drought Measures	8	
A. Agricultural Use	8	
B. Commercial/Institutional/Other Use	10	
C. Industrial Use		
D. Irrigation Use		
E. Public Water Supply		

Section 1. Background and Purpose of Plan

The Southwestern Travis County Groundwater Conservation District (District) manages all groundwater resources in its jurisdictional area under the authority granted under Chapter 36 of the Texas Water Code and the District's enabling legislation. Conservation and Drought Contingency planning are among the management goals the District must include in its Management Plan that is approved by the Texas Water Development Board no less than every five years. District Rule 3.4(A)(5)(d) requires adoption and implementation of User Drought Contingency Plans (UDCPs) for all well owners/operators that are authorized to use groundwater under Operating Permits issued by the District. The UDCP is complementary to the separate User Conservation Plan (UCP) that is also a requirement of each District Operating Permitholder.

This UDCP (Plan) sets forth use-specific guidelines for achieving mandatory curtailments of groundwater during each of the stages of drought that may be declared by the District as described in Rule 5.2(B). While it is the effort through conservation to prevent drought conditions, it is integral to the wise management of the resource to plan for this contingency in this manner. Notification of drought will occur through direct notice from the District, in addition to community notification through public notice, the District website, and other means. The Plan is not designed to punish, stigmatize, or criticize anyone about their usage of water. Its sole intent is to maintain an adequate supply of groundwater for all users, especially during the various stages of drought that may occur from time to time.

The Plan is being implemented by the Permittee to help achieve significant reductions in water usage through drought-triggered water use restrictions and voluntary efforts. Implementation of voluntary water conservation measures and conscientious water use practices are encouraged at all times; however, additional water use restrictions are required in cases of extreme drought, periods of abnormally high usage, well system contamination, or extended reduction in ability to supply water due to equipment failure. During drought, these efforts, if sufficiently effective as designed to be, may delay the depletion of aquifer water levels until sufficient recharge is available to replenish the aquifer(s). Should drought conditions reach more severe levels, the permittee has planned and is prepared to restrict further or curtail certain types of usage.

Section 2. Drought Notice

The District will notify permittees of the implementation or termination of each stage of the water restriction program. Permittees must then inform all facility personnel, customers, and/or tenants prior to implementation or termination of each stage of the water restriction program. Notice of the District declaration must be provided at least 72 hours prior to the start of water use restrictions. Notice posted onsite at the facility should contain the following information:

- the date restrictions will begin
- the circumstances that triggered the restrictions
- the stages of response and explanation of the restrictions to be implemented

Upon notification of a Drought stage declaration by the District, the permittee will activate the respective response measures of its UDCP. The Permittee will perform the recommended and mandatory actions specified in this UDCP. The Permittee will curtail pumpage according to the following curtailment schedule:

D-0 Abnormally Dry	0% curtailment	No mandatory curtailment; use groundwater wisely
D-1 Moderate Drought	10% voluntary curtailment	No mandatory curtailment; prepare for required reductions
D-2 Severe Drought	20% mandatory curtailment	Additional curtailments possible per-well by Board order
D-3 Extreme Drought	30% mandatory curtailment	Additional curtailments possible per-well by Board order
D-4 Exceptional Drought	40% mandatory curtailment	Additional curtailments possible per-well by Board order

Section 3. Alternate Water Sources

The permittee has identified one or more alternate water sources or other contingency to be utilized or implemented directly by the permittee to manage restricted water supplies in the event of water supply contamination, prolonged system outage, or problematic permit curtailments. For Public Water Supply providers (only): if no alternate water sources are identified, provide a descriptive explanation on a separate appended sheet as to why and generally how the water demand will be accommodated.

The current available water sources and alternate contingency sources for the Permittee include:

Source A:	Rainwater Collection	
Source B:		

Section 4. Facility Information

The permittee will at least annually, or more frequently as warranted, provide facility staff, employees, personnel and/or ranch hands/managers with information about this Plan, including information about the conditions under which each stage of the plan is to be initiated or terminated, and the drought response measures to be implemented in each stage. This information will be provided by means such as employee training/meetings, via email, websites, or print notice. Permittee must notify facility personnel and/or grounds maintenance crews of the initiation or termination of drought responses stages. Documentation of these efforts shall be kept by the Permittee for record and provided to the District upon request.

Section 5. Enforcement Procedures

The UDCP must include a means of implementation and enforcement in accordance with District Rule 5.2(D). Specifically, each permittee must: 1) develop and implement procedures for enforcing this UDCP, and 2) inform Permittee customers or facility personnel of the intent to enforce the measures of the UDCP.

Section 6. Drought Stage Triggers and General Responses

The monthly amounts shown in the table below, once established per instructions immediately below the table, are estimates of authorized monthly use during non-drought conditions, i.e., non-curtailed use). These amounts form the basis for further reductions in authorized use during drought stages by its designated curtailment percentage.

Monthly Non-Curtailed Volumes (Permitholder will adjust and complete this table before submitting UDCP)

Month	Percent of Annual	Monthly Amount	Month	Percent of Annual	Monthly Amount
October	8.30%	307,141	April	7.40%	273,836
November	7.00%	259,035	May	8.00%	296,039
December	6.30%	233,132	June	9.50%	351,546
January	6.30%	233,132	July	12.10%	447,759
February	6.50%	240,532	August	12.00%	444,059
March	6.60%	244,232	September	10.00%	370,049
				100.00%	=Authorized Amount

The "Percent of Annual" values shown in this table are monthly averages based on historical metered-volume records and/or best estimates by permitholder. (The percentages currently shown in the table are simply default averages based mostly on seasonal water-use factors and generally may not represent the actual water-use profile of the individual permitholder.) The "Monthly Amount" is to be calculated by the Permitholder by correcting the adjusted average monthly percentages per month and applying them to the Authorized Annual Use at the top of the first page of the UDCP. The corrected monthly-average percentages and their calculated monthly values must be entered by the permitholder before the UDCP is submitted for approval.

A. Stage D-1 Moderate Drought

INITIATION:

The Permittee will recognize that Stage D-1 Moderate Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-1 Moderate Drought; the permittee will activate the **Stage D-1 Moderate Drought** measures of its UDCP, including those in this subsection and those use-specific measures in appropriate section of the Appendix.

TERMINATION:

The Permittee will recognize that Stage II Alarm Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-O Abnormally Dry Conditions or has declared a different drought stage.

MANDATORY ACTIONS:

No mandatory monthly-use curtailment; voluntary 10% quarterly reduction targeted. Prepare for required mandatory actions specified in UDCP for a possibly upcoming more-severe drought stage.

- Continue measures listed in permitholder's User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(1) and additional drought measures in the water-use specific part of the Appendix applicable to the Permitholder.
- Ensure all meters throughout the facility are working and calibrated to accurately gauge compliance with monthly curtailments in the future.
- Conduct a <u>monthly</u> Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the facility and service areas for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-1 Moderate Drought".

B. Stage D-2 Severe Drought

INITIATION:

The Permittee will recognize that Stage D-2 Severe Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-2 Severe Drought; the permittee will activate the **Stage D-2 Severe Drought** measures of its UDCP, including those in this subsection and those use-specific measures in the appropriate section of the Appendix.

TERMINATION:

The Permittee will recognize that Stage D-2 Severe Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-1 Moderate Drought or has declared a different drought stage.

MANDATORY ACTIONS:

Mandatory minimum 20% overall reduction in quarterly groundwater use.

- Continue measures listed in User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(2) and additional drought measures in the water-use specific part of the Appendix applicable to the Permitholder.
- Vehicle and equipment washing shall be limited to occur only when necessary to facilitate repair.
- The following uses of water are defined as nonessential and are prohibited:
 - 1. washing down of any sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas
 - 2. using water to wash down buildings or structures for purposes other than immediate fire protection
 - 3. failing to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and
 - 4. any obvious waste of water.
- The use of groundwater for dust control shall be limited to the amount required for mandatory regulatory compliance set forth in the TCEQ air authorization(s) for the site.
- Monitor for occurrences of wasteful use on continuous basis.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Conduct a <u>monthly</u> Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the facility and service areas for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-2 Severe Drought".

C. Stage D-3 Extreme Drought

INITIATION:

The Permittee will recognize that Stage D-3 Extreme Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-3 Extreme Drought; the permittee will activate the **Stage D-3 Extreme Drought** measures of its UDCP, including those in this subsection and those use-specific measures in the appropriate section of the Appendix of this Plan.

TERMINATION:

The Permittee will recognize that Stage D-3 Extreme Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-2 Severe Drought or has declared a different drought stage.

MANDATORY ACTIONS:

Mandatory minimum 30% overall reduction in quarterly groundwater use.

- Continue measures listed in User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(3) and additional drought measures in the water-use specific part of this Plan's Appendix applicable to the Permitholder.
- Vehicle and equipment washing shall be limited to occur only when necessary to facilitate repair.
- The following uses of water are defined as nonessential and are prohibited in this stage:
 - 1. wash down of any sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas
 - 2. use of water to wash down buildings or structures for purposes other than immediate fire protection
 - 3. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s),
 - 4. use of automatic in-ground irrigation systems or unattended hose-end sprinklers for lawn and landscape irrigation. and
 - 5. any obvious waste of water.
- The use of groundwater for dust control shall be limited to the amount required for mandatory regulatory compliance set forth in the TCEQ air authorization(s) for the site.
- Monitor for occurrences of wasteful use on a continuing basis.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the facility and service areas for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility in order to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-3 Extreme Drought".

D. Stage D-4 Exceptional Drought

INITIATION:

The Permittee will recognize that Stage D-3 Extreme Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-3 Extreme Drought; the permittee will activate the **Stage D-3 Extreme Drought** measures of its UDCP, including those in this subsection and those use-specific measures in the appropriate section of the Appendix.

TERMINATION:

The Permittee will recognize that Stage D-3 Extreme Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-2 Severe Drought or has declared a different drought stage.

MANDATORY ACTIONS:

Mandatory minimum 40% overall reduction in quarterly groundwater use.

- Continue measures listed in User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(4) and additional drought measures in the water-use specific part of the Appendix applicable to the Permitholder.
- Vehicle and equipment washing shall be limited to occur only when necessary to facilitate repair.
- The following uses of water are defined as nonessential and are prohibited:
 - 1. wash down of any sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas
 - 2. use of water to wash down buildings or structures for purposes other than immediate fire protection
 - 3. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s)
 - 4. use of automatic in-ground irrigation systems or unattended hose-end sprinklers for lawn and landscape irrigation
 - 5. washing cars or vehicles by hand except with bucket and hose-end nozzle with auto-shut off
 - 6. filling or topping up pools and ponds, and
 - 7. any obvious waste of water.
- The use of groundwater for dust control shall be limited to the amount required for mandatory regulatory compliance set forth in the TCEQ air authorization(s) for the site.
- Monitor for occurrences of wasteful water use on a continuing basis.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the service area for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility in order to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-4 Exceptional Drought".

Appendix Water Use-Specific Drought Measures

In addition to the UDCP's general responses identified in Section 6 of this Plan, the Operating Permitholder has water use-specific drought measures to follow. Accordingly, by initialing the appropriate subsection heading below for the type of use of groundwater under the permit (as designated in the descriptive info at the top of the first page of this Plan), the Operating Permitholder selects, agrees to adopt, incorporates into its UDCP, and will make best efforts to follow these drought measures during declared drought. Each permitholder should initial at least one of these types of water use. The Operating Permitholder is also encouraged to consider and adopt additional drought stage-specific measures that are aligned with the individual permittee's circumstances, provided those are in addition to and not in lieu of those specifically identified in its UDCP.

A. Agricultural Use

(Initial Here)

Recommended Agricultural Drought Stage Measures

Agricultural Irrigation

- Avoid watering on windy days
- Irrigate only between the hours of 8:00 p.m. and 5:00 a.m.
- Use efficient Low-Pressure Center Pivot (LPCP) Irrigation Systems (80% efficiency or higher) such as Low Energy Precision Application (LEPA), Low Elevation Spray Application (LESA), Low Pressure in Canopy (LPIC), or Mid Elevation Spray Application (MESA).
- Low pressure center pivot and linear sprinkler irrigation systems are more water efficient and energy efficient than high pressure systems.
- Where applicable, consider using sub-irrigation systems or using ebb and flood or capillary matt irrigation technologies that incorporate water capture and reuse systems for additional water conservation.
- Line irrigation canals with materials such as concrete, plastic liners, or geomembranes or replace with pipeline.
- Install furrow dikes where possible to reduce runoff and increase infiltration of water.
- Use soil cultivation techniques such as spiking, slicing and core aerification to improve water infiltration and minimize runoff during irrigation or rainfall events.
- Implement an irrigation schedule to ensure efficient and optimal application.
- An irrigation control system shall operate to achieve optimal irrigation efficiency of a crop field using onsite weather station inputs to determine minimum irrigation volumes. The irrigation system shall also be maintained in accordance with the manufacturer's specifications.
- An irrigation control system operated for agricultural irrigation shall have their controllers manually set to achieve optimal irrigation efficiency and to program runtimes to be consistent with recommended watering practices.
- Conduct regular irrigation audits to identify opportunities to improve water use efficiency.
- Implement crop residue management and conservation tillage to improve the ability of the soil to hold moisture, reduce runoff and evaporation of water from soil surface.
- Utilize supplemental water sources where possible (e.g., collected rainwater, etc.).
- Implement brush control/management where applicable.
- Utilize dry-land farming where possible (e.g. permanent pasture, grass seed and/or forage crop mix).
- Utilize water reuse where possible.

Reference BMPs for Agricultural Water Users:
 https://www.twdb.texas.gov/conservation/BMPs/Ag/index.asp

Livestock Management

- Balance stocking rates with available forage
- Utilize supplemental water sources where possible (e.g., collected rainwater, etc.).
- Evaporative losses of rainfall can be reduced by maintaining sufficient plant cover to shade the soil surface.
- If applicable, use water efficient irrigation systems and/or reuse water for dust control.
- Avoid setting water troughs to overflow during winter months to prevent freezing.
- Utilize water reuse where possible.
- Properly distribute small ponds or troughs throughout grazing area.

Aquaculture/ponds

- Understand stock water requirements to minimize pond size.
- Minimize evaporative losses by designing and constructing reservoirs with smaller surface areas and greater depths.
- Locate ponds in areas that maximum the capture of runoff.
- Select sites for ponds where soils have high clay content to reduce seepage or place a pond liner over the pond bottom when clay soil is unavailable.
- Utilize nighttime aeration of ponds instead of daytime aeration to reduce evaporative loss.
- Fill ponds at night to reduce evaporative loss.
- Compact soils on the pond bottom and sides to reduce seepage.
- Maintain the pond water level several inches below drain pipes so spring and summer rain can be stored.
- Balance stocking rates with available water.
- Utilize supplemental water sources where possible (e.g. collected rainwater, etc.).
- Utilize water reuse where possible.

Permittee Actions:

- Post signs using District terminology at all faucets, sinks, outdoor spigots, and other water sources to remind visitors, customers, facility personnel, grounds maintenance crews and employees of the current drought stage curtailments (not an applicable requirement for residential irrigation).
- Inform employees or grounds maintenance crews of need to reduce water use.
- Monitor for occurrences of waste.
- Visually inspect lines and repair leaks on a regular basis.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Evaluate system pressure needs and reduce pressure where excessively high.

The following uses of water are defined as **nonessential** and should be limited:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas
- use of water to wash down buildings or structures for purposes other than immediate fire protection
- use of water for dust control unless required for mandatory regulatory compliance
- flushing gutters or permitting water to run or accumulate in any gutter or street
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and any waste of water.

B. Commercial/Institutional/Other Use

(Initial Here)

Facility System Management

- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Evaluate system pressure needs and reduce pressure where excessively high.
- Follow recommended irrigation BMPs for landscaping.
- Maximize process recycled water where possible.

Employee & Tenant Awareness

- Promote the water conservation BMPs listed in Appendix A through training website and print materials.
- Train employees and personnel on implementing recommended indoor water conservation BMPS.
- Implement employee personnel and tenant awareness efforts such as placing signage and/or posters in visible places (faucets, sinks, spigots, kitchens, restrooms, water storage areas etc) throughout the onsite facility in order to remind users of the prospective drought stage.
- Utilize the District's drought stages then utilize the correct terminology on all outreach signage, "Stage V Emergency Response Period Drought".

Permittee Initiated Penalties or Consequences

- Employee personnel and system operators should regularly monitor the service area for occurrences of waste or excessive usage.
- Permittee should install flow restrictors on connections with continued waste and excessive monthly consumption, or proscribed use.

Additional Recommended Drought Measures

Indoor Measures

- Visually inspect lines and repair leaks on a regular basis.
- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets and water efficient appliances.
- While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- Only run dishwashers with full load.
- Keep drinking water in a container in the refrigerator.
- Reduce use of garbage disposal.
- Wash only full loads of laundry.

Outdoor Measures – Landscape Irrigation

- Adopt a 2-day/week or every-5th day schedule for lawn watering and always only water between 8pm and 8am.
- For Automatic Sprinkler systems:
 - check sprinkler heads regularly to prevent clogging
 - adjust to eliminate overspray and
 - adjust run times and frequency monthly to respond to water schedules and changing rainfall and temperature conditions.
- Use hand held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.

- Avoid watering on windy days.
- Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- For hose-end sprinklers use sprinkler timers to limit water duration.
- Use mulch to conserve soil moisture.
- Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5th day watering schedule between the hours of 8pm and 8am
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- Use of soaker hoses for foundation protection shall be limited to designated water days and times

Outdoor Measures – Power Washing or Vehicle Washing

- Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- Wash vehicles over lawn areas where possible.
- No washing of driveways, sidewalks or streets.

Outdoor Measures – Pools and Fountains

- Keep pools covered when not in use.
- Limit pool filter backwashing to only when necessary.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

The following uses of water are defined as nonessential and should be avoided during drought:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- use of water to wash down buildings or structures for purposes other than immediate fire protection;
- use of water for dust control;
- flushing gutters or permitting water to run or accumulate in any gutter or street;
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

C. Industrial Use

(Initial Here)

Additional Recommended Drought Measures

Indoor Measures

- Visually inspect lines and repair leaks on a regular basis.
- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets and water efficient appliances.
- While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- Only run dishwashers with full load.
- Keep drinking water in a container in the refrigerator.
- Reduce use of garbage disposal.
- Wash only full loads of laundry.

Outdoor Measures – Landscape Irrigation

- Adopt a 2-day/week or every-5th day schedule for lawn watering and always only water between 8pm and 8am.
- For Automatic Sprinkler systems:
 - o check sprinkler heads regularly to prevent clogging
 - o adjust to eliminate overspray and
 - o adjust run times and frequency monthly to respond to water schedules and changing rainfall and temperature conditions.
- Use hand held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- Avoid watering on windy days.
- Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- For hose-end sprinklers use sprinkler timers to limit water duration.
- Use mulch to conserve soil moisture.
- Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5th day watering schedule between the hours of 8pm and 8am
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- Use of soaker hoses for foundation protection shall be limited to designated water days and times

Outdoor Measures – Power Washing or Vehicle Washing

- Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- Wash vehicles over lawn areas where possible.
- No washing of driveways, sidewalks or streets.

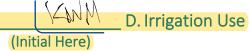
<u>Outdoor Measures – Pools and Fountains</u>

- Keep pools covered when not in use.
- Limit pool filter backwashing to only when necessary.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

The following uses of water are defined as nonessential and should be avoided during drought:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- use of water to wash down buildings or structures for purposes other than immediate fire protection;
- use of water for dust control;
- flushing gutters or permitting water to run or accumulate in any gutter or street;
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

DocuSign Envelope ID: FC6041A9-8AE5-416D-A3B3-EFC99FAEEEFB



This category of water use pertains to irrigation of large non-agricultural areas such as golf courses, athletic fields, and common areas of community developments; it does not relate to lawn and landscape irrigation of individual residences, although some of the drought response measures are essentially similar.

Additional Recommended Drought Measures

Outdoor Irrigation

- Irrigation of a golf course or athletic fields tees, greens, fairways, turf, landscape beds, playing fields, practice areas, driving ranges, and roughs should be managed by an automatic irrigation control system.
- An irrigation control system shall operate to achieve optimal irrigation efficiency of a golf course or athletic fields using on-site weather station inputs to determine minimum irrigation volumes. The irrigation system shall also be maintained in accordance with the manufacturer's specifications.
- An irrigation control system operated for residential turf and landscape irrigation shall have their controllers manually set to achieve optimal irrigation efficiency and to program runtimes to be consistent with recommended watering practices.
- The irrigation system shall also be maintained in accordance with the manufacturer's specifications.
- Irrigate only between the hours of 8:00 p.m. and 5:00 a.m.

Turfgrass Management and Irrigation

- Avoid watering on windy days.
- Cut turf on highest setting and leave lawn clippings instead of collecting.
- Provide adequate and balanced levels of nutrients to the turf. Avoid excessive amounts of nitrogen, and apply nutrients based upon turf species and cultivar nutrient requirements, level of use and soil type.
- Use soil cultivation techniques such as spiking, slicing and core aerification to improve water infiltration and minimize runoff during irrigation or rainfall events.
- Use environmentally safe wetting agents to improve water infiltration.
- Explore the potential use of polymers as a means of increasing water retention and reducing water loss to evaporation.
- Limit cart traffic to paths to minimize turf wear and soil compaction.
- Prune roots of trees near critical turf areas to prevent tree root competition with the turf for moisture and nutrients.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Utilize water reuse where possible.

Landscape Management and Irrigation

- Avoid watering on windy days.
- Use drip irrigation in landscape areas to apply water only to the plants that need it.
- Use mulches in shrub and flowerbeds to reduce water evaporation losses.
- Consider use of polymers as a means of increasing water retention and reducing water loss to evaporation.
- Use xeriscape landscaping or native drought tolerant plants where feasible around buildings, parking areas or other appropriate places.
- Plant native vegetation when replacing vegetation.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Utilize water reuse where possible.

Power Washing or Vehicle Washing

Vehicle and field equipment washing shall prohibited, unless the water used is recycled and re-circulated

No washing of driveways, sidewalks, or streets.

Bathrooms/Other Indoor Facilities (if applicable)

- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets.
- Turn off master water shutoff when facilities are not in use.
- Do not over water potted plants.

Permittee Actions:

- Post signs using District terminology at all faucets, sinks, outdoor spigots, and other water sources to remind visitors, customers, facility personnel, grounds maintenance crews and employees of the current drought stage curtailments (not an applicable requirement for residential irrigation).
- Inform employees or grounds maintenance crews of need to reduce water use.
- Monitor for occurrences of waste.
- Visually inspect lines and repair leaks on a regular basis.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Evaluate system pressure needs and reduce pressure where excessively high.

The following uses of water are defined as nonessential and should be limited:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas
- use of water to wash down buildings or structures for purposes other than immediate fire protection
- use of water for dust control unless required for mandatory regulatory compliance
- flushing gutters or permitting water to run or accumulate in any gutter or street
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and
- any waste of water.

E. Public Water Supply

(Initial Here)

The first section of this appendix addresses additional drought measures for all water utilities, and it concludes with two sections of drought provisions specific to Retail PWS providers and to Wholesale PWS providers, respectively.

1. Additional Recommended Drought Measures for All PWS Providers

Utility System Management

- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- All meters shall be read as often as necessary to ensure compliance with this program for the benefit of all its customers.
- Limit line flushing to the hours of 9pm to 3am and only flush dead end main.
- Implement the provisions of the utility's Water Conservation Plan or Drought Contingency Plan that are on file with the TCEQ or TWDB.
- Emergency interconnects, pumpage authorized by a Temporary Transfer Permit, or alternative supply arrangements shall be initiated to meet the respective reduction requirement.

Public Awareness

- Promote the water conservation BMPs listed in the Permittee's UCP and the next section of this appendix through website and print materials.
- Implement public awareness efforts such as placing yard signs and/or posters in visible places within the service area to remind users of the prospective drought stage.
- Include historic water use and customer water use comparisons in customer billings.
- Include on each water bill a conspicuous reminder of the prospective drought stage.
- Utility should identify highest 5% water users in the residential, commercial, and industrial customer sectors so that focused efforts can be initiated by the utility to provide awareness information and irrigation auditing services (if the utility has the ability to provide irrigation audits).
- If your utility follows the District's drought stages then utilize the correct terminology on all outreach signage, e.g., "Stage D-3 Extreme Drought".

Utility Initiated Penalties or Consequences

- Utility employees and system operators shall regularly monitor the service area for occurrences of waste.
- Utility should issue Warnings for 1st occurrence of waste to residential customers who demonstrate waste, UDCP violations, excessive monthly consumption or proscribed use (greater than 20,000 gallons/month).
- Utility should install flow restrictors on connections with continued waste, UDCP violations, and excessive monthly consumption, or proscribed use.
- Utility should assess surcharges and fines for continued waste, UDCP violations, excessive monthly consumption or proscribed use.

Municipal Practices

- Follow recommended irrigation BMPs for municipal parks and recreation areas.
- Train employees and personnel on implementing recommended indoor water conservation BMPS.

2. Drought Stage Measures for Retail Public Water Supply Utility's End Users

The Retail PWS Permittee will encourage or will establish regulatory or ordinance requirements (as/if possible) of end users to adopt the following water efficiency measures during District declared drought stages:

Indoor Measures

- Visually inspect lines and repair leaks on a regular basis.
- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets and water efficient appliances.
- While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- Only run dishwasher with full load.
- Keep drinking water in a container in the refrigerator.
- Reduce use of garbage disposal.
- Wash only full loads of laundry.
- Turn off master water shutoff when out of town or on vacation.
- Draw less water for bath or reduce shower time.
- Do not over water houseplants.

Outdoor Measures – Landscape Irrigation

- Adopt a 2-day/week or every 5th day schedule for lawn watering and always only water between 8pm and 8am.
- For Automatic Sprinkler systems:
 - o check sprinkler heads regularly to prevent clogging
 - o adjust to eliminate overspray and
 - o adjust run times and frequency monthly to respond to water schedules and changing rainfall and temperature conditions.
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- Avoid watering on windy days.
- Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- For hose-end sprinklers use sprinkler timers to limit water duration.
- Use mulch to conserve soil moisture.
- Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5th day watering schedule between the hours of 8pm and 8am.
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- Use of soaker hoses for foundation protection shall be limited to designated water days and times

Outdoor Measures – Vehicle Washing

- Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- Wash vehicles over lawn areas where possible.

<u>Outdoor Measures – Pools and Fountains</u>

- Keep pools covered when not in use.
- Limit pool filter backwashing to only when necessary.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.

• Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

The following uses of water are defined as nonessential and should be avoided by end users during drought:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- use of water to wash down buildings or structures for purposes other than immediate fire protection;
- use of water for dust control;
- flushing gutters or permitting water to run or accumulate in any gutter or street;
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

3. Required Additional Drought Stage Measures for Wholesale Public Water Supply Utilities

- Permittee will periodically provide wholesale water customers and the public with information about this Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means such as public meetings, via billing invoices, websites, public notice, news media announcement, or electronic mail etc.
- Permittee will notify customers of the initiation or termination of drought responses stages by certified mail.
- Permittee will offer an opportunity for the public to provide input in the initial preparation and future revisions of the Plan, to be provided by the Permittee via means such as a public meetings, via billing invoices, websites, public notice, news media announcement, or electronic mail etc.; documentation of these efforts will be provided to the District for record.
- The Permittee will initiate weekly contact with wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate mandatory measures to reduce water use.
- Permittee will provide updates on website with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought continues to persist.
- Permittee must develop and implement procedures for enforcing this UDCP, specifically including a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in the event of a pumpage curtailment resulting from drought, the groundwater to be supplied by the Permittee under contract will be curtailed in accordance with the applicable drought stage triggers and response chart in this UDCP and that informs Permittee customers of its authority and intent to enforce the measures of the UDCP.
- If Permittee fails to meet District required drought curtailments, then the Permittee shall host a monthly meeting with all wholesale customers to discuss supply/demand conditions and possible solutions for meeting curtailments. Meetings shall be held for the duration of the Stage III, Stage IV, Stage V Drought.
- If Permittee fails to meet District required drought curtailments, then Permittee shall report a monthly accounting of water delivered to each wholesale customer. This information shall be used by the Permittee to identify an enforcement process for requiring wholesale customers to reduce demand. Monthly delivery reports shall be submitted for the duration of the Stage D-2, Stage D-3, and Stage D-4 Droughts.

MEMORANDUM



Date: February 13, 2023

Client: Backyard Austin Location: Bee Cave
Project Name: Backyard Project Number: 19023

RE: SW Travis County Groundwater Conservation District – User Conservation Plan

The Backyard project in Bee Caves seeks to utilize well water for permanent automated irrigation. The designed system implements many conservation-minded best practices and in tandem with the naturalized landscape plantings will maximize conservation of this valuable resource.

In accordance with requirements for Commercial Use – Outdoor Measures – Landscape Irrigation, the proposed landscape is designed with conservation in mind.

- 1. Irrigation for the landscape at the Backyard is a 2-source approach. The main source of water is precipitation. After establishment the majority of the installed landscape shall be native and unirrigated, only sustained via precipitation. These areas include all areas of the site which are disturbed within the Bee Cave Parkway landscape buffer yard (75' outside of the ROW), all areas of detention ponds, and all areas of cut/fill disturbance outside of the internal roadway ROW.
 - The second source is from a well. The well pumps into the wet pond, which is used for both aquatic plant-life and irrigation of areas near pedestrian zones.
- 2. Irrigation is distributed via a close-loop pressurized mainline system to valved zones throughout the site. The valves are automated and scheduled via a master controller. All run times are set using the water sense methodology of periodic deep irrigation. Zones will be set to water during optimal periods which limit evapotranspiration, specifically during the night to early morning times and not at midday.
- 3. A meter will be installed on the well and irrigation pump feeding the pressurized mainline.
- 4. The design aesthetic is a restoration to a native state with specific attention paid to revegetation of impacted areas of grading. Selections of native and regionally-adapted plant species were made within the main limit of work, and five different native seed mixes of grasses and pollinator wildflowers were selected to match unique solar and drainage conditions. A native low-height turf grass substitute was chosen in lieu of traditional turf grass for all areas onsite. All landscape is intended to be substantially without irrigation.
- 5. The largest water conservation effort is the use of re-irrigation from rainfall. This process redistributes precipitation collected onsite in three "ponds" during rain events and pumps the water back uphill to specific zones which then recycle and flow back toward the ponds, repeating the cycle for 48 hours. The second effort toward water conservation is the use of an ET controller. The controller functions using site specific data including a rain-clik and anemometer, suspending irrigation during precipitation time periods and overriding any sprayhead use during high-winds.
- 6. The irrigation system is specifically designed to conserve water. From an infrastructure perspective, all planting is irrigated using drip and tree bubblers, an ET controller uses current weather data to suspend irrigation during high-wind and precipitation events, the controller also has seasonal programmable features to meet the needs of the irrigation during high and low frequency times of year, and temporary spray heads are high-efficiency units. A pressure regulator will signal the

MEMORANDUM



controller if levels spike or drop beyond preset thresholds, suspending use and notifying the maintenance regime.

- 7. A professional landscape maintenance operator will be employed to help facilitate landscape maintenance and irrigation monitoring.
- 8. All equipment is a current high-end model from leading manufacturers.
- 9. Upgrades to the ET controller user interface will occur regularly as irrigation equipment manufacturers upgrade their software and processes.
- 10. When precipitation does occur, all rainwater is collected and "re-irrigated" from detention ponds over the course of 48-hours. When structures are constructed on-site, specifically a planned parking garage, the structure will house a cistern to store and ultimately utilize rainwater for irrigation in the adjacent landscape.

In summary, the Backyard is attuned to the fragility of the native Hill Country aquifer and responds with commitment to native restoration and water conservation.

Signature of Authorized Representative

Alex Howell | Principal

Oro Design Group

7 – Hydrogeological Report



REPORT OF FINDINGS WRGS 23-003

Hydrogeologic Report for the Backyard Wells No. 1 and 2

for

JPD Backyard Finance, LLC 1401 Lavaca Street PMB 40869 Austin, Texas 78701

> Travis County, Texas February 2023

WRGS Project No. 197-001-22



Wet Rock Groundwater Services, L.L.C. Groundwater Specialists

317 Ranch Road 620 South, Suite 303
Austin, Texas 78734

Phone: 512-773-3226 • www.wetrockgs.com TBPG Firm No: 50038 The seal appearing on this document were authorized on February 16, 2023 by:



Kaveh Khorzad, P.G.

License No. 1126

Wet Rock Groundwater Services, LLC

TBPG Firm Registration No. 50038



(This Page Left Blank Intentionally)



Table of Contents

Section I: Executive Summary	5
Section II: Introduction	<i>6</i>
Section III: Description of the Well Site and Water System	8
Section IV: Hydrogeology and Conceptual Model	9
IV.1. Introduction	9
IV.2. Stratigraphy and Geologic History	9
IV.3. Hydrogeology	. 14
IV.4. Discharge Features	. 15
Section IV: Well Construction and Aquifer Testing	16
Water Quality	. 27
Section V: Potential Unreasonable Impacts Analysis	29
Section VI: Conclusions	. 36
Section VII: References	38
Figures	
Figure 1: Location map of the Backyard	6
Figure 2: The Backyard site map	8
Figure 3: Geologic map with stratigraphic column (modified from Ashworth, 1983; Maclay and Small, 1986)	
Figure 4: Conceptual hydrogeologic cross section of the study area	13
Figure 5: Aquifer map	14
Figure 6: Map of area wells and surface water bodies near the project location	15
Figure 7: Well profile schematic of the Backyard Wells No. 1 and 2	18
Figure 8: Aquifer test hydrograph of the Backyard Well No. 1 (January 17, 2023)	21
Figure 9: Aquifer Test hydrograph of Well No. 1 and Observation Well No. 2 (January 17, 2023)	
Figure 10: Aquifer test hydrograph (log-log plot) of Well No. 1 and Observation Well No. 2 (January 1 2023)	17,
Figure 11: Aquifer test hydrograph of Backyard Well No. 2 (January 24, 2023)	
Figure 12: Aquifer test hydrograph of Well No. 2 and Observation Well No. 1 (January 24, 2023)	



Figure 13: Aquifer test hydrograph (log-log plot) of Well No. 2 and Observation Well No. 1 (Jan 2023)	•
Figure 14: Water sources to a pumping well over time (from Konikow and Leake (2014))	30
Figure 15: The Backyard Well field distance-drawdown estimations	31
Figure 16: Well profile schematic of the Backyard Wells No. 1 and 2 with theoretical drawdown	
Figure 17: Estimated drawdown after 7-years of continuous pumping	33
Figure 18: Geologic cross section with estimated 7-year water levels	34
Tables	
Table 1: Well Construction Summary	17
Table 2: Summary of aquifer test results	20
Table 3: The Backyard Wells No. 1 and 2 water quality summary	28
Table 4: Wells No. 1 and 2 field water quality summary	28
Table 5: The Backyard Total Production and Desired Future Conditions	35

Appendices

Appendix A: State Well Reports

Appendix B: Geophysical Logs

Appendix C: Aquifer Test Analyses

Appendix D: Water Quality Reports



Section I: Executive Summary

This report details the results of a hydrogeologic report to meet the guidelines mandated by the Southwestern Travis County Groundwater Conservation District (SWTCGCD) for a regular production permit application. JPD Backyard Finance, LLC is submitting a non-agricultural operating permit application to produce up to 3,700,492 gallons per year from Wells No. 1 and 2 located in southwestern Travis County.

Wells No. 1 and 2 will be located within property acquired by JPD Backyard Finance, LLC and will be discharged into an onsite detention pond. Ultimately, water stored in the detention pond will be distributed to irrigation fields (natural areas). The anticipated combined pumping rate for both wells is 70 gpm with a requested permit volume of 3,700,492 gallons per year. The pumping schedule for water to be produced from the wells will be dependent on maintaining a constant level of 941 feet Mean Sea Level (ft. MSL) or 177,407 cubic feet (cf).

An aquifer test work plan was designed and approved by SWTCGCD staff prior to starting the field work. A combined total of 159,738 gallons were pumped during the aquifer testing for both Wells No. 1 and 2. Well No. 1 produced a total of 69,945 gallons, while Well No. 2 produced a total of 89,793 gallons during their respective aquifer tests. This combined volume represented nearly sixteen times the requested daily equivalent volume of the permit. Well No. 1 was pumped at an average rate of 32.4 gallons per minute (gpm) throughout the pumping phase; the initial rate was 50 gpm and the final measured pumping rate was 32 gpm with 206.4 feet of drawdown, resulting in a specific capacity of 0.16 gpm/ft. Well No. 2 was pumped at an average rate of 41.6 gallons per minute (gpm) throughout the pumping phase; the initial rate was 50 gpm and the final measured pumping rate was 38 gpm with 64.9 feet of drawdown, resulting in a specific capacity of 0.59 gpm/ft. The average calculated transmissivity for Wells No. 1 and 2 was 102.50 ft.2/day from the Cooper and Jacob and Theis methods. The average storativity using both the Theis and Cooper and Jacob methods was 2.85 x 10⁻⁴. The aquifer test data indicate that there were no major effects from nearby pumping of surrounding wells and no significant recharge or discharge boundaries experienced.

As required by the SWTCGCD, the effects of current and projected pumpage on water levels on surrounding wells for a one week, one year, and seven year period was estimated using the Theis equation. Based on the results of the modeling, the Backyard Wells No. 1 and 2 continuously pumping at a rate of 7.04 gpm for 1 week, 1 year, and 7 years results in an estimated 26.12 feet, 30.98 feet, and 33.37 feet, respectively. Based upon the results of the aquifer testing and subsequent modeling, some drawdown may be experienced in neighboring wells completed within the Lower Trinity Aquifer within a 1/2-mile radius.

Water quality was analyzed during the testing. In general, the water quality results indicate the water produced during the aquifer testing meets TCEQ MCLs and SCLs, with the exception of the elevated TDS, fluoride, and sulfate concentrations in Well No. 1.



Section II: Introduction

This report details the results of a hydrogeologic report to meet the guidelines mandated by the Southwestern Travis County Groundwater Conservation District (SWTCGCD) for a non-agricultural operating permit application. JPD Backyard Finance, LLC (The Backyard) is submitting a non-agricultural production permit application to produce up to 3,700,792 gallons per year from Wells No. 1 and 2 located near the intersection of Farm to Market (FM) 620 and Highway 71 in southwestern Travis County (Figure 1). Water produced from the completed wells will serve the sole purpose of irrigation within the property boundary (Figure 1).

The proposed Lower Trinity Aquifer wells will add needed well capacity to meet irrigation demands. There are currently no existing wells on the property.

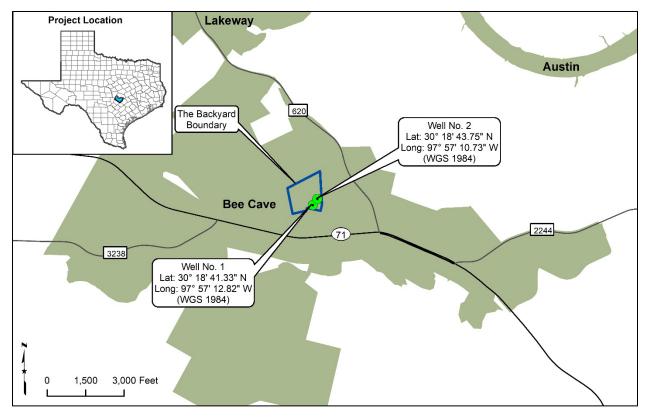


Figure 1: Location map of the Backyard

Acquisition of a non-agricultural operating permit from the SWTCGCD requires acceptable aquifer testing and a hydrogeologic report (Tier 2 - anticipated production volume greater than or equal to 1,000,000 gallons up to 10,000,000 gallons per year) for the operating permit. Aquifer testing and report parameter guidelines laid out in the SWTCGCD "Guidelines for Hydrogeologic Reports and Aquifer Testing – Southwestern Travis County Groundwater Conservation District Travis County" (November 2020) were used to structure this hydrogeologic report pursuant to the SWTCGCD mandate.



According to the SWTCGCD, the purpose of the Tier 2 test and report is to make an assessment of the short- and long-term potential for unreasonable impacts to the regional aquifer system and existing surrounding water wells from the proposed pumping.

The objectives of this Tier 2 report are to support the Backyard's application for a regular production permit authorizing production from the Lower Trinity Aquifer, by demonstrating the following:

- 1. Provide a detailed description of the project to include location, pumping demands, pumping schedules (frequency, peak demand hours, and pumping rates), and the location and volume of the water;
- 2. Design, perform, and analyze the results of the aquifer test at Wells No. 1 and 2 in order to estimate the site-specific aquifer properties;
- 3. Discuss the estimated extent and magnitude of well interference; and,
- 4. Report water quality sample results, evaluate future water level impacts, and assess potential water quality impacts from Well No. 1 and 2.



Section III: Description of the Well Site and Water System

Wells No. 1 and 2 will be located within the property of the Backyard and will be used to supply irrigation fields within those boundaries (Figure 2). The proposed wells will initially be discharged into a nearby detention pond (Pond B; Figure 2) located on the southeast corner of the property to maintain a constant water level of 941 ft. MSL. Once water has been collected, it will then be distributed to two respective irrigation fields (natural areas) (B1 and B2; Figure 2) that totals approximately 76,494 square feet.

Additionally, on the property there will be two other ponds (Ponds A & C) that are characterized as rainwater detention ponds. Ponds A & C will irrigate the remaining irrigation fields (natural areas) which totals approximately 26,978 square feet. The proposed water wells shall only serve to maintain constant level of 941 feet Mean Sea Level (177,407 cf) in Pond B and will not contribute to these additional ponds or irrigation fields

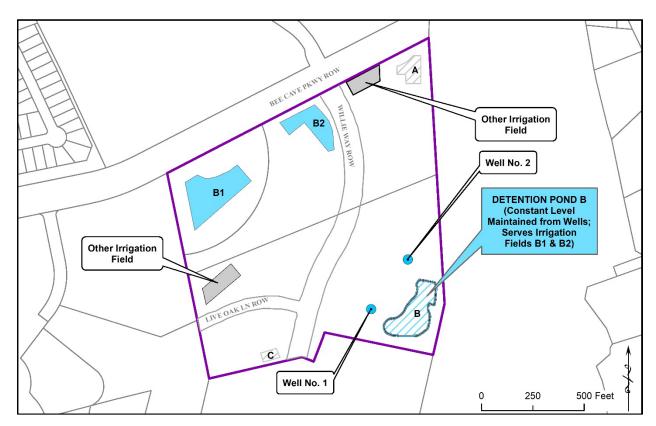


Figure 2: The Backyard site map

The anticipated combined pumpage volume is 3,700,492 gallons per year. This volume represents the total annual water demand for the Backyard facility. Anticipated operations of irrigation would occur 4 to 6 nights/week with one cycle lasting up to 10 hours with each well discharging up to 35 gallons per minute.



Section IV: Hydrogeology and Conceptual Model

IV.1. Introduction

The two major aquifers located within Travis County are the Edwards Aquifer and the Trinity Aquifer. These two aquifers make up a thick and regionally extensive aquifer system composed of Lower Cretaceous carbonates that were deposited throughout central Texas. The aquifers are affected by geologic structures which include the Llano Uplift, the San Marcos Arch, and the Balcones fault system (Ashworth, 1983). The lower of the two aquifers, the Trinity Aquifer is composed of three distinct hydrogeologic units: the Upper, Middle, and Lower Trinity Aquifers.

On the Edwards Plateau in northwestern Travis County, the regional dip of the Cretaceous rocks is generally about 70 feet per mile to the southeast, which is the approximate gulfward slope of the land surface. Southeast of the Balcones Fault Zone (BFZ) the dip is progressively greater toward the Gulf, approaching 100 feet per mile in southeastern Travis County (DeCook, 1963).

IV.2. Stratigraphy and Geologic History

The project site overlies the Cretaceous aged sedimentary rocks comprising the Trinity Aquifer. The Upper Glen Rose Limestone crops out at the surface. The sediments were deposited approximately 140 million years ago by a Cretaceous aged sea that once dominated the interior of North America and the Gulf Coast region (Toll et. al, 2018). For approximately 79 million years this shallow sea deposited the sediments that now make up the property and its surrounding area. Figure 3 provides a geologic map and stratigraphic column illustrating the geology surrounding the project location.

The Trinity Aquifer is divided into three distinct aquifers from oldest to youngest: the Lower, Middle, and Upper Trinity aquifers. Formations comprising the Lower Trinity Aquifer include, from oldest to youngest, the Hosston Sand Member and Sligo Limestone Member of the Travis Peak Formation (Figure 3). The Hosston consists of a conglomerate of gravel, sand and clay cemented by both calcite and quartz. The Hosston also contains sections of sandstone, siltstone, claystone, dolomite, limestone and shale. The Sligo Limestone consists of clastic sediment, and becomes dominantly limestone and dolomite to the east. Surface outcrops are referred to in the literature as Sycamore; Hosston and Sligo are the subsurface equivalents. The Lower Trinity Aquifer units uncomformably overlay the Paleozoic basement (Hunt et al., 2010).

Located stratigraphically above the Hosston Sand is the Hammett Shale (Hammett Clay) Member. The Hammett Clay is a transgressive shale deposit that onlaps Lower Trinity Sligo and Hosston formations. The interval averages 60 feet in thickness in the Travis County area (Brune and Duffin, 1983). The unit is primarily a clay rich, gray-green sticky, dolomitic shale/claystone with siltstone and dolomite lenses. Color can be dark gray to black, blue, greenish gray and gray. The Hammett Clay is a confining bed separating the Lower Trinity Aquifer from the Middle Trinity Aquifer (Figure 3).



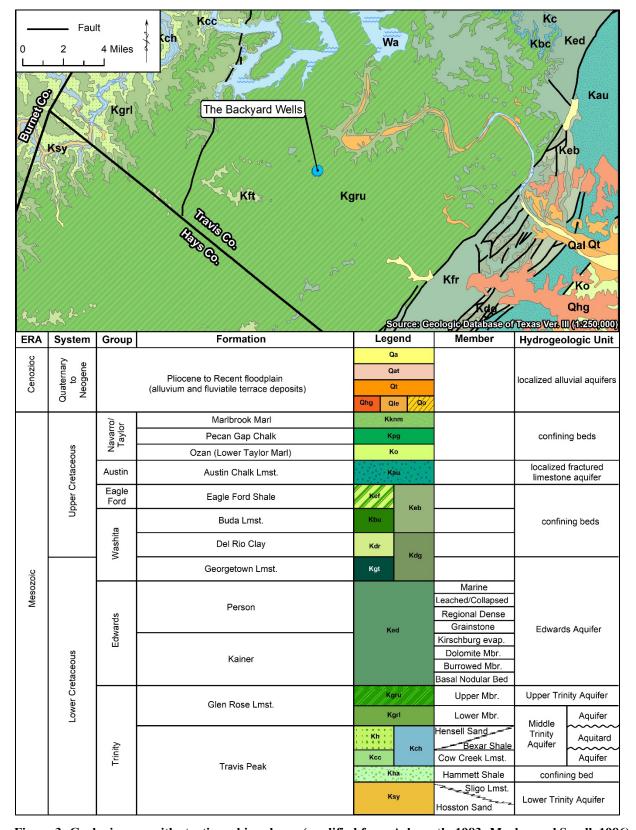


Figure 3: Geologic map with stratigraphic column (modified from Ashworth, 1983; Maclay and Small, 1986)



Above the Hammett Clay lies the Middle Trinity Aquifer composed of the Cow Creek Limestone and the Hensell Sand members of the Travis Peak Formation and the Lower Glen Rose Limestone Member of the Glen Rose Formation (Figure 3). The Cow Creek Limestone is a massive, fossiliferous limestone and dolomite ranging up to 100 feet in thickness and may contain some interbedded sand, clay, and evaporite minerals such as gypsum and anhydrite (Ashworth, 1983; Brune and Duffin, 1983; Preston et. al, 1996). The formation was subaerially exposed and subjected to meteoric water infiltration during early Hensel time, which resulted in widespread vuggy porosity (Loucks, 1977). In some areas, the Cow Creek is heavily fractured and capable of producing large well yields.

Overlying the Cow Creek Member is the Hensell Sand Member (Figure 3), which in the outcrop, is composed of loose sand and grades into thick continental deposits of red clay, silt, sand, and conglomerate with limestone beds in the subsurface. Downdip, the Hensell grades into marine deposits of silty dolomite, marl, calcareous shale, and shaley limestone known as the Bexar Shale Member (Ashworth, 1983). Downdip, the Bexar Shale acts as a confining unit for the Cow Creek Member (Wierman et al., 2010).

Stratigraphically above the Hensell Sand/Bexar Shale, the Glen Rose Limestone Formation is divided into an Upper and Lower Member (Figure 3). The Glen Rose Limestone, along with the Hensell Sand represents a wedge of sediments deposited in a transgressing sea. George (1952) separated the Glen Rose into upper and lower members. The boundary between the two members is identified by a thin, heavily fossiliferous limestone bed containing *Corbula martinae* that persists throughout the study area except where erosion has lowered the land surface below the bed (Whitney, 1952; Ashworth, 1983). The separation between the two units is also distinguishable on geophysical logs where two distinct evaporite zones are found within the Upper Glen Rose; one midway through the Upper Glen Rose and another near the base shown by resistivity spikes on a geophysical log. The lower member of the Glen Rose Limestone consists of a massive, fossiliferous limestone at the base grading upward into thin beds of limestone, dolomite, marl, and shale. The top 15 to 20 feet of the lower member, designated the *Salenia texana* zone, is a highly fossiliferous, nodular marl and limestone which is capped by the Corbula bed (Ashworth, 1983). Near the top of the Lower Glen Rose, in some locations, is a reef deposit that is cavernous, heavily fractured, and can range in thickness. Where the reef deposit is encountered, the Lower Glen Rose Member can provide high yielding wells.

The Upper Member of the Glen Rose Formation, comprising the Upper Trinity Aquifer, consists of alternating beds of limestone and dolomite with marly sections that act as aquitards and restrict downward migration of groundwater to the Middle and Lower Trinity Aquifers (Wierman et al., 2010). The Upper Glen Rose also contains two distinct evaporite beds of gypsum or anhydrite that are easily distinguishable on geophysical logs due to high resistivity values. The lower evaporite zone occurs at the base of the Upper Glen Rose, which Ashworth (1983) describes as a "convenient correlation marker" between the Upper and Lower Glen Rose. The evaporite beds in some cases are the source of elevated sulfate concentrations in groundwater. The Upper Trinity Aquifer can yield small to moderate amounts of water to shallow wells which are often utilized for livestock and domestic use.

The Edwards Aquifer is comprised of three geologic formations, from oldest to youngest: the Kainer and Person formations (Edwards Group), and the Georgetown Formation (Washita Group; Figure



3). These formations were formed during the Cretaceous period during which the San Marcos Platform depositional environment varied from open marine to supratidal flats, where significant exposure and inundation of the sediments took place (Rose, 1972). At the base of the Edwards Group lies the Kainer Formation, which is comprised of the basal nodular bed, dolomitic, and grainstone members. The basal nodular member (Walnut Clay equivalent) is a marine deposit consisting of massive, nodular wackestones and has a low permeability. The dolomitic member consists mostly of intertidal and tidal, burrowed and dolomitized wackestones with significant permeability. The upper part of the dolomitic member contains leached evaporitic deposits of the Kirschberg evaporite. The uppermost member of the Kainer Formation is the grainstone member, which is a shallow marine deposit that marks the beginning of another cycle of sedimentation started by a transgressing sea. This member consists of well-cemented, miliolid grainstones with lesser quantities of mudstone (Maclay and Small, 1986). The upper stratigraphic unit of the Edwards Group is the Person Formation, which consists of the regional dense, collapsed, leached, and marine members (Rose, 1972). The basal member is a laterally extensive marine deposit consisting of dense, shaley mudstone known as the regional dense member. The overlying members, the collapsed member and leached member, consist of intertidal to supratidal deposits containing permeable units formed by collapse breccias and by dolomitized and burrowed wackestones. The uppermost member is the marine member, which consists of rudist-bearing wackestones and packstones and shell-fragment grainstone (Maclay and Small, 1986).

Figure 4 shows a conceptual cross section of the study area from west to east (well profiles shown in Figure 7).



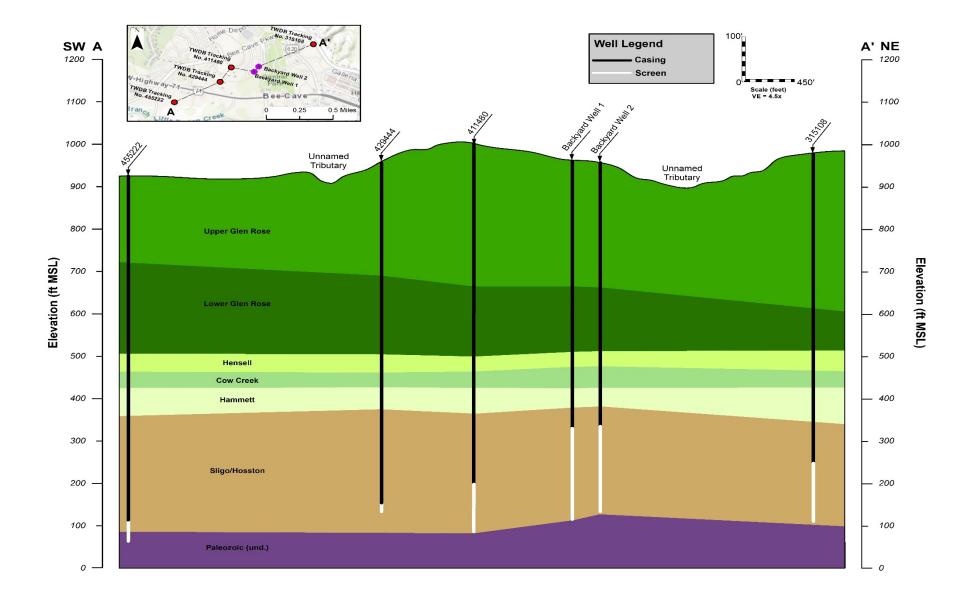


Figure 4: Conceptual hydrogeologic cross section of the study area



IV.3. Hydrogeology

The Trinity Aquifer in the Hill Country area spans as far north as Gillespie County and as far south as Bexar, Comal, and Hays County where fresh water can be produced. As the name suggests, the Trinity is composed of three aquifers: Upper, Middle and Lower Trinity Aquifers. Figure 5 shows the location of the Trinity Aquifer with respect to other major aquifers in the area, including the Edwards Aquifer. The solid blue portion reflects the unconfined zone of the Edwards Aquifer where recharge occurs; the solid green portion reflects the unconfined zone of the Trinity Aquifer where recharge occurs. The green diagonal hatched region reflects the confined zone of the Trinity Aquifer where the formations that make up the aquifer dip beneath the land surface, and the blue diagonal hatched region reflects the confined zone of the Edwards Aquifer (Figure 5).

The Lower Trinity Aquifer is under confined conditions in the area of the project location. Confined groundwater is isolated from the atmosphere at the point of discharge by impermeable geologic formations, and the confined aquifer is generally subject to pressures higher than atmospheric pressure (Driscoll, 1986).

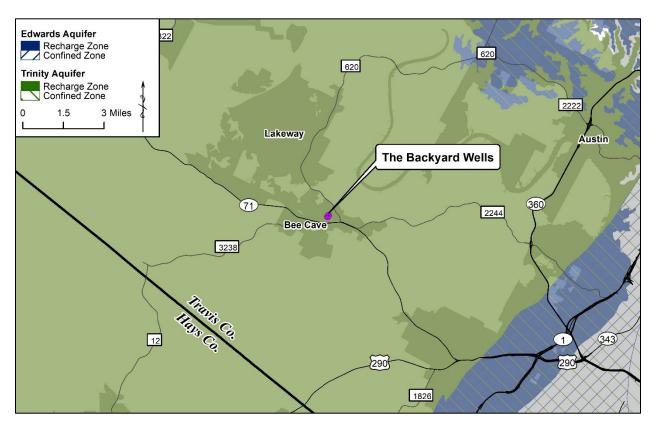


Figure 5: Aquifer map



IV.4. Discharge Features

In the vicinity of the project location, the majority of wells are completed within the Upper and Lower Trinity aquifers. Due to being far downdip within the confined portion of the Trinity Aquifer, no major recharge or discharge features for the Lower Trinity Aquifer were identified within the vicinity of the project location.

Figure 6 provides a map of documented wells, surface water bodies, springs, karst features, and potential recharge features in the area surrounding the Backyard. According to available data, there are no nearby springs or potential recharge features impacting the well. Surface water bodies include Little Barton Creek and associated unnamed tributaries of the creek surrounding the project site (Figure 6). The surface water bodies have no influence on the proposed wells. Major karst features such as fractures, faults, and sinkholes are not prevalent within the project site and surrounding area and none were noted during the field investigation; fault trends and surface geology are provided in Figure 3.

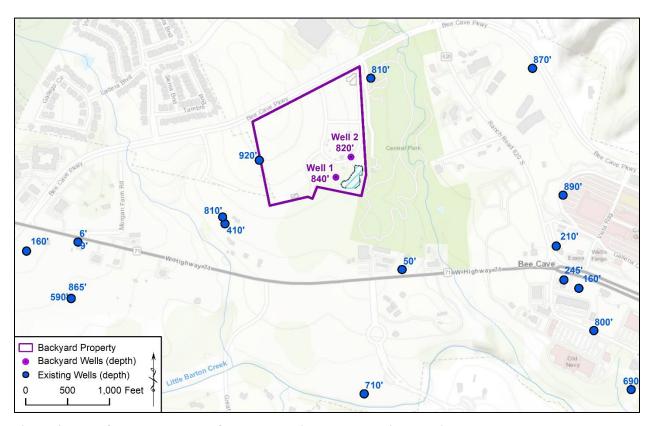


Figure 6: Map of area wells and surface water bodies near the project location

Section IV: Well Construction and Aquifer Testing

NextGen Water Well Service was contracted by JPD Backyard Finance, LLC to drill and complete two (2) new wells within the Lower Trinity Aquifer. The Backyard wells set atop a thick portion of the Upper Glen Rose Limestone. A suite of geophysical logs (gamma ray, spontaneous potential, and 4-point resistivity) were performed on the Backyard wells to determine the formation thickness and fracture locations within the borehole (Appendix B). Figure 7 provides a well construction profile showing construction details, lithology, and hydrostratigraphy at the each well. According to an interpretation of the geophysical logs at Well No. 1, the Upper Glen Rose is present from the ground surface to 280 feet below ground level (ft. bgl), the Lower Glen Rose from 280 to 458 ft. bgl, the Hensell from 458 to 490 ft. bgl, the Cow Creek from 490 to 540 ft. bgl, the Hammett from 540 to 580 ft. bgl, the Sligo from 580 to 607 ft. bgl, and the Hosston is present from 607 ft. bgl to total depth. The Lower Trinity Aquifer is under confined conditions at Well No. 1.

According to an interpretation of the geophysical logs at Well No. 2, the Upper Glen Rose is present from the ground surface to 280 ft. bgl, the Lower Glen Rose from 280 to 452 ft. bgl, the Hensell from 452 to 486 ft. bgl, the Cow Creek from 486 to 536 ft. bgl, the Hammett from 536 to 572 ft. bgl, the Sligo from 572 to 600 ft. bgl, the Hosston from 600 to 820 ft. bgl, and undifferentiated Paleozoic is present from 820 ft. bgl to total depth. The Lower Trinity Aquifer is under confined conditions at Well No. 2.

To meet the guidelines for the SWTCGCD Tier 2 report and to adequately assess the properties of the Lower Trinity Aquifer, aquifer testing was conducted with approval from SWTCGCD staff by utilizing individual aquifer tests from the newly completed Wells No. 1 and 2. The aquifer test consisted of pumping each well for at least 36 hours followed by a recovery phase while continuously measuring water levels in the pumping and observation wells. This was in accordance with SWTCGCD Tier 2 guidelines for a permit greater than or equal to 1,000,000 gallons and less than 10,000,000 gallons. An aquifer testing plan was submitted to and approved by the SWTCGCD. Based on the state well reports, drill cuttings, and geophysical logs, all wells used in the aquifer testing are completed in the Lower Trinity Aquifer. Table 3 provides a well construction summary for wells used in the testing. The following provides a summary of the well construction for the wells on the property:

Well No. 1

According to the State of Texas well report (Tracking No. 631516), Well No. 1 was completed by NextGen on December 14, 2022 (Appendix A). The well was drilled to a depth of 840 ft. bgl with a 14 3/4-inch borehole from 0 to 10 ft. bgl, and a 9 7/8-inch borehole from 10 to 840 ft. bgl. It was completed with 6-inch PVC casing from +2 to 600 ft. bgl, and 6-inch PVC screen from 600 to 840 ft. bgl. Table 1 provides a well construction summary for Well No. 1; Figure 7 provides a well profile schematic. According to the geophysical log, it can be determined that the well is completed in the Sligo and Hosston formations of the Lower Trinity Aquifer, which are under confined conditions (Appendix B).

Well No. 2

According to the State Well Report (Tracking No. 631514), Well No. 2 was completed by NextGen on January 12, 2023 (Appendix A). The well was drilled to a depth of 820 ft. bgl with a 14 3/4-inch borehole from 0 to 10 ft. bgl, and a 9 7/8-inch borehole from 10 to 820 ft. bgl. It was completed with 6-inch PVC casing from +2 to 620 ft. bgl, and 6-inch PVC screen from 620 to 820 ft. bgl. Table 1 provides a well construction summary for Well No. 2; Figure 7 provides a well profile schematic.



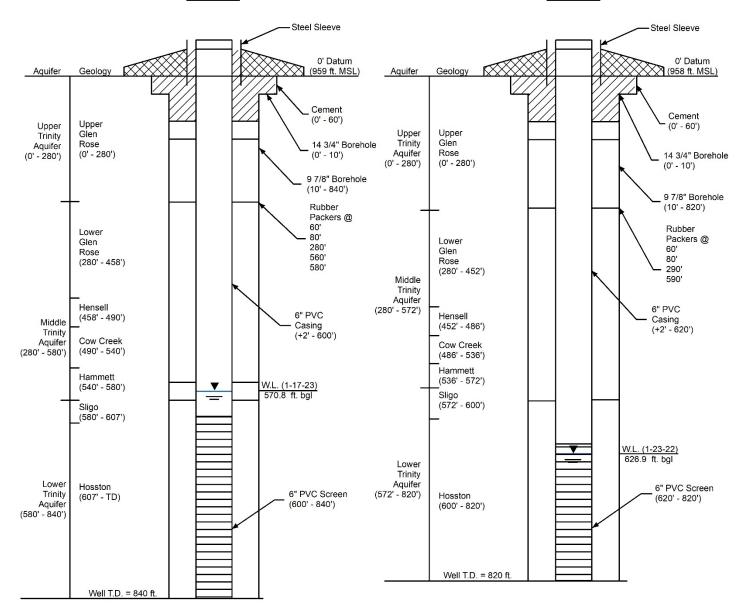
According to the geophysical log, the well is completed in the Sligo and Hosston formations of the Lower Trinity Aquifer, which are under confined conditions (Appendix B).

Table 1: Well Construction Summary

Well	Tracking No.	Elevation (ft. MSL)	Drill Date	Aquifer	Well Depth (ft. bgl)	Static Water Level (ft. bgl; date; ft. MSL)	Borehole (diameter; ft. bgl)	Casing (diameter; material; ft. bgl)	Screen (diameter; material; ft. bgl)
No. 1	631516	959	12/14/2022	Lower Trinity	840'	570.8' (1/17/2023) 388.2'	14 3/4" (0' - 10') 9 7/8" (10' - 840')	6" PVC (+2' - 600')	6" PVC Screen (600' - 840')
No. 2	631514	958	1/12/2023	Lower Trinity	820'	626.9' (1/23/2023) 331.1'	14 3/4" (0' - 10') 9 7/8" (10' - 820')	6" PVC (+2' - 620')	6" PVC Screen (620' - 820')







Notes:

Well profiles created with the information from State Well Reports and geophysical logs.
 Figure for schematic purposes; not drawn to scale.

Figure 7: Well profile schematic of the Backyard Wells No. 1 and 2



Aquifer Testing

Aquifer tests allow for the estimation of transmissivity, hydraulic conductivity, specific capacity, and storativity of wells when at least one observation well is available and drawdown is observed. The objective was to perform the aquifer test with a 36-hour pumping phase followed by a recovery phase in which the pumping well achieved 90% recovery or more. Prior to the start of the aquifer test, pressure transducers capable of measuring the water level and temperature at one-minute intervals were placed in the pumping and observation wells to gather data throughout the duration of the test. Flow meter readings and water levels were taken prior to, during, and at the conclusion of the test. The data from the aquifer tests were analyzed using the Cooper and Jacob (1946) and Theis (1935) solutions in the Aqtesolv software suite (Duffield, 2007). Table 2 provides a summary of the aquifer testing results; Appendix C provides the analyses; Figures 8 through 13 provide hydrographs showing water levels in the pumping and observation wells during the aquifer testing.

The following actions were taken to ensure an acceptable aquifer test for the Backyard Wells No. 1 and 2:

- Static water levels in the pumping and observation well were measured prior to the pumping phase of the test utilizing an electric line and a pressure transducer (In-Situ Level Troll 400; accurate to the nearest 0.01 ft.). Pressure transducers were utilized in the active pumping well and observation wells during the pumping phase of each test and for at least 36 hours after the pumping phase of the test;
- A total of 159,738 gallons from the two individual tests were pumped during the aquifer testing (Appendix C). This volume represented more than sixteen times the requested daily equivalent volume of the requested permit;
- Discharge from each pumping well was routed away from the well site to ensure no return flow occurred within the pumping well. The discharge was carefully monitored during the pumping phase to minimize impact (i.e. erosion, roadway hazards, upset neighbors); and,
- 85% recovery of water level was achieved in Well No. 1 even after 101 hours of recovery, while 90% recovery for Well No. 2 was reached within 7.5 hours.

Aguifer Test - Well No. 1 (January 17, 2023)

The aquifer test of Well No. 1 was conducted with Well No. 2, serving as the observation well approximately 300 feet away from the pumping well. The pumping phase started at 3:20 PM on January 17, 2023; the water levels were monitored for 36.0 hours of pumping and for 101.3 hours of recovery. Prior to the pumping phase of the aquifer test, the static water level in Well No. 1 was measured at 570.8 ft. bgl (388.2 ft. MSL) and 621.0 ft. bgl (337.0 ft. MSL) in Well No. 2. Static water levels between the two wells were of significant difference only 300 feet apart.

Well No. 1 was pumped at an average rate of 32.4 gallons per minute (gpm) throughout the pumping phase; the initial rate was 50 gpm and the final measured pumping rate was 32 gpm with 206.4 feet of drawdown, resulting in a specific capacity of 0.16 gpm/ft. During the pumping phase, the water level lowered quickly and the pumping rate was decreased to 33 gpm approximately 7 hours into testing and continued at this rate up until the pump was shutoff. Prior to shutting the pump off, the pumping



level reached a stable level. After the pump was shut off, recovery was measured; the water level in the pumping well recovered 85% in approximately 101 hours (Figure 8). Observation Well No. 2 had a maximum drawdown of 12.6 ft.; due to the observed hydraulic connection between the two wells, we calculated a storativity value for Well No. 2 of 2.49 x 10⁻⁵ (Figures 9 and 10) from both analytical methods (Table 2). There were no aquifer boundary conditions observed during the testing.

Aguifer Test - Well No. 2 (January 24, 2023)

The aquifer test of Well No. 2 was conducted with Well No. 1, serving as the observation well approximately 300 feet away from the pumping well. The pumping phase started at 4:27 PM on January 24, 2023; the water levels were monitored for 36.4 hours of pumping and for 102.1 hours of recovery. Prior to the pumping phase of the aquifer test, the static water level in Well No. 2 was measured at 626.9 ft. bgl (331.1 ft. MSL) and 590.0 ft. bgl (368.0 ft. MSL) in Well No. 1.

Well No. 2 was pumped at an average rate of 41.6 gallons per minute (gpm) throughout the pumping phase; the initial rate was 50 gpm and the final measured pumping rate was 38 gpm with 64.9 feet of drawdown, resulting in a specific capacity of 0.59 gpm/ft. During the pumping phase, the pumping rate was decreased to 40 gpm approximately 30 minutes into the testing and continued at this rate up until the pump was shutoff. Prior to shutting the pump off, the pumping level reached a stable level. After the pump was shut off, recovery was measured; the water level in the pumping well recovered 90% in approximately 7.5 hours (Figure 11). Observation Well No. 1 had a maximum drawdown of 12.8 ft.; due to the observed hydraulic connection between the two wells, we calculated a storativity value for Well No. 1 of 1.04 x 10⁻⁶ (Figures 12 and 13). There were no aquifer boundary conditions observed during the testing.

Table 2: Summary of aquifer test results

Test Date	Well	Final Pump Rate (gpm)	Drawdown (ft.)	Specific Capacity (gpm/ft)	Analytical Method	Transmissivity (ft²/day)	Storativity	Aquifer Thickness (ft.)	
	No. 1 (PW)	32	206.4	0.16	Theis	63.5	1		
Jan. 17, 2023					Cooper-Jacob	63.5	-	260	
	No. 2 (OW)	-	12.6	-	Theis	234.7	2.49 x 10 ⁻⁵		
					Cooper-Jacob	234.7	2.49 x 10 ⁻⁵		
	No. 2 (PW)	38	64.9	0.59	Theis	112.8	-		
Jan. 24, 2023					Cooper-Jacob	170.2	1		
	N. 1 (OW)	-	12.8	-	Theis	408.3	1.91 x 10 ⁻⁶	248	
	No. 1 (OW)				Cooper-Jacob	105.6	1.09 x 10 ⁻⁴		
Notes: ft. = feet: gpm = gallons per minute									



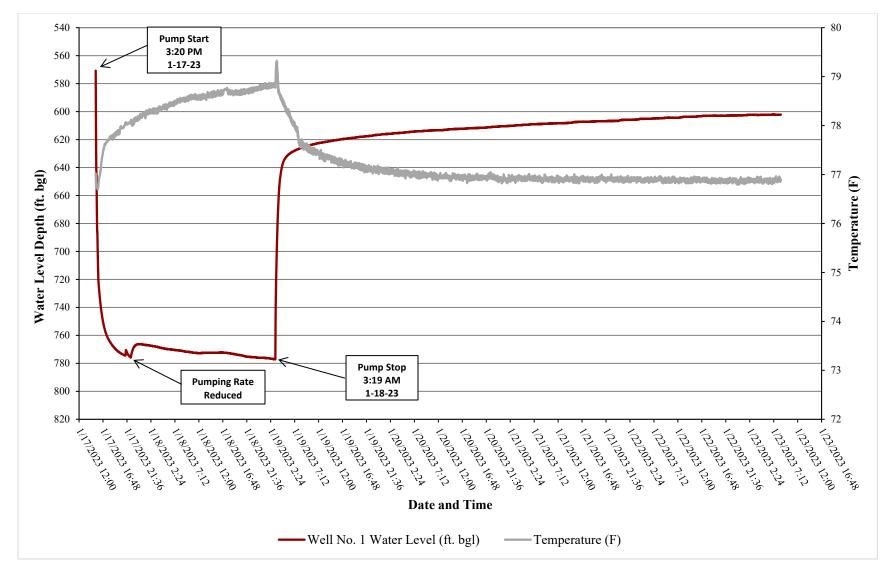


Figure 8: Aquifer test hydrograph of the Backyard Well No. 1 (January 17, 2023)



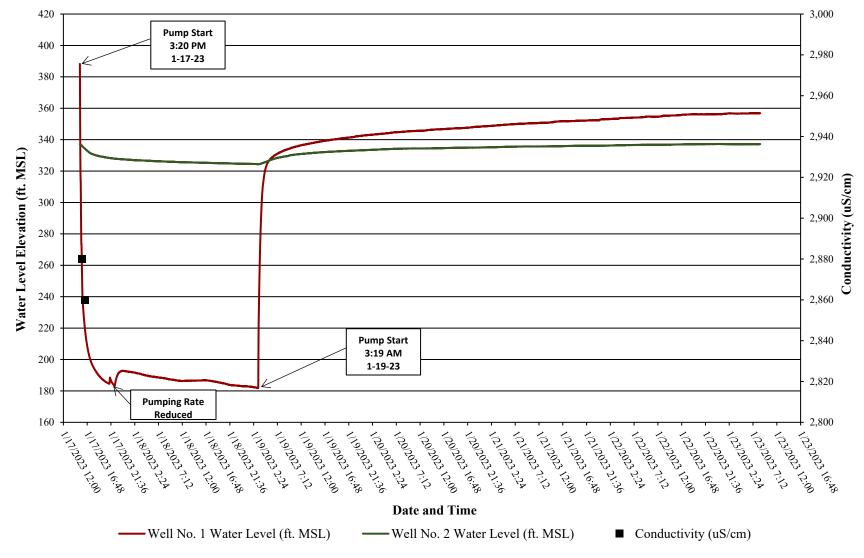


Figure 9: Aquifer Test hydrograph of Well No. 1 and Observation Well No. 2 (January 17, 2023)



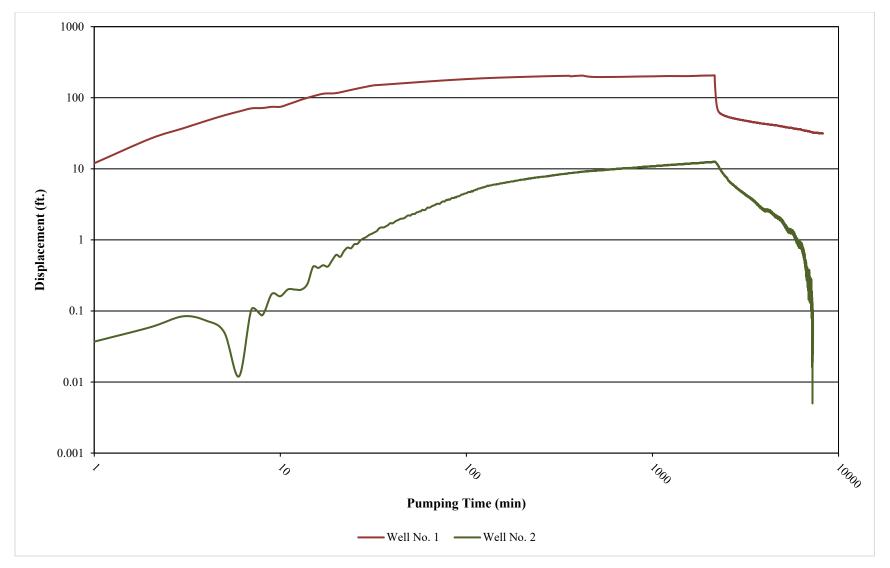


Figure 10: Aquifer test hydrograph (log-log plot) of Well No. 1 and Observation Well No. 2 (January 17, 2023)



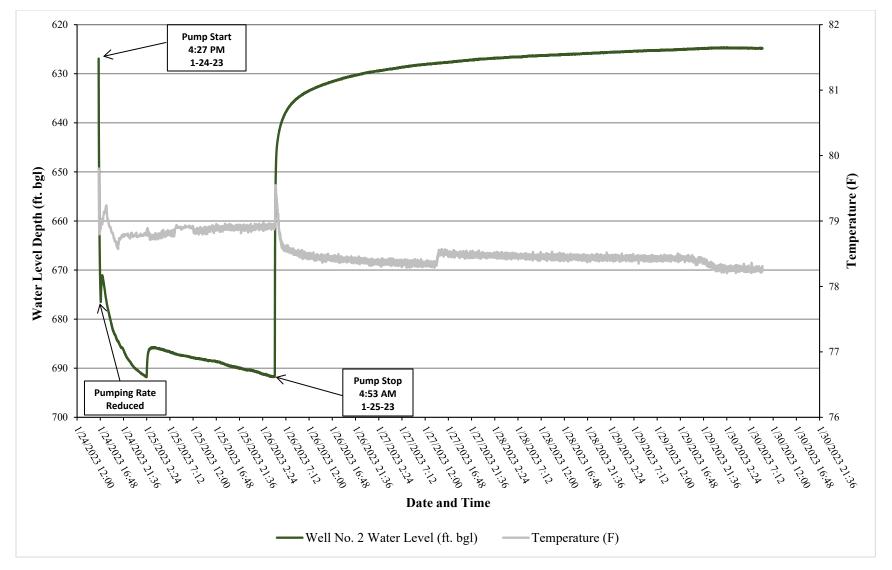


Figure 11: Aquifer test hydrograph of Backyard Well No. 2 (January 24, 2023)



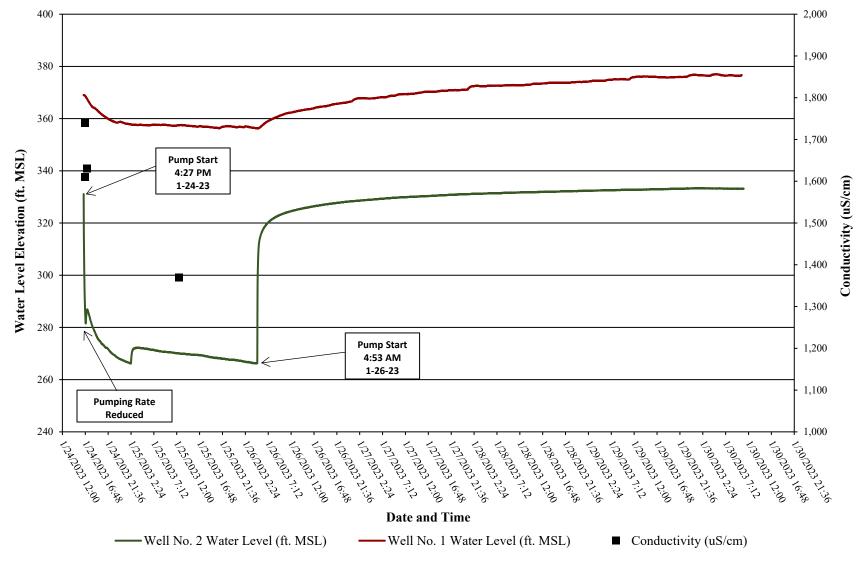


Figure 12: Aquifer test hydrograph of Well No. 2 and Observation Well No. 1 (January 24, 2023)



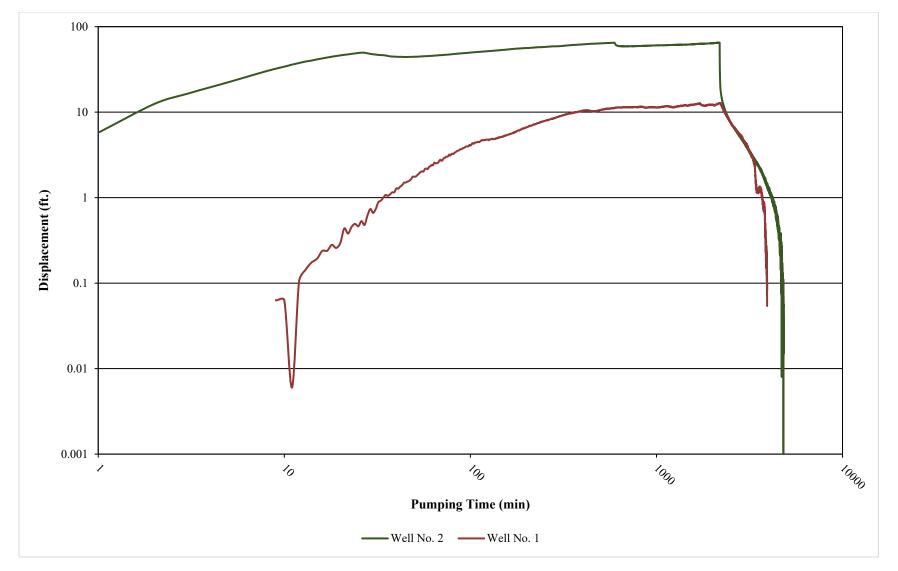


Figure 13: Aquifer test hydrograph (log-log plot) of Well No. 2 and Observation Well No. 1 (January 24, 2023)



Water Quality

A water quality sample was collected from the pumping well at the end of the pumping phase of the aquifer test. The sample was collected by Nextgen Water Well Service staff in a sealed container and stored on ice in a cooler. The water quality parameters analyzed were outlined in the aquifer test work plan approved by SWTCGCD staff. Appendix D includes the laboratory water quality reports. In addition to the laboratory analyzed samples, field parameters were taken for pH and specific conductance periodically during the pumping phase of the test.

Table 3 provides the water quality summary of the samples. The results were compared to Texas Commission on Environmental Quality (TCEQ) Maximum Contaminant Levels (MCL) and Secondary Contaminant Levels (SCL). The results show all constituents met the TCEQ MCLs and all the SCLs with the exception of Total Dissolved Solids (TDS; 1,945 mg/L), fluoride (2.0 mg/L), and sulfate (1,061 mg/L) within Well No. 1. Concentrations above the SCL standards are not considered health risks but may affect the taste and/or odor of the water.

Table 4 provides the field parameter data collected during both aquifer tests, including pH and specific conductance taken at various times during the pumping phase of the aquifer test. The results indicate that the pH and specific conductance slightly changed throughout the test. The specific conductance decreased throughout the test while the pH values stayed relatively stable.



Table 3: The Backyard Wells No. 1 and 2 water quality summary

			units in mg/L										
		pН	TDS	Cl	F	Fe	NO ₃	Ca	SO ₄	Hardness as CaCO ₃	Mg	Na	K
Well	Date	Maximum and Secondary Contaminant Levels (MCL/SCL)											
		$\geq 7.0^2$	1,000²	300 ²	$4.0^{1} \& 2.0^{2}$	0.3^{2}	10 ¹	-	300 ²	-		-	-
No. 1	1/18/2023	7.29	1,945	58	2.0	< 0.01	0.07	186	1,061	934	114	220.3	13.0
No. 2	1/25/2023	8.00	854	59	1.3	< 0.01	0.11	31	285	151	18	198.7	6
Note: 1 = 7	Note: 1 = TCEQ Maximum Contaminant Level; 2 = TCEQ Secondary Contaminant Level; Concentrations in red are above TCEQ SCLs												

Table 4: Wells No. 1 and 2 field water quality summary

Date	pН	Specific Conductance (uS/cm)				
1/17/2023 3:24 PM (Well 1)	7.01	2,880				
1/17/2023 4:20 PM (Well 1)	7.01	2,860				
1/24/2023 4:42 PM (Well 2)	7.4	1,740				
1/24/2023 4:57 PM (Well 2)	8.1	1,610				
1/24/2023 5:12 PM (Well 2)	8.2	1,630				
1/25/2023 12:27 PM (Well 2)	7.9	1,370				
Notes: measurements taken by Wet Rock Groundwater Services, LLC						



Section V: Potential Unreasonable Impacts Analysis

As required by the SWTCGCD, the effects of current and projected pumpage on water levels on surrounding wells for a one week, one year, and seven year period were estimated using the Theis equation (Theis, 1935).

The Theis equation has several critical assumptions used to derive the formula which include (Driscoll, 1986):

- 1. The water-bearing formation is uniform in character and the hydraulic conductivity is the same in all directions;
- 2. The aquifer is uniform in thickness and infinite in areal extent;
- 3. The aquifer receives no recharge from any source;
- 4. The well penetrates, and receives water from the full thickness of the aquifer;
- 5. The water from storage is discharged instantaneously when the head is lowered;
- 6. The pumping well is 100% efficient;
- 7. All water removed from the well comes from aquifer storage;
- 8. Laminar flow exists through the well and aquifer; and,
- 9. The water table or potentiometric surface has no slope.

It is important to note that several of the assumptions used to derive the Theis equation are not necessarily appropriate for the Trinity Aquifer. These include assumptions 1, 3 and 7. In addition, the Theis assumptions that (i) the formation receives no recharge from any source and (ii) that all water removed from the well comes from aquifer storage may lead to inaccuracies in estimating drawdown. Driscoll (1986) states, "The assumption that an aquifer receives no recharge during the pumping period is one of the six fundamental conditions upon which the non-equilibrium formulas (Theis) are based. Therefore, all water discharged from a well is assumed to be taken from storage within the aquifer. It is known, however that most formations receive recharge. Hydrographs from long-term observation wells monitored by the US Geological Survey, various state agencies, and similar data-gathering agencies in other parts of the world show that most water-bearing formations receive continual or intermittent recharge."

Furthermore, contrary to the Theis assumptions, Konikow and Leake (2014) note that with increased pumping time, (i) the fraction of pumpage derived from storage tends to decrease, and (ii) the fraction derived from capture (recharge) increases (Figure 12). Eventually a new equilibrium will be achieved when no more water is derived from storage and heads, or water levels, in the aquifer stabilize. This result is achieved when the initial cone of depression formed by discharge reaches a new source of water, typically the recharge zone of the aquifer. The actual response time for an aquifer system to reach a new equilibrium is a function of the dimensions, hydraulic properties, and boundary conditions for each specific aquifer. For example, the response time will decrease as the hydraulic diffusivity of the aquifer increases (Theis 1940; Barlow and Leake 2012). The response time can range from days to millennia (Bredehoeft and Durbin 2009; Walton 2011).



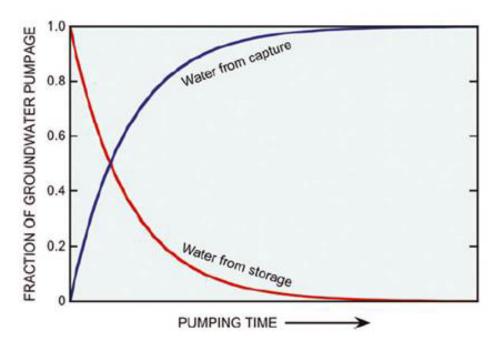


Figure 14: Water sources to a pumping well over time (from Konikow and Leake (2014))

Since the Theis equation (Theis, 1935) assumes (i) that all water is derived from storage and (ii) that the aquifer receives no recharge, the Theis equation may overestimate drawdown within a well that is located in an aquifer that receives rapid recharge.

Figure 15 shows the estimated drawdown with continuous pumping of total requested production for 1 week, 1 year, and 7 years, using the Theis equation at a cumulative production rate of 7.04 gpm (3,700,492 gallons per year). This estimation was done using 1 well pumping. The transmissivity (T) and storativity (S) values used for the drawdown calculations are as follows:

- Transmissivity value of 102.5 ft²/day was obtained from the average transmissivity values calculated from the pumping wells;
- Storativity value of 2.85 x 10⁻⁴ was obtained from the average storativity values calculated from the observation wells.



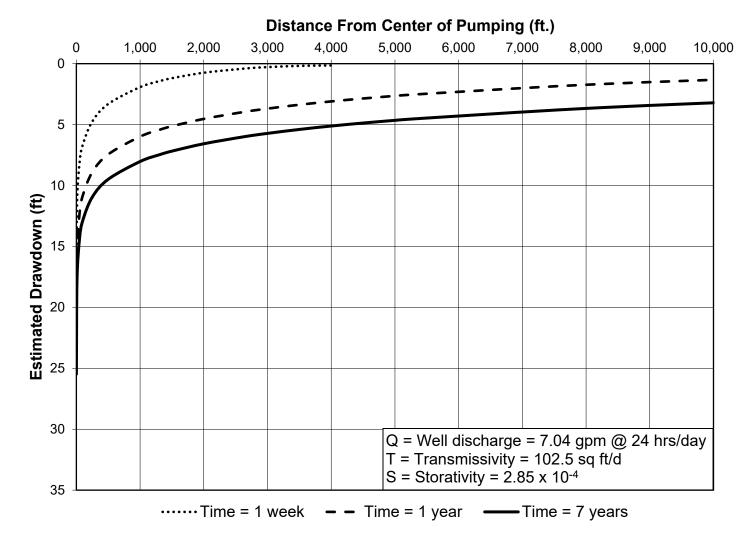


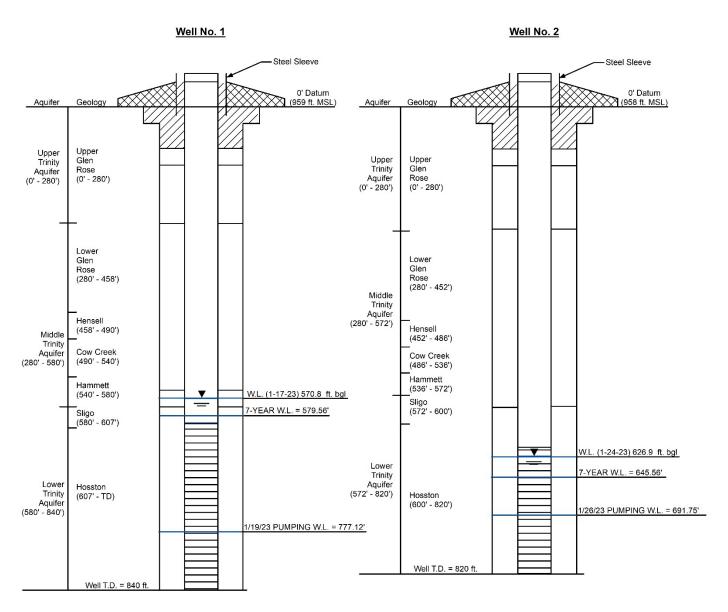
Figure 15: The Backyard Well field distance-drawdown estimations

Figure 16 provides a well profile with the static water levels measured prior to starting the aquifer test, maximum drawdown recorded during the aquifer test, and the estimated drawdown after 7 years of pumping; Figure 17 provides a plan view map of theoretical maximum drawdown after 7 years of continuous pumping. Wells shown in Figure 17 were obtained from well records in the TWDB database. After 7 years of continuous pumping, the calculated drawdown at each pumping well is 18.56 feet; the drawdown is reduced below 5 feet at an approximate distance of 1/2-mile from the pumping wells (Figure 16). Figure 18 provides a hydrogeologic cross-section of the project area showing the estimated water level from neighboring wells that range from 5.8 to 8.5 feet in drawdown after 7 years of pumping.

The Modeled Available Groundwater (MAG) volume of the Trinity Aquifer for Groundwater Management Area (GMA) 9, within SWTCGCD ranges from 8,542 to 8,485 acre-ft/yr, for the years 2030 to 2060 (Table 5). The requested annual permit volume for the Backyard is 3,700,492 gallons per year (11.36 acre-ft/yr) which represents approximately 0.13% of the total MAG volume (Table 5). The DFC for the Trinity Aquifer within GMA 9, adopted on 11/15/21 states an "increase in average drawdown of



approximately 30 feet through 2060 [no more than 30 feet of average water level decline in 2016, as compared to 2008 water levels]". The requested permit volume is comparatively low (0.13% of the MAG) therefore, the proposed pumping should have little to no impact on the DFC.



Notes:
- Well profiles created with the information from State Well Reports and geophysical logs
-Drawdown esitmated using Theis.
- Figure for schematic purposes; not drawn to scale.

Figure 16: Well profile schematic of the Backyard Wells No. 1 and 2 with theoretical drawdown estimate



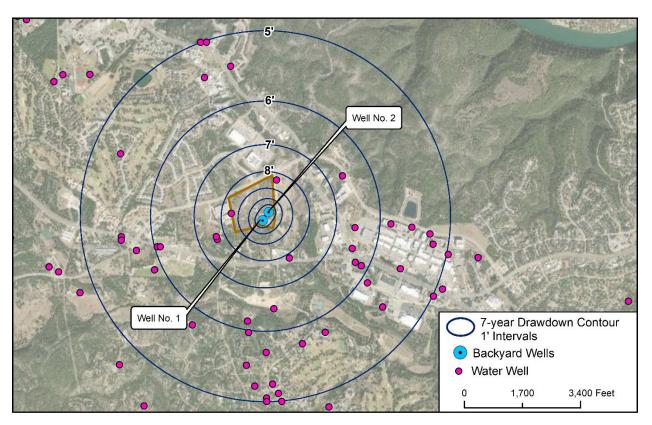


Figure 17: Estimated drawdown after 7-years of continuous pumping



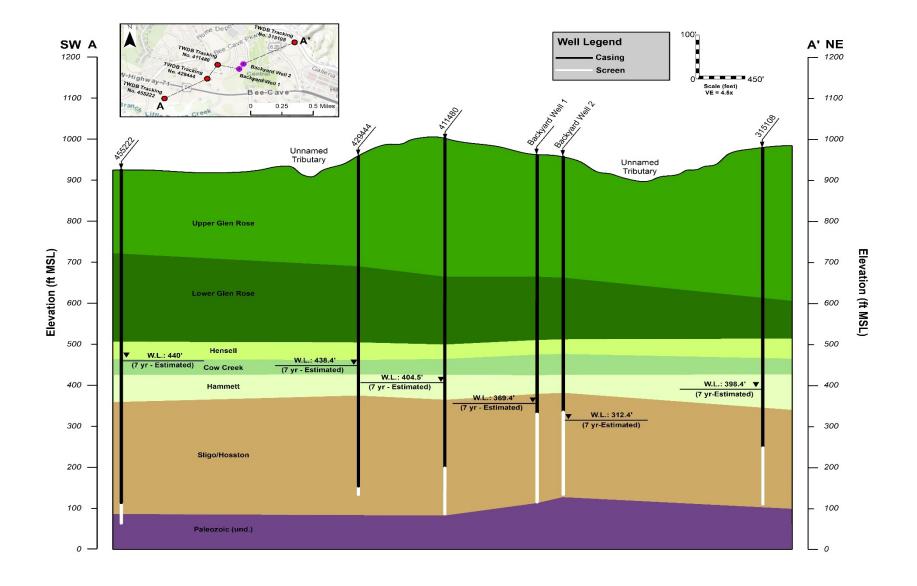


Figure 18: Geologic cross section with estimated 7-year water levels



Table 5: The Backyard Total Production and Desired Future Conditions

Year	MAG for Trinity Aquifer (Acre-ft/yr)	Requested Permit Volume (Acre-ft/yr)	Percentage of MAG				
2030	8,542	11.36	0.13				
2040	8,530	11.36	0.13				
2050	8,515	11.36	0.13				
2060	8,485	11.36	0.13				
Notes: MAG = Modeled Available Groundwater							

Section VI: Conclusions

This report details the results of a hydrogeologic report to meet the guidelines mandated by the SWTCGCD for a non-agricultural operating permit application. JPD Backyard Finance, LLC is submitting a non-agricultural operating application to produce up to 3,700,492 gallons per year from the Backyard Wells No. 1 and 2, located in southwestern Travis County. Water produced from the completed wells will serve the sole purpose of irrigation within the property boundary of the Backyard. The conclusions from this report are as follows:

- Wells No. 1 and 2 will be located within property acquired by JPD Backyard Finance, LLC and will be discharge into an onsite detention pond. Ultimately, water stored in the detention pond will be distributed to irrigation fields (natural areas);
- The anticipated combined pumpage volume is 3,700,492 gallons per year. This volume represents the total annual water demand for the Backyard facility. Anticipated operations of irrigation would occur 4 to 6 nights/week with one cycle lasting up to 10 hours with each well discharging up to 35 gallons per minute;
- An aquifer test work plan was designed and approved by SWTCGCD staff prior to starting the field work. A combined total of 159,738 gallons were pumped during the aquifer testing for both Wells No. 1 and 2. Well No. 1 produced a total of 69,945 gallons, while Well No. 2 produced a total of 89,793 gallons during their respective aquifer tests. This combined volume represented nearly sixteen times the requested daily equivalent volume of the requested permit;
- Well No. 1 was pumped at an average rate of 32.4 gallons per minute (gpm) throughout the pumping phase; the initial rate was 50 gpm and the final measured pumping rate was 32 gpm with 206.4 feet of drawdown, resulting in a specific capacity of 0.16 gpm/ft. Well No. 2 was pumped at an average rate of 41.6 gallons per minute (gpm) throughout the pumping phase; the initial rate was 50 gpm and the final measured pumping rate was 38 gpm with 64.9 feet of drawdown, resulting in a specific capacity of 0.59 gpm/ft. The average calculated transmissivity for Wells No. 1 and 2 was 102.5 ft.2/day from the Cooper and Jacob and Theis methods. The average storativity using both the Theis and Cooper and Jacob methods was 2.85 x 10⁻⁴;
- The aquifer test data indicate that there were no major effects from nearby pumping of surrounding wells and no significant recharge or discharge boundaries experienced;
- As required by the SWTCGCD, the effects of current and projected pumpage on water levels on surrounding wells for a one week, one year, and seven year period was estimated using the Theis equation. Based on the results of the modeling, the Backyard Wells No. 1 and 2 continuously pumping at a rate of 7.04 gpm for 1 week, 1 year, and 7 years results in an estimated 19.28 feet, 23.44 feet, and 25.48 feet, respectively;
- Based upon the results of the aquifer testing, some drawdown may be experienced in neighboring wells completed within the Lower Trinity Aquifer within a 1/2-mile radius; however, that drawdown is not expected to have any unreasonable impacts on the aquifer or surrounding wells; and,



• Water quality was analyzed during the testing. In general, the water quality results indicate the water produced meets TCEQ MCLs and SCLs, with the exception of the elevated TDS, fluoride, and sulfate concentrations in Well No. 1.



Section VII: References

- Ashworth, J.B., 1983. Ground-water availability of the Lower Cretaceous formations in the Hill Country of South-Central Texas: Texas Department of Water Resources Report 273, 173p.
- Bredehoeft, J.D., and T.J. Durbin. 2009. Ground water development—The time to full capture problem. Ground Water 47, no. 4: 506–514. DOI:10.1111/j.1745-6584.2008. 00538.x
- Brune, G., and Duffin, G. L., 1983, Occurrence, availability, and quality of groundwater in Travis County, Texas: Texas Department of Water Resources, Report 276, 219 p.
- DeCook, K.J., 1963. Geology and ground-water resources of Hays County, Texas: U.S. Geological Survey Water-Supply Paper 1612, 72 p.
- Cooper, H.H. and C.E. Jacob, 1946. A generalized graphical method for evaluating formation constants and summarizing well field history, Am. Geophys. Union Trans., vol. 27, pp. 526-534.
- Duffield, G.M., 2007, *AQTESOLV for Windows Version 4.5--PROFESSIONAL*, HydroSOLVE, Inc., Reston, VA. http://www.aqtesolv.com/default.htm
- Driscoll, F.G., 1986. Groundwater and Wells (2nd. Ed.): Johnson Division, St. Paul, Minnesota, p. 1021.
- George, W. O., 1952. Geology and ground-water resources of Comal County, Tex., with sections on surface-water runoff, by S. D. Breeding and Chemical character of the water, by W. W. Hastings: U.S. Geol. Survey Water-Supply Paper 1138, 126 p.
- Groundwater Management Area (GMA) 9 Modeled Available Groundwater for Relevant Aquifers by Groundwater Conservation District (GCD) 2021 Joint Planning
- Groundwater Management Area (GMA) Desired Future Conditions 2021 Joint Planning
- Hunt, B.B., B.A. Smith, J. Kromann, D. Wierman, and J. Mikels, 2010, Compilation of Pumping Tests in Travis and Hays Counties, Central Texas: Barton Springs Edwards Aquifer Conservation District Data Series report 2010-0701, 12 p.
- Konikow L.F. and Leake S.A., 2014, Depletion and Capture: Revisiting "The Source of Water Derived from Wells", Vol. 52, Groundwater–Focus Issue 2014, p. 100–111.
- Loucks, R.G., 1977. Porosity Development and distribution in shoal water carbonate complexes- subsurface Pearsall Formation (Lower Cretaceous) South Texas. In D.G. Bebout, and R.G. Loucks, eds., Cretaceous Carbonates of Texas and Mexico: Applications to Subsurface Exploration, Bureau of Economic Geology, University of Texas at Austin Report of Investigations No. 89, p 97-126.



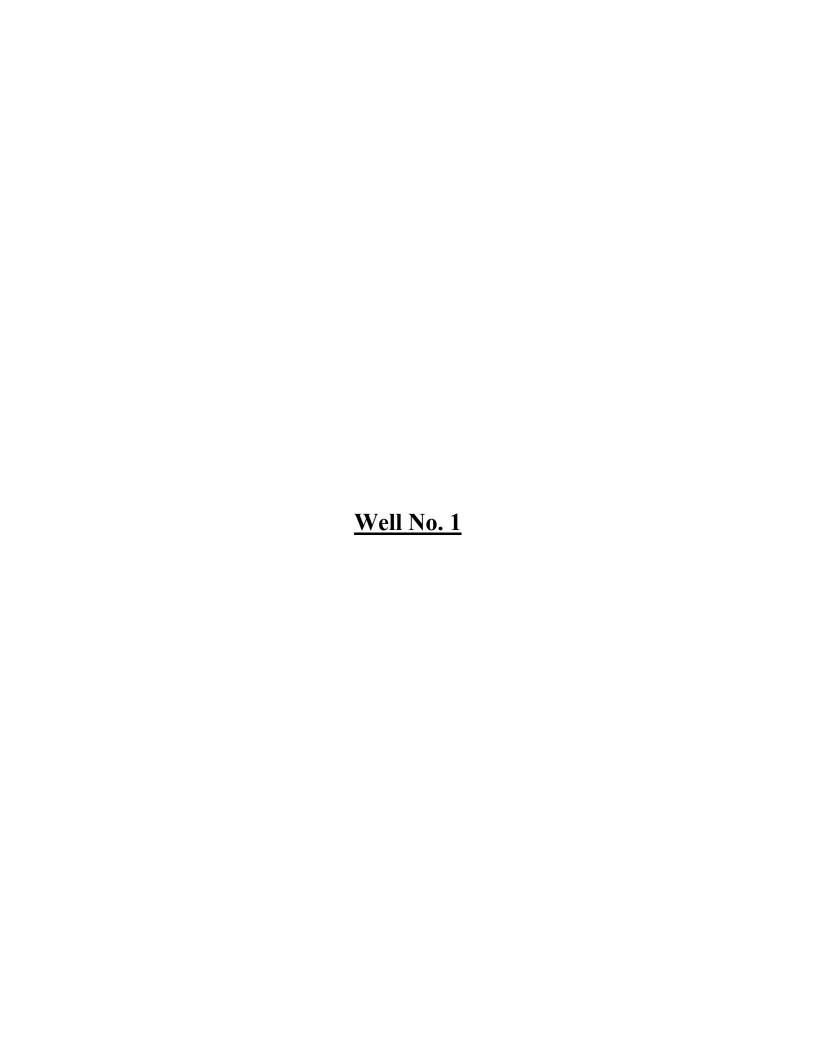
- Maclay, R.W. and Small, T.A., 1986. Carbonate Geology and Hydrology of the Edwards Aquifer in the San Antonio Area. TWDB Report 296, 90p.
- Preston, R.D., Pavilcek, D.J., Bluntzer, R.L., and Derton, J., 1996. The Paleozoic and Related Aquifers of Central Texas. TWDB Report 346, 77p.
- Rose, P.R.., 1972. Edwards Group, surface and subsurface, central Texas: Austin. University of Texas, Bureau of Economic Geology Report of Investigations 74, 198p.
- SWTCGCD Aquifer Science Staff, 2016. Guidelines for Hydrogeologic Reports and Aquifer Testing, 17 p.
- Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Am. Geophys. Union Trans., vol. 16, pp. 519-524.
- Theis, C.V. 1940. The source of water derived from wells—Essential factors controlling the response of an aquifer to development. Civil Engineering 10: 277–280.
- Toll, N. J., Green, R. T., McGinnis, R. N., Stepchinski, L. M., Nunu, R. N., Walter, G. R., Deeds, N. E. (May 2018). Conceptual Model Report for the Hill Country Trinity Aquifer Groundwater Availability Model. Austin: Texas Water Development Board (TWDB).
- Walton, W.C. 2011. Aquifer system response time and groundwater supply management. Ground Water 49, no. 2: 126–127.
- Whitney, M. I., 1952. Some zone-marker fossils of the Glen Rose Formation of central Texas: Jour. Paleontology, v. 26, p. 65-73.
- Wierman, D.A., Broun, A.S., and Hunt, B.B., 2010. Hydrogeologic Atlas of the Hill Country Trinity Aquifer Blanco, Hays and Travis Counties, Central Texas. 19 plates.



Appendix A

State Well Reports





STATE OF TEXAS WELL REPORT for Tracking #631516

Owner: JPD Backyard Finance Owner Well #: Well #1

Address: 8911 N Capital of Texas Highway Grid #: 58-41-5

Suite 3210

Austin, TX 78759 Latitude: 30° 18' 41.3" N

Well Location: 13801 Bee Cave Parkway Longitude: 097° 57' 12.8" W

Elevation: No Data

Well County: Travis

Type of Work: New Well Proposed Use: Irrigation

Drilling Start Date: 11/24/2022 Drilling End Date: 12/14/2022

Air Rotary

Borehole:

Diameter (in.)
Top Depth (ft.)
Bottom Depth (ft.)

14.75
0
10

9.875 10 900

Borehole Completion: Straight Wall

Annular Seal Data:

Top Depth (ft.)

Bottom Depth (ft.)

Description (number of sacks & material)

Cement 30 Bags/Sacks

Seal Method: **Pumped** Distance to Property Line (ft.): **135**

Sealed By: Driller Distance to Septic Field or other

concentrated contamination (ft.): **150+**Distance to Septic Tank (ft.): **150+**

Method of Verification: **Tape**

Surface Completion: Surface Sleeve Installed Surface Completion by Driller

Water Level: 570 ft. below land surface on 2023-01-23 Measurement Method: Electric Line

Packers: Rubber at 60 ft.

Rubber at 80 ft. Rubber at 280 ft. Rubber at 560 ft. Rubber at 580 ft.

Type of Pump: Submersible Pump Depth (ft.): 800

Well Tests: Pump Yield: 33 GPM with 200 ft. drawdown after 36 hours

Drilling Method:

Plug Information:

Description (number of sacks & material)	Top Depth (ft.)	Bottom Depth (ft.)
Natural Fill	840	900

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: Yes

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the

driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in

the report(s) being returned for completion and resubmittal.

Company Information: NextGen Water Well Service

11911 West County Road 56

Midland, TX 79707

Driller Name: Cody Myers License Number: 60303

Comments: SWTCGCD Permit # 58415JB1

Lithology: DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Top Soil
2	12	Caliche
12	390	Gray Limestone
390	401	Tan Limestone
401	540	Gray Shale
540	580	Gray Shale and Clay
580	670	Gray Limestone with shale stringers
670	720	White Limestone
720	750	Red Sandstone
750	820	Red Sandstone with clay stringers
820	840	Red Sandstone
840	890	Sandy Clay
890	900	Gray Clay

Casing: BLANK PIPE & WELL SCREEN DATA

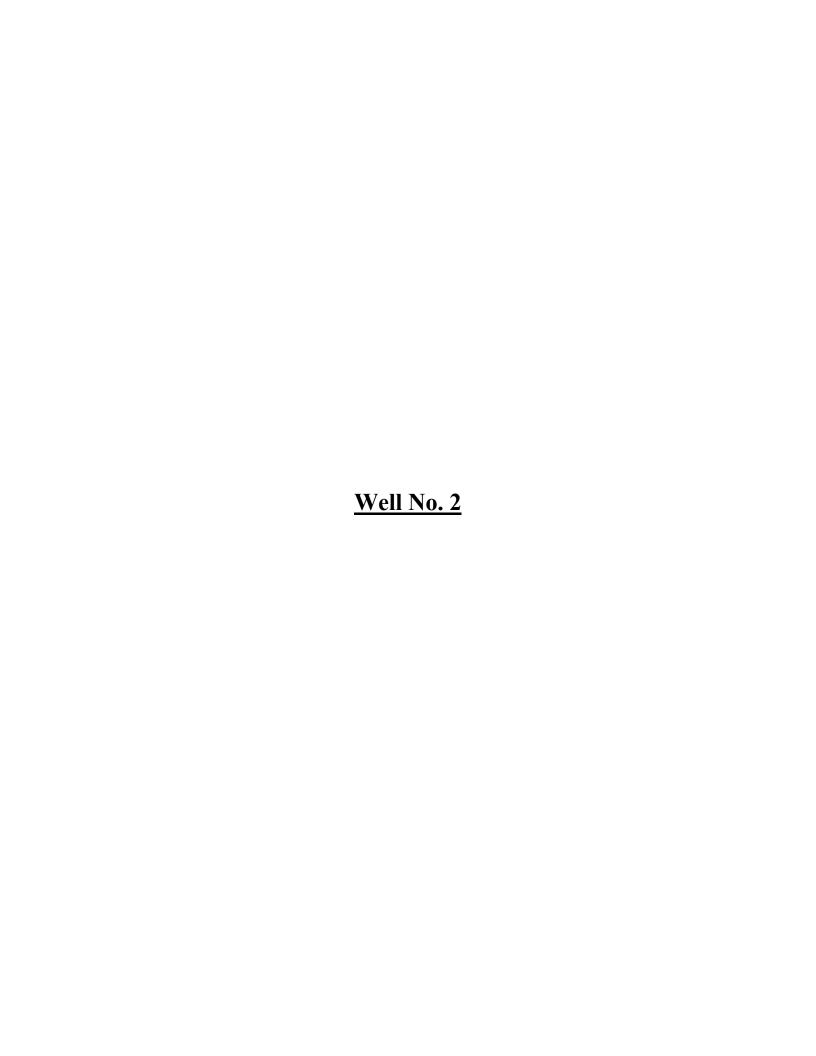
Dla (in.)	Туре	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
10	Blank	New Steel	20	0	10
6	Blank	New Plastic (PVC)	SDR 17	0	600
6	Screen	New Plastic (PVC)	SDR 17 0.035	600	840

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation P.O. Box 12157 Austin, TX 78711 (512) 334-5540



STATE OF TEXAS WELL REPORT for Tracking #631514

Owner: JPD Backyard Finance Owner Well #: Well #2

Address: 8911 N Capital of Texas Highway Grid #: 58-41-5

Suite 3210

Travis

Well County:

Drilling Method:

Type of Work: New Well

Austin, TX 78759 Latitude: 30° 18' 43.8" N

Well Location: 13801 Bee Cave Parkway Longitude: 097° 57' 10.7" W

Elevation: No Data

Drilling Start Date: 1/6/2023 Drilling End Date: 1/12/2023

Air Rotary

Borehole:

Diameter (in.)
Top Depth (ft.)
Bottom Depth (ft.)

14.75
0
10

9.875 10 900

Borehole Completion: Straight Wall

Annular Seal Data:

Top Depth (ft.)

Bottom Depth (ft.)

Description (number of sacks & material)

Cement 32 Bags/Sacks

Seal Method: **Pumped** Distance to Property Line (ft.): **157**

Sealed By: **Driller**Distance to Septic Field or other

concentrated contamination (ft.): 200+

Proposed Use:

Irrigation

Distance to Septic Tank (ft.): 200+

Method of Verification: **Tape**

Surface Completion: Surface Sleeve Installed Surface Completion by Driller

Water Level: 620 ft. below land surface on 2023-01-23 Measurement Method: Electric Line

Packers: Rubber at 60 ft.

Rubber at 80 ft. Rubber at 290 ft. Rubber at 580 ft.

Type of Pump: Submersible Pump Depth (ft.): 779

Well Tests: Pump Yield: 40 GPM with 60 ft. drawdown after 36 hours

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: Yes

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the

driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in

the report(s) being returned for completion and resubmittal.

Company Information: NextGen Water Well Service

11911 West County Road 56

Midland, TX 79707

Driller Name: Cody Myers License Number: 60303

Comments: SWTCGCD Permit #58415JB2

Lithology: DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.) Bottom (ft.) Description 0 2 **Top Soil** 2 18 Caliche 18 360 **Gray Decomposed Limestone** 360 375 **Tan Limestone Gray Shale with Clay** 550 375 **Stringers** 550 660 **Gray Shale** 660 700 White Limestone 700 740 **Red Sandstone Red Sandstone with Clay** 740 830 Stringers 830 840 **Gray Clay** 840 880 **Red Clay with Sand Stringers** 880 900 Clay

Casing: BLANK PIPE & WELL SCREEN DATA

Dla (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
10	Blank	New Steel	10	0	10
6	Blank	New Plastic (PVC)	SDR 17	0	620
6	Screen	New Plastic (PVC)	SDR 17 0.035	620	820

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

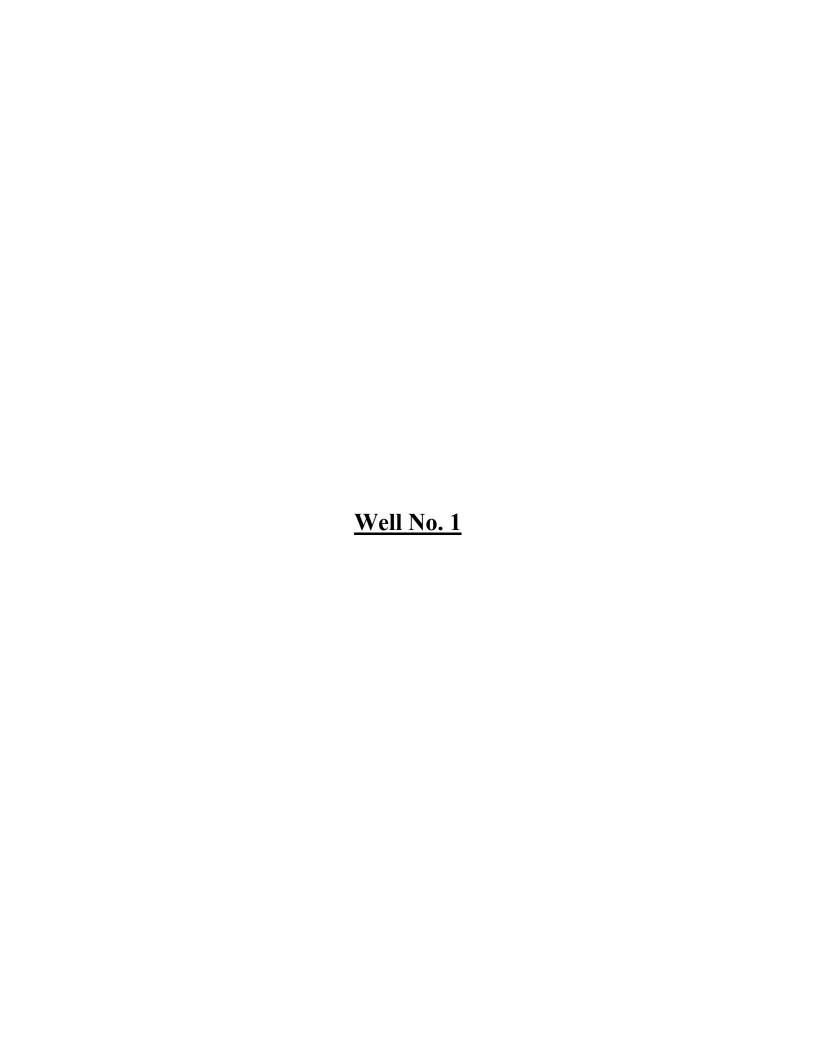
Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation P.O. Box 12157 Austin, TX 78711 (512) 334-5540

Appendix B

Geophysical Logs







Borehole: BACKYARD WELL NO. 1

Logs: **GAMMA, RESISTIVITY**

Water Well Logging & Video Recording Services

Geo Cam, Inc. 17118 Classen Rd, San Antonio, TX 78247 877-495-9121

Client: Project: BACKYARD WELL NO. 1 NOMAD DRILLING

N 30* 18' 41.1" W 97* 57' 12.8"

Location:

Date: 12/2/22

State: TX County: TRAVIS

Drilling Contractor: NOMAD DRILLING

Driller T.D. (ft): 890'

Logger T.D. (ft): 845'

Elevation: 952'

Depth Ref: TABLE

Date Drilled: 12/1/22

3	2	1	RUN	
		9 7/8"	RUN BIT SIZE (in) FROM (ft)	ВІТ
		. 0'	FROM (ft)	BIT RECORD
		845'	TO (ft)	
		NA	SIZE/WGT/THK	
			FROM (ft)	CASING RECORD
		•	TO (ft))RD

Drill Method: AIR ROTARY Weight: Fluid Level (ft): 462'

Mud Type: Time Since Circ:

Hole Medium:

Viscosity:

<u>a</u>::

Logged By: DAVID S

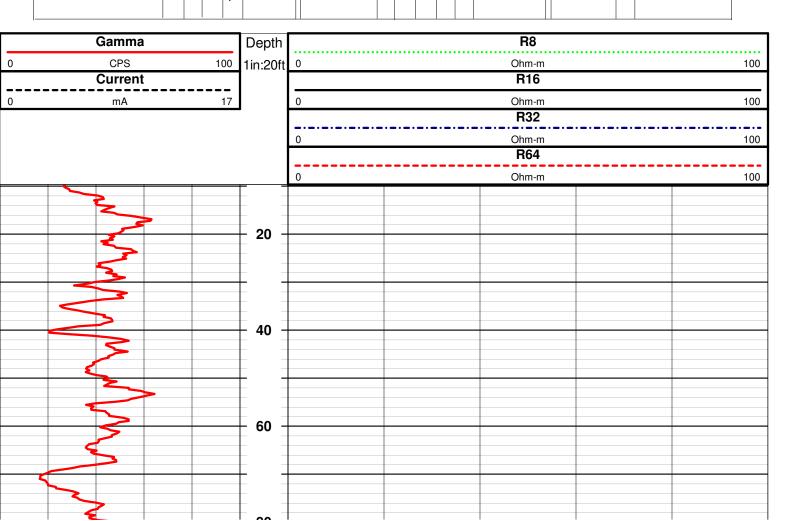
Unit/Truck: 11

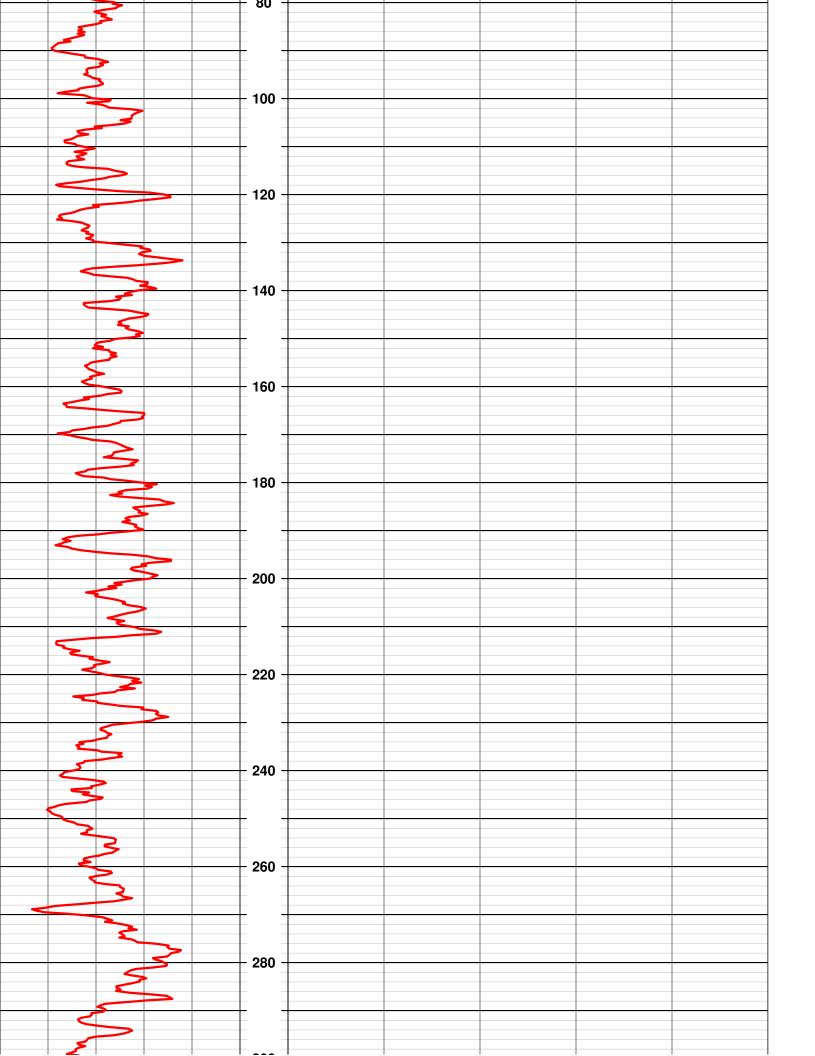
Deg C

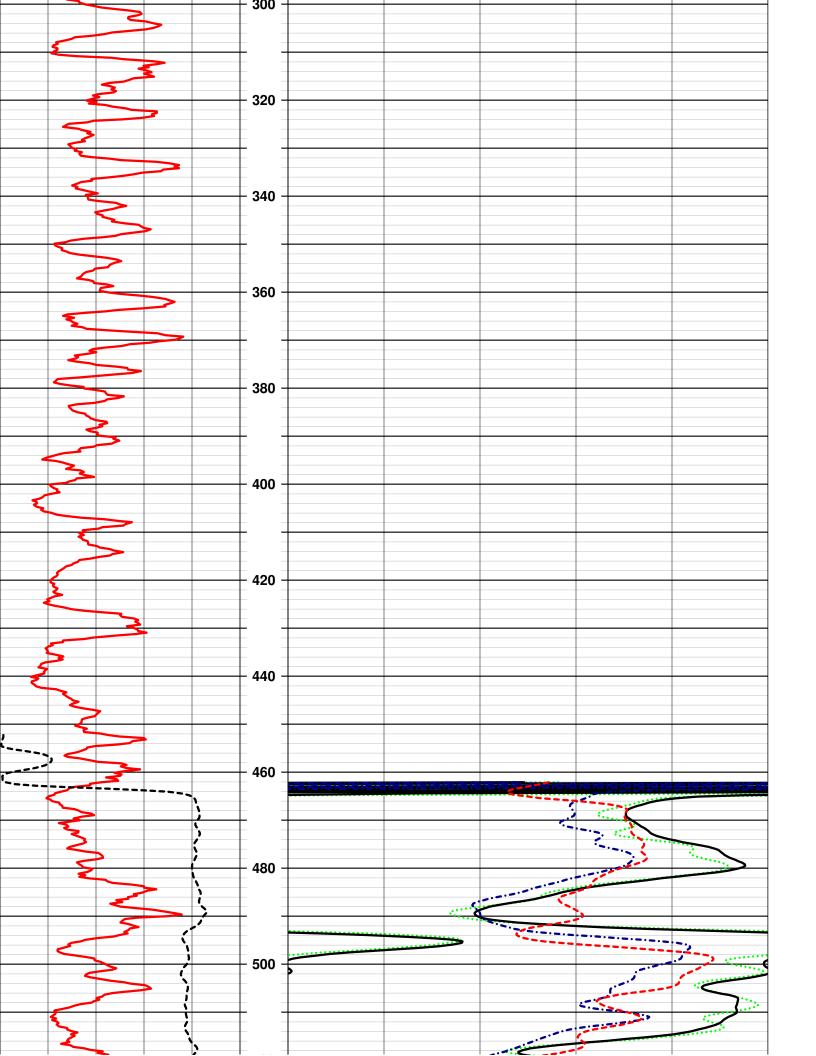
		,	٠		
20	462.1'	844.3'	35	20	RESISTIVITY
20	9.7'	841.0'	35	2	GAMMA
FT./ IN.	TO (ft)	FROM (ft)	SPEED (ft/min)	RUN NO	LOG TYPE
		_			Witness:

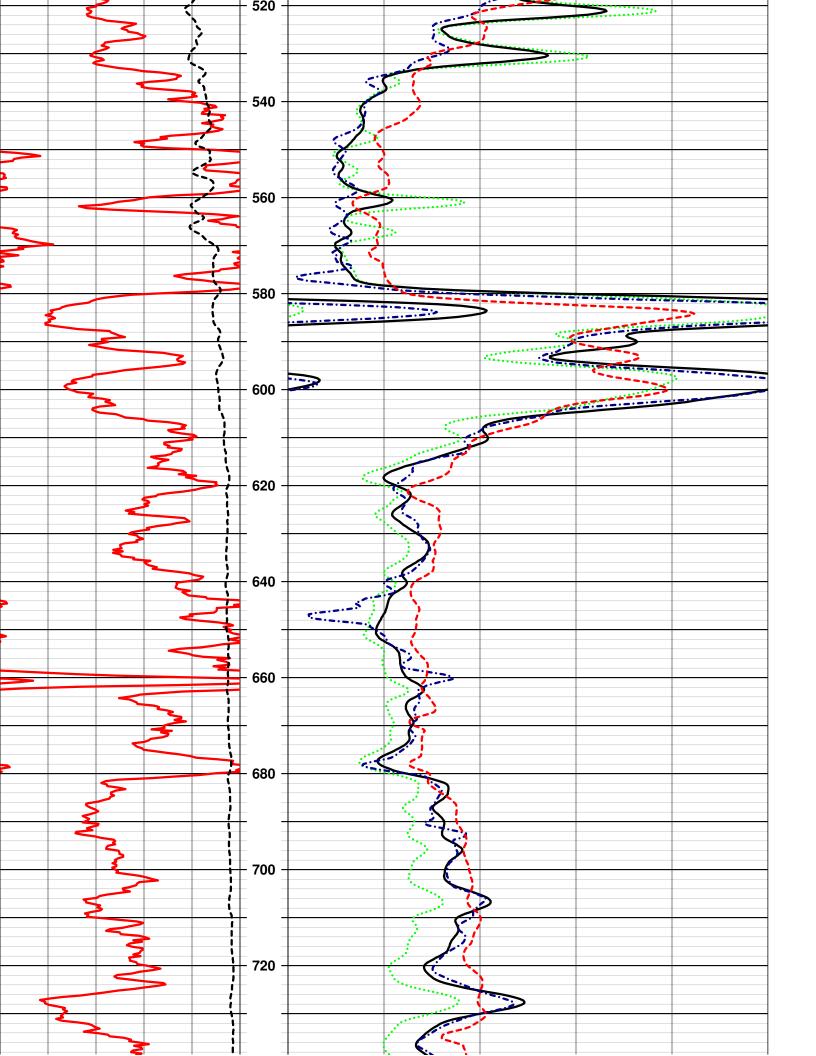
Comments: MEASUREMENTS WERE TAKEN FROM THE TABLE (+5').

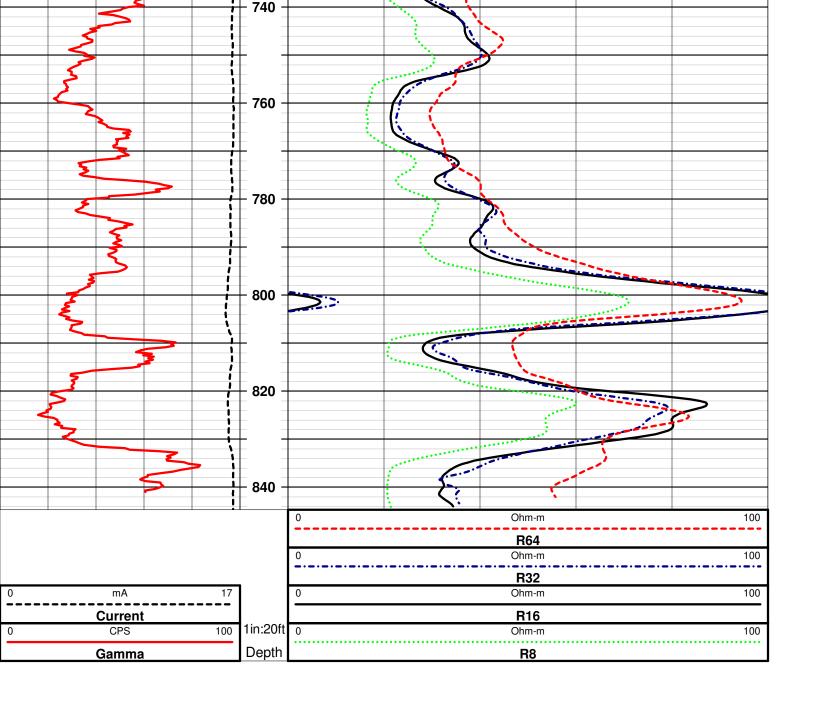
GAMMA SPIKE AT 661' IS 287 CPS

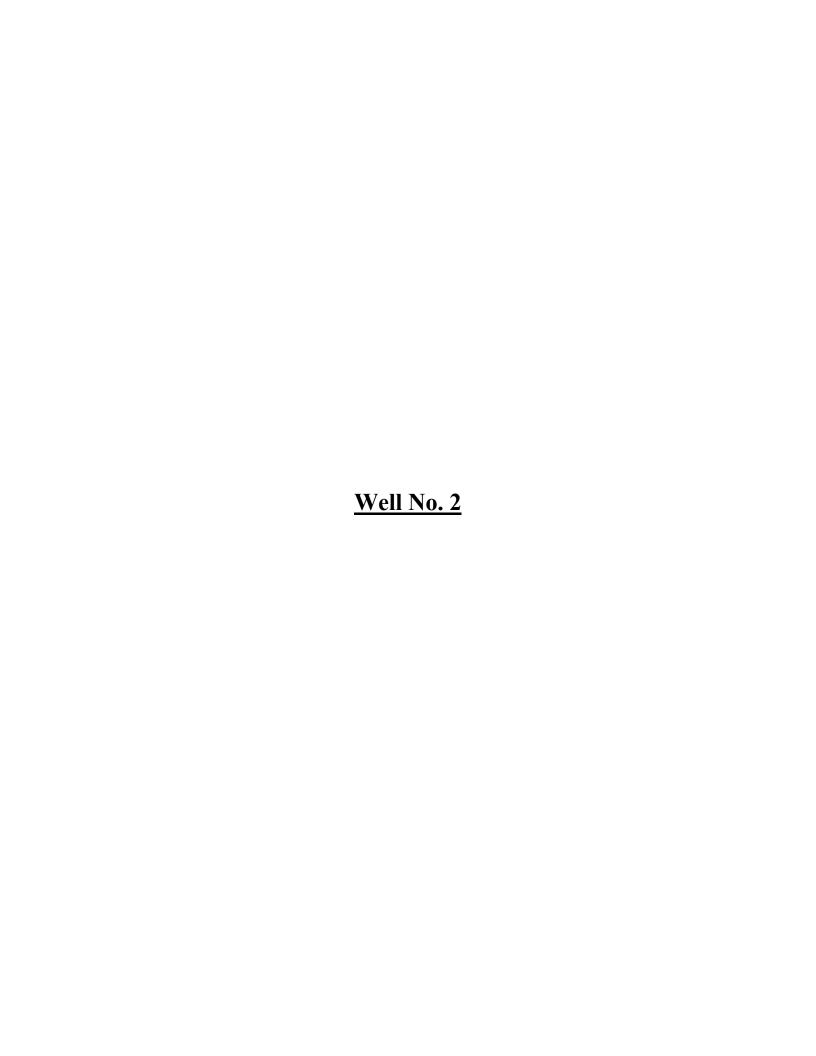














Borehole: BACKYARD No. 2

Logs: GAMMA, SP, CALIPER, RESISTIVITY

Project: BACKYARD No. 2 Geo Cam, Inc. 17118 Classen rd. San Antonio, TX 78247

877-495-9121

Client: Location: NOMAD DRILLING N 30* 18' 44.2" W 97* 57' 10.1"

County: TRAVIS Date: 1/10/2023

State: TX

Elevation: 1026' GPS

Drilling Contractor: NOMAD DRILLING

Depth Ref: G.L.

Driller T.D. (ft): 900'

Date Drilled: 1/10/2023 Logger T.D. (ft): 893'

RUN BIT SIZE (in) FROM (ft) 9.875" BIT RECORD <u>1</u>0 TO (#) T.D. SIZE/WGT/THK | FROM (ft) 10.750" CNDTR +2.0' AGL CASING RECORD TO (#) 10

ω N

Drill Method: MUD ROTARY Weight: Mud Type:

Hole Medium:

Viscosity:

Logged by: ERIC S.

Time Since Circ:

Deg F

Fluid Level (ft): 110'

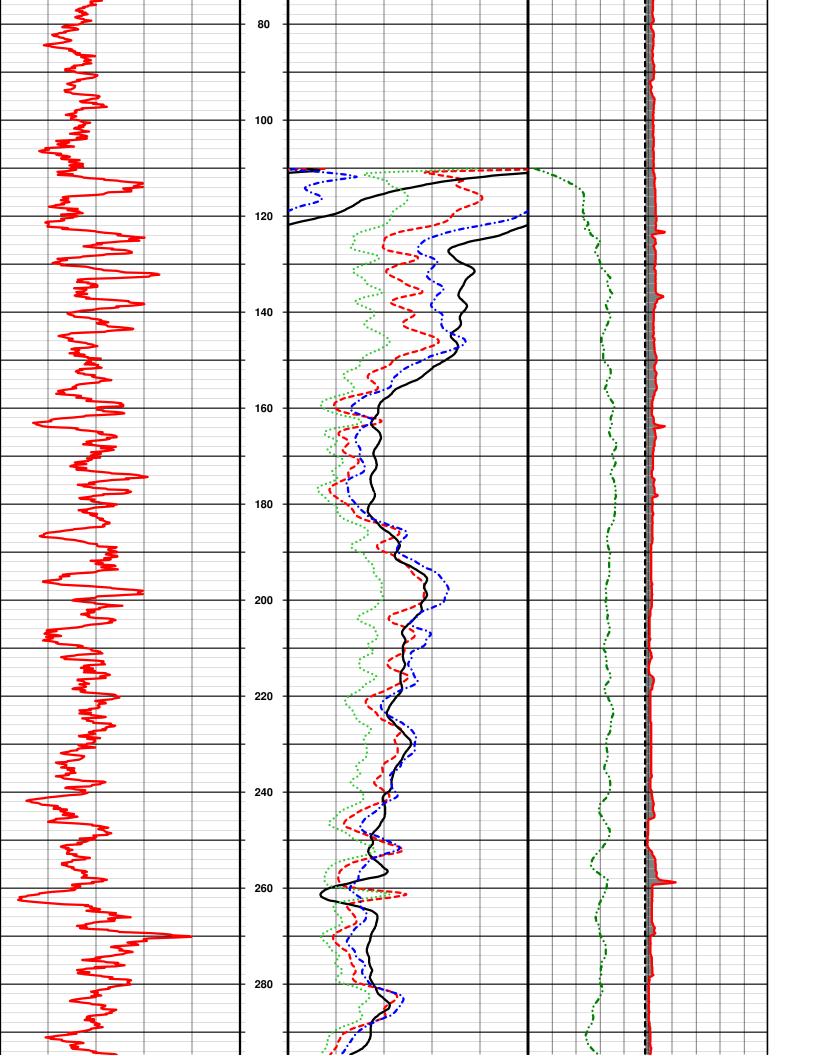
GENERAL DATA -

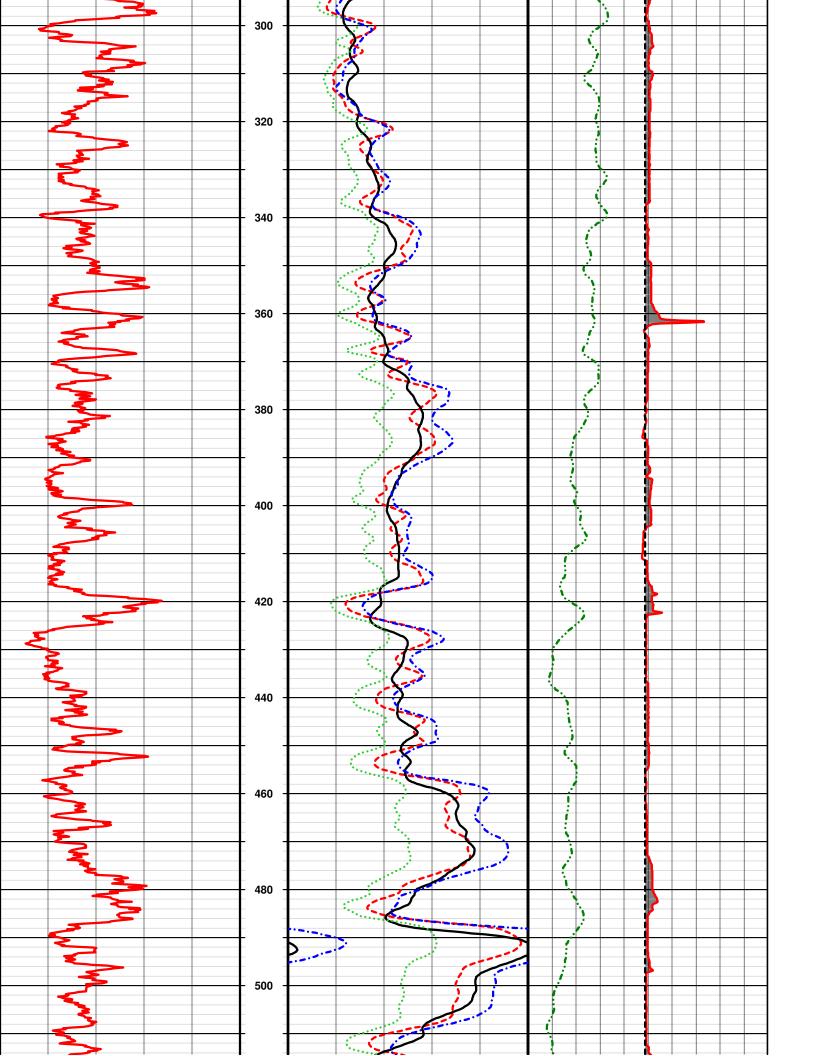
Unit/Truck: 09

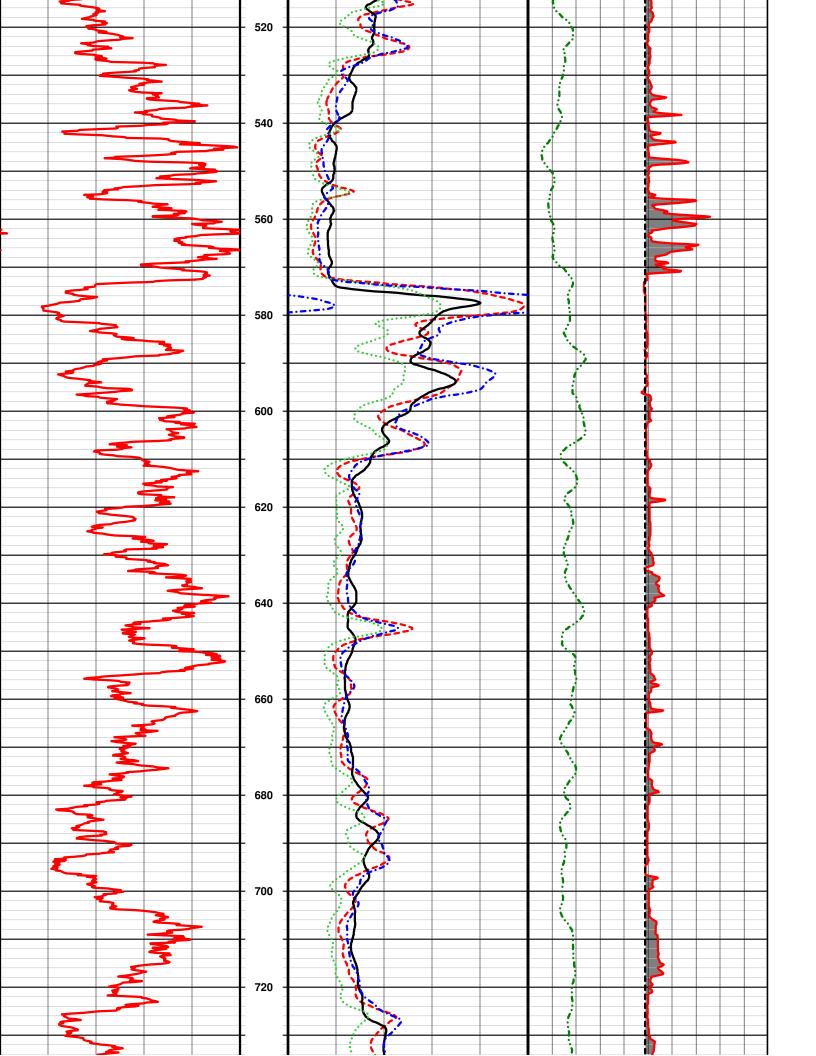
Tool Serial No. LOG TYPE Witness: DAVID RESISTIVITY CALIPER GAMMA RUN NO 4831, 4804, 6874 _ N SPEED (ft/min) 45 35 45 890.0' FROM (ft) 886.6 5. 5. 110.1 29.1 TO (ft) FT./ IN. 20 20 20

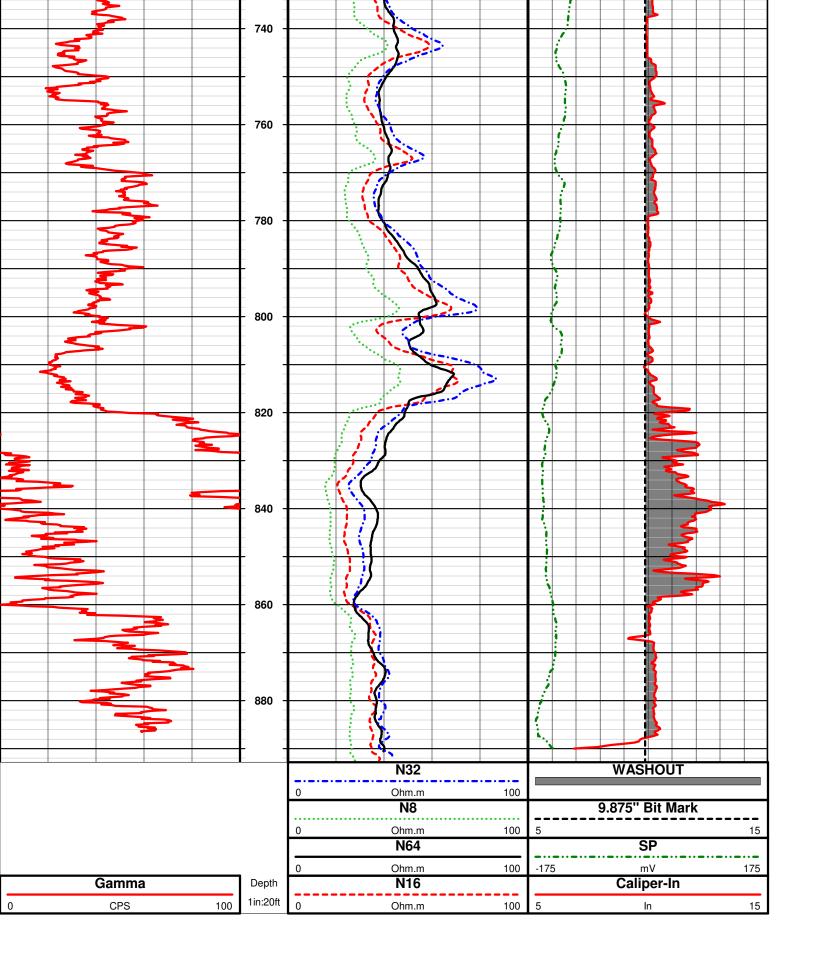
Comments: ALL MEASUREMENTS WERE TAKEN FROM GROUND LEVEL.

	Gamma		Depth		N16				Calip	er-I	n		_
	CPS	100	1in:20ft	0	Ohm.m	100	5		lr				15
					N64				S	Р			
				0	Ohm.m	100	-175		m				175
					N8	 		9.	875'' E	3it M	lark		
				0	Ohm.m	100	5						1
					 N32	 			WASI	HOU	IT		_
				0	Ohm.m	100							
										5			
									j			+	
			- 20 -									+	_
			_										
												+	
	-		- 40 -									1	_
			_						Ì				
													_
	S												
			- 60 -								_	+	_
-									1				
	٤												
	E												_
			-									+	





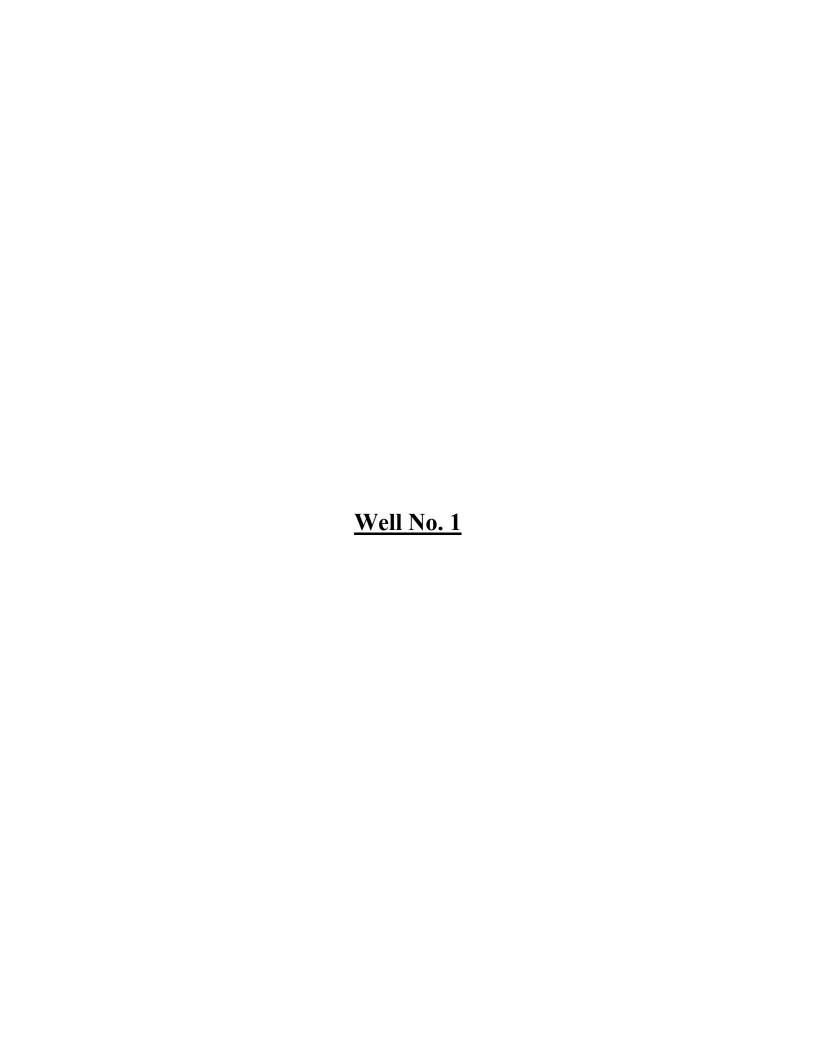




Appendix C

Aquifer Test Analyses





The Backyard Well No. 1 - Aquifer Test (January 17, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 1 Temperature (F)	PW Well No. 1 Water Level (ft bgs)	PW Well No. 1 Water Level (ft MSL)	PW Well No. 1 Drawdown (ft)	PW Well No. 1 Pump Rate (gpm)	PW Well No. 1 Specific Capacity (gpm/ft)	Comments	OW Well No. 2 Water Level (ft MSL)	OW Well No. 2 Drawdown (ft)
1/17/23 3:20 PM	0		76.97	570.75	388.26	0.00			Pump Start	337.00	0.00
1/17/23 3:21 PM	1		77.02	582.71	376.29	11.97	50		Meter: 648,010.3 gallons	336.96	0.04
1/17/23 3:22 PM	2		76.94	597.24	361.76	26.50	50			336.94	0.06
1/17/23 3:23 PM	3		76.87	607.84	351.16	37.10	50			336.92	0.08
1/17/23 3:24 PM	4		76.80	618.02	340.98	47.28	50		pH: 7.01/ EC: 2.88	336.93	0.07
1/17/23 3:25 PM	5		76.77	627.21	331.79	56.47	50			336.95	0.05
1/17/23 3:26 PM	6		76.75	634.82	324.18	64.08	50			336.99	0.01
1/17/23 3:27 PM	7		76.74	641.63	317.37	70.89	50			336.90	0.11
1/17/23 3:28 PM	8		76.74	642.35	316.65	71.60	50			336.91	0.09
1/17/23 3:29 PM	9		76.74	645.21	313.79	74.47	50			336.83	0.17
1/17/23 3:30 PM	10		76.75	645.22	313.79	74.47	50			336.84	0.16
1/17/23 3:31 PM	11		76.75	651.42	307.58	80.68	50			336.80	0.20
1/17/23 3:32 PM	12		76.76	658.00	301.00	87.26	50			336.80	0.20
1/17/23 3:33 PM	13		76.76	664.68	294.32	93.93	50			336.80	0.20
1/17/23 3:34 PM	14		76.75	670.49	288.51	99.75	50			336.76	0.24
1/17/23 3:35 PM	15		76.77	675.79	283.21	105.05	50			336.58	0.42
1/17/23 3:40 PM	20		76.74	687.05	271.95	116.31	38			336.38	0.62
1/17/23 3:45 PM	25		76.70	702.54	256.46	131.79	38			336.13	0.87
1/17/23 3:50 PM	30		76.75	716.13	242.87	145.38	44			335.83	1.17
1/17/23 3:55 PM	35		76.84	722.78	236.22	152.03	34			335.50	1.50
1/17/23 4:00 PM	40		76.92	726.62	232.38	155.88	34			335.30	1.71
1/17/23 4:05 PM	45		76.96	730.15	228.85	159.41	34			335.01	1.99
1/17/23 4:20 PM	60		77.10	738.90	220.10	168.16	34		pH: 7.01/ EC: 2.86	334.36	2.64
1/17/23 4:35 PM	75		77.33	745.70	213.30	174.96	34		-	333.51	3.49
1/17/23 4:50 PM	90		77.48	750.79	208.21	180.04	34			332.92	4.08
1/17/23 5:04 PM	105		77.59	754.91	204.09	184.16	34			332.31	4.69
1/17/23 5:19 PM	120		77.63	758.05	200.95	187.30	34	1		331.63	5.38
1/17/23 5:49 PM	150		77.71	762.41	196.59	191.66	34	1		330.87	6.13
1/17/23 6:19 PM	180		77.78	765.39	193.61	194.65	34	1		330.28	6.72
1/17/23 6:49 PM	210		77.76	767.88	191.12	197.13	34	1		329.86	7.14
1/17/23 7:19 PM	240		77.81	769.89	189.11	199.15	34	1		329.41	7.59
1/17/23 8:19 PM	300		77.97	772.80	186.20	202.05	34			328.86	8.14
1/17/23 9:19 PM	360		78.03	773.10	185.90	202.36	34	1		328.35	8.65
1/17/23 10:19 PM	420		78.07	775.79	183.21	205.05	34			327.92	9.08
1/17/23 11:19 PM	480		78.16	767.03	191.97	196.29	32.0	† †		327.62	9.38

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 820 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 1 - Aquifer Test (January 17, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 1 Temperature (F)	PW Well No. 1 Water Level (ft bgs)	PW Well No. 1 Water Level (ft MSL)	PW Well No. 1 Drawdown (ft)	PW Well No. 1 Pump Rate (gpm)	PW Well No. 1 Specific Capacity (gpm/ft)	Comments	OW Well No. 2 Water Level (ft MSL)	OW Well No. 2 Drawdown (ft)
1/18/23 12:19 AM	540		78.16	766.37	192.63	195.63	32.0			327.41	9.59
1/18/23 1:19 AM	600		78.25	766.87	192.13	196.13	32.0			327.18	9.83
1/18/23 2:19 AM	660		78.32	767.31	191.69	196.56	32.0			327.04	9.96
1/18/23 3:19 AM	720		78.32	767.93	191.07	197.19	32.0			326.78	10.22
1/18/23 4:19 AM	780		78.37	768.90	190.10	198.15	32.0			326.73	10.27
1/18/23 5:19 AM	840		78.36	769.57	189.43	198.83	32.0			326.58	10.42
1/18/23 6:19 AM	900		78.45	770.12	188.88	199.37	32.0			326.40	10.60
1/18/23 7:19 AM	960		78.50	770.44	188.56	199.69	32.0			326.29	10.71
1/18/23 8:19 AM	1,020		78.52	770.82	188.18	200.07	32.0			326.04	10.97
1/18/23 9:19 AM	1,080		78.51	771.63	187.37	200.89	32.0			325.97	11.03
1/18/23 10:19 AM	1,140		78.54	772.05	186.95	201.31	32.0			325.82	11.18
1/18/23 11:19 AM	1,200		78.61	772.53	186.47	201.79	32.0			325.65	11.35
1/18/23 12:19 PM	1,260		78.60	772.67	186.33	201.93	32.0			325.72	11.28
1/18/23 1:19 PM	1,320		78.60	772.48	186.52	201.74	32.0			325.59	11.41
1/18/23 2:19 PM	1,380		78.64	772.41	186.59	201.67	32.0			325.46	11.54
1/18/23 3:19 PM	1,440		78.59	772.44	186.56	201.70	32.0			325.35	11.65
1/18/23 4:19 PM	1,500		78.65	772.28	186.72	201.53	32.0			325.39	11.61
1/18/23 5:19 PM	1,560		78.74	772.44	186.56	201.69	32.0			325.14	11.86
1/18/23 6:19 PM	1,620		78.68	772.93	186.07	202.19	32.0			325.04	11.96
1/18/23 7:19 PM	1,680		78.67	773.59	185.41	202.84	32.0			325.05	11.95
1/18/23 8:19 PM	1,740		78.65	774.03	184.97	203.28	32.0			325.02	11.98
1/18/23 9:19 PM	1,800		78.66	775.02	183.98	204.27	32.0			324.91	12.09
1/18/23 10:19 PM	1,860		78.72	775.47	183.53	204.73	32.0			324.83	12.17
1/18/23 11:19 PM	1,920		78.73	775.73	183.27	204.99	32.0			324.71	12.29
1/19/23 12:19 AM	1,980		78.75	775.98	183.03	205.23	32.0			324.62	12.38
1/19/23 1:19 AM	2,040		78.77	776.13	182.88	205.38	32.0			324.56	12.44
1/19/23 2:19 AM	2,100		78.79	776.54	182.46	205.80	32.0			324.53	12.47
1/19/23 3:19 AM	2,160	0	78.82	777.12	181.88	206.37	32.0		Pump Stop	324.44	12.56
1/19/23 3:19 AM	2,160	0	78.82	777.12	181.88	206.37	32.0	0.16	Meter: 717,955.0 gallons	324.38	12.62
1/19/23 3:20 AM	2,161	1	78.81	768.46	190.54	197.71			Avg. Pump Rate: 32.4	324.49	12.52
1/19/23 3:21 AM	2,162	2	78.77	758.41	200.60	187.66				324.43	12.57
1/19/23 3:22 AM	2,163	3	78.81	749.62	209.38	178.88				324.41	12.59
1/19/23 3:23 AM	2,164	4	78.97	742.26	216.74	171.51				324.43	12.57
1/19/23 3:24 AM	2,165	5	79.00	736.76	222.24	166.02				324.50	12.50
1/19/23 3:25 AM	2,166	6	79.12	733.02	225.98	162.27				324.41	12.59

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches MSL = Mean Sea Level Pump Setting = 820 ft EC=Electrical conductivity (mS/cm)

Horsepower = 10 HP

The Backyard Well No. 1 - Aquifer Test (January 17, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 1 Temperature (F)	PW Well No. 1 Water Level (ft bgs)	PW Well No. 1 Water Level (ft MSL)	PW Well No. 1 Drawdown (ft)	PW Well No. 1 Pump Rate (gpm)	PW Well No. 1 Specific Capacity (gpm/ft)	Comments	OW Well No. 2 Water Level (ft MSL)	OW Well No. 2 Drawdown (ft)
1/19/23 3:26 AM	2,167	7	79.13	729.54	229.46	158.80				324.43	12.57
1/19/23 3:27 AM	2,168	8	79.18	726.13	232.88	155.38				324.44	12.56
1/19/23 3:28 AM	2,169	9	79.23	722.72	236.28	151.97				324.36	12.65
1/19/23 3:29 AM	2,170	10	79.24	719.58	239.42	148.84				324.50	12.50
1/19/23 3:30 AM	2,171	11	79.27	716.60	242.40	145.86				324.50	12.50
1/19/23 3:31 AM	2,172	12	79.23	713.70	245.30	142.96				324.50	12.50
1/19/23 3:32 AM	2,173	13	79.29	710.83	248.17	140.09				324.45	12.55
1/19/23 3:33 AM	2,174	14	79.27	708.10	250.90	137.36				324.51	12.49
1/19/23 3:34 AM	2,175	15	79.26	705.50	253.51	134.75				324.59	12.41
1/19/23 3:39 AM	2,180	20	79.29	693.40	265.60	122.66				324.56	12.44
1/19/23 3:44 AM	2,185	25	79.07	683.07	275.94	112.32				324.70	12.30
1/19/23 3:49 AM	2,190	30	78.87	674.57	284.43	103.82				324.77	12.23
1/19/23 3:54 AM	2,195	35	78.76	667.50	291.50	96.75				324.89	12.11
1/19/23 3:59 AM	2,200	40	78.68	661.08	297.92	90.34				324.96	12.04
1/19/23 4:04 AM	2,205	45	78.69	656.08	302.92	85.34				325.23	11.77
1/19/23 4:19 AM	2,220	60	78.63	646.70	312.30	75.96				325.45	11.55
1/19/23 4:34 AM	2,235	75	78.53	640.79	318.21	70.05				325.78	11.22
1/19/23 4:49 AM	2,250	90	78.48	637.05	321.95	66.31				326.13	10.87
1/19/23 5:04 AM	2,265	105	78.44	634.75	324.26	64.00				326.48	10.53
1/19/23 5:19 AM	2,280	120	78.37	633.26	325.75	62.51				327.07	9.93
1/19/23 5:49 AM	2,310	150	78.29	631.12	327.88	60.38				327.62	9.38
1/19/23 6:19 AM	2,340	180	78.15	629.73	329.27	58.99				328.11	8.89
1/19/23 6:49 AM	2,370	210	78.05	628.63	330.37	57.89				328.42	8.58
1/19/23 7:19 AM	2,400	240	77.93	627.76	331.24	57.02				329.16	7.84
1/19/23 8:19 AM	2,460	300	77.56	626.19	332.81	55.45				329.62	7.38
1/19/23 9:19 AM	2,520	360	77.59	625.12	333.88	54.37				330.31	6.69
1/19/23 10:19 AM	2,580	420	77.47	623.94	335.06	53.20				330.72	6.28
1/19/23 11:19 AM	2,640	480	77.49	623.11	335.89	52.37				331.01	5.99
1/19/23 12:19 PM	2,700	540	77.45	622.36	336.64	51.61				331.28	5.72
1/19/23 1:19 PM	2,760	600	77.33	621.75	337.25	51.01				331.53	5.47
1/19/23 2:19 PM	2,820	660	77.34	621.15	337.85	50.41				331.82	5.18
1/19/23 3:19 PM	2,880	720	77.31	620.48	338.52	49.74				331.99	5.01
1/19/23 4:19 PM	2,940	780	77.187	619.88	339.12	49.13				332.23	4.77
1/19/23 5:19 PM	3,000	840	77.29	619.47	339.53	48.73				332.45	4.55
1/19/23 6:19 PM	3,060	900	77.23	619.00	340.00	48.25				332.56	4.44

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches MSL = Mean Sea Level Pump Setting = 820 ft

Horsepower = 10 HP

EC=Electrical conductivity (mS/cm)

The Backyard Well No. 1 - Aquifer Test (January 17, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 1 Temperature (F)	PW Well No. 1 Water Level (ft bgs)	PW Well No. 1 Water Level (ft MSL)	PW Well No. 1 Drawdown (ft)	PW Well No. 1 Pump Rate (gpm)	PW Well No. 1 Specific Capacity (gpm/ft)	Comments	OW Well No. 2 Water Level (ft MSL)	OW Well No. 2 Drawdown (ft)
1/19/23 7:19 PM	3,120	960	77.23	618.55	340.45	47.81				332.68	4.32
1/19/23 8:19 PM	3,180	1,020	77.16	618.01	340.99	47.26				332.89	4.12
1/19/23 9:19 PM	3,240	1,080	77.18	617.77	341.23	47.03				333.01	4.00
1/19/23 10:19 PM	3,300	1,140	77.10	617.39	341.61	46.65				333.13	3.87
1/19/23 11:19 PM	3,360	1,200	77.09	616.78	342.22	46.03				333.22	3.78
1/20/23 12:19 AM	3,420	1,260	77.14	616.53	342.47	45.78				333.44	3.56
1/20/23 1:19 AM	3,480	1,320	77.06	616.13	342.87	45.38				333.51	3.49
1/20/23 2:19 AM	3,540	1,380	77.09	615.83	343.17	45.08				333.64	3.37
1/20/23 3:19 AM	3,600	1,440	77.04	615.58	343.42	44.84				333.89	3.11
1/20/23 4:19 AM	3,660	1,500	77.06	615.19	343.82	44.44				333.99	3.01
1/20/23 5:19 AM	3,720	1,560	77.01	614.88	344.12	44.14				334.03	2.97
1/20/23 6:19 AM	3,780	1,620	76.97	614.50	344.50	43.76				334.17	2.83
1/20/23 7:19 AM	3,840	1,680	77.02	614.20	344.81	43.45				334.30	2.70
1/20/23 8:19 AM	3,900	1,740	76.94	614.03	344.97	43.28				334.38	2.63
1/20/23 9:19 AM	3,960	1,800	77.00	613.72	345.29	42.97				334.42	2.59
1/20/23 10:19 AM	4,020	1,860	76.99	613.54	345.46	42.79				334.31	2.69
1/20/23 11:19 AM	4,080	1,920	76.98	613.41	345.59	42.67				334.39	2.61
1/20/23 12:19 PM	4,140	1,980	76.98	613.37	345.63	42.63				334.43	2.57
1/20/23 1:19 PM	4,200	2,040	76.98	613.00	346.00	42.26				334.40	2.60
1/20/23 2:19 PM	4,260	2,100	76.93	612.71	346.29	41.97				334.60	2.40
1/20/23 3:19 PM	4,320	2,160	76.94	612.43	346.57	41.68				334.62	2.38
1/20/23 4:19 PM	4,380	2,220	76.92	612.26	346.74	41.51				334.67	2.33
1/20/23 5:19 PM	4,440	2,280	76.99	612.20	346.80	41.46				334.71	2.29
1/20/23 6:19 PM	4,500	2,340	76.94	611.94	347.06	41.20				334.81	2.19
1/20/23 7:19 PM	4,560	2,400	76.90	611.79	347.21	41.04				334.88	2.12
1/20/23 8:19 PM	4,620	2,460	76.92	611.66	347.34	40.92				334.91	2.09
1/20/23 9:19 PM	4,680	2,520	76.92	611.50	347.51	40.75				334.90	2.11
1/20/23 10:19 PM	4,740	2,580	76.96	611.13	347.87	40.39				334.99	2.01
1/20/23 11:19 PM	4,800	2,640	76.90	610.78	348.22	40.03				334.96	2.04
1/21/23 12:19 AM	4,860	2,700	76.90	610.60	348.40	39.86				335.14	1.86
1/21/23 1:19 AM	4,920	2,760	76.91	610.36	348.64	39.61				335.16	1.84
1/21/23 2:19 AM	4,980	2,820	76.88	610.24	348.76	39.50				335.16	1.84
1/21/23 3:19 AM	5,040	2,880	76.93	609.97	349.03	39.22				335.34	1.66
1/21/23 4:19 AM	5,100	2,940	76.96	609.69	349.31	38.94				335.39	1.61
1/21/23 5:19 AM	5,160	3,000	76.87	609.49	349.51	38.75				335.52	1.48

Note: bgs = below ground surface MSL = Mean Sea Level

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 820 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 1 - Aquifer Test (January 17, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 1 Temperature (F)	PW Well No. 1 Water Level (ft bgs)	PW Well No. 1 Water Level (ft MSL)	PW Well No. 1 Drawdown (ft)	PW Well No. 1 Pump Rate (gpm)	PW Well No. 1 Specific Capacity (gpm/ft)	Comments	OW Well No. 2 Water Level (ft MSL)	OW Well No. 2 Drawdown (ft)
1/21/23 6:19 AM	5,220	3,060	76.97	609.33	349.67	38.59				335.51	1.50
1/21/23 7:19 AM	5,280	3,120	76.93	609.08	349.92	38.34				335.64	1.36
1/21/23 8:19 AM	5,340	3,180	76.92	608.89	350.11	38.14				335.72	1.28
1/21/23 9:19 AM	5,400	3,240	76.97	608.69	350.31	37.95				335.71	1.29
1/21/23 10:19 AM	5,460	3,300	76.91	608.59	350.41	37.85				335.68	1.32
1/21/23 11:19 AM	5,520	3,360	76.84	608.48	350.52	37.74				335.62	1.38
1/21/23 12:19 PM	5,580	3,420	76.87	608.39	350.61	37.65				335.64	1.36
1/21/23 1:19 PM	5,640	3,480	76.91	608.33	350.67	37.58				335.77	1.23
1/21/23 2:19 PM	5,700	3,540	76.88	608.10	350.90	37.36				335.75	1.25
1/21/23 3:19 PM	5,760	3,600	76.94	607.44	351.56	36.69				335.86	1.14
1/21/23 4:19 PM	5,820	3,660	76.85	607.34	351.66	36.60				335.93	1.07
1/21/23 5:19 PM	5,880	3,720	76.92	607.18	351.82	36.43				336.02	0.98
1/21/23 6:19 PM	5,940	3,780	76.93	607.18	351.82	36.44				336.00	1.00
1/21/23 7:19 PM	6,000	3,840	76.83	607.02	351.98	36.28				336.13	0.87
1/21/23 8:19 PM	6,060	3,900	76.94	606.92	352.08	36.18				336.09	0.91
1/21/23 9:19 PM	6,120	3,960	76.88	606.82	352.18	36.07				336.18	0.82
1/21/23 10:19 PM	6,180	4,020	76.92	606.65	352.35	35.90				336.14	0.86
1/21/23 11:19 PM	6,240	4,080	76.89	606.66	352.34	35.91				336.17	0.83
1/22/23 12:19 AM	6,300	4,140	76.90	606.29	352.71	35.54				336.23	0.77
1/22/23 1:19 AM	6,360	4,200	76.94	605.88	353.12	35.13				336.28	0.72
1/22/23 2:19 AM	6,420	4,260	76.89	605.89	353.11	35.15				336.34	0.66
1/22/23 3:19 AM	6,480	4,320	76.89	605.69	353.31	34.94				336.39	0.61
1/22/23 4:19 AM	6,540	4,380	76.92	605.42	353.59	34.67				336.53	0.47
1/22/23 5:19 AM	6,600	4,440	76.87	605.14	353.86	34.40				336.55	0.45
1/22/23 6:19 AM	6,660	4,500	76.89	605.10	353.90	34.35				336.60	0.40
1/22/23 7:19 AM	6,720	4,560	76.89	604.94	354.07	34.19				336.69	0.31
1/22/23 8:19 AM	6,780	4,620	76.92	604.84	354.16	34.10				336.72	0.28
1/22/23 9:19 AM	6,840	4,680	76.87	604.47	354.53	33.73				336.76	0.24
1/22/23 10:19 AM	6,900	4,740	76.86	604.35	354.65	33.61				336.73	0.27
1/22/23 11:19 AM	6,960	4,800	76.88	604.32	354.68	33.58				336.82	0.18
1/22/23 12:19 PM	7,020	4,860	76.90	604.23	354.77	33.48				336.76	0.24
1/22/23 1:19 PM	7,080	4,920	76.89	603.71	355.29	32.97				336.87	0.13
1/22/23 2:19 PM	7,140	4,980	76.87	603.75	355.25	33.01				336.90	0.10
1/22/23 3:19 PM	7,200	5,040	76.90	603.62	355.38	32.88				336.90	0.10
1/22/23 4:19 PM	7,260	5,100	76.86	603.31	355.69	32.56				337.05	-0.05

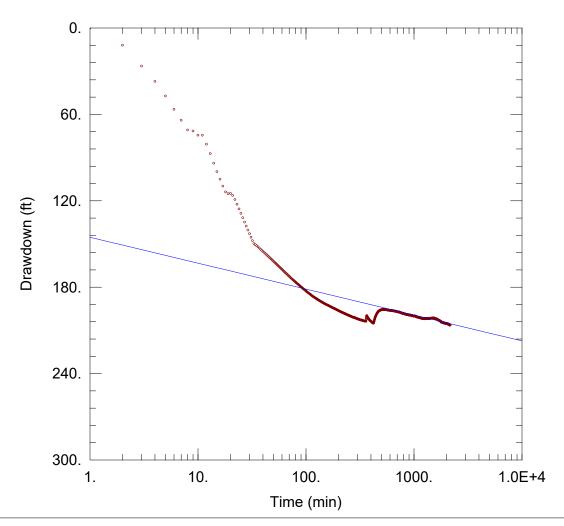
Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 820 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 1 - Aquifer Test (January 17, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 1 Temperature (F)	PW Well No. 1 Water Level (ft bgs)	PW Well No. 1 Water Level (ft MSL)	PW Well No. 1 Drawdown (ft)	PW Well No. 1 Pump Rate (gpm)	PW Well No. 1 Specific Capacity (gpm/ft)	Comments	OW Well No. 2 Water Level (ft MSL)	OW Well No. 2 Drawdown (ft)
1/22/23 5:19 PM	7,320	5,160	76.90	603.04	355.96	32.29				337.03	-0.03
1/22/23 6:19 PM	7,380	5,220	76.88	602.94	356.06	32.20				337.14	-0.14
1/22/23 7:19 PM	7,440	5,280	76.92	602.88	356.13	32.13				337.11	-0.11
1/22/23 8:19 PM	7,500	5,340	76.85	602.94	356.06	32.20				337.10	-0.10
1/22/23 9:19 PM	7,560	5,400	76.86	602.97	356.03	32.23				337.22	-0.22
1/22/23 10:19 PM	7,620	5,460	76.91	602.83	356.17	32.09				337.22	-0.22
1/22/23 11:19 PM	7,680	5,520	76.87	602.79	356.21	32.05				337.27	-0.27
1/23/23 12:19 AM	7,740	5,580	76.81	602.69	356.31	31.95				337.25	-0.25
1/23/23 1:19 AM	7,800	5,640	76.83	602.69	356.31	31.95				337.19	-0.19
1/23/23 2:19 AM	7,860	5,700	76.85	602.26	356.74	31.52				337.13	-0.13
1/23/23 3:19 AM	7,920	5,760	76.86	602.38	356.62	31.64				337.05	-0.05
1/23/23 4:19 AM	7,980	5,820	76.90	602.38	356.62	31.64				337.10	-0.10
1/23/23 5:19 AM	8,040	5,880	76.85	602.33	356.67	31.58				337.11	-0.11
1/23/23 6:19 AM	8,100	5,940	76.84	602.28	356.72	31.54				337.14	-0.14
1/23/23 7:19 AM	8,160	6,000	76.86	602.10	356.90	31.36				337.15	-0.15
1/23/23 8:19 AM	8,220	6,060	76.87	602.22	356.78	31.47					



WELL TEST ANALYSIS

Data Set: \...\Cooper-Jacob.aqt

Date: 02/15/23 Time: 08:02:58

PROJECT INFORMATION

Company: WRGS Client: The Backyard Project: 197-001-22 Location: Travis County Test Well: Well No. 1 Test Date: 1/17/23

AQUIFER DATA

Anisotropy Ratio (Kz/Kr): 1. Saturated Thickness: 260. ft

WELL DATA

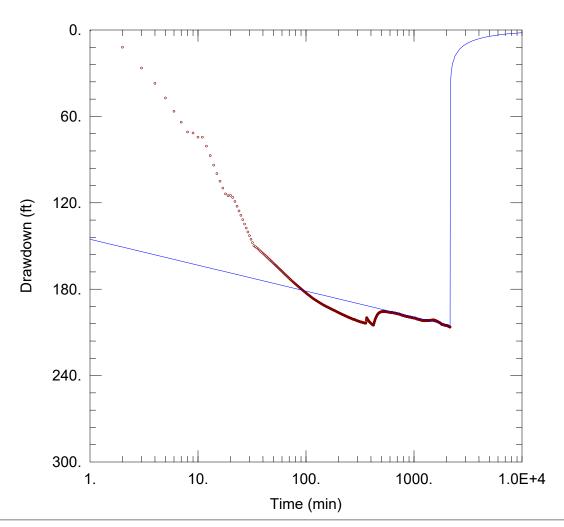
Pumping Wells Observation Wells Well Name Y (ft) Well Name Y (ft) X (ft) X (ft) Well No. 1 0 0 · Well No. 2 300 0

SOLUTION

Aquifer Model: Confined

Solution Method: Cooper-Jacob

 $T = 63.5 \text{ ft}^2/\text{day}$



WELL TEST ANALYSIS

Data Set: \...\Theis.aqt

Date: 02/15/23 Time: 08:04:10

PROJECT INFORMATION

Company: WRGS
Client: The Backyard
Project: 197-001-22
Location: Travis County
Test Well: Well No. 1
Test Date: 1/17/23

WELL DATA

Pum	ping Wells		Obs	ervation Wells	
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well No. 1	0	0	· Well No. 2	300	0

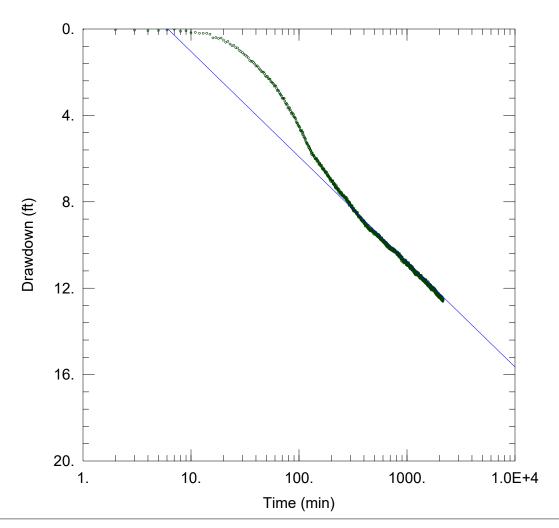
SOLUTION

Aquifer Model: Confined

= 63.5 ft²/day

 $Kz/Kr = \overline{1}$.

Solution Method: Theis



WELL TEST ANALYSIS

Data Set: \...\Cooper-Jacob OW.aqt

Date: 02/15/23 Time: <u>10:16:33</u>

PROJECT INFORMATION

Company: WRGS Client: The Backyard Project: 197-001-22 Location: Travis County Test Well: Well No. 1 Test Date: 1/17/23

AQUIFER DATA

Anisotropy Ratio (Kz/Kr): 1. Saturated Thickness: 260. ft

WELL DATA

Pumpi	ng Wells		Observa	ition Wells	
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well No. 1	0	0	· Well No. 2	300	0

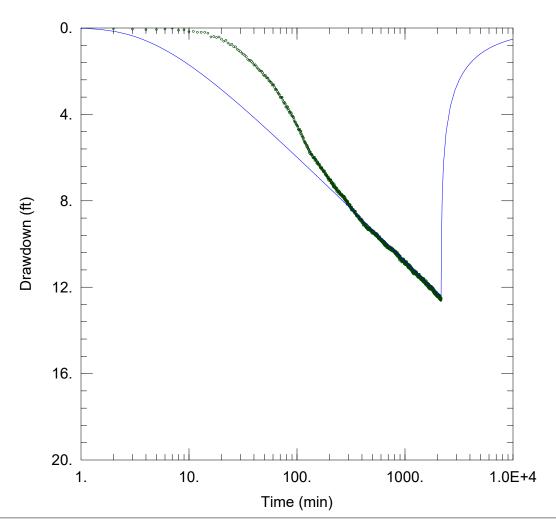
SOLUTION

Aquifer Model: Confined

 $T = 234.7 \text{ ft}^2/\text{day}$

S = 2.485E-5

Solution Method: Cooper-Jacob



WELL TEST ANALYSIS

Data Set: \...\Theis OW.aqt

Date: 02/15/23 Time: 10:17:18

PROJECT INFORMATION

Company: WRGS
Client: The Backyard
Project: 197-001-22
Location: Travis County
Test Well: Well No. 1
Test Date: 1/17/23

WELL DATA

Pum	ping Wells		Observation Wells						
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)				
Well No. 1	0	0	→ Well No. 2	300	0				

SOLUTION

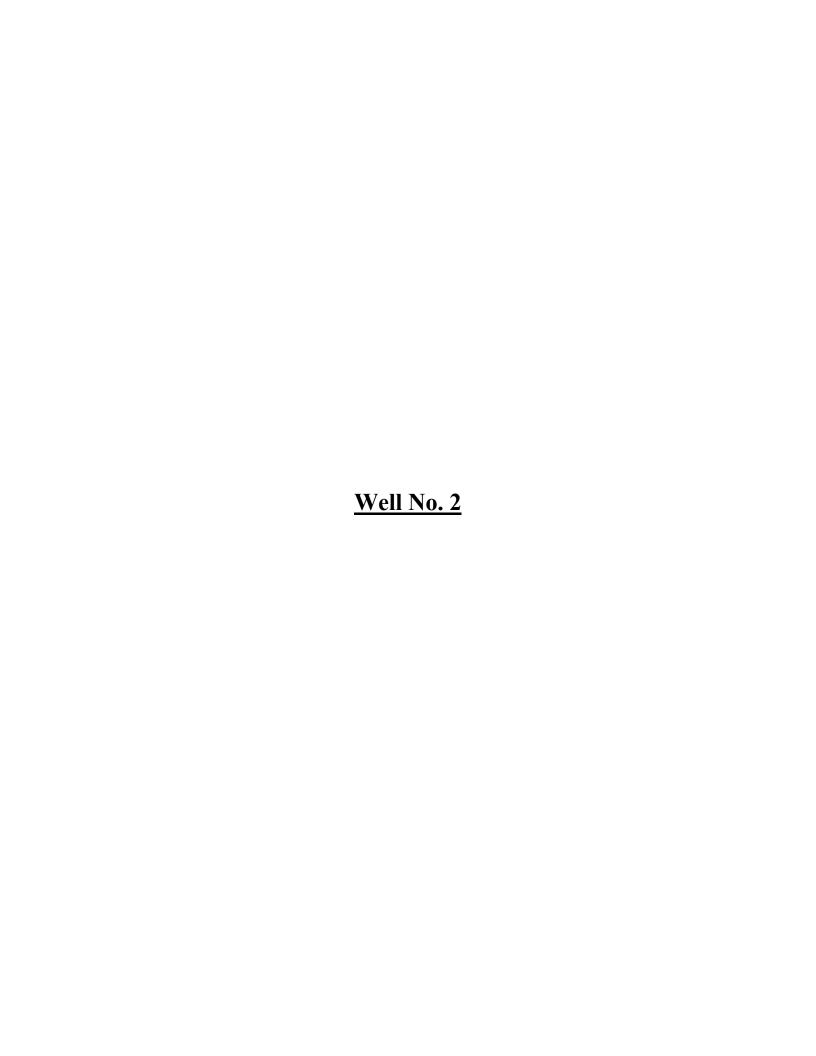
Aquifer Model: Confined

Γ = 234.7 ft²/day

 $Kz/Kr = \overline{1}$.

Solution Method: Theis

S = 2.485E-5b = 260. ft



The Backyard Well No. 2 - Aquifer Test (January 24, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
1/24/23 4:27 PM	0		79.76	626.91	331.09	0.00			Pump Start	368.98	0.00
1/24/23 4:28 PM	1		79.80	632.65	325.35	5.75	50		Meter: 716,921.6 gallons	368.98	0.01
1/24/23 4:29 PM	2		79.55	639.37	318.63	12.46	50			369.05	-0.06
1/24/23 4:30 PM	3		79.35	643.29	314.71	16.38	50			368.95	0.04
1/24/23 4:31 PM	4		79.18	646.46	311.54	19.55	50			369.05	-0.07
1/24/23 4:32 PM	5		79.03	649.30	308.70	22.39	50			368.98	0.01
1/24/23 4:33 PM	6		78.95	652.05	305.95	25.14	50			368.99	-0.01
1/24/23 4:34 PM	7		78.90	654.63	303.37	27.72	50			369.04	-0.05
1/24/23 4:35 PM	8		78.87	657.03	300.97	30.12	50			368.88	0.11
1/24/23 4:36 PM	9		78.81	659.15	298.85	32.24	50			368.92	0.06
1/24/23 4:37 PM	10		78.86	660.95	297.06	34.04	50			368.92	0.06
1/24/23 4:38 PM	11		78.80	662.86	295.14	35.96	50			368.98	0.01
1/24/23 4:39 PM	12		78.85	664.45	293.55	37.54	50			368.88	0.10
1/24/23 4:40 PM	13		78.84	665.98	292.02	39.07	50			368.84	0.14
1/24/23 4:41 PM	14		78.85	667.04	290.96	40.14	50			368.81	0.17
1/24/23 4:42 PM	15		78.88	668.34	289.66	41.43	50		pH: 7.43/ EC: 1.74	368.79	0.19
1/24/23 4:47 PM	20		78.86	673.03	284.97	46.12	50			368.69	0.29
1/24/23 4:52 PM	25		78.93	676.19	281.81	49.28	50			368.52	0.46
1/24/23 4:57 PM	30		78.99	674.42	283.58	47.52	45		pH: 8.09/ EC: 1.61	368.32	0.66
1/24/23 5:02 PM	35		78.98	672.94	285.06	46.03	45			367.91	1.07
1/24/23 5:07 PM	40		78.98	671.38	286.62	44.47	45			367.70	1.28
1/24/23 5:12 PM	45		78.95	671.05	286.95	44.14	42		pH: 8.18/ EC: 1.63	367.48	1.50
1/24/23 5:27 PM	60		79.08	672.28	285.72	45.37	40			366.70	2.29
1/24/23 5:42 PM	75		79.13	673.94	284.06	47.03	40			365.97	3.02
1/24/23 5:57 PM	90		79.22	675.69	282.31	48.78	40			365.28	3.70
1/24/23 6:12 PM	105		79.08	677.13	280.87	50.22	40			364.67	4.32
1/24/23 6:27 PM	120		79.00	678.29	279.71	51.38	40			364.29	4.70
1/24/23 6:57 PM	150		78.90	680.36	277.64	53.45	40			363.76	5.22
1/24/23 7:27 PM	180		78.79	682.26	275.74	55.35	40			362.90	6.09
1/24/23 7:57 PM	210		78.69	683.42	274.59	56.51	40			362.08	6.91
1/24/23 8:27 PM	240		78.60	684.56	273.44	57.65	40			361.37	7.62
1/24/23 9:27 PM	300		78.78	686.00	272.00	59.09	40			360.06	8.92
1/24/23 10:27 PM	360		78.80	688.04	269.96	61.14	40			359.20	9.78
1/24/23 11:27 PM	420		78.76	689.43	268.57	62.52	40			358.42	10.57
1/25/23 12:27 AM	480		78.75	690.40	267.60	63.49	40	1		358.64	10.35

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 800 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 2 - Aquifer Test (January 24, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
1/25/23 1:27 AM	540		78.77	691.25	266.75	64.34	40			358.00	10.98
1/25/23 2:27 AM	600		78.87	689.73	268.27	62.82	40			357.76	11.22
1/25/23 3:27 AM	660		78.72	685.91	272.09	59.00	38			357.55	11.43
1/25/23 4:27 AM	720		78.77	685.92	272.08	59.01	38			357.60	11.39
1/25/23 5:27 AM	780		78.79	686.18	271.82	59.28	38			357.54	11.45
1/25/23 6:27 AM	840		78.77	686.43	271.57	59.52	38			357.41	11.58
1/25/23 7:27 AM	900		78.77	686.82	271.18	59.92	38			357.61	11.38
1/25/23 8:27 AM	960		78.91	687.13	270.87	60.22	38			357.57	11.41
1/25/23 9:27 AM	1,020		78.91	687.30	270.70	60.39	38			357.62	11.36
1/25/23 10:27 AM	1,080		78.90	687.50	270.51	60.59	38			357.43	11.55
1/25/23 11:27 AM	1,140		78.91	687.80	270.20	60.90	38			357.21	11.78
1/25/23 12:27 PM	1,200		78.81	687.96	270.04	61.05	38		pH: 7.97/ EC: 1.37	357.47	11.51
1/25/23 1:27 PM	1,260		78.88	688.06	269.94	61.15	38			357.45	11.54
1/25/23 2:27 PM	1,320		78.89	688.28	269.72	61.37	38			357.27	11.72
1/25/23 3:27 PM	1,380		78.87	688.46	269.54	61.55	38			357.05	11.93
1/25/23 4:27 PM	1,440		78.88	688.55	269.45	61.64	38			356.95	12.03
1/25/23 5:27 PM	1,500		78.90	688.79	269.21	61.88	38			356.91	12.08
1/25/23 6:27 PM	1,560		78.89	689.11	268.89	62.20	38			356.80	12.18
1/25/23 7:27 PM	1,620		78.91	689.46	268.54	62.55	38			356.65	12.34
1/25/23 8:27 PM	1,680		78.92	689.79	268.21	62.88	38			356.48	12.50
1/25/23 9:27 PM	1,740		78.94	690.04	267.97	63.13	38			356.72	12.27
1/25/23 10:27 PM	1,800		78.92	690.20	267.80	63.29	38			357.17	11.81
1/25/23 11:27 PM	1,860		78.88	690.42	267.58	63.51	38			357.02	11.96
1/26/23 12:27 AM	1,920		78.90	690.44	267.56	63.53	38			356.70	12.29
1/26/23 1:27 AM	1,980		78.92	690.88	267.12	63.97	38			356.83	12.15
1/26/23 2:27 AM	2,040		78.93	691.17	266.84	64.26	38			357.02	11.96
1/26/23 3:27 AM	2,100		78.90	691.48	266.52	64.57	38			356.70	12.29
1/26/23 4:27 AM	2,160		78.92	691.77	266.23	64.86	38			356.44	12.54
1/26/23 4:53 AM	2,186	0	78.92	691.75	266.25	64.85	38.0	0.59	Pump Stop	356.17	12.82
1/26/23 4:54 AM	2,187	1	78.91	687.50	270.50	60.59			Meter: 806,714.9 gallons	356.29	12.69
1/26/23 4:55 AM	2,188	2	78.93	676.42	281.58	49.51			Avg. Pump Rate: 41	356.25	12.73
1/26/23 4:56 AM	2,189	3	78.94	668.55	289.45	41.64				356.20	12.79
1/26/23 4:57 AM	2,190	4	79.06	663.02	294.98	36.12				356.25	12.74
1/26/23 4:58 AM	2,191	5	79.17	659.47	298.53	32.56				356.26	12.73
1/26/23 4:59 AM	2,192	6	79.29	657.77	300.23	30.87				356.29	12.69

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 800 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 2 - Aquifer Test (January 24, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
1/26/23 5:00 AM	2,193	7	79.39	656.33	301.67	29.42				356.21	12.77
1/26/23 5:01 AM	2,194	8	79.49	655.03	302.97	28.12				356.27	12.71
1/26/23 5:02 AM	2,195	9	79.49	653.97	304.03	27.07				356.24	12.74
1/26/23 5:03 AM	2,196	10	79.55	652.77	305.23	25.86				356.23	12.76
1/26/23 5:04 AM	2,197	11	79.54	651.85	306.15	24.94				356.31	12.67
1/26/23 5:05 AM	2,198	12	79.51	650.83	307.17	23.92				356.24	12.74
1/26/23 5:06 AM	2,199	13	79.52	650.01	307.99	23.11				356.20	12.79
1/26/23 5:07 AM	2,200	14	79.51	649.31	308.69	22.41				356.24	12.74
1/26/23 5:08 AM	2,201	15	79.49	648.62	309.38	21.71				356.26	12.73
1/26/23 5:13 AM	2,206	20	79.39	646.35	311.65	19.45				356.28	12.70
1/26/23 5:18 AM	2,211	25	79.32	645.09	312.91	18.18				356.42	12.56
1/26/23 5:23 AM	2,216	30	79.20	644.34	313.66	17.43				356.55	12.43
1/26/23 5:28 AM	2,221	35	79.15	643.61	314.39	16.70				356.70	12.28
1/26/23 5:33 AM	2,226	40	79.05	643.10	314.90	16.20				356.70	12.28
1/26/23 5:38 AM	2,231	45	79.03	642.50	315.50	15.60				356.95	12.04
1/26/23 5:53 AM	2,246	60	78.77	641.30	316.70	14.39				357.33	11.65
1/26/23 6:08 AM	2,261	75	78.70	640.37	317.63	13.46				357.69	11.30
1/26/23 6:23 AM	2,276	90	78.63	639.61	318.39	12.70				358.06	10.92
1/26/23 6:38 AM	2,291	105	78.60	638.98	319.02	12.07				358.35	10.63
1/26/23 6:53 AM	2,306	120	78.62	638.36	319.64	11.45				358.76	10.22
1/26/23 7:23 AM	2,336	150	78.58	637.46	320.54	10.56				359.25	9.73
1/26/23 7:53 AM	2,366	180	78.53	636.69	321.31	9.78				359.66	9.33
1/26/23 8:23 AM	2,396	210	78.52	636.06	321.94	9.15				360.14	8.84
1/26/23 8:53 AM	2,426	240	78.54	635.63	322.37	8.72				360.57	8.42
1/26/23 9:53 AM	2,486	300	78.52	634.73	323.27	7.82				361.32	7.67
1/26/23 10:53 AM	2,546	360	78.49	634.11	323.89	7.20				361.94	7.04
1/26/23 11:53 AM	2,606	420	78.47	633.56	324.44	6.65				362.25	6.73
1/26/23 12:53 PM	2,666	480	78.52	633.02	324.98	6.11				362.62	6.36
1/26/23 1:53 PM	2,726	540	78.46	632.62	325.38	5.71				363.00	5.98
1/26/23 2:53 PM	2,786	600	78.45	632.18	325.82	5.27				363.39	5.59
1/26/23 3:53 PM	2,846	660	78.41	631.87	326.13	4.96				363.70	5.28
1/26/23 4:53 PM	2,906	720	78.44	631.64	326.36	4.73				363.99	4.99
1/26/23 5:53 PM	2,966	780	78.379	631.34	326.66	4.43				364.45	4.53
1/26/23 6:53 PM	3,026	840	78.44	631.01	326.99	4.10				364.69	4.30
1/26/23 7:53 PM	3,086	900	78.42	630.65	327.35	3.74				365.04	3.94

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

MSL = Mean Sea Level Pump Setting = 800 ft EC=Electric

1/2 inches Horsepower = 10 HP

The Backyard Well No. 2 - Aquifer Test (January 24, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
1/26/23 8:53 PM	3,146	960	78.40	630.47	327.53	3.56				365.46	3.52
1/26/23 9:53 PM	3,206	1,020	78.37	630.31	327.69	3.40				365.78	3.20
1/26/23 10:53 PM	3,266	1,080	78.40	630.00	328.00	3.09				365.98	3.00
1/26/23 11:53 PM	3,326	1,140	78.40	629.80	328.20	2.89				366.31	2.67
1/27/23 12:53 AM	3,386	1,200	78.41	629.67	328.33	2.76				366.88	2.10
1/27/23 1:53 AM	3,446	1,260	78.36	629.43	328.57	2.52				367.71	1.27
1/27/23 2:53 AM	3,506	1,320	78.30	629.36	328.64	2.46				367.78	1.20
1/27/23 3:53 AM	3,566	1,380	78.38	629.21	328.79	2.30				367.77	1.21
1/27/23 4:53 AM	3,626	1,440	78.32	629.00	329.00	2.10				367.71	1.27
1/27/23 5:53 AM	3,686	1,500	78.32	628.86	329.14	1.95				367.97	1.02
1/27/23 6:53 AM	3,746	1,560	78.35	628.78	329.22	1.87				368.15	0.83
1/27/23 7:53 AM	3,806	1,620	78.37	628.56	329.44	1.65				368.21	0.77
1/27/23 8:53 AM	3,866	1,680	78.37	628.47	329.53	1.56				368.68	0.30
1/27/23 9:53 AM	3,926	1,740	78.33	628.26	329.74	1.35				368.91	0.07
1/27/23 10:53 AM	3,986	1,800	78.33	628.15	329.85	1.25				369.44	-0.46
1/27/23 11:53 AM	4,046	1,860	78.32	628.10	329.90	1.19				369.37	-0.39
1/27/23 12:53 PM	4,106	1,920	78.34	628.00	330.00	1.09				369.44	-0.45
1/27/23 1:53 PM	4,166	1,980	78.33	627.95	330.06	1.04				369.52	-0.53
1/27/23 2:53 PM	4,226	2,040	78.52	627.76	330.24	0.85				369.88	-0.90
1/27/23 3:53 PM	4,286	2,100	78.50	627.73	330.27	0.82				370.17	-1.19
1/27/23 4:53 PM	4,346	2,160	78.50	627.66	330.34	0.75				370.36	-1.37
1/27/23 5:53 PM	4,406	2,220	78.56	627.50	330.50	0.59				370.31	-1.32
1/27/23 6:53 PM	4,466	2,280	78.50	627.41	330.59	0.50				370.49	-1.51
1/27/23 7:53 PM	4,526	2,340	78.48	627.34	330.66	0.43				370.66	-1.68
1/27/23 8:53 PM	4,586	2,400	78.45	627.36	330.65	0.45				370.75	-1.77
1/27/23 9:53 PM	4,646	2,460	78.47	627.24	330.77	0.33				370.86	-1.88
1/27/23 10:53 PM	4,706	2,520	78.49	627.11	330.89	0.21				370.91	-1.92
1/27/23 11:53 PM	4,766	2,580	78.48	626.97	331.04	0.06				371.00	-2.01
1/28/23 12:53 AM	4,826	2,640	78.51	626.92	331.08	0.01				371.20	-2.22
1/28/23 1:53 AM	4,886	2,700	78.50	626.79	331.21	-0.12				372.32	-3.34
1/28/23 2:53 AM	4,946	2,760	78.42	626.79	331.21	-0.12				372.58	-3.60
1/28/23 3:53 AM	5,006	2,820	78.47	626.74	331.26	-0.16				372.48	-3.50
1/28/23 4:53 AM	5,066	2,880	78.51	626.70	331.30	-0.21				372.47	-3.49
1/28/23 5:53 AM	5,126	2,940	78.42	626.61	331.39	-0.30				372.69	-3.71
1/28/23 6:53 AM	5,186	3,000	78.50	626.51	331.49	-0.40				372.67	-3.69

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 800 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 2 - Aquifer Test (January 24, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
1/28/23 7:53 AM	5,246	3,060	78.47	626.49	331.51	-0.42				372.63	-3.65
1/28/23 8:53 AM	5,306	3,120	78.51	626.43	331.58	-0.48				372.76	-3.78
1/28/23 9:53 AM	5,366	3,180	78.45	626.34	331.66	-0.56				372.78	-3.80
1/28/23 10:53 AM	5,426	3,240	78.46	626.29	331.71	-0.62				372.91	-3.92
1/28/23 11:53 AM	5,486	3,300	78.50	626.23	331.77	-0.68				372.76	-3.78
1/28/23 12:53 PM	5,546	3,360	78.45	626.29	331.71	-0.62				372.81	-3.82
1/28/23 1:53 PM	5,606	3,420	78.46	626.20	331.80	-0.70				372.97	-3.98
1/28/23 2:53 PM	5,666	3,480	78.45	626.23	331.77	-0.68				373.33	-4.35
1/28/23 3:53 PM	5,726	3,540	78.43	626.06	331.94	-0.84				373.30	-4.32
1/28/23 4:53 PM	5,786	3,600	78.44	626.12	331.88	-0.79				373.48	-4.49
1/28/23 5:53 PM	5,846	3,660	78.43	626.09	331.91	-0.82				373.66	-4.68
1/28/23 6:53 PM	5,906	3,720	78.41	625.98	332.02	-0.93				373.74	-4.75
1/28/23 7:53 PM	5,966	3,780	78.41	625.90	332.10	-1.01				373.76	-4.78
1/28/23 8:53 PM	6,026	3,840	78.43	625.87	332.14	-1.04				373.67	-4.68
1/28/23 9:53 PM	6,086	3,900	78.47	625.89	332.12	-1.02				373.70	-4.72
1/28/23 10:53 PM	6,146	3,960	78.47	625.86	332.14	-1.05				373.89	-4.90
1/28/23 11:53 PM	6,206	4,020	78.43	625.75	332.25	-1.16				373.99	-5.01
1/29/23 12:53 AM	6,266	4,080	78.40	625.70	332.30	-1.21				374.04	-5.06
1/29/23 1:53 AM	6,326	4,140	78.44	625.59	332.41	-1.32				374.24	-5.26
1/29/23 2:53 AM	6,386	4,200	78.45	625.66	332.34	-1.25				374.38	-5.40
1/29/23 3:53 AM	6,446	4,260	78.43	625.55	332.45	-1.35				374.51	-5.53
1/29/23 4:53 AM	6,506	4,320	78.44	625.56	332.44	-1.35				374.50	-5.52
1/29/23 5:53 AM	6,566	4,380	78.48	625.45	332.55	-1.46				374.42	-5.44
1/29/23 6:53 AM	6,626	4,440	78.43	625.44	332.56	-1.47				374.85	-5.87
1/29/23 7:53 AM	6,686	4,500	78.43	625.36	332.64	-1.55				375.10	-6.12
1/29/23 8:53 AM	6,746	4,560	78.45	625.39	332.61	-1.52				375.08	-6.10
1/29/23 9:53 AM	6,806	4,620	78.43	625.25	332.75	-1.66				375.06	-6.08
1/29/23 10:53 AM	6,866	4,680	78.44	625.24	332.76	-1.67				374.95	-5.97
1/29/23 11:53 AM	6,926	4,740	78.42	625.22	332.79	-1.69				375.90	-6.92
1/29/23 12:53 PM	6,986	4,800	78.42	625.26	332.74	-1.65				376.16	-7.17
1/29/23 1:53 PM	7,046	4,860	78.41	625.14	332.86	-1.77				376.16	-7.18
1/29/23 2:53 PM	7,106	4,920	78.47	625.15	332.85	-1.76				376.15	-7.17
1/29/23 3:53 PM	7,166	4,980	78.45	625.15	332.85	-1.76				375.96	-6.98
1/29/23 4:53 PM	7,226	5,040	78.44	625.14	332.86	-1.77				375.89	-6.91
1/29/23 5:53 PM	7,286	5,100	78.42	625.05	332.95	-1.86				375.85	-6.87

MSL = Mean Sea Level

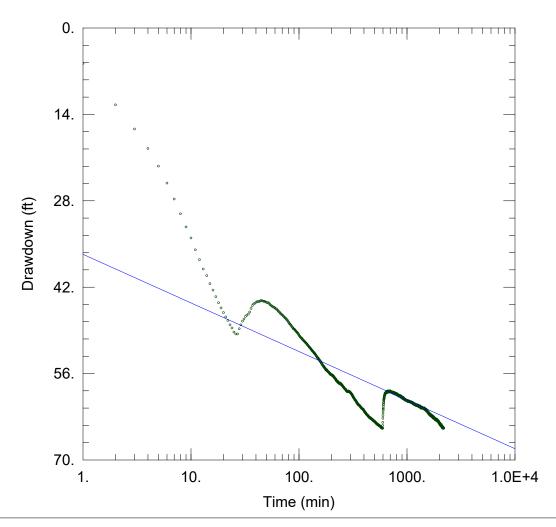
Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches

Horsepower = 10 HP

Pump Setting = 800 ft EC=Electrical conductivity (mS/cm)

The Backyard Well No. 2 - Aquifer Test (January 24, 2023)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
1/29/23 6:53 PM	7,346	5,160	78.41	624.95	333.06	-1.96				375.69	-6.71
1/29/23 7:53 PM	7,406	5,220	78.39	624.89	333.11	-2.02				375.84	-6.86
1/29/23 8:53 PM	7,466	5,280	78.45	624.89	333.11	-2.01				375.97	-6.99
1/29/23 9:53 PM	7,526	5,340	78.37	624.83	333.17	-2.08				375.88	-6.90
1/29/23 10:53 PM	7,586	5,400	78.30	624.85	333.15	-2.06				376.02	-7.04
1/29/23 11:53 PM	7,646	5,460	78.26	624.76	333.24	-2.14				376.66	-7.68
1/30/23 12:53 AM	7,706	5,520	78.27	624.74	333.26	-2.17				376.75	-7.77
1/30/23 1:53 AM	7,766	5,580	78.24	624.74	333.26	-2.17				376.62	-7.64
1/30/23 2:53 AM	7,826	5,640	78.28	624.73	333.27	-2.18				376.55	-7.57
1/30/23 3:53 AM	7,886	5,700	78.26	624.77	333.23	-2.14				376.48	-7.50
1/30/23 4:53 AM	7,946	5,760	78.26	624.70	333.30	-2.21				376.91	-7.92
1/30/23 5:53 AM	8,006	5,820	78.31	624.65	333.35	-2.26				376.88	-7.89
1/30/23 6:53 AM	8,066	5,880	78.26	624.87	333.13	-2.04				376.52	-7.54
1/30/23 7:53 AM	8,126	5,940	78.24	624.83	333.17	-2.08				376.56	-7.58
1/30/23 8:53 AM	8,186	6,000	78.30	624.82	333.18	-2.09				376.57	-7.58
1/30/23 9:53 AM	8,246	6,060	78.27	624.75	333.25	-2.15				376.31	-7.33
1/30/23 10:53 AM	8,306	6,120	78.25	624.87	333.13	-2.04					



WELL TEST ANALYSIS

Data Set: \...\Cooper-Jacob PW.aqt

Date: 02/15/23 Time: 08:06:49

PROJECT INFORMATION

Company: WRGS
Client: The Backyard
Project: 197-001-22
Location: Travis County
Test Well: Well No. 2
Test Date: 1/24/23

AQUIFER DATA

Saturated Thickness: 248. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

 Pumping Wells
 Observation Wells

 Well Name
 X (ft)
 Y (ft)
 Well Name
 X (ft)
 Y (ft)

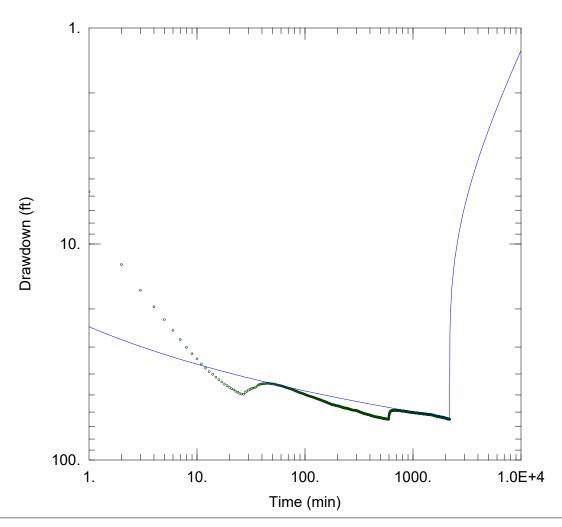
 Well No. 2
 0
 0
 • Well No. 1
 300
 0

SOLUTION

Aquifer Model: Confined

 $T = 170.2 \text{ ft}^2/\text{day}$

Solution Method: Cooper-Jacob



WELL TEST ANALYSIS

Data Set: \...\Theis PW.aqt

Date: 02/15/23 Time: 08:07:55

PROJECT INFORMATION

Company: WRGS
Client: The Backyard
Project: 197-001-22
Location: Travis County
Test Well: Well No. 2
Test Date: 1/24/23

WELL DATA

Pum	ping vveiis		Observation wells			
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)	
Well No. 2	0	0	· Well No. 1	300	0	

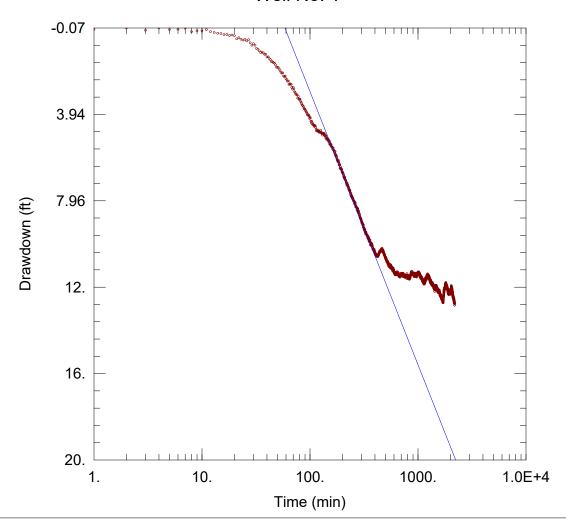
SOLUTION

Aquifer Model: Confined

= <u>112.8</u> ft²/day

 $Kz/Kr = \overline{1}$.

Solution Method: Theis



WELL TEST ANALYSIS

Data Set: \...\Cooper-Jacob OW.aqt

Date: 02/15/23 Time: <u>10:18:19</u>

PROJECT INFORMATION

Company: WRGS Client: The Backyard Project: 197-001-22 Location: Travis County Test Well: Well No. 2 Test Date: 1/24/23

AQUIFER DATA

Anisotropy Ratio (Kz/Kr): 1. Saturated Thickness: 248. ft

WELL DATA

Pumpi	ng Wells		Observation Wells				
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)		
Well No. 2	0	0	→ Well No. 1	300	0		

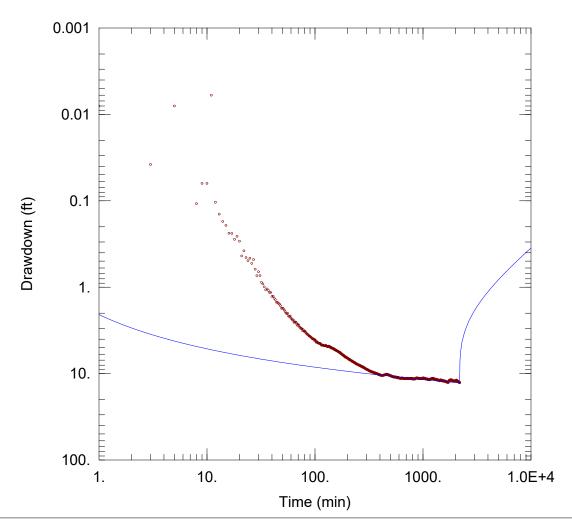
SOLUTION

Aquifer Model: Confined

 $T = 105.6 \text{ ft}^2/\text{day}$

S = 0.0001085

Solution Method: Cooper-Jacob



WELL TEST ANALYSIS

Data Set: \...\Theis OW.aqt

Date: 02/15/23 Time: 10:18:58

PROJECT INFORMATION

Company: WRGS
Client: The Backyard
Project: 197-001-22
Location: Travis County
Test Well: Well No. 2
Test Date: 1/24/23

WELL DATA

Pur	ping Wells		Observation Wells				
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)		
Well No. 2	0	0	Well No. 1	300	0		

SOLUTION

Aquifer Model: Confined

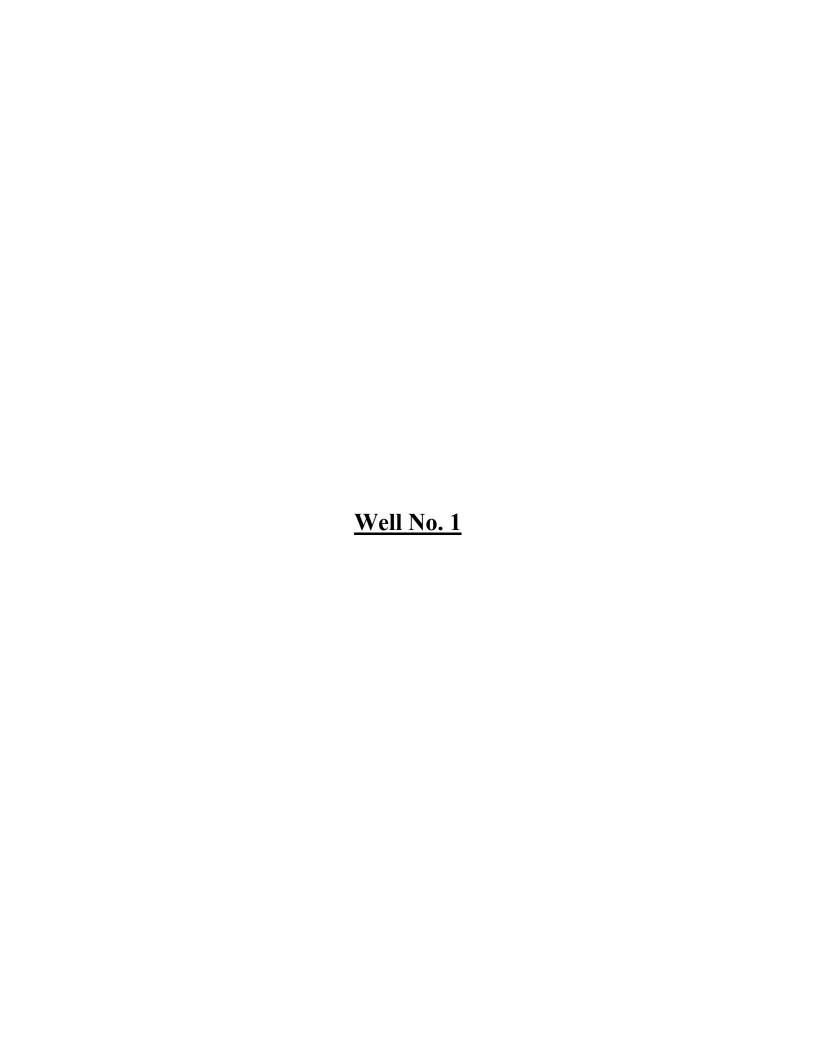
<u>Confined</u> Solution Method: <u>Theis</u>

T = $\frac{408.3}{\text{Kz/Kr}}$ ft²/day S = $\frac{1.907\text{E-6}}{\text{b}}$ b = $\frac{248.}{\text{ft}}$

Appendix D

Water Quality







ToCody MyersProject/LeaseBee CaveCompanyNextgen WaterWell ServicesLocationBackyard Test 1

Address 11911 WCR 56, Midland, TX 79707 Sample Point

 Lab #
 23-01-161.1
 Date Sampled
 1/18/2023

 Date Reported
 2/13/2023
 Date Received
 1/19/2023

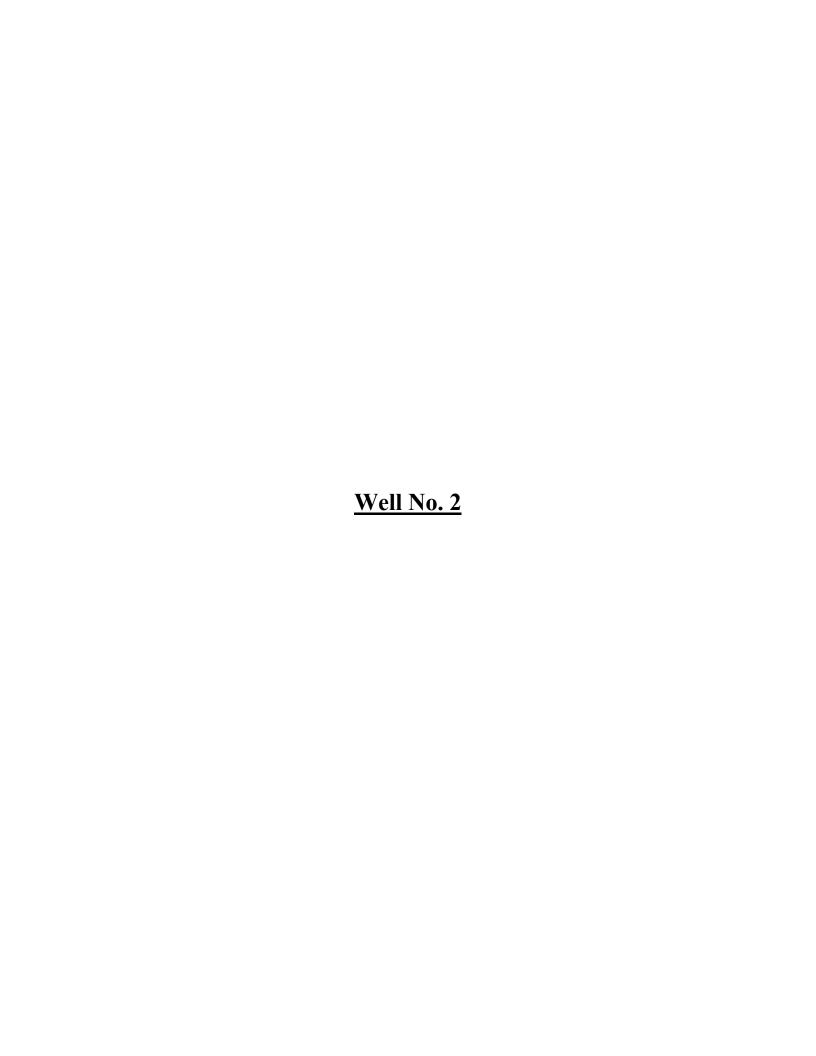
EPA Water Analysis

	_	I A Water Analysis	
Parameters: mg/L		Texas Department of Heal	th Limits for Drinking Water
pH:	7.29	Chloride	300 mg/L
Bicarbonate:	293	Sulfate	300 mg/L
Carbonate:	0	Iron	.30 mg/L
Hydroxide:	0	Total Dissolved Solids	1000 mg/L
Temperature (°F):	75	Nitrate	10 mg/L
Cations mg/L		EPA Limits for Drinking Wa	<u>iter</u>
Arsenic:	<.010	Chloride	250 mg/L
Calcium:	186	Sulfate	250 mg/L
Chromium	<.010	Iron	.30 mg/L
Iron:	<.010	Total Dissolved Solids	500 mg/L
Lead:	<.010	Nitrate	10 mg/L
Magnesium:	114	Nitrite	1.0 mg/L
Manganese	<.010	Lead	.015 mg/L
Potassium:	13.03	Arsenic	.010 mg/L
Sodium:	220.29	Chromium	.10 mg/L
Anions mg/L			
Chloride	58		
Sulfate	1061		
Fluoride	2.0		
Other mg/L			
Conductivity, µmhos/cm @ 77	2160		
Total Hardness as CaCO3	934		
Total Dissolved Solids:	1945		
Nitrate	0.07		

Bryan R. Ogden, B.S.

<.080

Nitrite





ToCody MyersProject/LeaseBee CaveCompanyNextgen WaterWell ServicesLocationBackyard Test 2

Address 11911 WCR 56, Midland, TX 79707 Sample Point

 Lab #
 23-01-161.2
 Date Sampled
 1/25/2023

 Date Reported
 2/13/2023
 Date Received
 1/26/2023

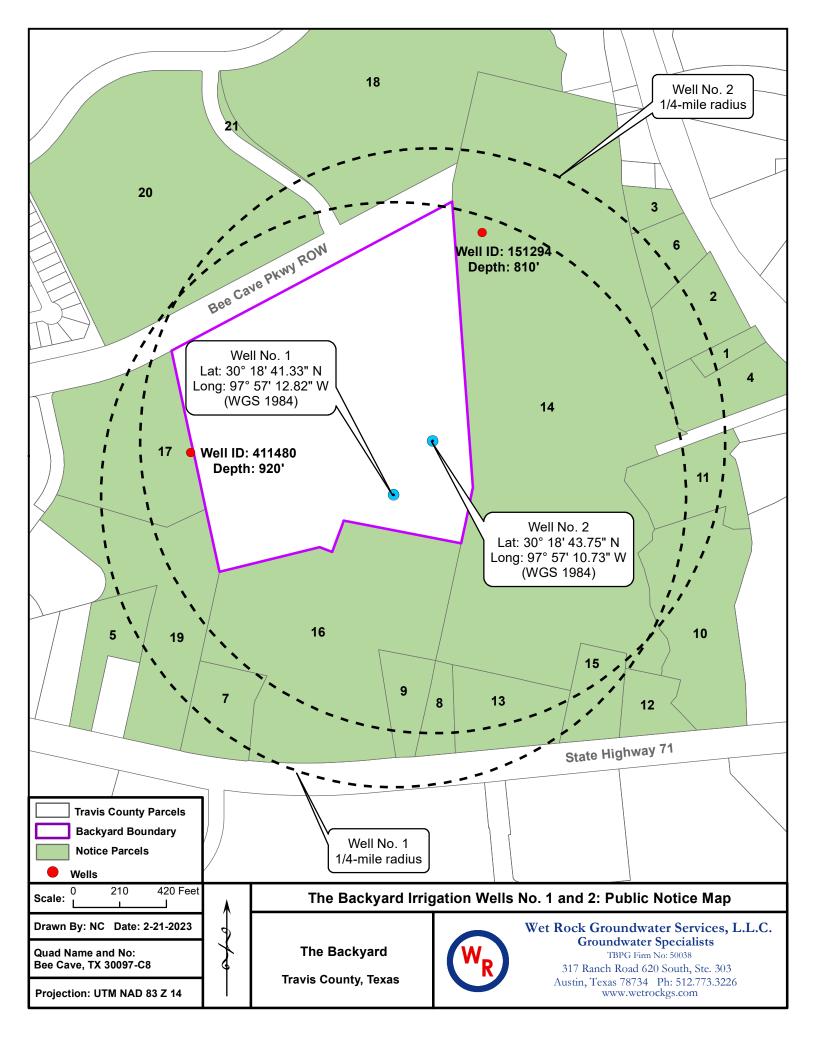
EPA Water Analysis

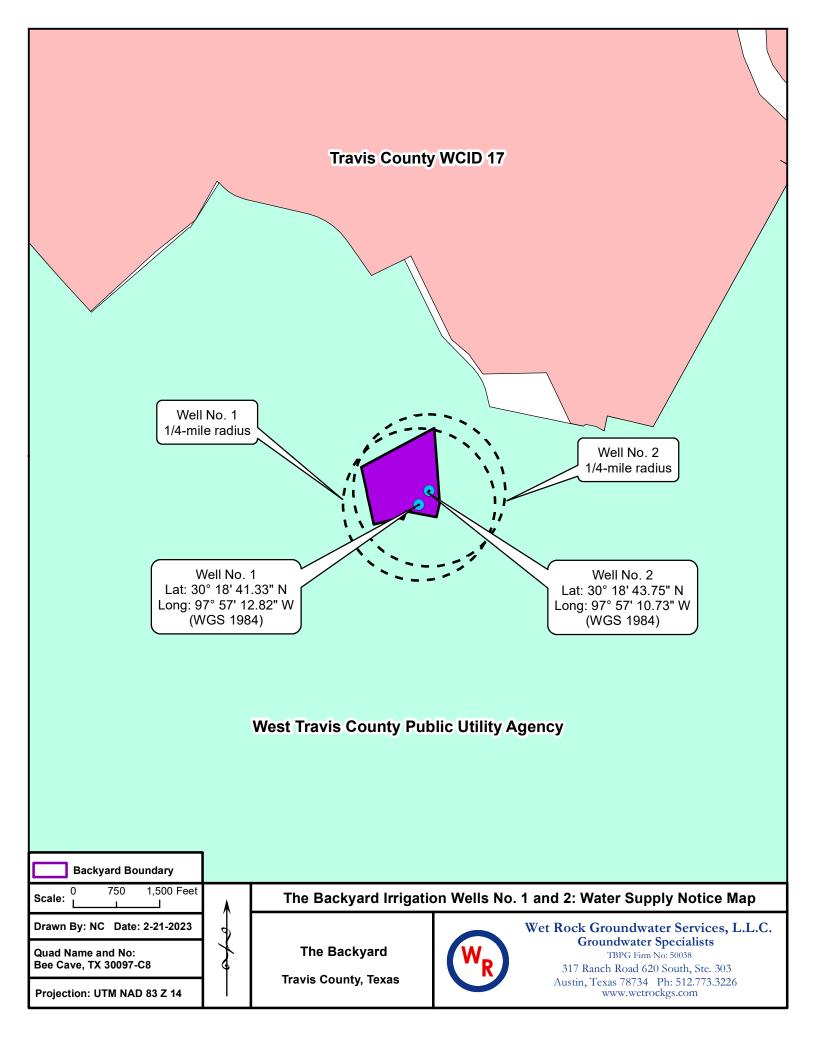
Parameters: mg/L		Texas Department of Healt	th Limits for Drinking
pH:	8.00	Chloride	300 mg/L
Bicarbonate:	256	Sulfate	300 mg/L
Carbonate:	0	Iron	.30 mg/L
Hydroxide:	0	Total Dissolved Solids	1000 mg/L
Temperature (°F):	75	Nitrate	10 mg/L
Cations mg/L		EPA Limits for Drinking Wa	<u>ter</u>
Arsenic:	<.010	Chloride	250 mg/L
Calcium:	31	Sulfate	250 mg/L
Chromium	<.010	Iron	.30 mg/L
Iron:	<.010	Total Dissolved Solids	500 mg/L
Lead:	<.010	Nitrate	10 mg/L
Magnesium:	18	Nitrite	1.0 mg/L
Manganese	<.010	Lead	.015 mg/L
Potassium:	5.99	Arsenic	.010 mg/L
Sodium:	198.72	Chromium	.10 mg/L
Anions mg/L			
Chloride	59		
Sulfate	285		
Fluoride	1.3		
Other mg/L			
Conductivity, µmhos/cm @ 77	1026		
Total Hardness as CaCO3	151		
Total Dissolved Solids:	854		
Nitrate	0.11		
Nitrite	<.080		Bryan Ogden

Bryan R. Ogden, B.S.

8 – Public Notice Contact List/Map







Map ID	ParcelID	Owner	Physical Address	City	State	Zip
1	119011	Texas Service Life Insurance C	3910 Ranch Road 620	Austin	TX	78736
2	119010	Adobe LLC	3900 Ranch Road 620	Austin	TX	78736
3	541355	Zschappel Interest Danbury LLC	3810 Ranch Road 620	Austin	TX	78738
4	760378	Halle Properties LLC	3922 Ranch Road 620	Austin	TX	78738
5	119035	Tim and Brenda Skaggs	13702 State Highway 71	Austin	TX	78736
6	541356	Ale Investments LLC	3818 Ranch Road 620	Austin	TX	78738
7	119015	Joseph J Hajjar	13652 State Highway 71	Austin	TX	78736
8	119016	Kent Sports Holdings LP	State Highway 71	Austin	TX	78736
9	119027	Kent Sports Holdings LP	13614 State Highway 71	Austin	TX	78736
10	119032	Village of Bee Cave	State Highway 71	Austin	TX	78736
11	359909	Bee Cave Ventures LP	3930 Ranch Road 620	Austin	TX	78736
12	119018	Rose M Arriaga	13436 State Highway 71	Austin	TX	78736
13	119017	McCoy Investments Ltd	13324 State Highway 71	Austin	TX	78736
14	721564	Village of Bee Cave	Ranch Road 620	Austin	TX	78736
15	873205	City of Bee Cave	13308 State Highway 71	Austin	TX	78738
16	366361	Kent Sports Holdings LP	State Highway 71	Austin	TX	78736
17	831505	TCHMall	4317 Skaggs Drive	Austin	TX	78738
18	847183	Target Corporation (521822)	13717 Bee Cave Pkwy	Austin	TX	78738
19	835017	Tim and Brenda Skaggs Revocable Trust	State Highway 71	Austin	TX	78736
20	937690	Hill Country Texas Galleria LLC	Willie Way	Austin	TX	78738
21	937691	Hill Country Texas Galleria LLC	Willie Way	Austin	TX	78738

Map ID	ParcelID	Owner	Mailing Address	City	State	Zip
1	119011	Texas Service Life Insurance C	PO Box 341899	Austin	TX	78734
2	119010	Adobe LLC	905 N Weston Ln	Austin	TX	78733
3	541355	Zschappel Interest Danbury LLC	331 Patchester Dr	Houston	TX	77079
4	760378	Halle Properties LLC	DEPT 1100-TXA20225 N Scottsdale Rd	Scottsdale	AZ	85255
5	119035	Tim and Brenda Skaggs	13618 Highway 71 W	Austin	TX	78738
6	541356	Ale Investments LLC	4707 Montana Ave	El Paso	TX	79903
7	119015	Joseph J Hajjar	26 Sundown Pkwy	Austin	TX	78746
8	119016	Kent Sports Holdings LP	5513 Foxfield Ln	Bee Cave	TX	78738
9	119027	Kent Sports Holdings LP	5513 Foxfield Ln	Bee Cave	TX	78738
10	119032	Village of Bee Cave	4000 Galleria Pkwy	Austin	TX	78738
11	359909	Bee Cave Ventures LP	3930 Ranch Road 620 S	Bee Cave	TX	78738
12	119018	Rose M Arriaga	2414 Wilson St	Austin	TX	78704
13	119017	McCoy Investments Ltd	PO Box 1028	San Marcos	TX	78667
14	721564	Village of Bee Cave	4000 Galleria Pkwy	Austin	TX	78738
15	873205	City of Bee Cave	4000 Galleria Pkwy	Austin	TX	78738
16	366361	Kent Sports Holdings LP	5513 Foxfield Ln	Bee Cave	TX	78738
17	831505	TCHMall	5513 Foxfield Ln	Austin	TX	78738
18	847183	Target Corporation (521822)	PO Box 9456 C/O Property Tax Department	Minneapolis	MN	55440
19	835017	Tim and Brenda Skaggs Revocable Trust	13618 Highway 71 W	Bee Cave	TX	78738
20	937690	Hill Country Texas Galleria LLC	13215 Bee Cave Pkwy	Bee Cave	TX	78738
21	937691	Hill Country Texas Galleria LLC	13215 Bee Cave Pkwy	Bee Cave	TX	78738

Water System Utility Owner	Mailing Address	City	State	Zip
West Travis County Public Utility Agency	13215 Bee Cave Pkwy Suite B110	Bee Cave	TX	78738