

Bluebonnet Groundwater Conservation District  
1903 Dove Crossing Lane Suite A, P.O. Box 269  
Navasota, TX 77868  
Phone: 936-825-7303 Fax: 936-825-7331  
Email: BGCD@bluebonnetgroundwater.org

BGCD Well ID #: \_\_\_\_\_

### NON-EXEMPT WATER WELL REGISTRATION APPLICATION

Please complete all questions. Please print or type information, or place an "x" in the appropriate space.

Drill New Well:  Register an Existing Well: \_\_\_\_\_ Replace Existing Well: \_\_\_\_\_ Increase Size of Existing Well: \_\_\_\_\_  
Increase Pump Size of Existing Well: \_\_\_\_\_ Abandon/Cap/Plug Existing Well: \_\_\_\_\_ Perform Dye Trace: \_\_\_\_\_

Well Owner Aqu Hocklev Project, LLC Phone 832.725.9893

Address 1717 St. James Pl. Ste 110, Houston, TX 77056

Fax: \_\_\_\_\_ Email: srinig@aqucapital.com

Drilling Company TBD Phone \_\_\_\_\_

Address \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Driller \_\_\_\_\_ License# \_\_\_\_\_

Well Location: County Waller Well Site Address or Location: \_\_\_\_\_

Latitude 30.125038 Longitude -95.861984

Proposed Water Use: Public Water Supply:  Industrial: \_\_\_\_\_ Recreational: \_\_\_\_\_ Commercial: \_\_\_\_\_

Hydraulic Fracturing: \_\_\_\_\_ Transport Outside of District: \_\_\_\_\_

Proposed depth: 740 ft. Aquifer Evangeline Date drilling is scheduled to begin TBD

Proposed casing size: 24/14 in. Proposed casing depth: 590/740 ft. Pump depth: 560 ft. Pump size 200 hp.

Type Pump: Turbine:  Submersible: \_\_\_\_\_ Windmill: \_\_\_\_\_ Other (specify): \_\_\_\_\_

Pump fuel or power source: Electricity:  Natural Gas: \_\_\_\_\_ Wind: \_\_\_\_\_ Other (specify): \_\_\_\_\_

Pump Bowls: Size 11 in. (max) # of Stages: TBD Pump Column: Inside Diameter: 8 in. Length: 560 ft.

Pump discharge pipe: Size \_\_\_\_\_ in. Rated pump horsepower: 200 Pump Discharge: 750 gpm

Water bearing formation: \_\_\_\_\_

Estimated Annual Water Production: \_\_\_\_\_ Acre-Feet or 197,100,000 Gallons

If the water produced from this well will be used in whole or in part on property other than the property where the well is located, describe the location where the water will be used. Transportation of water produced and moved to another location may require a District Transportation Permit. See District Rules, Section 10 or contact the District office for information.

Public water supply to serve Harris-Waller Counties MUD No. 13

### BLUEBONNET GROUNDWATER CONSERVATION DISTRICT

Permit form approved on: \_\_\_\_\_

By: \_\_\_\_\_ Zach Holland, General Manger

**(Continued) NON-EXEMPT WATER WELL DRILLING PERMIT FORM (Continued)**

The following documentation, attachments and fee payments must accompany this form when it is submitted for consideration by the District.


- a. Plat or map showing location of the property and location on property of well for which form is submitted.
- b. If owner and/or operator of a well is different from property owner, provide written documentation from property owner authorizing construction and operation of this well.
- c. All the information and documentation required for the type and class of well for which authorization is requested by Section 8 of the District Rules and that information and documentation required by Rule 8.5.
- d. Forms for non-exempt well authorizations must be accompanied by the information required by Rule 8.5A1:
  - a. 8.5A1(e) – a statement of the projected effect of the proposed withdrawal on the aquifer or aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users in the District;
  - b. 8.5A1(f) – the applicant’s water conservation plan or a declaration the applicant and subsequent user will comply with the District’s management plan;
  - c. 8.5A1(g)(2) – well construction diagram;
  - d. 8.5A1(g)(3) – a map showing the location of the proposed well or wells, all existing well, hydrologic features, and geologic features located within half (1/2) mile radius of the proposed well or wells site;
  - e. 8.5A1(h) – the applicant’s well closure plan or a declaration the applicant will comply with well plugging guidelines and report closure to the applicable authorities, including the District.
- e. Payment for applicable fees must accompany the form. Additional fees may apply as documented in the District’s adopted Fee Schedule.

Well Development Fee	\$75.00	
Operating Permit Application Fee	\$375.00	
Hydrogeologic Report Fee – applicable if well completed with eight (8) inches or greater inside casing diameter		
	Phase I-a Report (less than 200MG/yr)	Phase I-b Report ( > 200MG/yr)
District Prepared Report	\$1,500.00	\$7,500.00
Applicant Prepared/District Review	\$500.00	\$1,500.00

- f. Forms for new non-exempt wells must be accompanied by an Operating Permit Application and, if appropriate, a Transport Permit Application.

I, the undersigned applicant, hereby agree and certify that:

- a. this well will be drilled within 30 feet of the location specified and not elsewhere;
- b. I will furnish the District with a copy of the completed driller’s log, any electric log, the well completion report, and any water quality test report within 60 days of completion of this well and prior to production of water there from (other than such production as may be necessary to the drilling and testing of such well);
- c. in using this well, I will avoid waste, achieve water conservation, protect groundwater quality and the water produced from this well will be for a beneficial use;
- d. I will comply with all District and State well plugging and capping guidelines in effect at the time of well closure;
- e. I agree to abide by the terms of the District Rules, the District Management Plan, and orders of the District Board of Directors currently in effect and as they may be modified, changed, and amended from time to time;
- f. I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief.

Signature:  Date: 11/19/2024  
 Printed Name: SRINIVASA R. GOGINENI Title: MANAGER

Bluebonnet Groundwater Conservation District  
303 E. Washington Ave., P.O. Box 269  
Navasota, TX 77868  
Phone: 936-825-7303 Fax: 936-825-7331  
Email: BGCD@bluebonnetgroundwater.org

BGCD Well ID #: \_\_\_\_\_

### WELL OPERATING PERMIT APPLICATION

Please complete all questions. Please print or type information or place an "x" in the appropriate space.

Drill New Well:  Register an Existing Well: \_\_\_\_\_ Replace Existing Well: \_\_\_\_\_ Increase Size of Existing Well: \_\_\_\_\_  
Increase Pump Size of Existing Well: \_\_\_\_\_ Abandon/Cap/Plug Existing Well: \_\_\_\_\_ Perform Dye Trace: \_\_\_\_\_

Well Owner Aqu Hocklev Project, LLC Phone 832.725.9893

Address 1717 St. James Pl., Ste 110, Houston, TX 77056

Fax: \_\_\_\_\_ Email: sring@agucapital.com

Drilling Company TBD Phone \_\_\_\_\_

Address \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Driller \_\_\_\_\_ License# \_\_\_\_\_

Well Location: County Waller 911 address of well site \_\_\_\_\_

Latitude 30.125038 Longitude -95.861984

Proposed Water Use: Public Water Supply:  Industrial: \_\_\_\_\_ Recreational: \_\_\_\_\_ Commercial: \_\_\_\_\_  
Hydraulic Fracturing: \_\_\_\_\_ Transport Outside of District: \_\_\_\_\_

Status of well as of application date:

- \_\_\_\_\_ Operating Well (Date drilled \_\_\_\_\_)
- \_\_\_\_\_ Well Completed but not operating (Date Drilled \_\_\_\_\_)
- Well Development permit attached or awaiting approval

Authorization to produce the following quantity of water annually from this well is: 197,100,000 Gallons

A well operating permit is normally issued for a period of one year (12 months). If a permit for a longer period of time is requested, attach a statement detailing the reasons for a longer permit period and the period of time requested.

If the water produced from this well will be used in whole or in part on property other than the property where the well is located, **describe the location where the water will be used.** Transportation of water produced and moved to another location may require a District Transportation Permit. See District Rules, Section 10 or contact the District office for information.  
Public water supply to serve Harris-Waller Counties MUD No. 13

### BLUEBONNET GROUNDWATER CONSERVATION DISTRICT

Permit application approved on: \_\_\_\_\_ By: \_\_\_\_\_ Zach Holland, General Manger

(Continued) WELL OPERATING PERMIT APPLICATION (Continued)

The following documentation, attachments and fee payments must accompany this application when it is submitted for consideration by the District.

- a. Plat or map showing location of the property and location on property of well for which application is submitted.
- b. If the owner and/or the operator of well is different from the property owner, provide written documentation from the property owner authorizing construction and operation of this well.
- c. All the information and documentation required for the type and class of well for which authorization is requested by Section 8 of the District Rules and in particular that information and documentation required by Rule 8.5.
- d. If this permit application is for a well completed with an inside casing diameter of eight (8) inches or greater, or for any of the conditions enumerated in District Rule 8.5 F, a current hydrogeological report (a report completed within 18 months of the date of this application is considered current) shall be submitted with this application.
- e. Payment for applicable fees must accompany application. For a non-exempt well the appropriate Operating Permit Application Fee (\$375.00 +\$750.00 if inside casing diameter is eight (8) inches or greater) must be included.
- f. The applicant's water conservation plan and if any subsequent user of the water is a municipality or entity providing retail water services, the water conservation plan of that municipality or entity shall also be provided. In lieu of a water conservation plan, a declaration that the applicant and/or a subsequent user if any subsequent user is a municipality or entity providing retail water services will comply with the District Management Plan.
- g. The applicant's Drought Contingency Plan and a copy of any subsequent user's Drought Contingency Plan or a declaration that the applicant or a subsequent user will comply with District rules, policies and Board actions in drought conditions.

I, the undersigned applicant, hereby agree and certify that:

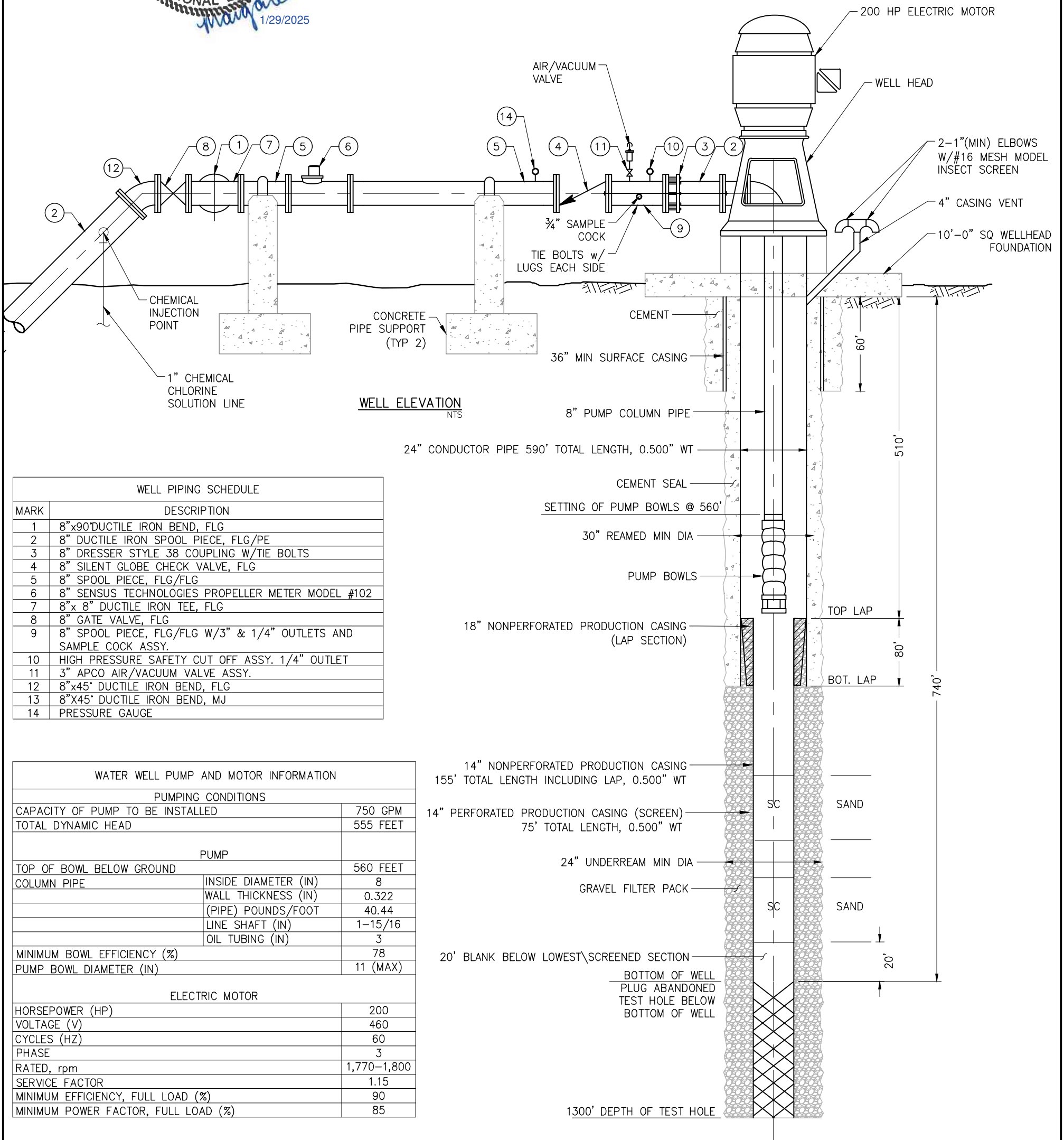
- a. in using this well, I will avoid waste, achieve water conservation, protect groundwater quality and the water produced from this well will be for a beneficial use;
- b. I will comply with all District and State well plugging and capping guidelines in effect at the time of well closure;
- c. I agree to abide by the terms of the District Rules, the District Management Plan and orders of the District Board of Directors currently in effect and as they may be modified, changed and amended from time to time;
- d. I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief.

Signature:  Date: 11/19/2024

Printed Name: SRINIVASA R. GOGINENI Title: MANAGER



*Margaret S. Gilentine*  
1/29/2025



WELL ELEVATION  
NTS

WELL PIPING SCHEDULE	
MARK	DESCRIPTION
1	8"x90" DUCTILE IRON BEND, FLG
2	8" DUCTILE IRON SPOOL PIECE, FLG/PE
3	8" DRESSER STYLE 38 COUPLING W/TIE BOLTS
4	8" SILENT GLOBE CHECK VALVE, FLG
5	8" SPOOL PIECE, FLG/FLG
6	8" SENSUS TECHNOLOGIES PROPELLER METER MODEL #102
7	8" x 8" DUCTILE IRON TEE, FLG
8	8" GATE VALVE, FLG
9	8" SPOOL PIECE, FLG/FLG W/3" & 1/4" OUTLETS AND SAMPLE COCK ASSY.
10	HIGH PRESSURE SAFETY CUT OFF ASSY. 1/4" OUTLET
11	3" APCO AIR/VACUUM VALVE ASSY.
12	8"x45" DUCTILE IRON BEND, FLG
13	8"x45" DUCTILE IRON BEND, MJ
14	PRESSURE GAUGE

WATER WELL PUMP AND MOTOR INFORMATION	
PUMPING CONDITIONS	
CAPACITY OF PUMP TO BE INSTALLED	750 GPM
TOTAL DYNAMIC HEAD	555 FEET
PUMP	
TOP OF BOWL BELOW GROUND	560 FEET
COLUMN PIPE	INSIDE DIAMETER (IN) 8
	WALL THICKNESS (IN) 0.322
	(PIPE) POUNDS/FOOT 40.44
	LINE SHAFT (IN) 1-15/16
	OIL TUBING (IN) 3
MINIMUM BOWL EFFICIENCY (%)	78
PUMP BOWL DIAMETER (IN)	11 (MAX)
ELECTRIC MOTOR	
HORSEPOWER (HP)	200
VOLTAGE (V)	460
CYCLES (HZ)	60
PHASE	3
RATED, rpm	1,770-1,800
SERVICE FACTOR	1.15
MINIMUM EFFICIENCY, FULL LOAD (%)	90
MINIMUM POWER FACTOR, FULL LOAD (%)	85

A 750 GPM (PUMP) WATER WELL DETAIL  
NTS

**LJA Engineering, Inc.**

3600 W. Sam Houston Parkway S.  
Suite 600  
Houston, Texas 77042

Phone 713.953.5200  
Fax 713.953.5026  
FRN - F-1386

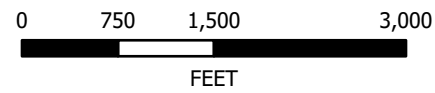
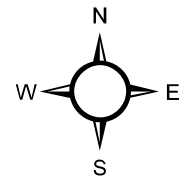
# HARRIS-WALLER COUNTIES MUD NO.13

## WELL PERMIT APPLICATION

WELL LOCATION AND  
SERVICE AREA MAP

NOVEMBER 2024

- WATER WELL LOCATION
- CONCENTRIC CIRCLES
- 10'
- 50'
- 150'
- 1/4 MILE
- 1/2 MILE
- SITE BOUNDARY
- MUD BOUNDARY
- AFFECTED LANDOWNER
- PARCELS
- COUNTY LINE

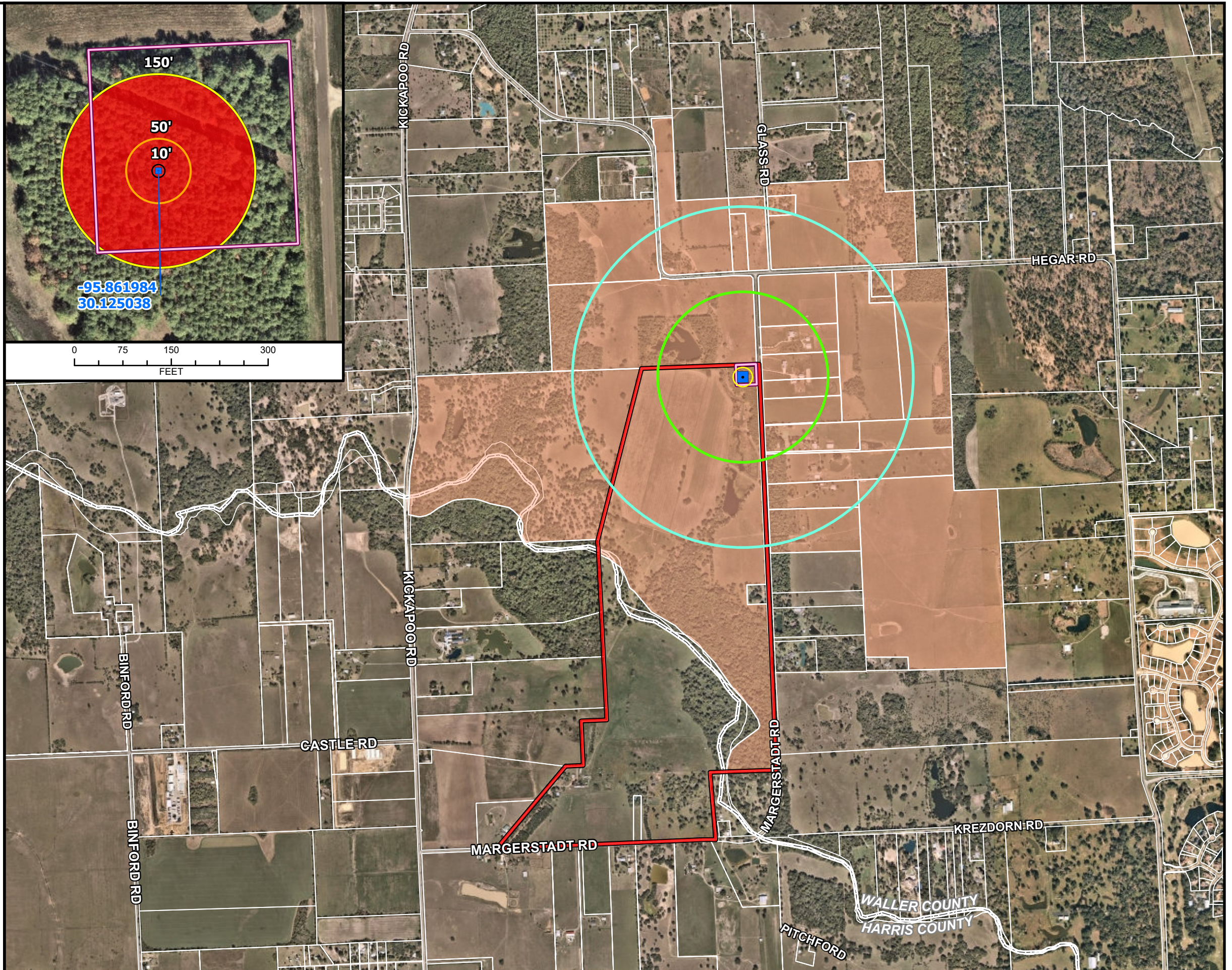


AERIAL PHOTOGRAPHY DATE: NEARMAP 2023

DATA SOURCES: COUNTY LINES - HGAC  
PARCELS - HCAD (JANUARY 2024), WCAD (OCTOBER 2024)

THIS PRODUCT IS FOR INFORMATIONAL PURPOSES AND  
MAY NOT HAVE BEEN PREPARED FOR OR BE SUITABLE  
FOR LEGAL, ENGINEERING, OR SURVEYING PURPOSES. IT  
DOES NOT REPRESENT AN ON-THE-GROUND SURVEY  
AND REPRESENTS ONLY THE APPROXIMATE RELATIVE  
LOCATION OF PROPERTY BOUNDARIES.

**LJA** 3600 W Sam Houston Parkway S Suite 600  
Houston, Texas 77042  
Phone 713.953.5200  
LJA.com








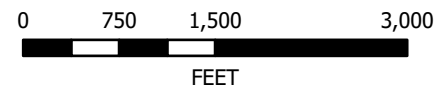
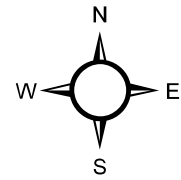
# HARRIS-WALLER COUNTIES MUD NO.13

## WELL PERMIT APPLICATION

WATER DISTRICTS EXHIBIT

NOVEMBER 2024

-  EXISTING WELL LOCATIONS
-  PROPOSED WELL HALF MILE BUFFER
-  MUD BOUNDARY
-  AFFECTED LANDOWNER
-  COUNTY LINE



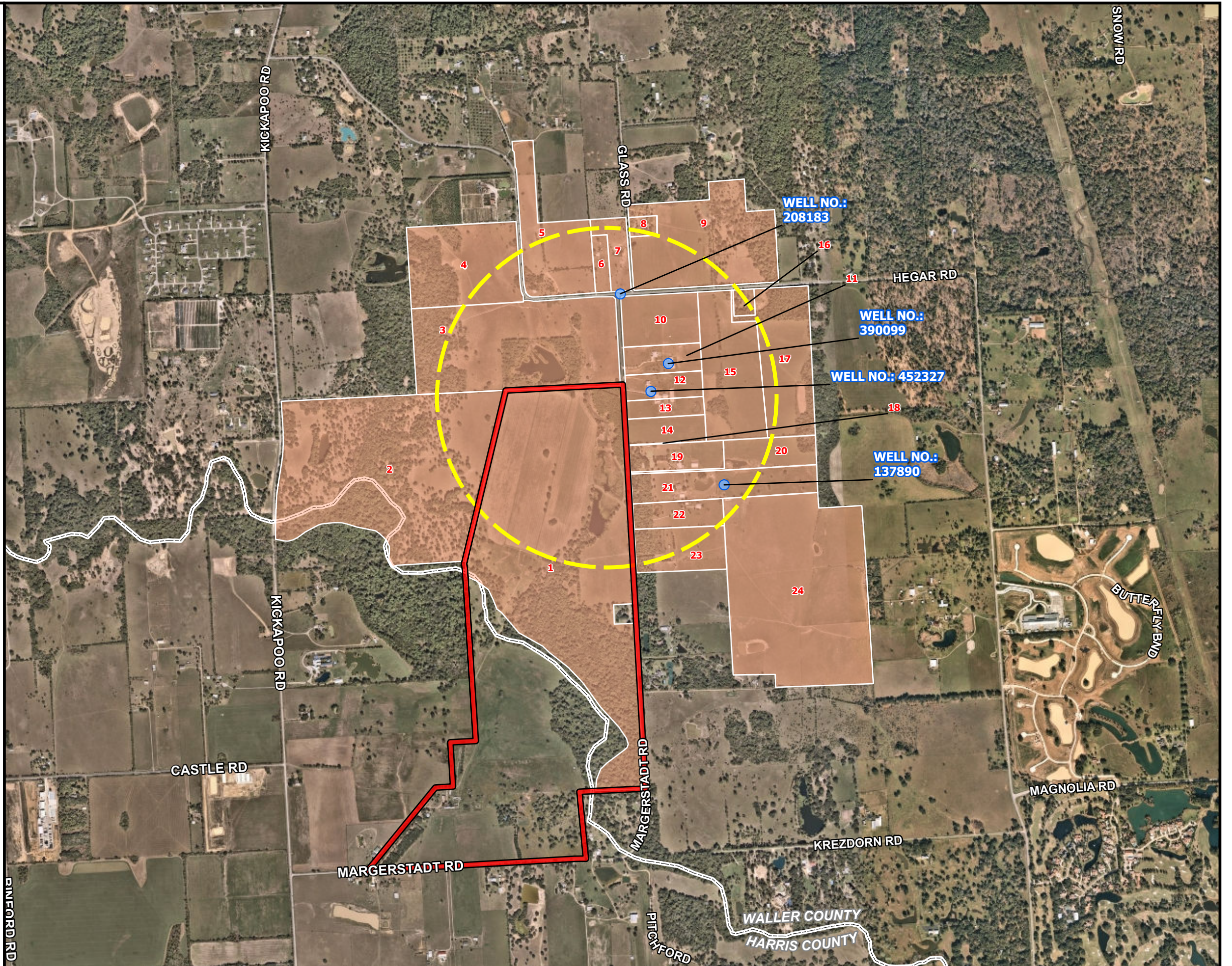
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3600 W Sam Houston Parkway S Suite 600  
Houston, Texas 77042  
Phone 713.953.5200  
LJA.com



**William R. Hutchison, Ph.D., P.E., P.G.**

**Independent Groundwater Consultant**

909 Davy St.

Brenham, TX 77833

512-745-0599

[billhutch@texasgw.com](mailto:billhutch@texasgw.com)

[www.texasgw.com](http://www.texasgw.com)

February 13, 2025

Mr. Zach Holland  
General Manager  
Bluebonnet Groundwater Conservation District  
PO Box 269  
Navasota, TX 77868-0269

**RE: Phase I-a Report: Harris-Waller Counties MUD No. 13 (Aqu Hockley) Well**

Dear Mr. Holland,

This letter represents the Phase I-a report for the Harris-Waller Counties MUD No. 13 (Aqu Hockley) Well permit application that I received from Arantza Cabrera via email on February 10, 2025.

“Estimated Annual Water Production” is 197.1 million gallons per year, which is below the 200 million gallon per year threshold for Phase I of the permit application process. Therefore, the application requires the preparation of a Phase I-a analysis of potential drawdown.

**Well Locations on HAGM Grid**

The latitude and longitude data on the application were used to convert the location data to x- and y-coordinates in the GAM coordinate system using Surfer, a commercial gridding program. The FORTRAN program *PointRC.exe* was used to find the HAGM cell for those x- and y-coordinates. The results of this effort yielded that the well is in HAGM row 36, column 91. The applications noted well depth of 740 feet, which would place the bottom of the well within the Evangeline Aquifer (HAGM layer 2).

**Grid Parameters, HAGM Parameters, HAGM Results, Theis Parameters**

The Excel spreadsheet named *BGCD Parameters.xlsx* contains the data needed for the review and Phase I-a calculations for cells designated in the four counties of the Bluebonnet Groundwater Conservation District. The data for row 36, column 91 were copied and transposed into the spreadsheet *Aqu Hockley Phase I-a Tables.xlsx*. Relevant results are summarized into four tables as follows:

- Table 1: Grid Parameters
- Table 2: HAGM Parameters
- Table 3: HAGM Results
- Table 4: Theis Parameters



**Table 1. Grid Parameters for City of Aqu Hockley Well**

County Name	Waller	Waller
County Code	237	237
Outcrop Layer	1	1
Layer	1	2
Row	36	36
Column	91	91
x-coordinate (GAM-ft)	6226516.5	6226516.5
y-coordinate (GAM-ft)	19298152	19298152
Surface Elevation (ft MSL)	246	246
Cell Top Elevation (ft MSL)	246	130
Cell Bottom Elevation (ft MSL)	130	-798
Cell Thickness (ft)	116	928
Clay Thickness (ft)	39	405
Clay Thickness (% of Cell Thickness)	33.62	43.64

**Table 2. HAGM Parameters for Aqu Hockley Well**

County Name	Waller	Waller
County Code	237	237
Outcrop Layer	1	1
Layer	1	2
Row	36	36
Column	91	91
Hydraulic Conductivity (ft/day)	16.26	2.10
Transmissivity (gpd/ft)	14,104	14,577
Leakage (1/day)	1.90E-05	8.90E-06
Storativity (dimensionless)	1.00E-01	3.60E-04
Elastic Storativity (dimensionless)	6.05E-05	8.49E-05
Inelastic Storativity (dimensionless)	6.05E-03	8.49E-03

**Table 3. HAGM Results for Aqu Hockley Well**

County Name	Waller	Waller
County Code	237	237
Outcrop Layer	1	1
Layer	1	2
Row	36	36
Column	91	91
Groundwater Elevation in 2009 (ft MSL)	175	167
Groundwater Elevation in 2080 (ft MSL)	132	118
DFC Drawdown (ft)	43	49
Artesian Head (ft)	-71	37
Subsidence in 2009 (ft)	0.04	0.04
Subsidence in 2080 (ft)	0.47	0.47
Subsidence from 2009 to 2080 (ft)	0.43	0.43
Cell Pumping in 2009 (AF/yr)	0	0
Cell Pumping in 2080 (AF/yr)	0	0

**Table 4. Theis Parameters for Aqu Hockley Well**

County Name	Waller
County Code	237
Outcrop Layer	1
Layer	2
Row	36
Column	91
Drawdown in Production Well at 100 gpm for 36 hours	14.23
Drawdown 1/2 mile from Production Well at 100 gpm for 36 hours	0.92
Drawdown 1/2 miles from Production Well at 100 gpm for 1 year	5.08
Drawdown-Pumping Ratio for Production Well for 36 hours	0.14234
Drawdown-Pumping Ratio for 1/2 mile from Production Well for 36 hours	0.00920
Drawdown-Pumping Ratio for 1/2 mile from Production Well for 1 yr	0.05076

**Theis Equation Calculations**

Groundwater production data from the permit applications were used along with the drawdown-pumping ratios contained in Table 4 to develop three estimates of drawdown for each well:

- Scenario 1: drawdown in the production well after 36-hours of pumping at three times the average annual pumping rate

- Scenario 2: drawdown in a well ½ mile from the production well after 36 hours of pumping at three times the annual pumping rate
- Scenario 3: drawdown in a well ½ mile from the production well after one year at the average pumping rate.

Results of these calculations are presented in Table 5.

**Table 5. Theis Results for Aqu Hockley Well**

<b>Production Summary</b>	<b>Value</b>
Annual Permit Production Limit (gallons)	197,100,000
Annual Permit Production Limit (acre-feet)	605
Average Pumping Rate (gpm)	375
3X Average Pumping Rate (gpm)	1125
Permit Capacity (gpm)	790

**Evangeline**

<b>Drawdown Calculations</b>	<b>Draw down- Pumping Ratios</b>	<b>Calculated Draw down (ft)</b>
Production Well - 36 hours (3X avg pumping)	0.14234	160.13
1/2 mile from Production Well - 36 hours (3X avg pumping)	0.00920	10.35
1/2 mile from Production Well - one year (avg pumping)	0.05076	19.04

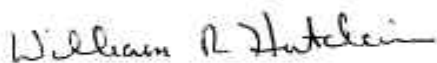
These data represent the best integrated data of the area from a regional perspective. The local-scale data will be developed as part of the Phase II investigation. This will include more site-specific information and data on aquifer depth, clay content, and aquifer parameters calculated from the 36-hour pumping test.

**Recommendation**

Based on the results of the Phase I-a report, the application should be approved, and the Phase II investigation should proceed to verify the Phase I-a estimates related to the aquifer (e.g. depth to bottom of Chicot Aquifer and clay content) and related to aquifer performance (e.g. drawdown at the end of the 36-hour pumping test and aquifer transmissivity).

I appreciate the opportunity to work with you on this effort. Please call me at 512-745-0599 or email me at [billhutch@texasgw.com](mailto:billhutch@texasgw.com) if you have any questions.

Sincerely,



William R. Hutchison, Ph.D., P.E., P.G.