

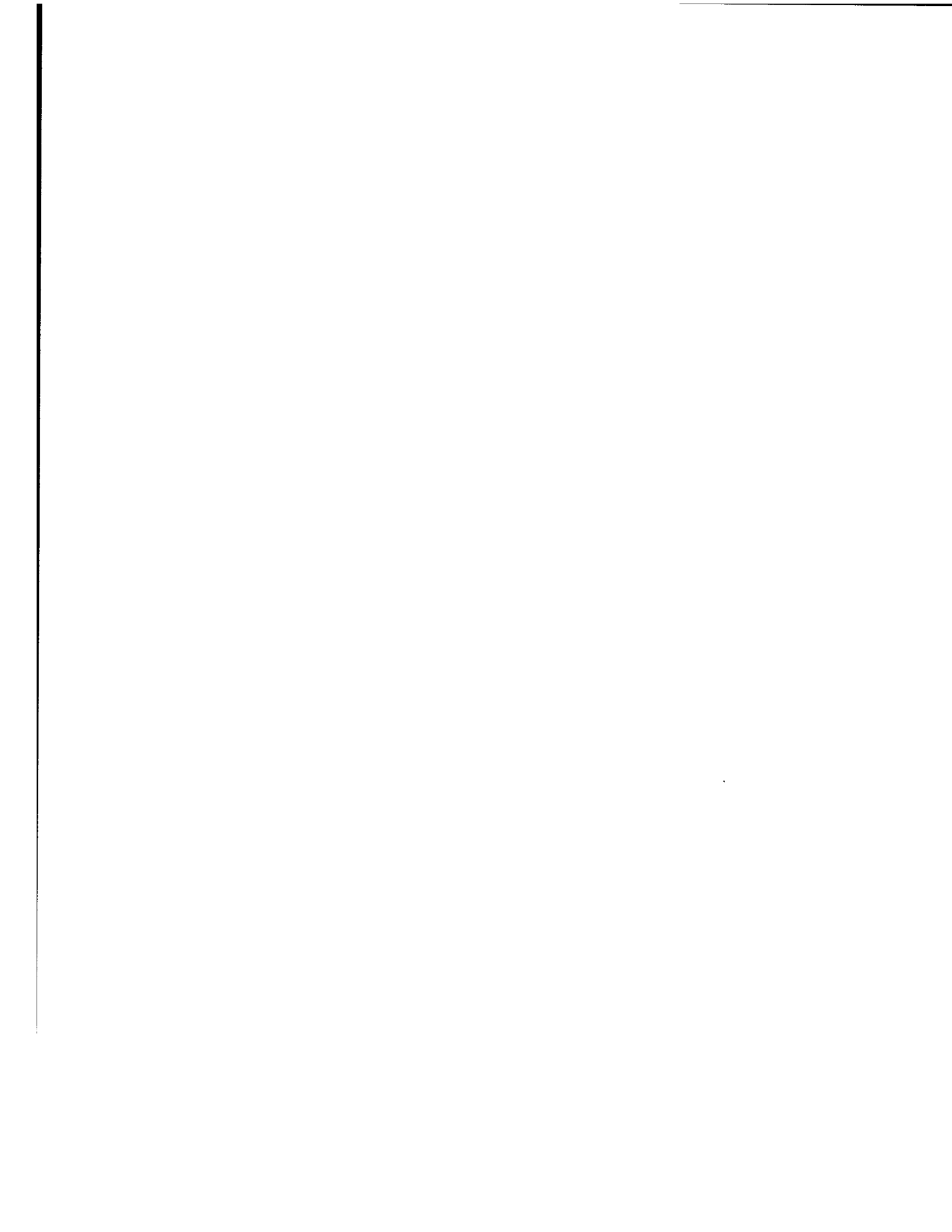


Control Number: 45848



Item Number: 7

Addendum StartPage: 0





JONES - HEROY & ASSOCIATES, INC.

RECEIVED
2016 JUN 10 11:32
PUBLIC UTILITY COMMISSION

June 9, 2016

Mr. Gabe Johnson
City of Celina
142 North Ohio Street
Celina, Texas 75009

Re: Aqua Texas Water and Sewer CCN Appraisal
128-acre Sutton Fields Tract
Public Utility Commission (PUC) Docket No. 45848
JHA Project No. 1022-003

Dear Mr. Johnson,

As requested by the City of Celina, Jones-Heroy & Associates, Inc. (JHA) has completed an independent appraisal of a portion of the Aqua Texas water Certificate of Convenience and Necessity (CCN) No. 13201 and sewer CCN No. 21059, located approximately 6.5 miles southwest of the City of Celina along FM 428 and FM 1385 in Denton County, Texas (reference Location Map, **Attachment A**). The City of Celina filed a notice of intent to serve a 128-acre tract (Sutton Fields Tract) decertified from Aqua Texas in PUC Docket No. 45329 on April 12, 2016 (reference PUC Maps in **Attachment A**). Our appraisal is prepared on behalf of the City of Celina.

BACKGROUND

Aqua Texas, Inc. (Aqua Texas) is an investor owned utility and a subsidiary company to Aqua America, which is a publicly traded water and wastewater utility serving approximately 940,000 utility customers nationwide. Utility operations for Aqua Texas represented approximately 9% of Aqua America's operating revenues for the year ending December 31, 2014, based on our review of a 2014 Annual Report provided by Aqua Texas.

As of April 2016, the portion of the Aqua Texas water CCN No. 13201 considered in our evaluation (Aqua Water CCN) includes approximately 1,550 acres of mostly undeveloped property, with the exception of approximately 114 residential customers located in the Willow Wood Addition Meadow Vista public water system (reference Boundary Map in **Attachment A**). The Willow Wood Addition Meadow Vista water system is consolidated within the Aqua Texas North Region Water Utility Tariff (**Attachment G**) which includes approximately 17,000 water customers scattered across three designated CCNs, 143 public water systems, and 22 counties generally located in the northeastern region of Texas. Based on February 2016 Public Utility Commission (PUC) mapping records, the entire Aqua Texas water CCN No. 13201

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Mr. Gabe Johnson
Aqua Texas CCN Appraisal – Sutton Fields Tract
June 9, 2016
Page 2 of 6

includes approximately 108,000 acres in 140 locations (reference Aqua Texas North Region CCN Location Map in **Attachment A**).

As of April 2016, the portion of the Aqua Texas sewer CCN No. 21059 considered in our evaluation (Aqua Sewer CCN) includes approximately 117 acres of undeveloped property as shown on the boundary map included in **Attachment A**. Based on February 2016 PUC mapping records, the entire Aqua Texas sewer CCN No. 21059 includes approximately 4,600 acres in 15 locations and 6 counties generally located in the northeast region of Texas.

The Sutton Fields Tract includes approximately 128 acres and is located just East of and along FM 1385 and North of Crutchfield Drive. The Sutton Field Tract has been decertified from both the Aqua Water CCN and Sewer CCN.

CONCLUSION

It is our opinion that the value of the property associated with the Aqua Texas Water and Sewer Certificate of Convenience and Necessity considered in this evaluation is **\$ 38,000.00**.

ANALYSIS

Our valuation has been performed in compliance with the guidelines of the Public Utility Commission (PUC) as described in 16 TAC Chapter 24.113(k) and was based on the following:

1. Location maps for the Aqua Texas CCN Boundary obtained from the PUC;
2. Various documents included in PUC Docket Nos. 45329 and 45848 related to the decertification of the Sutton Fields Tract;
3. February 2016 Aqua Water CCN appraisals included in PUC Docket Nos. 45450 and 45462;
4. 2014 Annual Report for Aqua America provided by Aqua Texas;
5. Aqua Texas North Region Water Utility Tariff provided by Aqua Texas;
6. Aqua Texas North Region Sewer Utility Tariff provided by Aqua Texas;
7. A site visit by JHA staff on December 21, 2015;
8. Various public records obtained from the Public Utility Commission (PUC), to include Aqua's December 2011 application for a water rate/tariff change for the North and Southwest regions (PUC Docket No. 44201);
9. Various public records obtained from the Texas Commission on Environmental Quality (TCEQ) for Public Water System (PWS) No. TX0610212, to include:
 - Comprehensive Compliance Investigation report dated February 21, 2013 for the Willow Wood Addition Meadow Vista public water system;
 - Drinking water watch online database;
 - Texas Water Commission approval letters for the Willow Wood Addition, dated August 23, 1994 and August 18, 1993;
10. Public drinking water well drilling logs obtained from the Texas Water Development

- Board (TWDB) database for the Aqua Texas wells located in the Willow Wood Addition Meadow Vista public water system (State Well Nos. 1842401 and 1842701); and,
11. Denton County plat records for Willow Wood, Meadow Vista Phase 1, and Meadow Vista Phase 2 subdivisions.

Following are the findings and recommendations of JHA regarding each of the specific factors set forth in 16 TAC Chapter 24.113(k), as detailed below:

- 1) “The amount of the retail public utility’s debt allocable for service to the area in question”

Estimated Value: \$ 0.00

The Willow Wood Addition Meadow Vista public water system located within the Aqua Water CCN is operated as part of the overall Aqua Texas North Region under a regional water utility tariff (**Attachment G**); which is structured to share the operating expenses and debt allocable to all of the North Texas Region’s water customers. It was evident from our investigation that the Willow Wood Addition Meadow Vista public water system has limited capacity to serve additional customers within the undeveloped areas of the Aqua Water CCN. Thus, any share of Aqua Texas’ debt allocable to the Sutton Fields Tract would be allocated based on the number of existing Aqua Texas water customers served in the subject CCN boundary versus the total water and sewer customers served in the Aqua Texas North Region.

A review of the Aqua Texas North Region Sewer Utility Tariff (**Attachment H**) indicates that the 117 acre portion of the Aqua Texas sewer CCN No. 21059 is not consolidated within a larger system. There are no existing Aqua Texas customers located in the Aqua Sewer CCN boundary.

Our consideration of Factor 1 also included a review of a recent Aqua Water CCN appraisal for two undeveloped tracts associated with the Smiley Road development, which were recently decertified from the Aqua Water CCN (reference PUC Docket Nos. 45450 and 45462, **Attachment I**). The February 16, 2016 appraisal reports were prepared by NewGen Strategies and Solutions (NewGen Appraisal), which was an agreed upon appraisal between Mustang Special Utility District and Aqua Texas. The NewGen Appraisal determined that no Aqua Texas property had been rendered useless or valueless as a result of the decertification of the Aqua Texas Water CCN.

There are currently no Aqua Texas water or sewer customers located in the Sutton Fields Tract; therefore, we have assumed that Aqua Texas’ debt associated with providing water and sewer service has been allocated wholly to other existing customers. Thus, we have assumed no value for Aqua Texas’ debt associated with the Sutton Fields Tract.

- 2) “The value of service facilities of the retail public utility located within the area in question:

Estimated Value: \$ 0.00

There are no Aqua Texas water or sewer service facilities located within the Sutton Fields Tract. Therefore, no value is assumed for this item.

- 3) “The amount of any expenditures for planning, design, or construction of service facilities that are allocable to service to the area in question”

Estimated Value: \$ 28,000.00

It was evident from our investigation that the Willow Wood Addition Meadow Vista public water system has limited ability to serve a greater portion of the Aqua Water CCN located outside of the Willow Wood and Meadow Vista subdivisions. An inventory of the existing public water system facilities was determined based on the following information:

- December 21, 2015 site visit by JHA staff (photographs included as **Attachment B**);
- Available public records from TCEQ for PWS TX0610212 (**Attachment C**);
- TWDB public water well drillers logs (**Attachment D**); and
- Denton County plat records (**Attachment E**);

In addition, we have found no evidence of offsite water facilities owned by Aqua Texas which are intended to serve the undeveloped portions of the Aqua Water CCN. Therefore, no value is assumed for the Aqua Water CCN associated with the planning, design, or construction of service facilities intended to serve the undeveloped portion of the CCN.

Aqua Texas obtained a TPDES Permit WQ0014234001 (**Attachment F**) in 2003 with the intent to treat and discharge domestic wastewater from a proposed residential development within the Aqua Sewer CCN boundary. The wastewater discharge permit is limited to a period of 10 years or until such time that Upper Trinity Regional Water District (UTRWD) is able to serve the proposed development within the Aqua Sewer CCN, according to an agreement between AquaSource Development Company and UTRWD dated December 2, 2002 and included as Attachment A to the TPDES Permit WQ0014234001.

The wastewater discharge permit is non-transferrable due to the terms of the UTRWD agreement mentioned above, and holds no value to the City of Celina as a founding member of UTRWD. Nonetheless, it will become useless and valueless to the remaining Aqua Texas customers upon decertification of the Aqua Sewer CCN boundary. Therefore, the estimated engineering and legal fees associated with obtaining (2002) and

subsequent renewals (2007 and 2012) of the existing wastewater discharge permit are estimated at \$28,000.00 and included in Factor 3.

- 4) “The amount of the retail public utility’s contractual obligations allocable to the area in question”

Estimate Value: \$ 0.00

We found no evidence of any expenses for contractual obligations associated with the Aqua Water or Sewer CCN; therefore, no value is assumed for this item.

- 5) “Any demonstrated impairment of service or increase of cost to consumers of the retail public utility remaining after the decertification”

Estimated Value: \$ 0.00

We found no evidence of any impairment of service associated with the loss of the Aqua Water or Sewer CCN; therefore, no value is assumed for this item.

- 6) “The impact on future revenues lost from existing customers”

Estimated Value: \$ 0.00

There are no existing Aqua Texas water or sewer customers located within the Sutton Fields Tract; therefore, no value is assumed for this item.

- 7) “Necessary and reasonable legal expenses and professional fees”

Estimated Value: \$ 10,000.00

Based on JHA’s prior experience with the CCN decertification process, we have estimated the following legal and professional fees which may be incurred by Aqua Texas to decertify the subject area:

- \$5,000 for legal fees; and,
- \$5,000 for engineering and appraisal fees.

- 8) “Other relevant factors”

Estimated Value: \$ 0.00

No other relevant factors were identified; therefore, no value is assumed for this item.

Mr. Gabe Johnson
Aqua Texas CCN Appraisal – Sutton Fields Tract
June 9, 2016
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LIST OF ATTACHED TABLES

1. Summary of JHA's total appraised value for the Sutton Fields Tract based on factors outlined in 16 TAC 24.113(k).

LIST OF ATTACHMENTS

- A. Location, Boundary, and Sutton Fields Tract Maps
- B. December 21, 2015 Site Visit Photographs
- C. TCEQ Records for the Willow Wood Addition Meadow Vista Public Water System
- D. TWDB public water well driller logs
- E. Denton County Plat Records for the Willow Wood and Meadow Vista subdivisions
- F. Aqua Development, Inc. TCEQ TPDES Permit No. WQ0014234001 with Wastewater Service Agreement Between Upper Trinity Regional Water District and AquaSource Development Company, dated December 2, 2002
- G. Selected pages from the Aqua Texas January 1, 2013 approved Water Utility Tariff for the North Region
- H. Selected pages from the Aqua Texas January 1, 2009 approved Sewer Utility Tariff for the North Region
- I. February 2016 CCN Appraisal Report prepared for the decertification of a portion of the Aqua Water CCN

Respectfully Submitted,
JONES-HEROY & ASSOCIATES, INC.
TBPE Registered Firm No. 006320

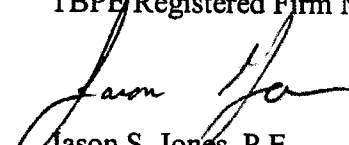
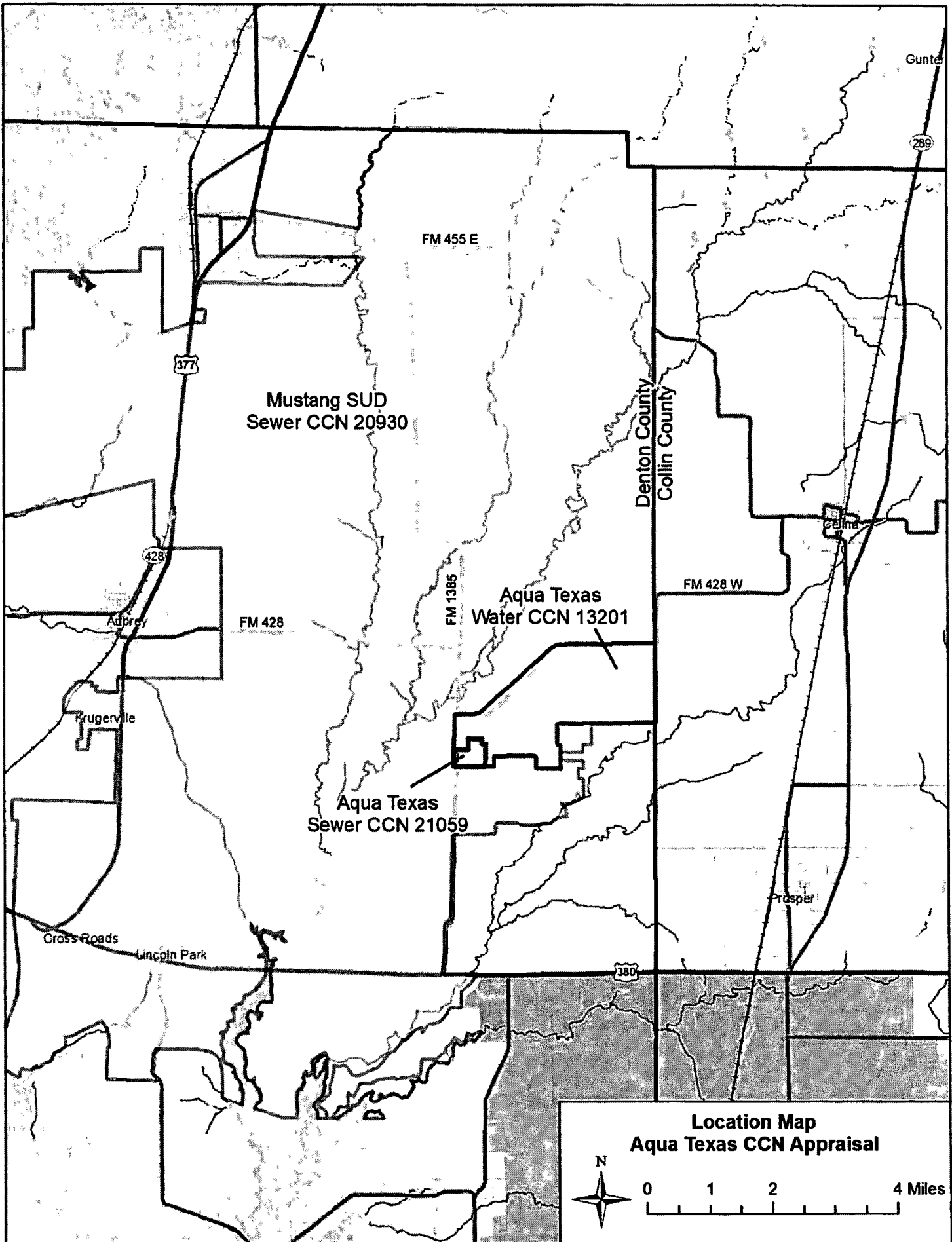

Jason S. Jones, P.E.
Principal

Table 1: Summary of JHA's total appraised value for the Sutton Fields Tract based on factors outlined in 16 TAC 24.113(k).

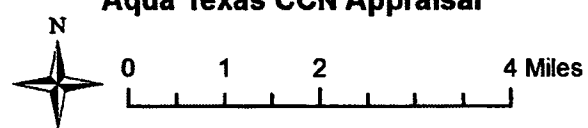
| Factors | Description | Amount |
|-------------------------------|---|------------------|
| 1) | The amount of the retail public utility's debt allocable for service to the area in question: | \$ - |
| 2) | The value of the service facilities of the retail public utility located within the area in question: | \$ - |
| 3) | The amount of any expenditures for planning, design, or construction of service facilities that are allocable to service to the area in question: | \$ 28,000 |
| 4) | The amount of the retail public utility's contractual obligations allocable to the area in question: | \$ - |
| 5) | Any demonstrated impairment of service or increase of cost to consumers of the retail public utility remaining after the decertification: | \$ - |
| 6) | The impact on future revenues lost from existing customers: | \$ - |
| 7) | Necessary and reasonable legal expenses and professional fees: | \$ 10,000 |
| 8) | Other relevant factors: | \$ - |
| Total Appraised Value: | | \$ 38,000 |

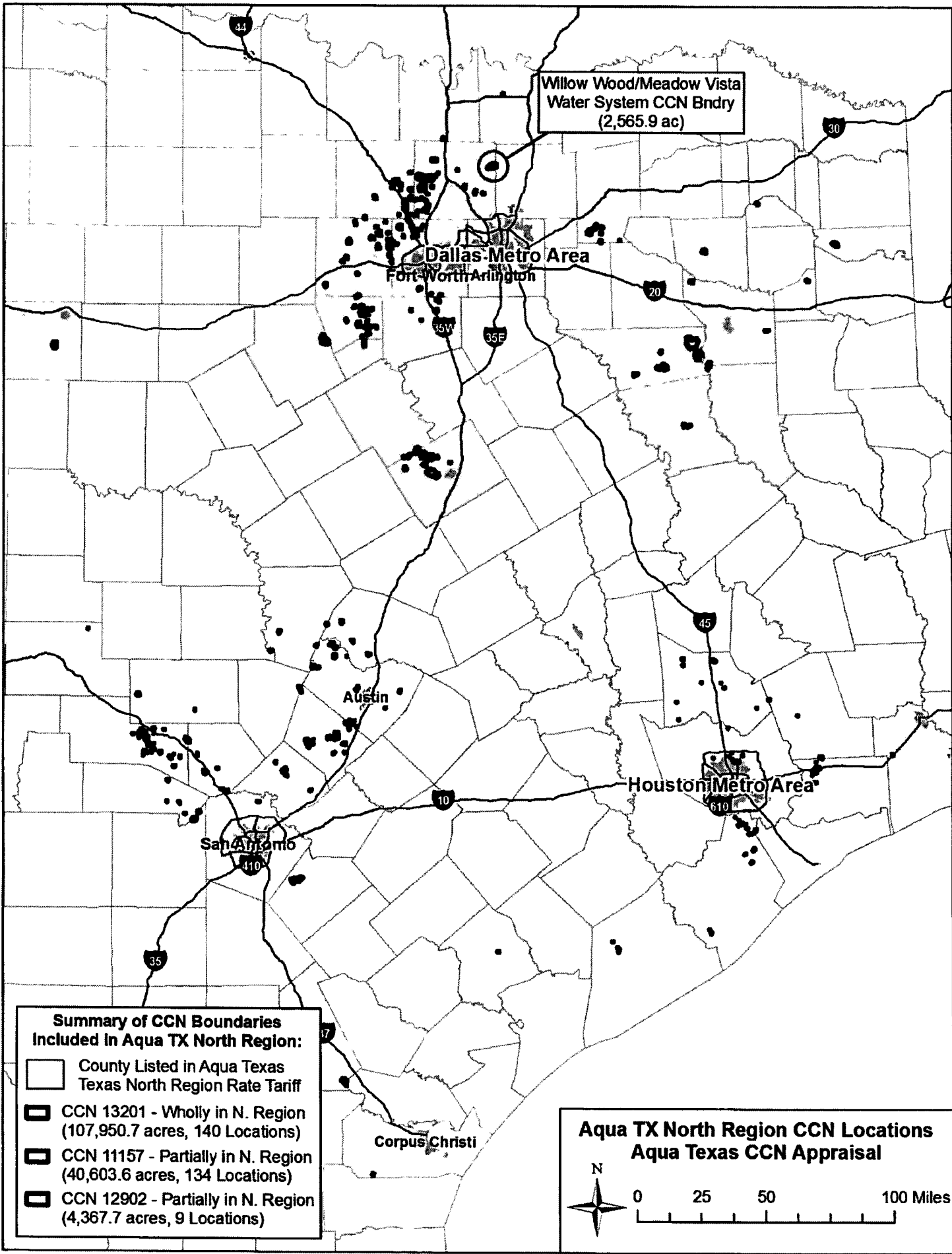
Attachment A

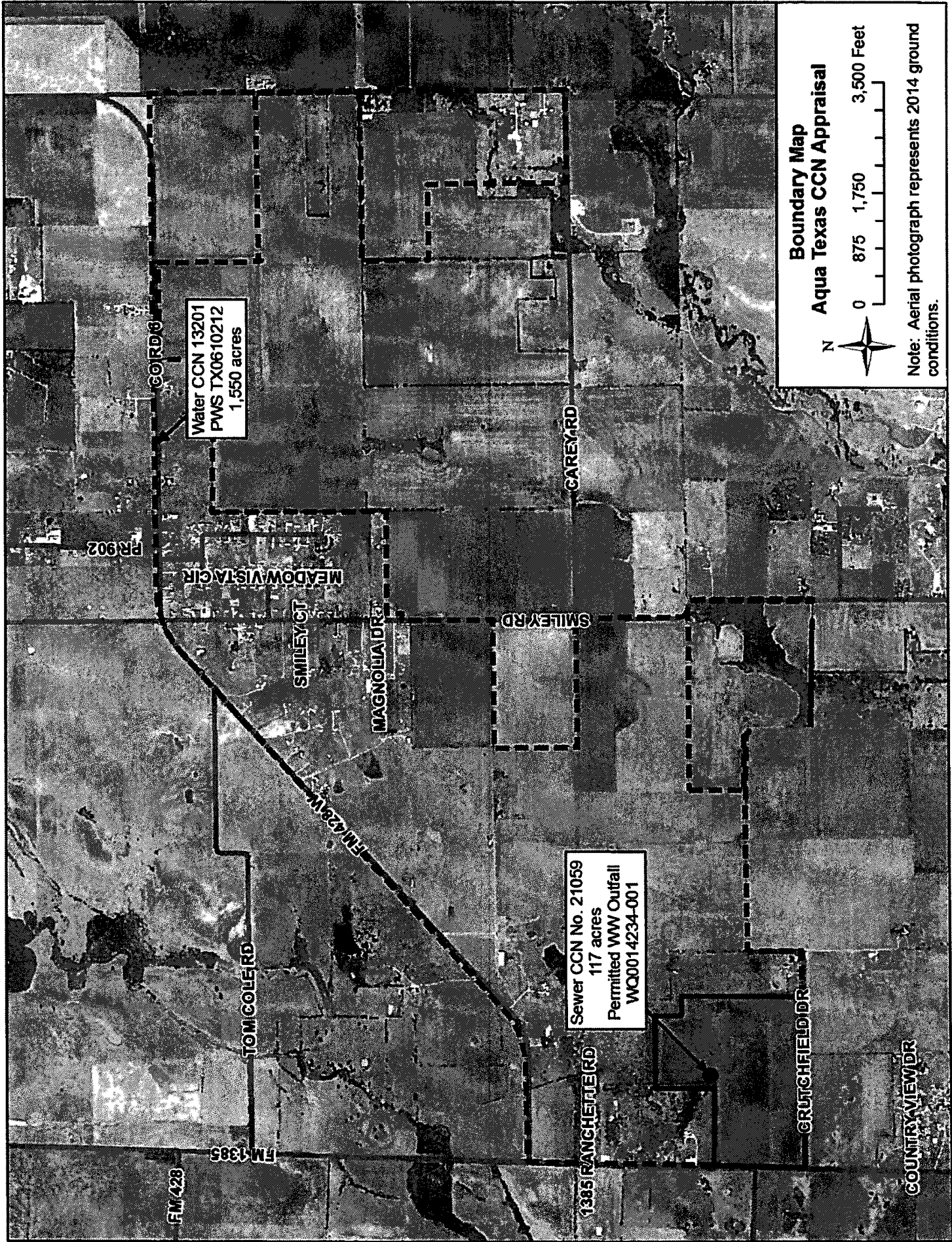
Location, Boundary, and Sutton Fields Tract Maps



**Location Map
Aqua Texas CCN Appraisal**







Water CCN 13201
 PWS TX0610212
 1,550 acres

Sewer CCN No. 21059
 117 acres
 Permitted WW Outfall
 WQ0014234-001

Boundary Map
Aqua Texas CCN Appraisal

N

0 875 1,750 3,500 Feet

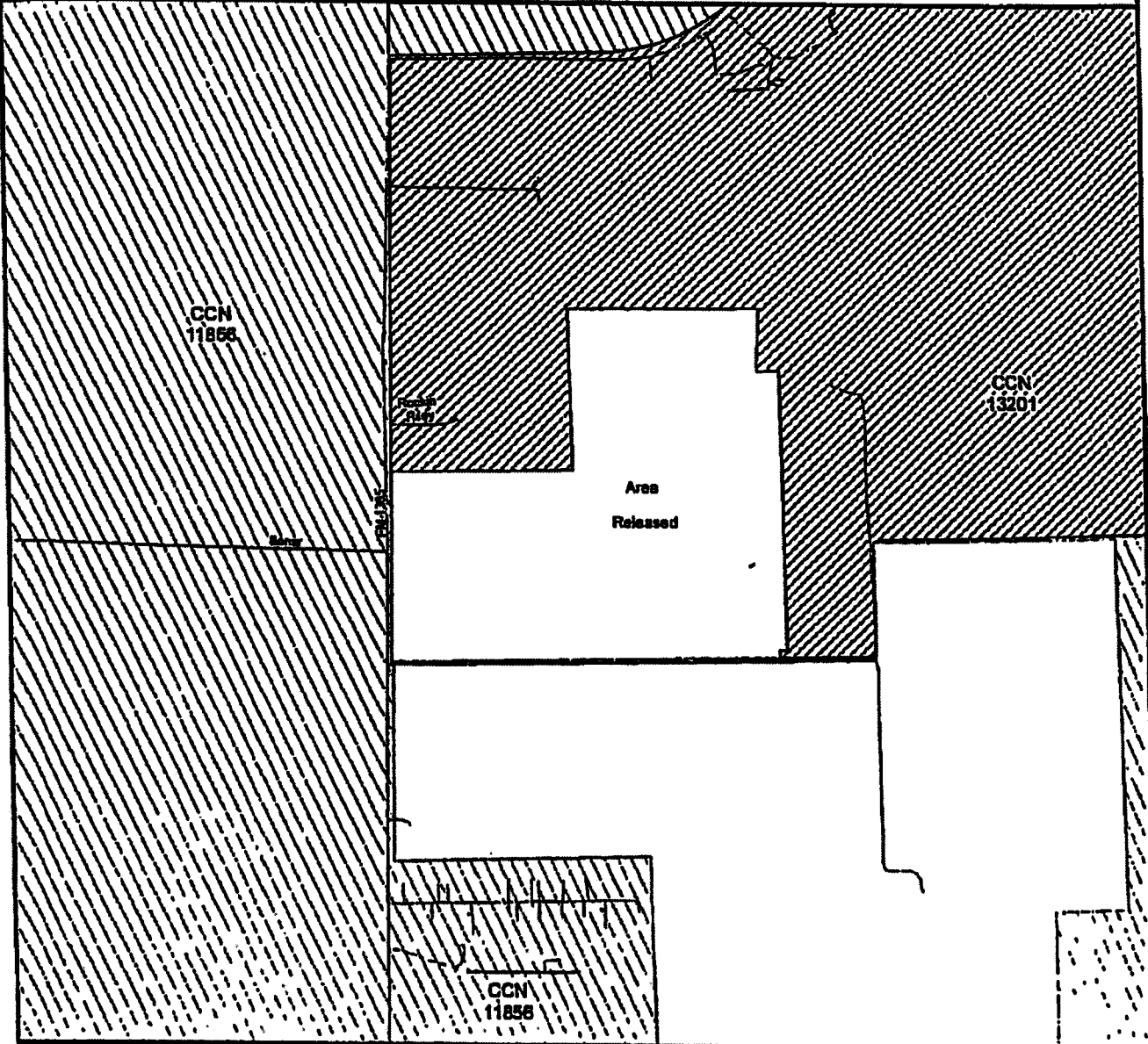
Note: Aerial photograph represents 2014 ground conditions.

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL ON FILE WITH THE
PUBLIC UTILITY COMMISSION OF TEXAS
CENTRAL RECORDS DIVISION

BY: *Asad Medina*
DATE: *3-29-16* Petition



Aqua Texas Inc.
Water Service Area
CCN No. 13201
PUC Docket No. 45329
DADG Sutton Fields II to Amend Aqua Texas Inc's CCN
by Expedited Release in Denton County



Public Utility Commission of Texas
1701 N. Congress Ave
Austin, TX 78701

Area Released

Water CCN Service Areas

13201 - Aqua Texas Inc

11856 - Mustang SUD

0 500 1000
Feet



Map by: Kemal Patel
Date created: January 22, 2016
Project Path: r:\vna\mappings\45329AquaTexas\Water.mxd

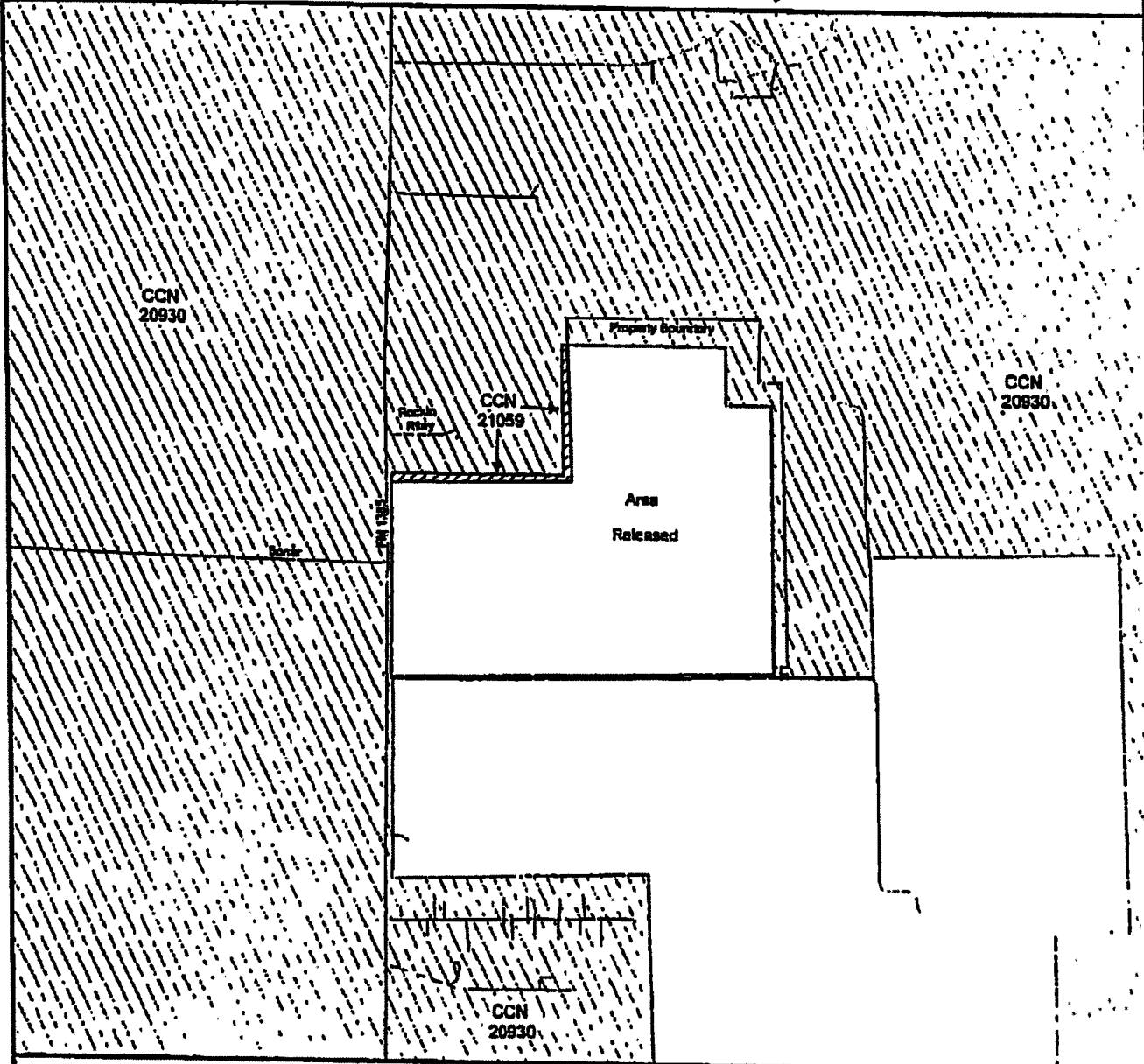
CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL ON FILE WITH THE PUBLIC UTILITY COMMISSION OF TEXAS CENTRAL RECORDS DIVISION

BY: *Roger Medina*
DATE: *3-29-16*



Aqua Texas Inc.
Sewer Service Area
CCN No. 21059
PUC Docket No. 45329

Petition by CADG Sutton Fields II to Amend Aqua Texas Inc's CCN by Expedited Release in Denton County



Public Utility Commission of Texas
1701 N. Congress Ave
Austin, TX 78701

Property Boundary
 Area Released

Sewer CCN Service Areas
 21059 - Aqua Texas Inc
 20930 - Mustang SUD

0 500 1000
Feet



Map by: Komal Patel
Date created: January 22, 2016
Project Path: n:\finalmapping\45329 Aqua Texas Sewer.mxd

Attachment B
Site Visit Photographs

Photo 1 - Willow Wood Well Site No. 1 and Pump Station

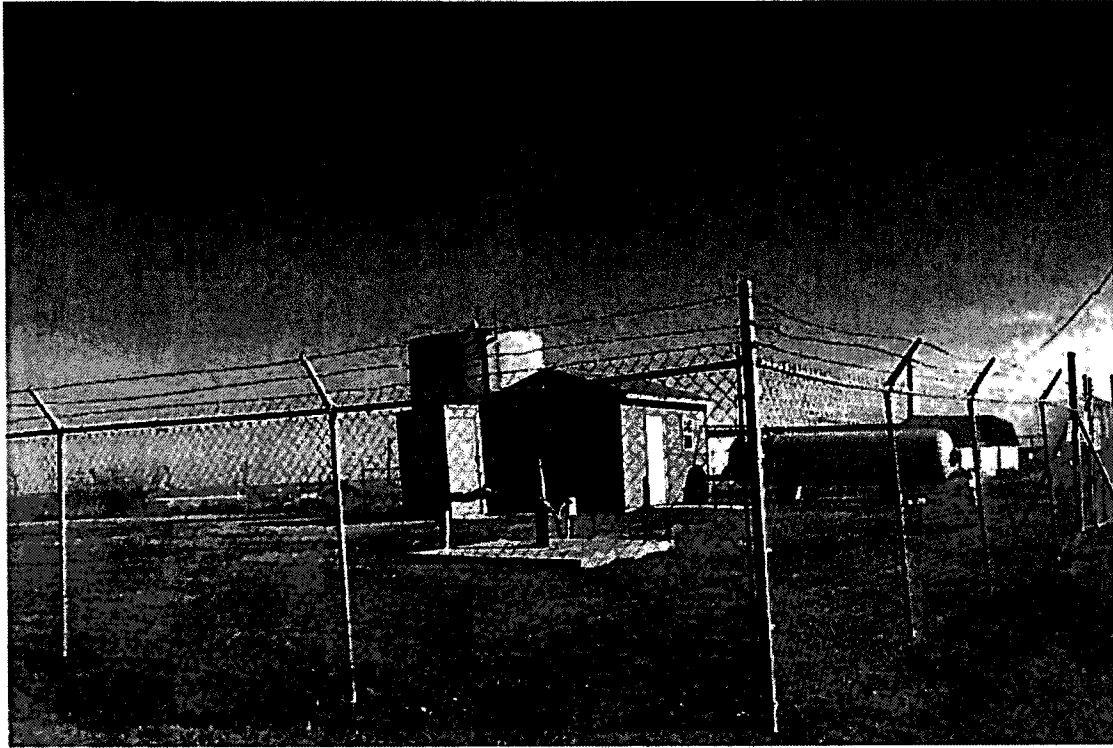


Photo 2 - Willow Wood Well Site No. 1 and Pump Station



Photo 3 - Sample Station No. 2 Located on Meadow Vista Circle



Photo 4 - Typical Street View, Smiley Road at FM 428 W



Photo 5 - Meadow Vista Well No. 2 and Pump Station



Photo 6 - Typical Street View, Meadow Vista Circle (East Side)



Attachment C

TCEQ Records for Willow Wood Addition

Meadow Vista Public Water System

| | | |
|---|-----------------------------------|--|
| <u>Texas Commission on Environmental Quality</u> | <u>Office of Water</u> | <u>Public Drinking Water Section</u> |
| <u>County Map of TX</u> | <u>Water System Search</u> | <u>Office of Compliance and Enforcement</u> |

| <u>Water System Detail</u> | | | |
|--|--|--|------------------------------------|
| <u>Water System Facilities</u> | <u>Violations Enforcement Actions</u> | <u>TCR Sample Results</u> | <u>TTHM HAA5 Summaries</u> |
| <u>Source Water Assessment Results</u> | | | |
| <u>Sample Points</u> | <u>Assistance Actions</u> | <u>Recent Positive TCR Results</u> | <u>PBCU Summaries</u> |
| <u>Sample Schedules / FANLs / Plans</u> | <u>Compliance Schedules</u> | <u>Other Chemical Results</u> | <u>Chlorine Summaries</u> |
| <u>Site Visits Milestones</u> | <u>TOC/Alkalinity Results</u> | <u>Chemical Results: Sort by: Name Code</u> | <u>Turbidity Summaries</u> |
| <u>Operators All POC</u> | <u>LRAA (TTHM/HAA5)</u> | <u>Recent Non-TCR Sample Results</u> | <u>TCR Sample Summaries</u> |
| <u>Glossary</u> | | | |

| <u>Water System Detail Information</u> | | | |
|---|--|------------------------------------|-------------------|
| <u>Water System No.:</u> | TX0610212 | <u>System Type:</u> | C |
| <u>Water System Name:</u> | WILLOW WOOD ADDITION MEADOW VISTA | <u>Primary Source Type:</u> | GW |
| <u>Principal County Served:</u> | DENTON | <u>System Status:</u> | A |
| <u>Principal City Served:</u> | | <u>Activity Date:</u> | 01-01-1913 |
| <u>Population:</u> | 312 | <u>System Recognition:</u> | NO DATA |

| <u>Water System Contacts</u> | | | |
|-------------------------------------|--|-------------------------------|---------------------|
| <u>Type</u> | <u>Contact</u> | <u>Communication</u> | |
| AC - Administrative Contact | FOLTZ, SCOT, W 1106 CLAYTON LN STE 400W AUSTIN, TX 78723-2476 | <u>Electronic Type</u> | <u>Value</u> |
| | | <u>Phone Type</u> | <u>Value</u> |
| | | BUS - Business | 512-990-4400 |
| | | MOB - Mobile | 512-844-6475 |

| <u>Sources of Water</u> | | | |
|--------------------------------|--------------------|------------------------|----------------------------|
| <u>Name</u> | <u>Type</u> | <u>Activity</u> | <u>Availability</u> |
| 2 - MEADOW VISTA PS | WL | A | P |
| 1 - WILLOW WOOD PS | WL | A | P |

| Source Water Percentages | | | |
|--------------------------|---|----------------------------|---|
| Surface Water | 0 | Surface Water Purchased | 0 |
| Ground Water | 0 | Ground Water Purchased | 0 |
| Ground Water UDI | 0 | Ground Water UDI Purchased | 0 |

| Water Purchases |
|---------------------------------|
| Water System \ Treatment Status |
| No Water Purchases |

| Buyers of Water |
|---|
| Water System / Population / Availability (blank, (S)easonal, (E)mergency, (I)nterim, (P)ermanent, (O)ther |
| No Buyers |

Total Population Served = 312

Total Population Served included ALL active connections, including emergency.

| Annual Operating Period(s) | | | | | |
|----------------------------|--------------------|-----------------|---------------|------|------------|
| Effective Begin Date | Effective End Date | Start Month/Day | End Month/Day | Type | Population |
| 01-25-2016 | No End Date | 1/1 | 12/31 | R | 342 |

| Service Connections | | | |
|---------------------|-------|------------|------------|
| Type | Count | Meter Type | Meter Size |
| RS | 144 | ME | 0 |

| Service Area | |
|--------------|------------------|
| Code | Name |
| R | RESIDENTIAL AREA |

| Regulating Agencies | |
|--|-----------------|
| Name | Alias/Inspector |
| TX COMMISSION ON ENVIRONMENTAL QUALITY | TCEQ |

| Water System Historical Names |
|-------------------------------|
| Historical Name(s) |
| |

| System Certification Requirements | | |
|--|-------------|-------------------|
| Certification Name | Code | Begin Date |

| WS Flow Rates | | |
|----------------------|-----------------|------------|
| Type | Quantity | UOM |

| WS Measures | | |
|--------------------|-----------------|------------|
| Type | Quantity | UOM |

| WS Indicators | | |
|--|----------------------|-------------|
| Type | Value | Date |
| DBP2 - Stage2 DBPR Schedule Category | 4 - 4 | 10-01-2013 |
| POWN - Previous Ownership Type Code. This is the WUD ownership code. | INV - Investor Owned | |
| PRFT - Status as a For or Non Profit Entity | FOR - For Profit | |
| SSWP - State Source Water Program | YES - Yes | 09-15-2010 |
| XCON - Cross Connection control Program Ranking | INSFT - Insufficient | 07-03-2014 |

James W. Whitman, F.H.D., Chairman
Carlos Rubinstein, Commissioner
Toby Baker, Commissioner
Zak Covar, Executive Director



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 21, 2013

Mr. Steve Blackhurst, P.E., Regional Environmental Compliance Manager
Aqua Texas, Inc.
1106 Clayton Lane, Suite 400W
Austin, TX 78723

Re: Comprehensive Compliance Investigation at:
Willowood Addition Meadow Vista, Denton County, Texas
TCEQ ID No.:0610212, RN No. 102671187, Investigation No. 1057525

Dear Mr. Blackhurst:

On February 6, 2013, Mr. Robert E. Ferry of the Texas Commission on Environmental Quality (TCEQ), DFW Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for public water supply systems. No violations are being alleged as a result of the investigation. No further submittal from you is required concerning this investigation.

The TCEQ appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact Mr. Ferry in the DFW Region Office at (817) 588-5814.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles Marshall".

Charles Marshall
Team Leader, Public Water Supply Section
DFW Regional Office

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JUN 12 2013

TCEQ
CENTRAL FILE ROOM

CM/ref

TCEQ Region 4-Dallas/Fort Worth • 2309 Gravel Dr. • Fort Worth, Texas 76118-6951 • 817-588-5800 • Fax 817-588-5700

Austin Headquarters: 512-239-1000 • tceq.texas.gov • How is our customer service? tceq.texas.gov/customer survey

printed on recycled paper using soy-based ink

Texas Commission on Environmental Quality
Investigation Report
Aqua Utilities, Inc.
CN601570773

WILLOW WOOD ADDITION MEADOW VISTA

RN102671187

Investigation # 1057525
Investigator: ROBERT FERRY

Incident #
Site Classification
GW 51-250 CONNECTION

Conducted: 02/06/2013 - 02/06/2013

No Industry Code Assigned

Program(s): PUBLIC WATER
SYSTEM/SUPPLY

Investigation Type : Compliance Investigation

Location : S SIDE OF FM 428 AUBREY

Additional ID(s) : 0610212

Address: ; ,

Activity Type : REGION 04 - DFW METROPLEX
PWSCCIGWCM - PWSCCOGWCM PWS CCI
Discretionary Groundwater, Purchase,
Community

Principal(s) :

Role Name
RESPONDENT AQUA TEXAS INC

Contact(s) :

Table with columns: Role, Title, Name, Phone. Includes entries for Area Coordinator, Operator, Area Coordinator, and Regulatory and Compliance Manager.

Other Staff Member(s) :

Role Name
QA Reviewer Supervisor CHARLES MARSHALL
CHARLES MARSHALL

MAR 05 2013

Associated Check List

Table with columns: Checklist Name, Unit Name. Lists items like PWS EMERGENCY POWER INITIATIVE and PWS STANDARD FIELD.

Investigation Comments :

INTRODUCTION

The Willowwood Addition Public Water System was investigated on February 6, 2013, to determine compliance with TCEQ PWS Rules and Regulations. The facility was last investigated on January 20, 2010 (Inv. # 788222). Mr. Gary Douglas, Area Coordinator for Aqua Texas, was contacted and notified of the investigation on January 14, 2013.

The investigation was conducted with Mr. Douglas and Mr. Lonnie Sanders, operator. An exit interview explaining the results of the investigation was conducted following the investigation with Mr. Douglas, who received a copy of the form.

GENERAL FACILITY AND PROCESS INFORMATION

*Specific facility information, such as tank volumes, pump capacities, etc. can be found in the PUBLIC WATER SYSTEM DATA SHEET attached to the end of this compliance investigation report.

The system supplies water through one pressure plane and has two pump stations. The Willowwood Pump Station consists of:

- one production well,
- one ground storage tank,
- one pressure tank,
- a gas chlorination system, and
- two service pumps.

The Meadow Vista Pump Station consists of:

- one production well,
- one ground storage tank,
- one pressure tank,
- a gas chlorination system, and
- two service pumps.

The distribution lines from the two stations combine before entering distribution. Raw water is pumped from the wells and injected with gaseous chlorine prior to entering the ground storage. From the ground storage, the water is pumped into the distribution via the two service pumps. Pressure is maintained by the pressure tanks. The Meadow Vista Pump Station operates continually while the Willowwood Station is used as backup and usually only operates during summer months. This Willowwood Station well is flushed regularly.

BACKGROUND

No violations were cited during the last investigation. No complaints have been received about the system since the last investigation.

RECORD REVIEW

The following records were reviewed during the investigation:

- Bacteriological sampling results
- Monthly Operating Reports
- Monitoring Plans
- Tank Inspection Reports
- Plumbing Ordinances or Service Agreements
- Customer Service Inspections
- Well Driller's Logs
- Sanitary Control Easements
- Drought Contingency Plans
- Plant Operations Manual
- Complaint Records

- Meter Calibration Records

System records were very well organized and complete.

ALLEGED VIOLATIONS

No violations are being alleged as a result of this investigation.

No Violations Associated to this Investigation

Signed Robert E. Turner Date 2-7-13
Environmental Investigator

Signed [Signature] Date 2/19/13
Supervisor

Attachments: (in order of final report submittal)

- Enforcement Action Request (EAR)
- Letter to Facility (specify type) : Gen Camp
- Investigation Report
- Sample Analysis Results
- Manifests
- NOR
- Maps, Plans, Sketches
- Photographs
- Correspondence from the facility
- Other (specify) :

PUBLIC WATER SYSTEM DATA

| | | | |
|--|----------------|--|--------------------------|
| Name of System: Willow Wood Addition Meadow Vista | | | |
| CCN Number: | 11157 | PWS ID: | 610212 |
| Classification: | Not Applicable | Type: | Community |
| Region Number: | 4 | | |
| Interconnect with Other PWS: | No | Name of PWS I/C: | |
| Type I/C: | | | |
| Retail Service Connections: | | Retail Meters: 104 | |
| Retail Population: 312 | | | |
| Wholesale Master Meters: | 0 | Wholesale Service Connections: | 0 |
| Wholesale Population: 0 | | | |
| Total Well Capacity: 146 GPM 0.210 MGD | | | |
| Raw Capacity: GPM MGD | | | |
| Total Elevated Storage: 0.0 MG | | Total Storage Capacity: 0.0366 MG | |
| Pressure Tank Capacity: 0.004 | | | |
| Maximum Daily Usage: | 0.036 MGD | Date: | 09/09/9999 |
| Average Daily Usage: | 0.0230 MGD | Time Period: | 01/01/2012 to 12/31/2012 |
| Wholesale Contract: | No | Maximum Purchase Rate : | |
| No. of Samples Required: | 1 | No. of Samples Submitted: | 1 |
| No. of Raw Samples Required: | 0 | No. of Raw Samples Submitted: | 0 |
| Non-Comm Dates of Operation: | | 09/09/9999 to 09/09/9999 | |

WATER STORAGE TANKS

| Type | Capacity | Material | Location |
|------|-----------|----------|---------------------------|
| HD | 0.0015 MG | Steel | Willow Wood Pump Station |
| GR | 0.0126 MG | Steel | Willow Wood Pump Station |
| HD | 0.0025 MG | Steel | Meadow Vista Pump Station |
| GR | 0.0240 MG | Steel | Meadow Vista Pump Station |

WATER SOURCES

| ID | Well Name | Location | Status | Pump Type | Capacity (gpm) | Depth (ft) | Installation Date |
|----|------------|--------------|---------------------------|-----------|---------------------|------------|-------------------|
| 1 | GW0610212A | Willow Wood | Willow Wood Pump Station | O | Submersible 37 gpm | 27.0 | 02/06/2013 |
| 2 | GW0610212 | Meadow Vista | Meadow Vista Pump Station | O | Submersible 109 gpm | 122 | 02/06/2013 |

SERVICE PUMPS

| | | |
|---|-----------------|-----------------|
| 1 | 5 hp / 100 gpm | Willow Wood PS |
| 1 | 5 hp / 100 gpm | Willow Wood PS |
| 2 | 10 hp / 200 gpm | Meadow Vista PS |
| 2 | 10 hp / 200 gpm | Meadow Vista PS |

SYSTEM CAPACITIES

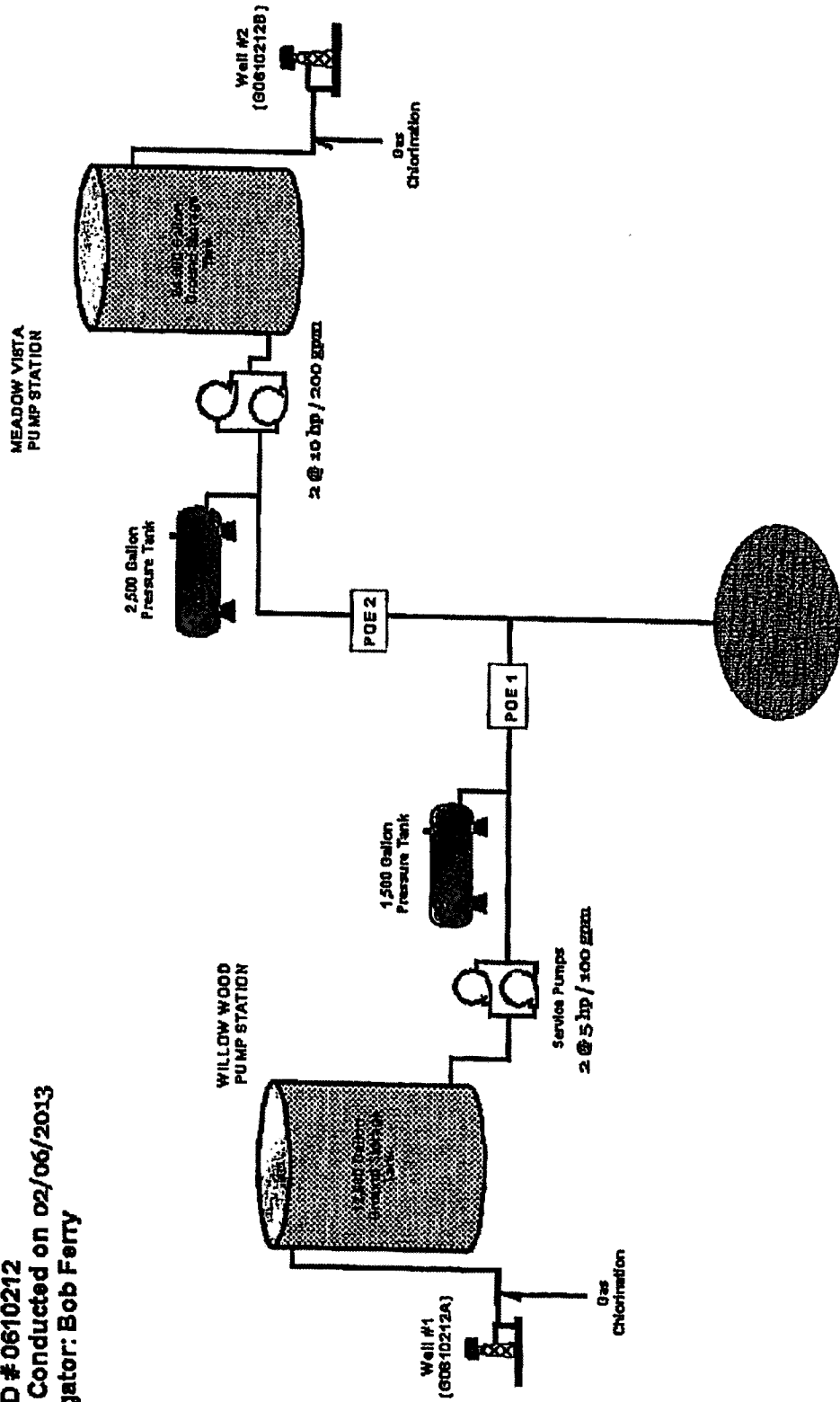
Pressure Plane Number: 1 Name: Willowwood

| Category | Value | Formula | Result | Unit |
|--|------------|----------------|----------------|------------|
| Well Production | 0.6 | GPM Conn X 104 | Conn = 62.4 | GPM 146 |
| Elevated Pressure Storage | 20 | Gal/Conn X 104 | Conn = 0.00208 | MG 0.00400 |
| Ground/Total Storage | 200 | Gal/Conn X 104 | Conn = 0.0208 | MG 0.0366 |
| Service Pump Capacity | 2.0 | GPM/Conn X 104 | Conn = 208 | GPM 600 |
| Service Pump Peaking Factor | MDD/1440 X | | ** | GPM |
| Tested PSI: 58 Tested CL2: 0.44 Free Location: 5592 FM 428 | | | | |



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
PUBLIC WATER SYSTEM DIAGRAM
TCEQ REGION 04

WILLOW WOOD ADDITION
TCEQ ID # 0610212
Survey Conducted on 02/06/2013
Investigator: Bob Ferry



PWS INVESTIGATION - EQUIPMENT MONITORING AND SAMPLING Checklist

Unit Name : Willowood
 Investigation # :1057525
 Facility Name : WILLOW WOOD ADDITION MEADOW
 VISTA

County : DENTON
 TCEQ Investigator : ROBERT FERRY

| Item No. | Description | Answer | Comments | Due Date |
|----------|---|--------|----------|----------|
| | EQUIPMENT MONITORING SECTION | | | |
| 1 | Was an Anemometer used during this investigation? | NO | | |
| 2 | Was the Area RAE Multi-Gas Monitor used during this investigation? | NO | | |
| 3 | Was the Civil Defense V-700 Radiation Survey Instrument used during this investigation? | NO | | |
| 4 | Was the DataRAM(TM) Real-Time Aerosol Monitor used during this investigation? | NO | | |
| 5 | Was the Dissolved Oxygen Meter used during this investigation? | NO | | |
| 6 | Was the Drager Gas Detector Pump/Tube System used during this investigation? | NO | | |
| 7 | Was the El Paso Method for Measurement of Air-Strippable VOCs in Water used during this investigation? | NO | | |
| 8 | Was the Garmin GPSMap 60CS GPS Receiver used during this investigation? | NO | | |
| 9 | Was the Garmin RINO 130 GPS Receiver used during this investigation? | NO | | |
| 10 | Was the GAS FindIR used during this investigation? | NO | | |
| 11 | Was the Hach Model 2100P Portable Turbidity Meter used during this investigation? | NO | | |
| 12 | Was the Hach Pocket Colorimeter used during this investigation? | YES | | |
| 13 | Was the Hach Pocket Turbidity Meter used during this investigation? | NO | | |
| 14 | Was the Haz-Dust 6000 Environmental Particulate Air Monitor (EPAM) used during this investigation? | NO | | |
| 15 | Was the Hydrolab DataSonde® 4 and Hydrolab MiniSonde® Water Quality Multiprobes used during this investigation? | NO | | |
| 16 | Was the IDEXX Collier® and IDEXX Enterolert® Methods used during this investigation? | NO | | |
| 17 | Was the Jerome 631-X Hydrogen Sulfide (H ₂ S) Analyzer used during this investigation? | NO | | |
| 18 | Was the LANDTEC GEM 2000(TM) Landfill Gas Analyzer used during this investigation? | NO | | |
| 19 | Was the Ludlum Model 14C Geiger Mueller (GM) counter used during this investigation? | NO | | |
| 20 | Was the Ludlum Model 10 Micro R Meter used during this investigation? | NO | | |
| 21 | Was the Marsh-McBirney Flo-Mate 2000 Electromagnetic Flow Meter used during this investigation? | NO | | |
| 22 | Was the MiniRAE 2000 Photoionization Detector used during this investigation? | NO | | |
| 23 | Was the MIRAN 205B Sapphire Portable Infrared Ambient Analyzer used during this investigation? | NO | | |
| 24 | Was the MSA Passport® PID II Organic Vapor Monitor used during this investigation? | NO | | |
| 25 | Was the Multi-parameter Water Quality Monitoring Sonde and Display used during this investigation? | NO | | |
| 26 | Was the MultiRAE Plus Multi-Gas Monitor used during the investigation? | NO | | |

| | | | | |
|------------------|--|-----|--|--|
| 27 | Was the Niton XLt 700 Series Fluorescence (XRF) Environmental Analyzer used during this investigation? | NO | | |
| 28 | Was the ORS Interface Probe (IM) used during this investigation? | NO | | |
| 29 | Was the pH Meter used during this investigation? | NO | | |
| 30 | Was the Portable Organic Vapor Monitor (OVM) Photolization Detector used during this investigation? | NO | | |
| 31 | Was the Pressure Gauge used during this investigation? | YES | | |
| 32 | Was the Pressure Recorder used during this investigation? | NO | | |
| 33 | Was the QRAE Multi-gas Monitor used during this investigation? | NO | | |
| 34 | Was the Sample Collection of VOCs in Ambient Air Using Passivated, Stainless Steel Canisters used during this investigation? | NO | | |
| 35 | Was the Sampling of Microscopic Characterization used during this investigation? | NO | | |
| 36 | Was the Self Contained Breathing Apparatus (SCBA) used during this investigation? | NO | | |
| 37 | Was the Smith-Root Boat Mounted and Backpack Electrofishers used during this investigation? | NO | | |
| 38 | Was the YESTO 350 Portable Flux Gas Analyzer used during this investigation? | NO | | |
| 39 | Was the Toxic Vapor Analyzer (TVA) 1000B Flame Ionization Detector (FID) used during this investigation? | NO | | |
| 40 | Was the TravelIR Portable FT-IR Infrared Analysis System used during this investigation? | NO | | |
| 41 | Was the VRAE Multi Gas Monitor used during this investigation? | NO | | |
| 42 | Was the Water Level Indicator used during this investigation? | NO | | |
| 43 | Was the Weatherpak 2000 used during this investigation? | NO | | |
| 44 | Was any other equipment used during this investigation that is not listed above? If YES, list the equipment in the Comment section | NO | | |
| SAMPLING SECTION | | | | |
| 1 | Was there sampling conducted for Effluent? | NO | | |
| 2 | Was there sampling conducted for Groundwater? | NO | | |
| 3 | Was there sampling conducted for Leachate/Contaminated Water? | NO | | |
| 4 | Was there sampling conducted for PWS Chemical? | NO | | |
| 5 | Was there sampling conducted for Sediment/Soil? | NO | | |
| 6 | Was there sampling conducted for Spills/Unauthorized Discharge? | NO | | |
| 7 | Was there sampling conducted for Surface Water? | NO | | |
| 8 | Was there any other type of sampling conducted during this investigation? If YES, include it in the Comment section. | NO | | |

TCEQ EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

| | | | | |
|----------------------------|-----------------------------|--------------------------|-------------------|------------------------|
| Regulated Entity/Site Name | W. New Wood | | TCEQ Add. ID No. | 2616 212 |
| Investigation Type | Contact Made In-House (Y/N) | Purpose of Investigation | RN No. (optional) | |
| Regulated Entity Contact | Gary Douglas | Telephone No. | 93/519-509 | Date Contacted 1-14-13 |
| Title | Pres. Identified | Fax No. | 93/519-509 | Date Faxed 1-14-13 |

NOTICE: The information provided in this form is intended to provide clarity to issues that have arisen during the investigation process between the TCEQ and the regulated entity named above and does not represent final TCEQ findings related to violations. Any potential or alleged violations discovered after the date on this form will be communicated by telephone to the regulated entity representative prior to the issuance of a notice of violation or enforcement. Conclusions drawn from this investigation, including additional violations or potential violations discovered (if any) during the course of this investigation, will be documented in a final investigation report.



| Issue | | Description of Issue |
|-------|-------------------|----------------------|
| No. | Type ¹ | Description of Issue |
| | | No Violations Noted |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Issue Type Can Be One or More of: AV (Alleged Violation), FV (Potential Violation), O (Other), or RR (Records Request)

Did the TCEQ document the regulated entity named above operating without proper authorization? Yes No

Did the investigator advise the regulated entity representative that contained operation is not authorized? Yes No

Document Acknowledgment. Signature on this document establishes only that the regulated entity (company) representative received a copy of this document and associated continuation pages on the date noted. If contact was made by telephone, document will be faxed to regulated entity, therefore, signature not required.

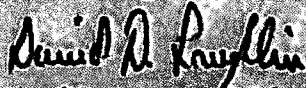
| | | | |
|---|----------------|--|----------------|
|  Investigator Name (Signed & Printed) | 2-6-13 Date |  Regulated Entity Representative Name (Signed & Printed) | 2/6/13 Date |
|---|----------------|--|----------------|

Mr. William L. Becker, P. E., President
Page 2
August 23, 1994

Our review indicates that the proposed well was constructed in accordance with the applicable minimum standards as set forth in Chapter 290 of the Texas Natural Resource Conservation Commission's (TNRCC) rules entitled Rules and Regulations For Public Water Systems. Based on a preliminary analysis, the well is approved for temporary use. Final approval is contingent upon verification of the chemical quality by the Texas Department of Health.

Please contact us at 512/239-6960 if you need further assistance.

Sincerely,



David D. Laughlin, P. E.
Plans Review and Rate Design Team
Water Utilities Division

DDL/ddl/wen

cc: Willow Wood Addition
TNRCC Region No. 4 Office

John Hall, Chairman
Pam Reed, Commissioner
Peggy Garner, Commissioner



TEXAS WATER COMMISSION

PROTECTING TEXAS HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION

August 18, 1993

Mr. William L. Boomer, P. E., President
LandCon Inc.
P. O. Box 100247
Fort Worth, Texas 76185

Re: Proposed Community Water System
Willow Wood Addition
P.W.S. Log No. 308/006
Denton County, Texas

Dear Mr. Boomer:

We have reviewed an engineering report, unrecorded sanitary control easement document, technical specifications and three engineering drawings submitted with your July 29, 1993 letter. This planning material describes the construction of a community water system consisting of the following proposed improvements:

- * One 475 foot deep water well with pressure-cemented 6-5/8 inch steel casing and a 28 gpm submersible pump and one 950 foot deep water well with pressure-cemented 8-5/8 inch steel casing and a 40 gpm submersible pump;
- * One 16,000 gallon welded-steel ground storage tank;
- * One ASME Code 1,500 gallon hydropneumatic tank;
- * Two service pumps with a combined 201 gpm capacity at 110 feet TDH and a hypochlorination system enclosed in a 12 foot by 10 foot wood frame pump building;
- * Approximately 13,200 feet of 4-inch and 240 feet of 2-inch SDR 21 ASTM D-2241 PVC waterline with valves, fittings and related appurtenances; and,
- * Two master meters, fencing and electrical controls.

These improvements will provide water supply for a proposed 58 lot subdivision. The subdivision is located off F. M. Road 428 approximately 16 miles northeast of Denton.

Mr. William L. Boomer, P. E., President
Page 2
August 18, 1993

Our review indicates that the proposed improvements were designed in accordance with our current standards and are, therefore, approved for construction under the following conditions:

1. Before placing the well in service, the following completion data must be submitted to the Commission for review: driller's log and material setting data; cementing certificate; results of a 36 hour pumping test; results of chemical and bacteriological analyses; and, original or legible copy of a U.S. Geological Survey 7.5 minute topographic map showing the well location.
2. The allowable hydrostatic leakage rate of the distribution lines shall be based on the following formula:

$$L = \frac{4.0 (D)^{1/2}}{7400}$$

Where L = Allowable leakage in gallons per hour.
N = Number of joints in the length of pipe tested.
D = Nominal Diameter of Pipe in inches.
P 1/2 = Square root of pressure within the test section in psi.

Please contact us at 512/908-6960 if you need further assistance.

Sincerely,



David D. Laughlin, P. E.
Plans Review
Water Utilities Division

DDL/ddl/wem

cc: H2M Water Systems, Inc.
TWC District No. 4

Attachment D
TWDB Public Water Well Driller Logs

TEXAS WATER DEVELOPMENT BOARD
WELL SCHEDULE

State Well Number - 18 42 401 Previous Well Number - County - Denton 121
River Basin - Trinity River - 08 Zone - 1 Latitude - 33 17 33 Longitude - 96 51 38 Source of Coords - 1

Owners Well No. _____ Location _____ 1/4, _____ 1/4, Section _____, Block _____, Survey _____

Owner - H2M Water Systems
Meadow Vista

Driller - H2M Water Systems

Address _____ Tenant/Oper. _____

Date Drilled - 10/07/1996 Depth - 540 ft. Source of Depth - D Altitude - 620 ft. Source of Alt. - M
Aquifer - 212WBN WOODBINE SAND Well Type - W User -

WELL Const. Casing Material - STEEL Casing or Blank Pipe (C)
CONSTRUCTION Method - HYDRAULIC ROTARY Screen Well Screen or Slotted Zone ()
Completion - GRAVEL PACK W/PERFORATIONS Material - STEEL Open Hole (O)
Cemented from _____ to _____

LIFT DATA - Pump Mfr. _____ Type - SUBMERSIBLE PUMP No. Stages _____
Diam. Setting(feet)
(in.) From To

Bouls Diam. - _____ in. Setting - _____ ft. Column Diam. - _____ in.
1 | C 6 0 450
2 | S 6 450 540
3 |

Motor Mfr. - _____ Fuel or Power - ELECTRIC MOTOR Horsepower -

YIELD Flow- _____ GPM Pump- _____ GPM Meas., Rept., Est- _____ Date- _____

PERFORMANCE TEST Date- _____ Length of Test- _____ Production- _____ GPM

Static Level- _____ ft. Pumping Level- _____ ft. Drawdown- _____ ft. Sp.Cap.- _____ GPM/ft

QUALITY (Remarks- _____)

WATER USE Primary- PUBLIC SUPPLY Secondary- _____ Tertiary- _____

OTHER DATA AVAILABLE Water Levels- M Quality- M Logs- D Other Data- _____

WATER LEVELS Date- 10/07/1996 Measurement- -350.00
Date- / / Measurement-

Recorded By F. Bilbey Date Record Collected or Updated- 06/25/1998

Reporting Agency - TEXAS WATER DEVELOPMENT BOARD

REMARKS -

Meadow Vista well. Reported yield
15 GPM with 50 feet drawdown after
pumping 2 hours in 1996. Gravel
packed from 450 to 540 feet.
Cemented from 0 to 450 feet.

Aquifer - 212WBN
Well No. - 18 42 401

176-51-38

Please use black ink.

ATTENTION OWNER: Confidentiality
Private Notice on Reverse Side

State of Texas
WELL REPORT
Meadow Vista

Texas Water Well Drillers Advisory Council
P.O. Box 13067
Austin, TX 78711-3067
512-236-0530

1) OWNER H2M Water System Inc. ADDRESS 4801 Brentwood Stair Ste. 402 Ft. Worth
(Name) 4 miles N. of Hwy 380 on FM 1385 go (City) (State) Tx 76103
2) ADDRESS OF WELL: 11 1/2 miles E. of FM 1385 on FM 428 GRID # 18-42-7
County Denton (Street or RFD) (City) (State) (Zip)

3) TYPE OF WORK (Check):
 New Well Deepening
 Reconditioning Plugging

4) PROPOSED USE (Check): Monitor Environmental Soil Boring Domestic
 Industrial Irrigation Injection Public Supply De-watering Testwell
If Public Supply well, were plans submitted to the TNRCC? Yes No

6) WELL LOG:
Date Drilling:
Started 9-30 19 96
Completed 10-7 19 96

| DIAMETER OF HOLE | | |
|------------------|------------|----------|
| Dia. (in.) | From (ft.) | To (ft.) |
| 7/8 | Surface | 540 |

7) DRILLING METHOD (Check): Driven
 Air Rotary Mud Rotary Bored
 Air Hammer Cable Tool Jetted
 Other _____

8) Borehole Completion (Check): Open Hole Straight Wall
 Underreamed Gravel Packed Other _____
If Gravel Packed give interval ... from 540 ft. to 450 ft.

| From (ft.) | To (ft.) | Description and color of formation material |
|------------|----------|---|
| 0-4 | | Black dirt |
| 4-230 | | Shell |
| 230-250 | | Sand |
| 250-380 | | Shell with Lime streaks |
| 380-393 | | Sand |
| 393-480 | | Sandy shell |
| 480-500 | | Sand |
| 500-508 | | Shell with Lime streaks |
| 508-540 | | Sand |

CASING, BLANK PIPE, AND WELL SCREEN DATA:

| Dia. (in.) | New or Used | Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial | Setting (ft.) | | Gage Casing Screen |
|------------|-------------|--|------------------|-----|--------------------|
| | | | From | To | |
| 5 1/2 | N | Steel | 2' above surface | 540 | N/A |

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 450 ft. to surface No. of sacks used 72
_____ ft. to _____ ft. No. of sacks used _____
Method used Halliburton
Cemented by Ed's Drilling Co.
Distance to septic system field lines or other concentrated contamination 175 ft.
Method of verification of above distance Tape measure

13) TYPE PUMP:
 Turbine Jet Submersible Cylinder
 Other _____
Depth to pump bowls, cylinder, jet, etc., 483 ft.

14) WELL TESTS:
Type test: Pump Baller Jetted Estimated
Yield: 15 gpm with 50 ft. drawdown after 2 hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
 Yes No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? woodvine Depth of strata 52'
Was a chemical analysis made? Yes No

10) SURFACE COMPLETION
 Specified Surface Slab Installed [Rule 338.44(2)(A)]
 Specified Steel Sleeve Installed [Rule 338.44(2)(B)]
 Pileless Adaptor Used [Rule 338.44(3)(b)]
 Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level 350 ft. below land surface Date 10-7-96
Artesian flow TEXAS NATURAL RESOURCES CONSERVATION COMMISSION

12) PACKERS:

| Type | Depth |
|------|-------|
| | |

RECEIVED
JUN 1997

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

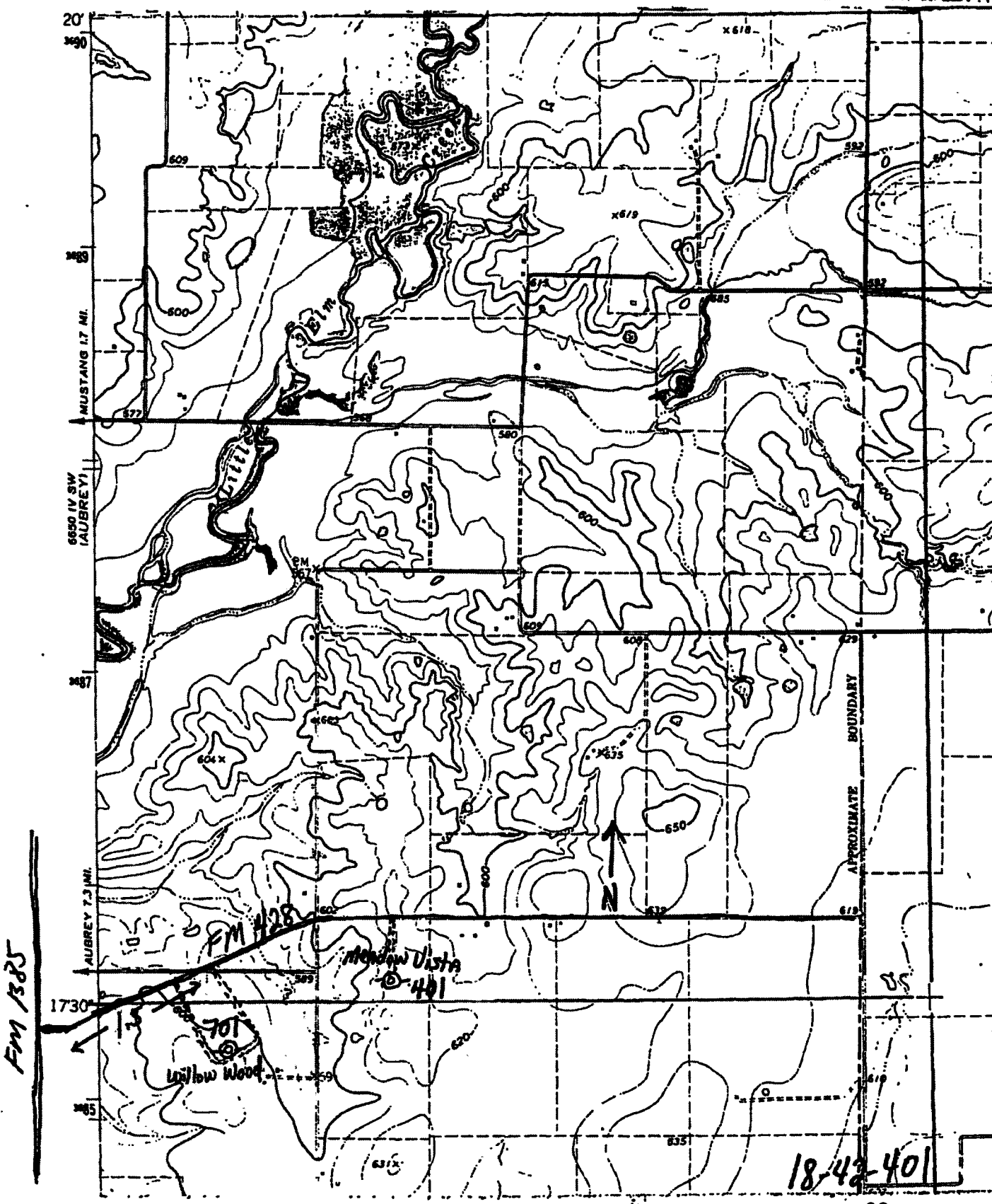
COMPANY NAME H2M Water System Inc. WELL DRILLER'S LICENSE NO. 1327WT
(Type of print)

ADDRESS 4801 Brentwood Stair Ste. 402 Ft. Worth, Tx 76103
(Street or RFD) (City) (State) (Zip)

(Signed) Ed Mayo (Signed) _____ (Registered Driller Trainee)
(Licensed Well Driller)

Please attach electric log, chemical analysis, and other pertinent information, if available.

18-42-401



TEXAS WATER DEVELOPMENT BOARD
WELL SCHEDULE

State Well Number - 18 42 701 Previous Well Number - County - Denton 121
River Basin - Trinity River - 08 Zone - 1 Latitude - 33 17 19 Longitude - 96 52 08 Source of Coords - 1

Owners Well No. _____ Location _____ 1/4, _____ 1/4, Section _____, Block _____, Survey _____

Owner - H2H Water Systems Driller - Millican Well Serv.
Willow Wood

Address _____ Tenant/Oper. _____

Date Drilled - 03/18/1994 Depth - 415 ft. Source of Depth - D Altitude - 611 ft. Source of Alt. - M
Aquifer - 212MDBN WOODBINE SAND Well Type - W User -

WELL Const. Casing
CONSTRUCTION Method - HYDRAULIC ROTARY Material - STEEL
Screen
Completion - GRAVEL PACK W/PERFORATIONS Material - STEEL
Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)

IFT DATA - Pump Mfr. _____ Type - SUBMERSIBLE PUMP No. Stages _____
Diam. (in.) Setting (feet) From To
Coul's Diam. - _____ in. Setting - _____ ft. Column Diam. - _____ in.

Motor Mfr. - _____ Fuel or Power - ELECTRIC MOTOR Horsepower - _____
1 | C 6 0 360
2 | S 6 360 415
3 | C 6 415 435

FIELD Flow- _____ GPM Pump- _____ GPM Meas., Rept., Est- _____ Date- _____
4 |
5 |

PERFORMANCE TEST Date- _____ Length of Test- _____ Production- _____ GPM
6 |
7 |

Static Level- _____ ft. Pumping Level- _____ ft. Drawdown- _____ ft. Sp.Cap.- _____ GPM/ft
8 |
9 |

QUALITY (Remarks- _____
10 |
11 |

WATER USE Primary- PUBLIC SUPPLY Secondary- _____ Tertiary- _____
12 |
13 |

ADDITIONAL DATA AVAILABLE Water Levels- M Quality- M Logs- D Other Data-
14 |
15 |

WATER LEVELS Date- 03/17/1994 Measurement- -250.00
Date- / / Measurement-
16 |
17 |
18 |

Recorded By _____ Date Record Collected or Updated- 06/25/1998
19 |

Reporting Agency - TEXAS WATER DEVELOPMENT BOARD

REMARKS -
Willow Wood well. Reported yield 20
GPM with 30 feet drawdown after
pumping 2 hours in 1994. Gravel
packed from 300 to 435 feet.
Cemented from 0 to 300 feet.

Aquifer - 212MDBN
Well No. - 18 42 701

96-52-28

Please use black ink. Send original copy by certified mail to the Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

State of Texas WATER WELL REPORT

Texas Water Well Driller Board P.O. Box 13087 Austin, Texas 78711

ATTENTION OWNER: Confidentiality Printing Notice on Reverse Side

1) OWNER: H2M Company, Willow Wood, 4801 Abandoned Spur, Ft Worth TX 76103
2) LOCATION OF WELL: County Tarrant, 15 miles in East direction from Decker

Willow Wood
Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines...
Legal description: Section No., Block No., Township, Abstract No., Survey Name, Distance and direction from two intersecting section or survey lines

3) TYPE OF WORK (Check): New Well, Deepening, Reconditioning, Plugging
4) PROPOSED USE (Check): Domestic, Industrial, Monitor, Public Supply, Irrigation, Test Well, Injection, Other
5) DRILLING METHOD (Check): Mud Rotary, Air Hammer, Jetted, Air Rotary, Cable Tool, Other

6) WELL LOG: Date Drilling: Started 3-1-94, Completed 3-18-94
DIAMETER OF HOLE: Dis. (in.) 10, From (ft.) Surface, To (ft.) 438

7) BOREHOLE COMPLETION: Open Hole, Straight Wall, Underscreened, Gravel Packed, Other
Gravel Packed give interval ... from 300 ft. to 438 ft.

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:
Table with columns: From (ft.), To (ft.), Description and color of formation material, Dia. (in.), New or Used, Seal, Plastic, etc. Perf., Slotted, etc. Screen Mfg., If commercial, Setting (ft.) From, To, Casing Screen

9) CEMENTING DATA [Rule 318.44(b)]
Cemented from 0 ft. to 300 ft. No. of Sacks Used 60
Method used Pressure Circulate
Cemented by K. Millican

10) SURFACE COMPLETION: Specified Surface Stub Installed (Rule 318.44(d)) 6'x6', Pressure Adapter Used (Rule 318.44(d)), Approved Alternative Procedure Used (Rule 318.71)

11) WATER LEVEL: Static level 2.50 ft. below land surface, Date 9-17-94

12) PACKERS: Type, Depth

13) TYPE PUMP: Turbine, Jet, Submersible, Cylinder, Other
Depth to pump bowls, cylinder, jet, etc., 350 ft.

14) WATER QUALITY: Did you knowingly penetrate any strata which contained undesirable water? Yes/No
Type of water? Depth of strata? Was a chemical analysis made? Yes/No

14) WELL TESTS: Type Test: Pump, Sailer, Jetted, Estimated
Yield: 20 gpm with 30 ft. drawdown after 2 hrs.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Millican Well SER, Well Well Driller's License No. 1563 WI
ADDRESS P.O. Box 820 487, Ft Worth TX 76182
(Signed) Kenneth O. Millican (Licensed Well Well Driller)

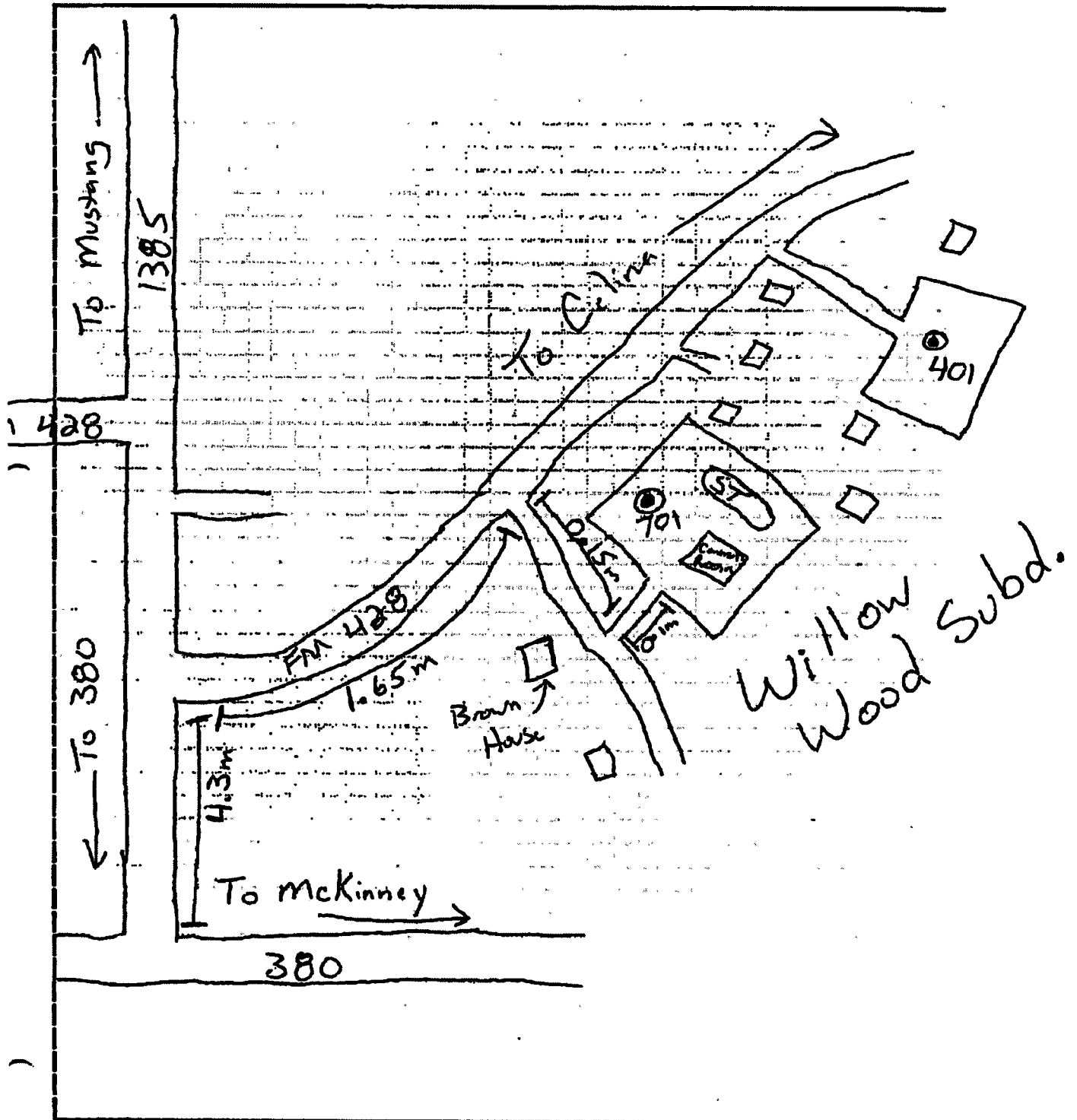
Please attach electric log, chemical analysis, and other pertinent information, if available. For TWG use only 18-42-7

18-42-701 X
40

Texas Water Development Board - Well Location Sketch

By: D. Ran Date: 9/12/01 Division Hemon

County Denton Well Number: 1842701



1842701
Well Number
42

2002FY TWDB Water Qual / Field Data Sheet

State Well Number: 1842701 Name: Agua Source
 County: Denton Address: 7807 Talsboro Hwy
 County Code: 121 Fort Worth TX 76135
 Aquifer Code: 212W/DBV Phone Number: 817-237-8488
 Aquifer Id: 29 Attention: Dickie Smethers
 Well Name or #: Willow Wood #1

CIRCLE EACH SAMPLE FRACTION COLLECTED:

| | | | | |
|---|---|---|--|--|
| ① 500ml (filtered) Anions / Total Alk. Ice | ② 500ml (filtered) Cations Nitric (HNO3) | ③ 250ml (filtered) Nitrate Ice + H2SO4 | ④ 40 ml (unfiltered) Atrazine Ice and in dark | ⑤ 1L (unfiltered) Radioactivity Nitric (HNO3) |
|---|---|---|--|--|

Proper preservation requires adding enough of the correct acid to each sample fraction to bring the pH below 2.0.

Time In: 9:40 Time Out: 11:00
 W. L. depth from LSD (ft.): — W.L. remark: 51 M.P. = —

Pumping Since: 10:20 Sampling Point: FAW
 Well Use: P FIELD G.P.S. readings
 LIFT: S Latitude: 33 17 20
 Power: E Longitude: 096 52 09

Sample Time: 10:42 Filter pressure: hand pump (line)

Water Quality Stabilization Parameters Table (at least 3 readings at five minute intervals)

| | | | | | | |
|-----------------------|--------------|--------------|--------------|--------------|--|--|
| Time: | <u>10:25</u> | <u>10:30</u> | <u>10:35</u> | <u>10:40</u> | | |
| pH: | <u>9.00</u> | <u>8.89</u> | <u>8.88</u> | <u>8.86</u> | | |
| Celsius Temp. (00010) | <u>22.0</u> | <u>22.8</u> | <u>22.9</u> | <u>22.9</u> | | |
| Conductivity (uS/cm): | <u>705</u> | <u>652</u> | <u>646</u> | <u>649</u> | | |

Sample ID Number: 606

Date: 9/12/01
 Sampler(s): D Rau

Calibration Verification Readings

| | | |
|--------------|--------------|----------------|
| pH | <u>7.00</u> | <u>7.03</u> |
| 4 or 10 | <u>10.06</u> | |
| SLP = | <u>57.0</u> | |
| Conductivity | <u>500</u> | <u>498</u> |
| | <u>1000</u> | <u>999</u> |
| | <u>2000</u> | <u>1963/03</u> |
| | <u>5000</u> | <u>4953/03</u> |

Field Alkalinity Titration:

| | | | |
|------|-------------------------------------|------|--------|
| 8.74 | Start pH | 4.50 | End pH |
| 50.0 | mL Sample Size | | |
| 0.6 | mL Acid added for Phenol (> 8.3) | | |
| 13.0 | mL Acid added for Total (8.3 - 4.5) | | |

Items below calculated from: mL acid added x 20 = Alkalinity

| | | |
|---------------------------|--------------|------|
| Phenol Alkalinity (82246) | <u>12.0</u> | mg/L |
| Total Alkalinity (82246) | <u>260.0</u> | mg/L |

Items Below Calculated Later From Results:

| | |
|--------------------------|------------|
| Dissolved Solids (mg/L): | <u>383</u> |
| Hardness (as CaCO3): | <u>2</u> |
| Balance: | <u>5</u> |

Notes: No previous LVR

Data Entered By Sampler Into Database: YES/NO

7.36

LCRA Environmental Laboratory Services

Date: 09-Oct-01

CLIENT: Texas Water Development Board
 Lab Order: 0109142 File No: 17307
 Project: TWDB FY02
 Lab ID: 0109142-06

Client Sample ID: 18-42-701
 Collection Date: 09/12/2001 10:42:00 AM
 Matrix: GROUNDWATER

| Analyses | Storet | Result | PQL | Qual | Units | DF | BatchID | Date Analyzed |
|-------------------------------|--------|----------|--------------------|------|-------|------|---------------------|------------------------|
| ICP METALS DISSOLVED | | | E200.7 | | | | Analyst: SW | |
| Calcium | 00915 | 0.531 | 0.204 | | mg/L | 1.02 | R10737A | 09/20/2001 12:12:28 PM |
| Magnesium | 00925 | ND | 0.204 | | mg/L | 1.02 | R10737A | 09/20/2001 12:12:28 PM |
| Potassium | 00935 | 0.665 | 0.204 | | mg/L | 1.02 | R10737A | 09/20/2001 12:12:28 PM |
| Sodium | 00930 | 143 | 0.714 | | mg/L | 1.02 | R10737A | 09/20/2001 12:12:28 PM |
| ICP METALS DISSOLVED | | | E200.7 | | | | Analyst: SW | |
| Boron | 01020 | 402 | 51.0 | | µg/L | 1.02 | R10739A | 09/20/2001 12:12:28 PM |
| Iron | 01046 | ND | 51.0 | | µg/L | 1.02 | R10739A | 09/20/2001 12:12:28 PM |
| Strontium | 01080 | ND | 20.4 | | µg/L | 1.02 | R10739A | 09/20/2001 12:12:28 PM |
| ICPMS DISSOLVED METALS | | | E200.8 | | | | Analyst: PJM | |
| Aluminum | 01106 | 5.41 | 4.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Antimony | 01095 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Arsenic | 01000 | ND | 2.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Barium | 01005 | 4.66 | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Beryllium | 01010 | ND | 1.00 | | µg/L | 1 | R10700A | 09/20/2001 |
| Cadmium | 01025 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Chromium | 01030 | 1.12 | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Cobalt | 01035 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Copper | 01040 | 1.08 | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Lead | 01049 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Lithium | 01130 | 8.69 | 2.00 | | µg/L | 1 | R10700A | 09/20/2001 |
| Manganese | 01056 | 4.06 | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Molybdenum | 01060 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Nickel | 01065 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Selenium | 01145 | ND | 4.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Thallium | 01057 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Vanadium | 01085 | ND | 1.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| Zinc | 01090 | ND | 4.00 | | µg/L | 1 | R10686A | 09/19/2001 |
| CATION/ANION BALANCES | | | CALCULATION | | | | Analyst: AMJ | |
| Cation/Anion Balance | | Balanced | | | Date | 1 | R10905 | 10/05/2001 |
| RADIOLOGICALS | | | RADIOCHEM | | | | Analyst: SB | |
| ALPHA, Gross | | 1.2 | | | pci/L | 1 | R10847 | 09/20/2001 |
| BETA, Gross | | 1.1 | | | pci/L | 1 | R10847 | 09/20/2001 |

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

LCRA Environmental Laboratory Services

Date: 09-Oct-01

CLIENT: Texas Water Development Board
 Lab Order: 0109142 File No: 17307
 Project: TWDB FY02
 Lab ID: 0109142-06

Client Sample ID: 18-42-701
 Collection Date: 09/12/2001 10:42:00 AM
 Matrix: GROUNDWATER

| Analyses | Storet | Result | PQL | Qual | Units | DF | BatchID | Date Analyzed |
|-------------------------------------|--------|--------|----------------|------|-----------|---------------------|---------|---------------|
| ANIONS BY ION CHROMATOGRAPHY | | | E300 | | | Analyst: AMJ | | |
| Bromide Dissolved | 71870 | 0.0546 | 0.0200 | | mg/L | 1 | R10711A | 09/20/2001 |
| Chloride Dissolved | 00941 | 14.1 | 1.00 | | mg/L | 1 | R10711A | 09/20/2001 |
| Fluoride Dissolved | 00950 | 0.604 | 0.0100 | | mg/L | 1 | R10711A | 09/20/2001 |
| Sulfate Dissolved | 00946 | 52.7 | 1.00 | | mg/L | 1 | R10711A | 09/20/2001 |
| ALKALINITY | | | M2320 B | | | Analyst: CMM | | |
| Alkalinity, Phenolphthalein | 00415 | 14.6 | | | mg/L CaCO | 1 | R10656 | 09/18/2001 |
| Alkalinity, Total (As CaCO3) | 00410 | 265 | 2.00 | | mg/L CaCO | 1 | R10656 | 09/18/2001 |
| NITRATE AND NITRITE | | | E353.2 | | | Analyst: WR | | |
| Nitrogen, Nitrate & Nitrite | 00631 | ND | 0.0200 | | mg/L | 1 | R10902B | 10/04/2001 |
| SILICA | | | E370.1 | | | Analyst: WR | | |
| Silica, Dissolved (as SiO2) | 00995 | 12.4 | 0.500 | | mg/L | 1 | R10860B | 10/02/2001 |

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

Attachment E
Denton County Plat Records
Willow Wood, Meadow Vista Phase 1, and
Meadow Vista Phase 2 Subdivisions

POINT OF BEGINNING

CAS MP 9-20

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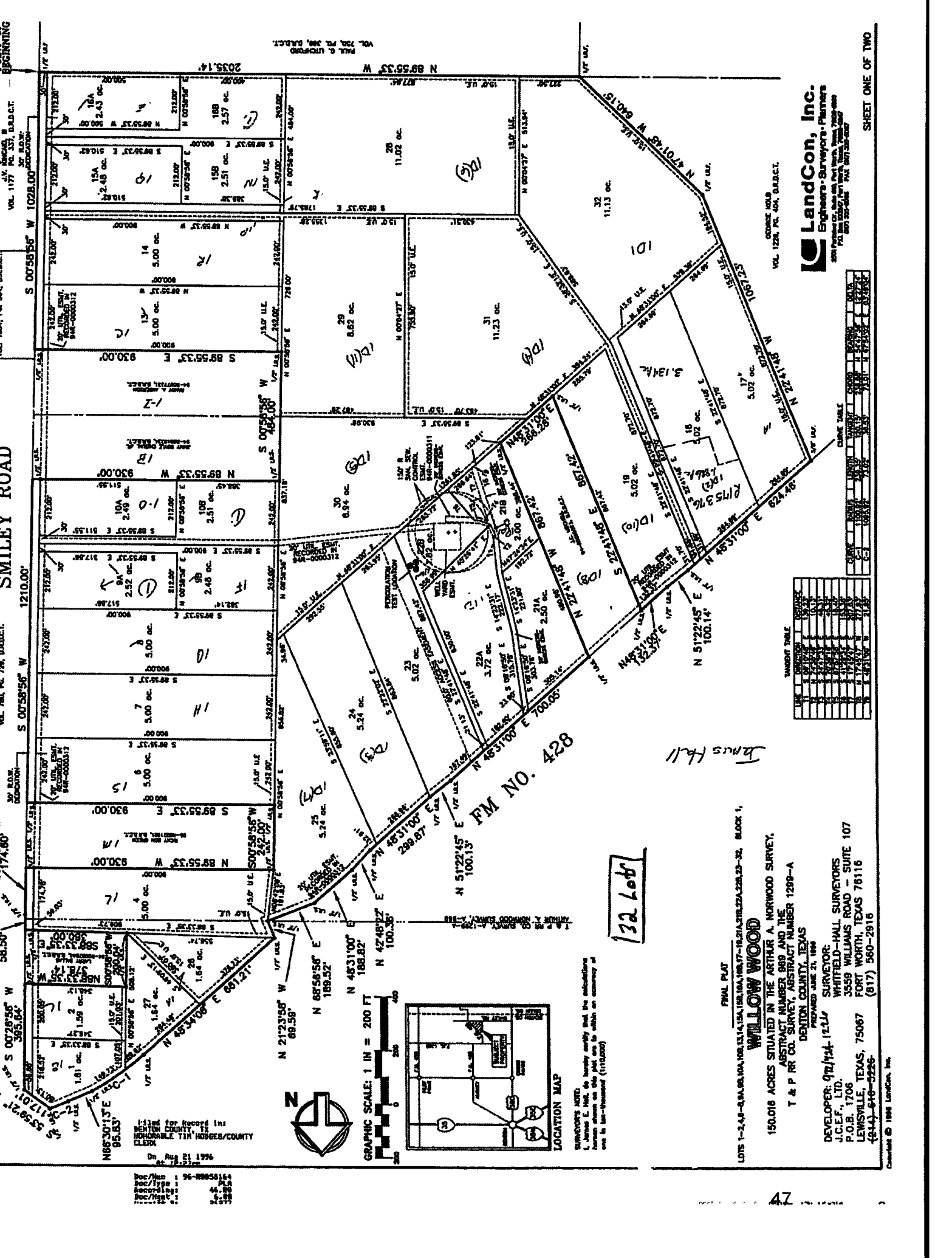
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Doc/Map 96-09058164
 Doc/Trk 44-80
 Doc/Rec 4-88
 Doc/Asst 5-77

1-1124 for Record in
 DENOTED COUNTY, TX
 RECORDABLE WITH NUMBER/COUNTY
 1596

FINAL PLAT
 LOTS 1-2, 4-9, 9A, 9B, 10A, 10B, 11, 12, 13, 14, 15A, 15B, 16A, 16B, 17-19, 21, 22, 23A, 23B, 23-32, BLOCK 1,
 WILLOW WOOD
 150.016 ACRES SITUATED IN THE ARTHUR A. NORWOOD SURVEY,
 ABSTRACT NUMBER 969 AND THE
 T & P RR CO. SURVEY, ABSTRACT NUMBER 1299-A
 DENOTED COUNTY, TEXAS
 PREPARED JUNE 21, 1998
 DEVELOPER: 972/124-1224
 J.C.E.F., LTD.
 3559 WILLIAMS ROAD - SUITE 107
 LEWISVILLE, TEXAS, 75067
 (614)-616-5226

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