TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 17, 2003

Mr. Guillermo Nieri
Comal Independent School District
278 Loop 337
New Braunfels, TX, 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Comal ISD - Hoffman Lane Elementary School; Located on the northeast side of FM 306 at Hoffman Lane; New Braunfels, Texas
TYPE OF PLAN: Request for Modification of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program File No. 1455.00

Dear Mr. Nieri:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for modification of the approved WPAP for the referenced project submitted to the San Antonio Regional Office by Harold L. Millegan, P.E. of Lockwood, Andrews, & Newnam, Inc. on behalf of Comal Independent School District on February 21,2003. Final review of the WPAP submittal was completed after additional material was received on June 18, 2003. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed no later than 20 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

This facility was previously approved by letter dated April 26, 2000. As presented, the proposed modification will consist of the following changes:

1. The basin liner will be reinforced concrete rip-rap instead of clay.

2. The sedimentation basin dimensions have been altered. The storage volume for the basin is 23,116 cubic feet.

3. A maintenance access ramp, drainpipes, and gate valves were added to the sand filtration basin.

4. The weir/emergency spillway has been downsized and moved, and the inflow structure from the underground storm drain system has been modified.

5. The vegetated filter strip for the north access road (Drainage Area 3) and the water storage facility has been resized.

6. The percent impervious cover of the site was changed from 27.98% to 28.80%.

7. Wastewater will be disposed of by an on-site sewage facility with a drip irrigation disposal system instead of a new wastewater treatment plant. According to Comal County Permit Number 81995 issued March 21, 2001, by the office of the Comal County Engineer, the site is acceptable for the use of on-site sewage facilities.

8. Nine weep holes located below the sand filter in the filtration chamber will be plugged to make a watertight seal.

PERMANENT POLLUTION ABATEMENT MEASURES

A full sedimentation/filtration basin and two vegetated filter strips designed using the TNRCC technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (June 1999) will be constructed to treat storm water runoff. The basin treating Drainage Area 1 is designed to provide treatment for 10.83 acres of the site with a minimum capture volume of 23,116 cubic feet and a minimum sand filter area of 2,238 square feet. The Drainage Area 2 vegetated filter strip of 4,350 square feet is designed to provide treatment for 0.2 acres of impervious cover. The Drainage Area 3 vegetated filter strip of 10,800 square feet is designed to provide treatment for 0.496 acres of impervious cover. The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. All sediment and or media removed from the partial sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

II. Please note that for full sedimentation/filtration basins, the Technical Guidance Manual on Best Management Practices (1999 edition), suggests using the valve in Section 3.4.7 and Figure 3.14 for the purpose of isolating the sedimentation basin in case of a hazardous material spill in the watershed.

STANDARD CONDITIONS

1. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed

records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries, covered by the Edwards Aquifer protection plan, shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

3. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

4. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension of an approved plan.

6. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

7. Abandoned injection wells must be closed under the requirements of 30 TAC Chapter 331 (relating to Underground Injection Control).

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

<u>During Construction:</u>

9. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

10. If any sensitive feature is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

11. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

12. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

13. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

15. To the maximum extent practicable, BMPs and measures must maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided. A request to temporarily seal the feature must include a justification that no reasonable and practicable alternative exists. The request will be evaluated by the executive director on a case-by-case basis.

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

16. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

17. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations

in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

18. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

19. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

20. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Lynn M. Bumguardner of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403-4023.

Sincerely,

Bobby D. Caldwell

for Margaret Hoffman
Executive Director
Texas Commission on Environmental Quality

MH/LMB/eg

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

cc: Mr. Philip Johnson, Lockwood, Andrews & Newnam, Inc.
Mr. John Bohuslav, TXDOT San Antonio District
Mr. Tom Hornseth, Comal County
Mr. Greg Ellis, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Preliminary Engineering Report

for

Wastewater Treatment and Disposal Facilities
Comal ISD Hoffman Lane Elementary School
Comal County, Texas

Prepared for

Comal Independent School District
278 Loop 337
New Braunfels, Texas 78130

AlianzA, LLC
An Alliance of Environmental Resource Professionals

March 1, 2000
PN20007

Preliminary Engineering Report

For

Wastewater Treatment and Disposal Facilities
Comal ISD Hoffman Lane Elementary School
Comal County, Texas

Prepared for

Comal Independent School District
and
Texas Natural Resource Conservation Commission

March 1, 2000
PN20007

Prepared by

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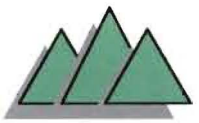

AlianzA

Comal Independent School District Wastewater Treatment Facilities
Preliminary Engineering Report

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Project Description

In order to accommodate a rapidly expanding local population, the Comal Independent School District passed a large bond issue to fund new schools within their service area of Comal, Kendall and Bexar Counties. A new elementary school is proposed to be located northwest of the City of New Braunfels on FM 306 near Hoffman Lane (See Figure 1). The proposed facility capacity will be 800 students plus teachers and staff and is scheduled to be on line in August of 2001. Construction of the school is proposed to begin in May 2000 in order to meet this opening schedule.

The 20-acre school site is located on the Edwards Aquifer Recharge Zone and is subject to Texas Administrative Code Title 30, Chapter 213 rules. Storm water pollution prevention is proposed in accordance with a Water Pollution Abatement Plan. Additional pollution prevention is planned through proper treatment of domestic wastewater in accordance with a Texas Pollutant Discharge Elimination System – No Discharge Permit. This technical report contains a description of the method of wastewater treatment as well as the details regarding the basis for treatment design. A Final Technical Report as well as complete design plans and specifications will be submitted to the Texas Natural Resource Conservation Commission (TNRCC) supporting the no-discharge permit application. The facilities proposed will meet all applicable requirements of Chapters 213, 309 and 317 of Texas Administrative Code Title 30.

Collection System

The Hoffman Road school will be served by on-site treatment facilities. The flow anticipated to be generated by the facility will be 6,400 gallons per day (gpd) thus exceeding the County Permitting threshold of 5,000 gpd and consequently requiring a TNRCC Permit. Flows to be treated on site will consist only of domestic waste origin and service will be exclusively be for the elementary school. No commercial or residential customers will be served by the collection and treatment system.

The collection system will be simple with a single 6" gravity main leading from the school to an on-site treatment plant. Site topography and facility location are shown in Appendix A.

Domestic Wastewater Treatment Plant

The proposed treatment process will consist of the following: septic tank pretreatment, concrete basin constructed wetlands, and subsurface disposal in a drip irrigation system. Figure 4 is a schematic or flow diagram of the treatment process. Figure 5 shows the hydraulic profile of the treatment train and the location of facilities are indicated in Appendix A. Figure 6A & 6B are calculation sheets for the constructed wetland unit design. Figure 7 depicts the secondary treatment design concept. A layout of the site showing topography is provided in Appendix A.

Wasteload Generation

Wastewater generated by the school will be of domestic origin only. A study of other Comal ISD schools was performed to determine the volume and character of waste to be anticipated at the Hoffman Road School site. Figures 3A, 3B and 3C indicate the basis for establishing the characteristics of wastewater. As the water study graph (Figure 3A) indicates, 100% of the per student base water use values are below 8 gallons per day. The data used in this study includes metered use in the months of January, February and March of 1995 at four schools within CISD and is assumed to be representative of a non-irrigation (mostly domestic use) period. The data is from similar elementary school facilities that have kitchens but no showering facilities. For conservative design purposes it will be assumed that the school water use will be no more than 8 gpd per student with a design population of 800 students. Assuming a 5-day school session with Saturdays and Sundays idle the real hydraulic and organic load on the system will be no more than 71% of the design load and will therefore be conservative.

Data collected by the CISD includes wastewater sample analyses for post-septic tank preliminary treatment. Figure 3B was constructed using this data and should be indicative of settled wastewater character as will be delivered to the constructed wetlands treatment unit. Figure 3C was calculated based on the same data and adjusted for an assumed preliminary treatment efficiency of 35% BOD removal. The design basis raw wastewater strength will be 210 mg/l BOD and settled strength, following septic tank pretreatment, will be 137 mg/l BOD.

Peak flow will be higher than that normally observed in municipal treatment operations. This is due to the nature of the short daily operation time and periodicity of class and lunch schedules. Assuming a 10 hour school day and primary waste generation during only about 5 minutes during any given hour, the peak flow would be 128 gallons per minute. The lift station and associated force piping will be designed to accommodate this volume of flow rate. Gravity sewers will be designed to accommodate this flow.

Treatment Plant

Pre-treatment will be provided by septic tanks followed by secondary biological treatment (constructed wetlands). Disposal of treated water will be by drip irrigation with a Perc-Rite system. Calculations for basic units are provided below.

Preliminary Treatment (Septic Tank)

All domestic wastewater generated by the Hoffman Road school will be routed through septic tanks as pretreatment in advance of secondary treatment facilities. It is generally accepted that the removal efficiency for BOD is about 35% using the design basis presented below. In view of the findings of data generated by the CISD study, it is believed that the average BOD of the influent will be 210 mg/l and effluent of 137 mg/l. Septic tank effluent will therefore not meet pre-drip irrigation quality standards and additional treatment is proposed. It is proposed that this pre-treatment be conservatively designed with excess detention capacity.

Q = 8gpd X 800 Students = 6400 gpd
V (Volume of Septic Tank) = 1750+ 0.75Q
V = 6550 gallons
Use Two Tanks @ 5000 gallons liquid capacity each

Constructed Wetland Submerged Flow Secondary Treatment (Figures 7A & 7B)

Although 30 TAC 309 rules allow an effluent limitation of 100 mg/l BOD for drip irrigation systems, it is proposed that the pre-drip irrigation quality will be designed to normally meet a 30 mg/l BOD. Subsurface flow constructed wetland technology analysis indicates that the required treatment can be easily accomplished in an economical manner. Wetland units will be set in concrete basins to reduce any potential for groundwater contamination. The system will consist of two separate basins, either of which operating alone under emergency conditions would meet the 100 BOD standard even assuming exceptionally cold conditions (10^0 C). Normal operation, with both basins in service, will provide a 30 mg/l BOD to the drip irrigation system.

Critical Condition Analysis (Emergency - One Unit out of Service)(Figure 6A)
Input Design BOD = 137 mg/l BOD
Output Design BOD = 100 mg/l
Design Temperature = 10^0C
Design Q = 6400 gpd
Total Design HRT (Hydraulic Retention Time) = 0.51 Days
Minimum Required Total Wetland Surface Area = 903 sq.ft.

Design Data for Anticipated Conditions (2 Units in Operation)(Figure 6B)
Input Design BOD = 137 mg/l BOD
Output Design BOD = 30 mg/l
Design Temperature = 22^0C
Design Q = 6400 gpd
Total Design HRT (Hydraulic Retention Time) = 1.22 Days
Total Wetland Surface Area = 2165 sq.ft.
Minimum Dimensions of each of the two wetland units = 46.5 feet X 23.3 feet

Drip Irrigation Field Data

A soil map of the area is provided in Figure 2. Soils on the 20-acre property are stony clays with relatively low permeability and generally representative of Class IV soils. Supplemental loamy soil will be added to the disposal field to level the disposal zones so as to limit slope to <1% for any one particular zone. Emitters will be placed approximately 6" below ground surface with at least 18" of soil beneath the dripper lines. The disposal field will be divided into four zones.

Storage for pressure dosing will consist of two days flow retention volume in a concrete storage tank. Water in the storage unit will be periodically recycled through the constructed wetlands to keep the wastewater fresh and further enhance treatment. Back flushings from the dripper lines will be routed to the dosing storage chamber.

Assumptions

Q = 6400 gpd
L = 0.1 gpd/sq.ft. (Soil Group IV – Clay & Clay Loam)
Ds = 2.0 ft Dripper Line Spacing
Ne = 2.0 ft Emitter Spacing

Analysis

Storage = 2Q = 2 X 6400 = 12,88 gallons
At = Total Field Area Required
At = Q/L
At = 6400/0.1 = 64,000 sq.ft.
At = 1.47 Acres
Ldl = Dripper Line Length in Feet
Ldl = 64000/2 = 32000 lft
Ne = 32000/2 = 16000 emitters

Special Features of the Treatment System

Water in the dosing tank (13,000 gallon capacity) for the drip irrigation system will be recirculated through the wetland units to insure maximum treatment efficiency and to minimize the potential for any odors. Dual constructed wetland secondary treatment will be provided prior to drip irrigation disposal and should normally yield a 30 mg/l BOD quality prior to irrigation. The units are designed to operate separately or in series and thus will provide a redundancy of facilities. If one unit is out of service, the system will still meet the TNRCC's maximum desirable pre-irrigation BOD concentration of 100mg/l. Additionally, the Perc-Rite drip irrigation system has been proven to operate satisfactorily under a variety of conditions. It will be equipped with a computerized control center that will allow flexibility and dependability of the system operation.

Additional Site & System Information

The facilities are located on the 20-acre school site that is situated on the crest of a hill. There is one major drainage exit from the property and none of the property is within the mapped 100-year flood plain (See WPAP Exhibits). A complete geologic assessment was performed as a part of the WPAP and no significant recharge features were observed on the project site. The closest well to the treatment and disposal site will be the on-site public water supply system. The next closest well is located to the West of and greater than 1/2 mile from the project site boundary (See Appendix B).

None of the treatment facilities will be closer than 150 feet to a property line nor will they be closer than 500 feet to the on-site public water supply well. Fencing will be provided to prevent unauthorized personnel entry to treatment facilities. Sufficient land is available for expanding the facilities as needed. However, at this time the CISD does not plan to expand the capacity of this school beyond the basic design student population of 800 students.

Sludge Management

Sludge from the septic tanks will be hauled regularly from the site by a contractor licensed by the TNRCC. Furthermore, final disposal of the hauled sludge will be to a TNRCC approved disposal site. No disposal of sewage sludge will be made on the school property.

Control of Bypassing

There will be facilities capable of routing pre-treated wastewater to alternating wetland beds. However, there will be no facilities for bypassing the treatment processes.

Proposed Plant Efficiency and Permitting

The proposed facilities are designed to meet the TNRCC's 100mg/l BOD standard. Under normal conditions the facilities will meet secondary treatment standards (30 mg/l BOD). However, no discharge to surface water or groundwater will be permitted. Secondary treated wastewater will be disposed of by means of a subsurface drip irrigation system. In view of the fact that the volume of wastewater to be treated exceeds the Comal County OSSF licensing limit of 5000 gpd, a no-discharge permit is being sought from the TNRCC simultaneously with the review of this WPAP. No occupation of the school will be permitted until the treatment facilities are completed and operational.

Figure 1
Hoffman Road-HWY 306 Project Site
General Location Map

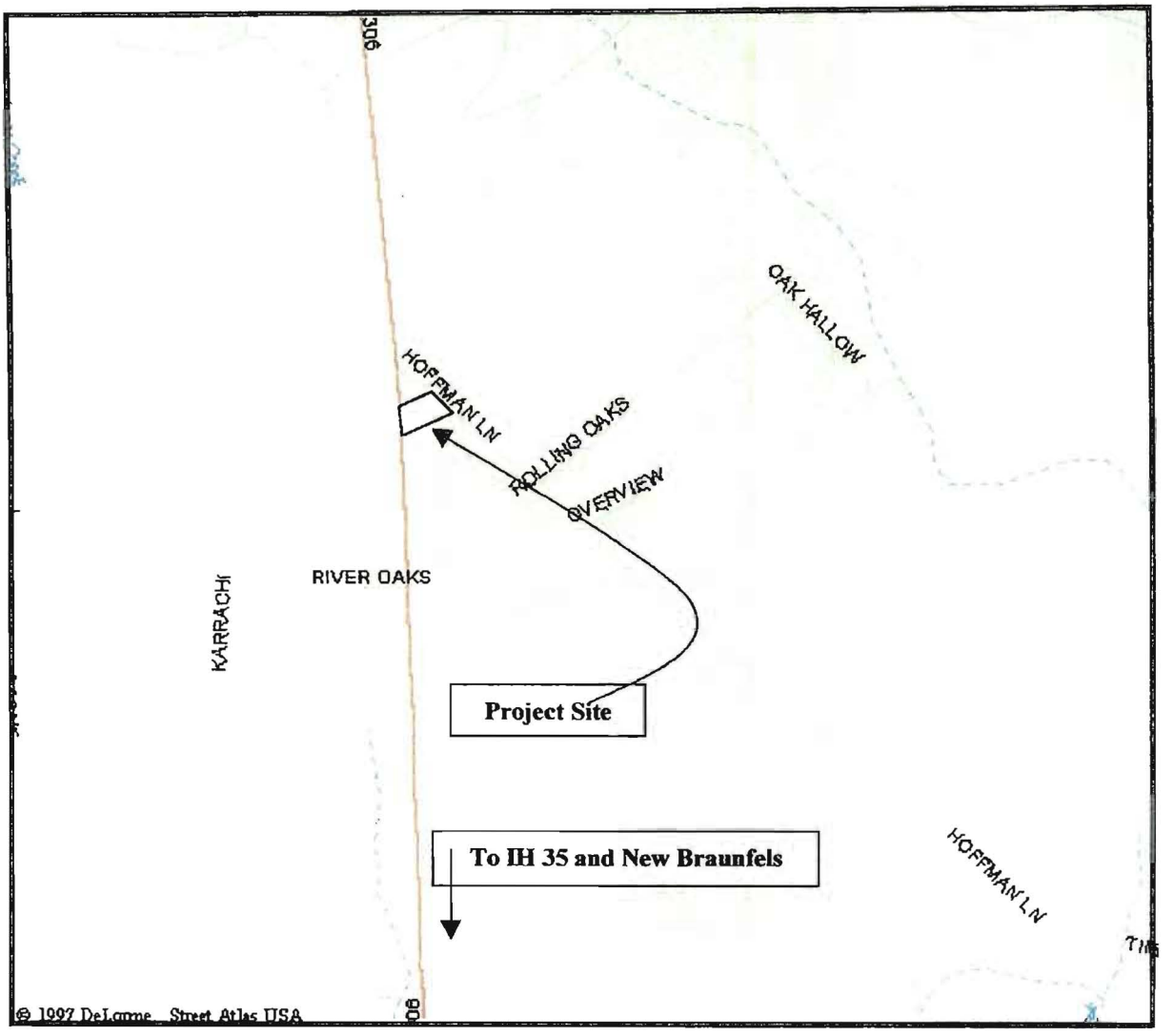

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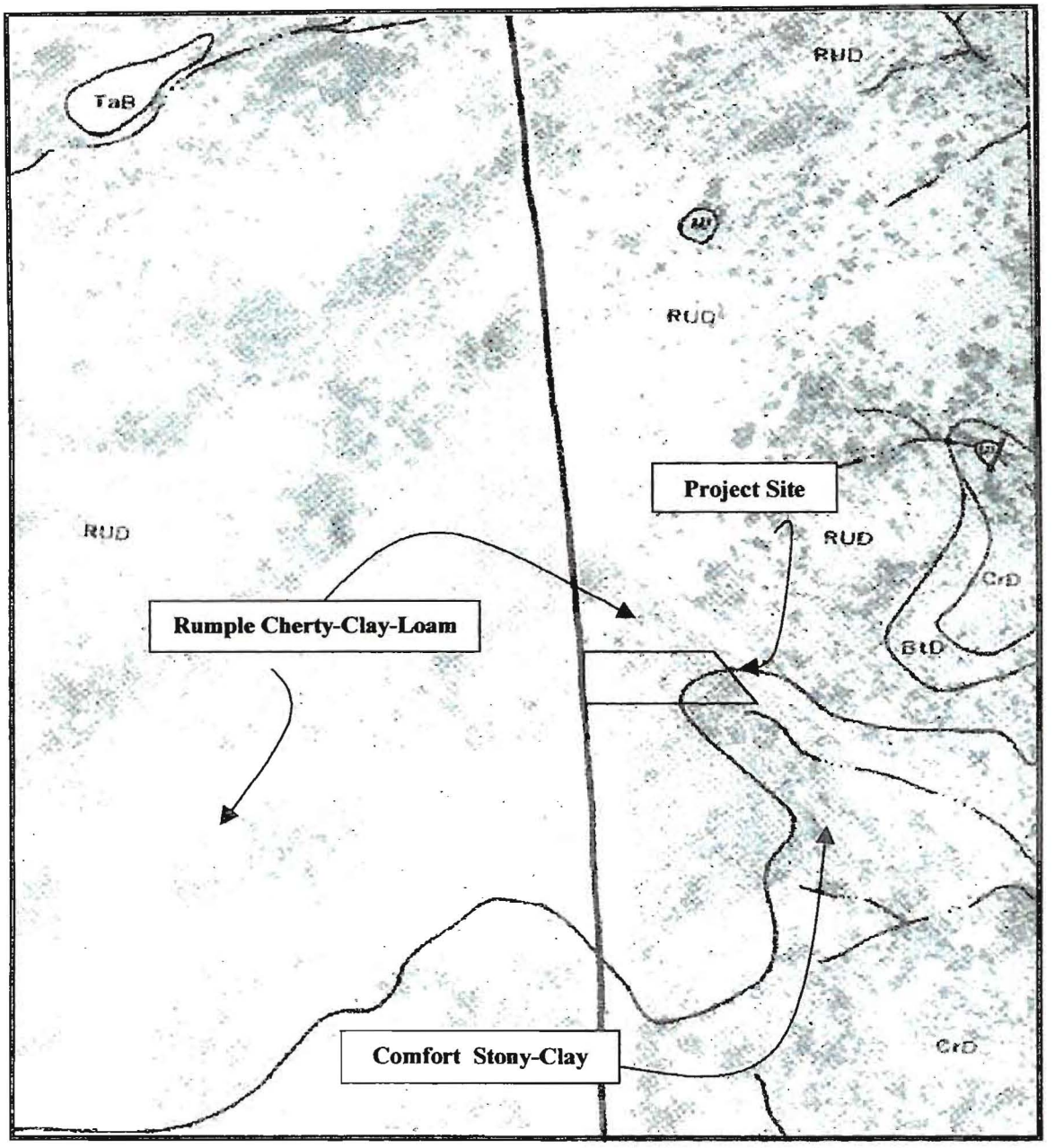
Figure 2
FM 306 Project Site
Soils Map



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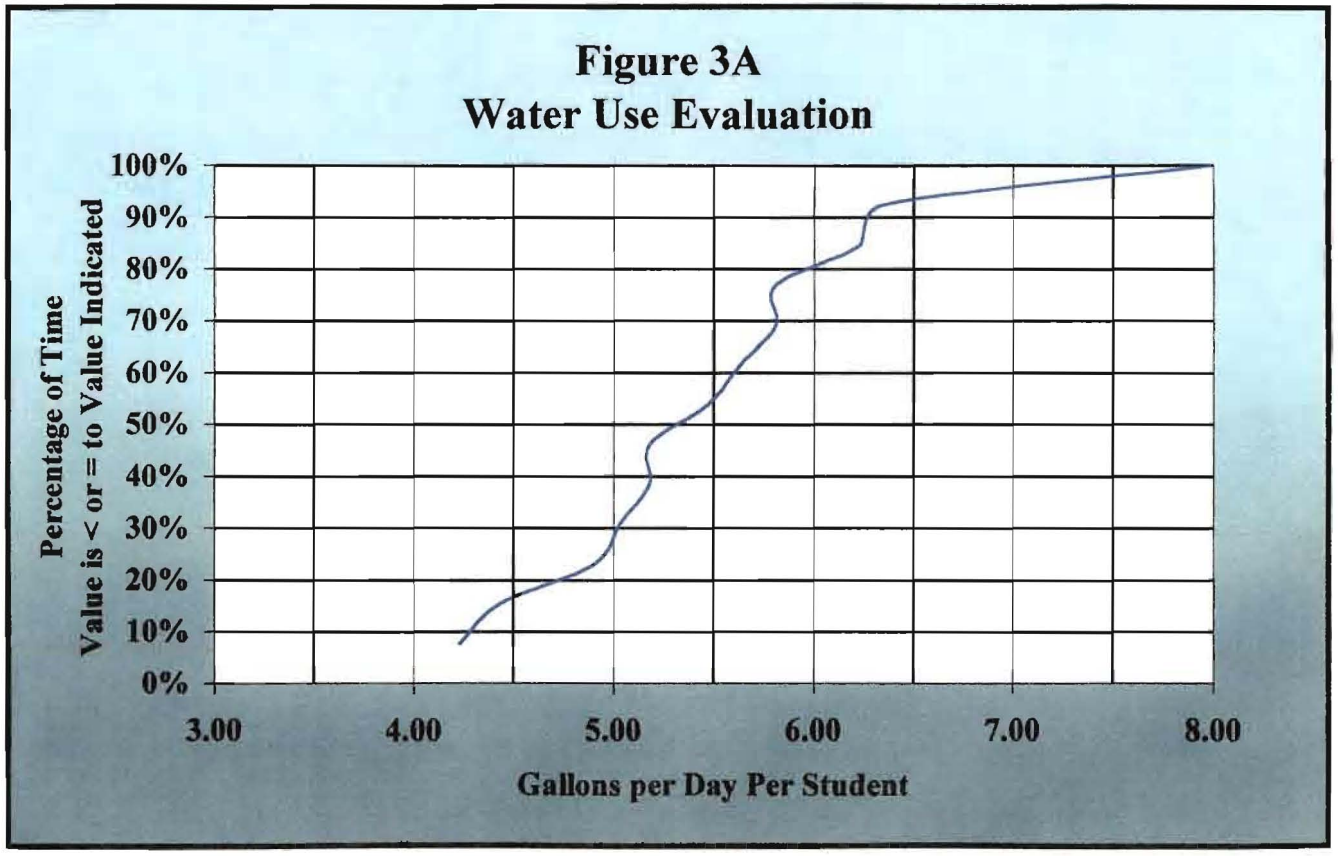


Figure 3A
Water Use Evaluation
Percentage of Time
Value is < or = to Value Indicated
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
3.00
4.00
5.00
6.00
7.00
8.00
Gallons per Day Per Student

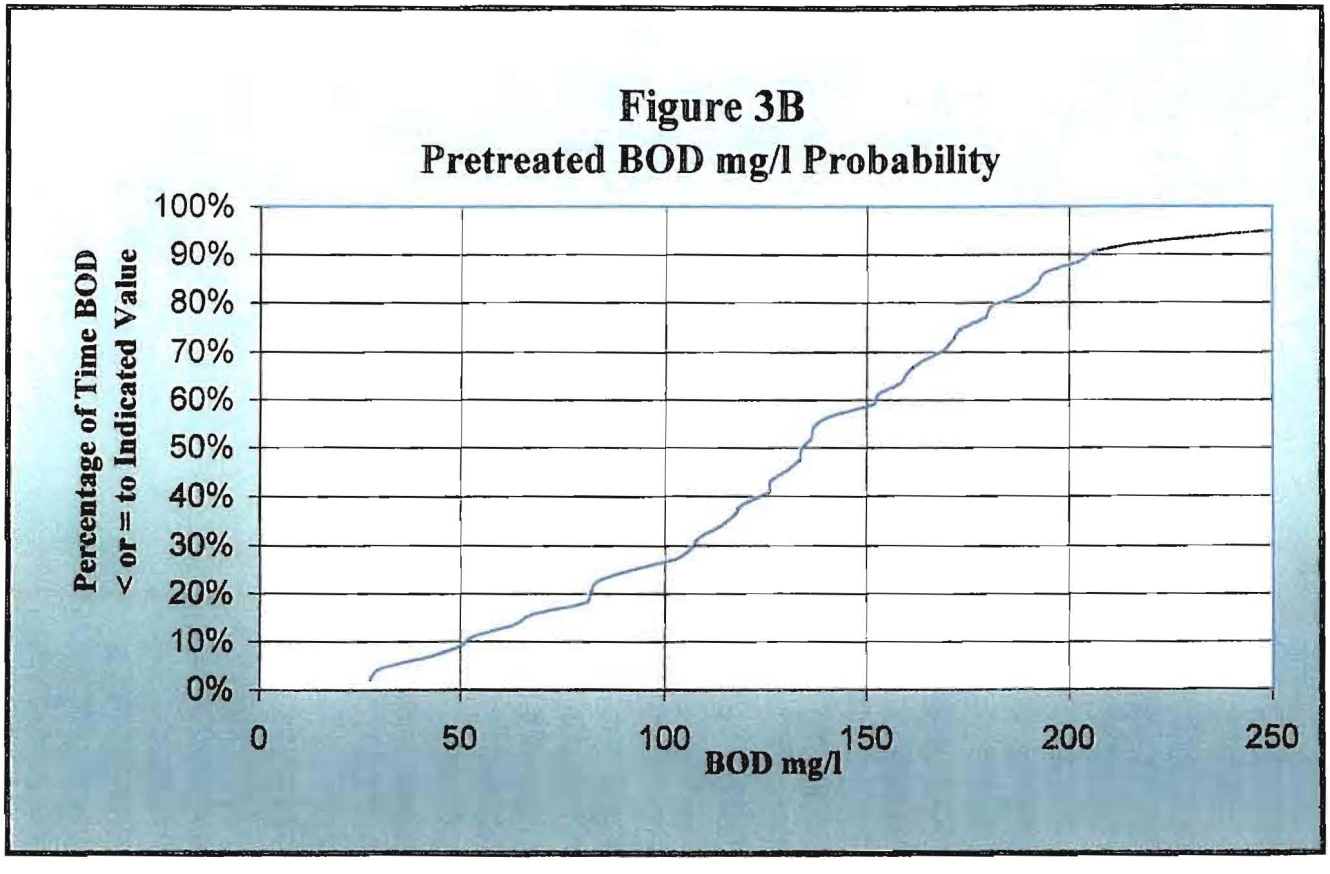


Figure 3B
Pretreated BOD mg/l Probability
Percentage of Time BOD
< or = to Indicated Value
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
50
100
150
200
250
BOD mg/l

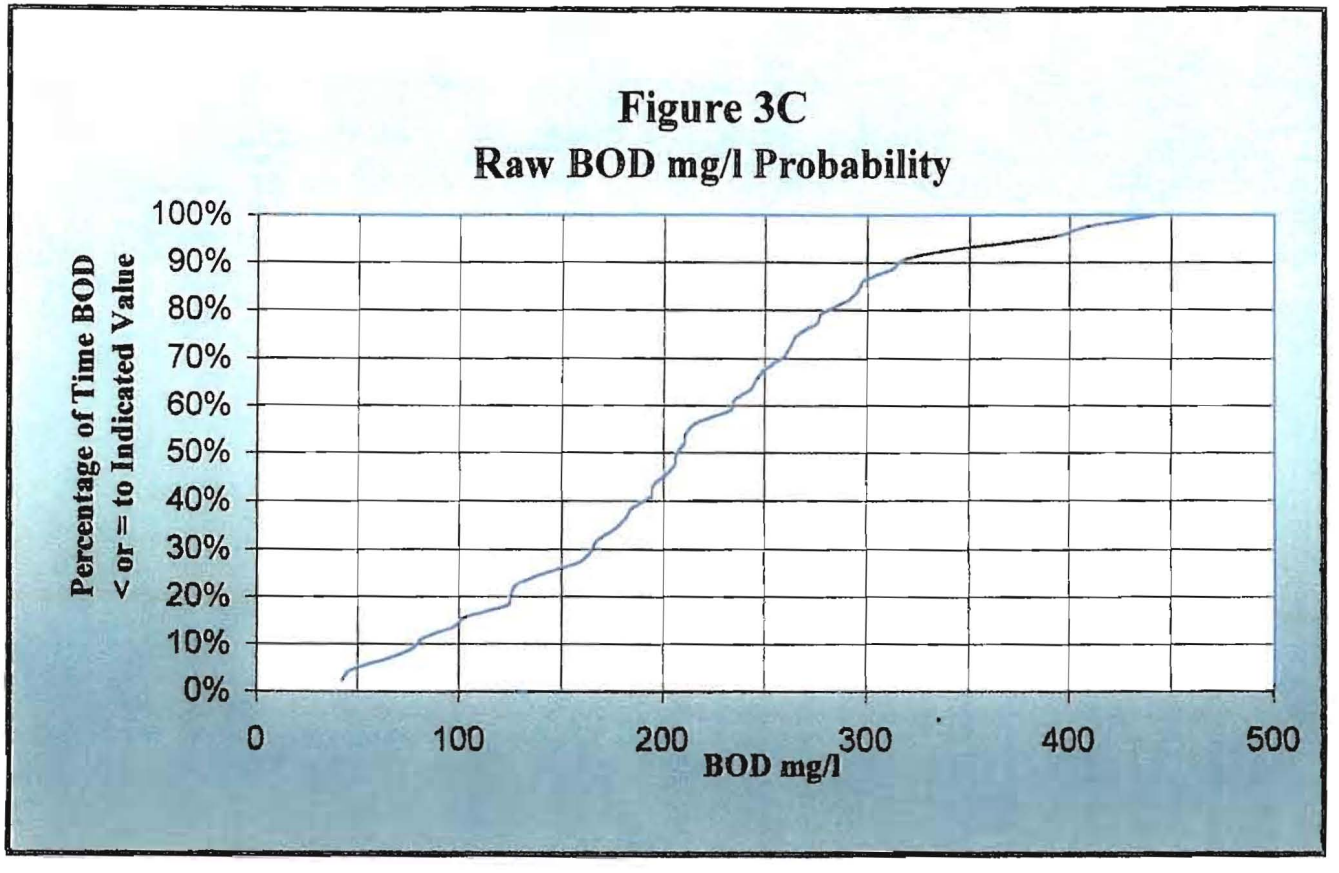
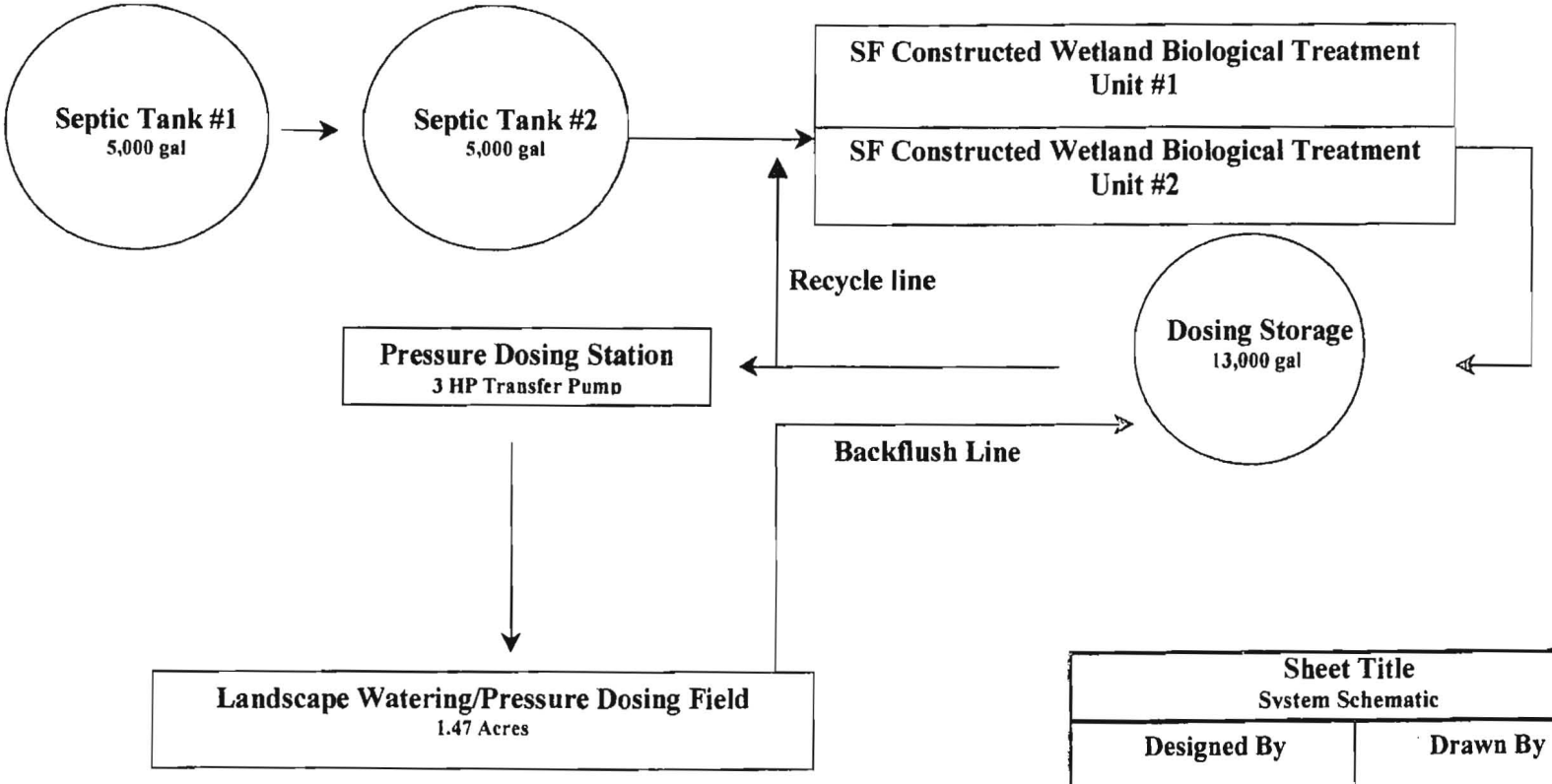


Figure 3C
Raw BOD mg/l Probability
Percentage of Time BOD
< or = to Indicated Value
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
100
200
300
400
500
BOD mg/l

Figure 4
Secondary Treatment System

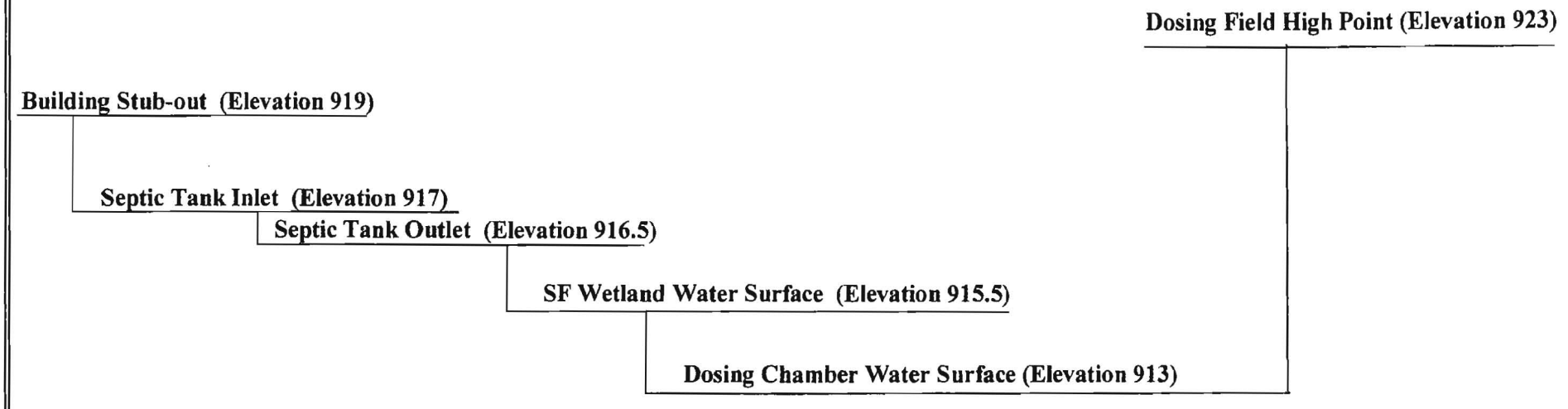


Sheet Title	
System Schematic	
Designed By	Drawn By
Project CISD Hoffman Rd. School	Project Number 20007

AlianzA, LLC
P.O. Box 267 Sabinal, TX 78881
830-988-2192

Date
March 1, 2000

Figure 5
Plant Hydraulic Profile



Sheet Number	
Sheet Title: Hydraulic Profile	
Designed By	Drawn By
Project: CISD Hoffman Rd School	Project Number: 20007

AlianzA, LLC
P.O. Box 267 Sabinal, TX 78881
830-988-2192

Date
March 1, 2000

Figure 6A

Constructed Wetland Process Design

Subsurface Flow System

8	Vpc = Median Per Capita Gallons (Maximum From Study - See Attachments)
800	P = Population (School Design Basis)
6400	Qg = Waste Volume (Gallons)
24	Q = Average Flow (Cu.M/D)
137	C_o = Average Pretreated Influent BOD (mg/l) (From Study - See Attachments)
100	C_e = Effluent BOD (mg/l) (TNRCC limit for Drip System Pretreatment = 100)
0.62	K_T = First Order Rate Constant (Middlebrooks)
1.104	K_{20} = First Order Rate @ 20^0 C (Middlebrooks)
10	T = Design Temperature (317.15(c)(2)(A)(1)
15.7	A_v = Microbial Surface Area (Middlebrooks)
0.46	y = Average depth (M.) (317.15(a)(2)
0.32	n = Porosity of System (317.15(c)(2)

Surface Area of Wetland (As)

Sq.Meters =	83.63	(Middlebrooks)
Wetland Area in Sq.Feet =	903	
Cubic Feet of Wetland (@ 2' Depth) =	1,355	(317.15(a)(2)
Square Dimensions of Wetland (Feet) =	30	

Recommended Dimensions (2 Reactor Units)

Length (Each) =	30.1	(Middlebrooks)
Width (Each) =	15.0	(Middlebrooks)
Liquid Depth (Feet) =	1.5	(317.15(a)(2)
Hydraulic Retention Time (HRT) =	0.51	(Middlebrooks)

Red Letters = Denote TNRCC Criteria and/or Assumptions
Blue Letters = Denote User Input/Assumptions and User Based Calculation Method
Black Values = Denote Calculated Results using data presented herein

Figure 6B

Constructed Wetland Process Design

Subsurface Flow System

8	Vpc = Median Per Capita Gallons (Maximum From Study - See Attachments)
800	P = Population (School Design Basis)
6400	Qg = Waste Volume (Gallons)
24	Q = Average Flow (Cu.M/D)
137	C_o = Average Pretreated Influent BOD (mg/l) (From Study - See Attachments)
30	C_e = Effluent BOD (mg/l) (TNRCC limit for Drip System Pretreatment = 100)
1.24	K_T = First Order Rate Constant (Middlebrooks)
1.104	K_{20} = First Order Rate @ 20^0 C (Middlebrooks)
22	T = Design Temperature
15.7	A_v = Microbial Surface Area (Middlebrooks)
0.46	y = Average depth (M.) (317.15(a)(2)
0.32	n = Porosity of System (317.15(c)(2)

Surface Area of Wetland (As)

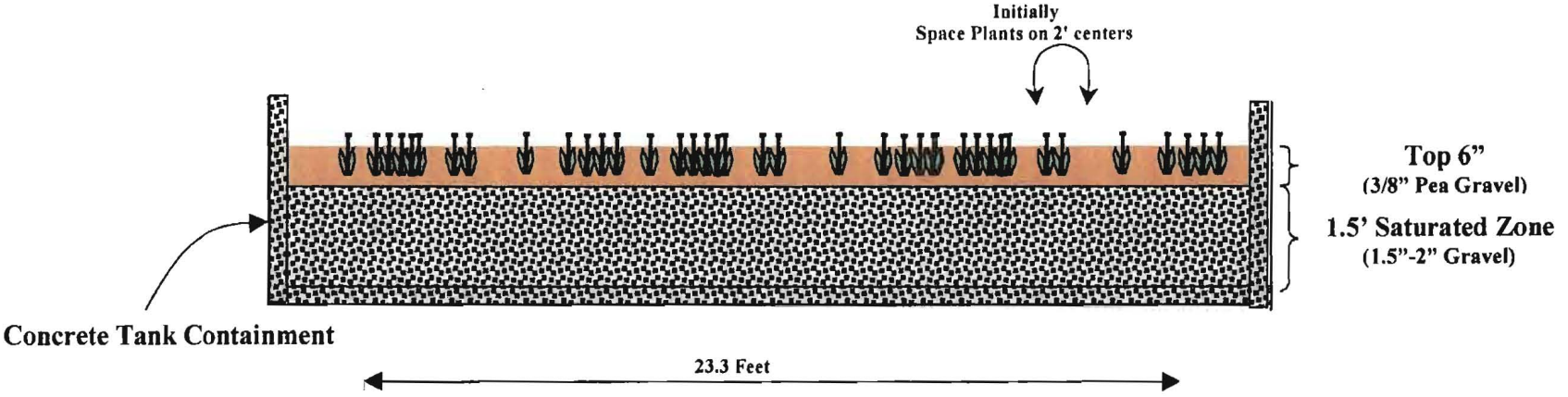
Sq.Meters =	200.50	(Middlebrooks)
Wetland Area in Sq.Feet =	2,165	
Cubic Feet of Wetland (@ 2' Depth) =	3,248	(317.15(a)(2)
Square Dimensions of Wetland (Feet) =	47	

Recommended Dimensions (2 Reactor Units)

Length (Each) =	46.5	(Middlebrooks)
Width (Each) =	23.3	(Middlebrooks)
Liquid Depth (Feet) =	1.5	(317.15(a)(2)
Hydraulic Retention Time (HRT) =	1.22	(Middlebrooks)

Red Letters = Denote TNRCC Criteria and/or Assumptions
Blue Letters = Denote User Input/Assumptions and User Based Calculation Method
Black Values = Denote Calculated Results using data presented herein

Figure 7A
Wetland Cross-Section

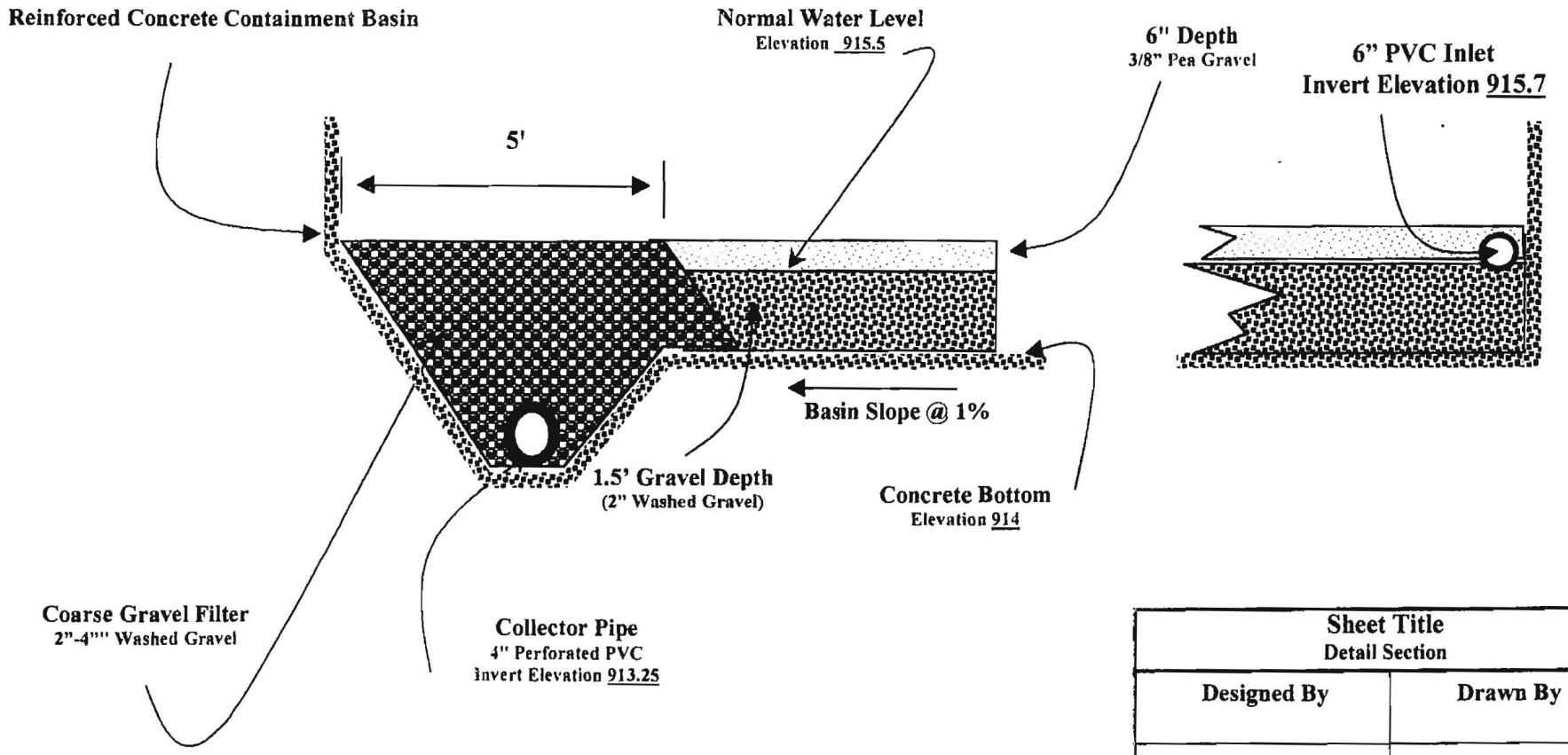


Sheet Title: Wetland Cross-Section	
Designed By	Drawn By
Project: CISD Hoffman Rd. School	Project Number: 20007

AlianzA, LLC
P.O. Box 267 Sabinal, TX 78881
830-988-2192

Date
March 1, 2000

Figure 7B
Wetland Longitudinal Section



Drawing Not To Scale

Sheet Title: Detail Section	
Designed By	Drawn By
Project: CISD Hoffman Rd. School	Project Number: 20007

AlianzA, LLC
P.O. Box 267 Sabinal, TX 78881
830-988-2192

Date
March 1, 2000

Appendix A

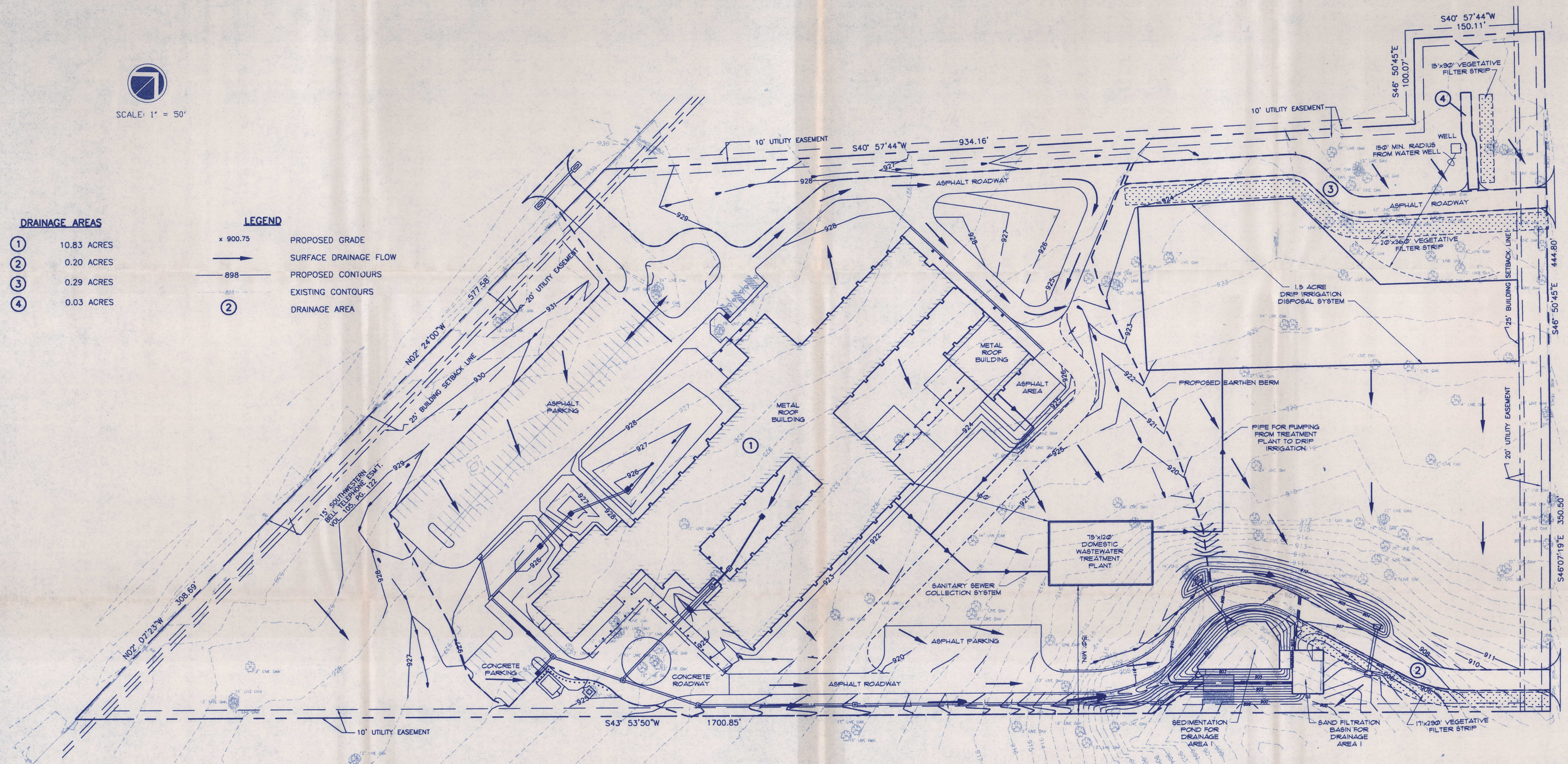
SCALE: 1" = 50'

DRAINAGE AREAS

(1)	10.83 ACRES
(2)	0.20 ACRES
(3)	0.29 ACRES
(4)	0.03 ACRES

LEGEND

x 900.75	PROPOSED GRADE
→	SURFACE DRAINAGE FLOW
898	PROPOSED CONTOURS
898	EXISTING CONTOURS
(2)	DRAINAGE AREA



T.N.R.C.C. GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TNRCC REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TNRCC LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUT BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TNRCC REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TNRCC HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.

5. ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).

7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TNRCC UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
1921 CEDAR BEND, SUITE 150
AUSTIN, TEXAS 78758-5336
PHONE (512) 339-2929
FAX (512) 339-3795

SAN ANTONIO REGIONAL OFFICE
140 HEIMER, SUITE 360
SAN ANTONIO, TEXAS 78232-5042
PHONE (210) 490-3096
FAX (210) 545-4329

TNRCC-0592 (Rev. 6/1/99)

CIVIL ENGINEERING GENERAL NOTES

1. ALL PHASES OF WORK UNDER THIS CONTRACT SHALL STRICTLY ADHERE TO THE REGULATIONS OF THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION, COMAL COUNTY, TEXAS, AND THE COMAL INDEPENDENT SCHOOL AS WELL AS OTHER ORDINANCES, SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.

2. FINAL DECISIONS OR JUDGMENTS ON MATTERS NOT SPECIFICALLY COVERED BY THE ABOVE STANDARDS AND REGULATIONS SHALL BE MADE BY THE DIRECT THE ENGINEER, AS APPLICABLE.

3. CONTRACTOR WILL SECURE ALL PERMITS REQUIRED FOR CONSTRUCTION AND NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.

4. THE CONTRACTOR IS SOLELY AND COMPLETE RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND DEFEND, INDEMNIFY AND HOLD THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, *EXCEPTING FROM LIABILITY ARISING FROM SOLE* NEGLIGENCE OF THE OWNER OR ENGINEER.

5. VERIFY PROJECT ELEVATIONS. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.

6. "TNRCC" SHALL SIGNIFY THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION. "TGM" SHALL SIGNIFY THE JUNE 1999 TECHNICAL GUIDANCE MANUAL, RG-340.

7. CONSTRUCTION OF THE PONDS ARE SUBJECT TO INSPECTIONS BY TNRCC REPRESENTATIVES. THEY SHALL NOT BE ACCEPTED BY THE OWNER UNTIL BOTH OF THESE ENTITIES ARE SATISFIED WITH THE INSTALLATION.

8. "TXDOT" SHALL SIGNIFY THE TEXAS DEPARTMENT OF TRANSPORTATION 1993 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES.

9. APPLY "PRIME COAT" (MC-30) AT A RATE OF 0.2 GAL/S.Y. MAXIMUM TO THE TOP OF THE FLEXIBLE BASE COURSE ON ACCESS DRIVES PRIOR TO THE PLACEMENT OF HOT MIX ASPHALTIC PAVEMENT.

10. "HOT MIX ASPHALTIC CONCRETE" (HMAC) PAVEMENT SHALL BE TYPE D ACCORDING TO TXDOT ITEM 340. PLACE THE HMAC ON DRY, COMPACTED BASE AND AT PROPER TEMPERATURES.

11. "FLEXIBLE BASE" SHALL BE TYPE A OR B, GRADE 1 OR 2, ACCORDING TO TXDOT ITEM 247. COMPACTED TO 95% OF MAXIMUM DRY DENSITY AT A MOISTURE CONTENT ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) PROCEDURES. MAINTAIN WATER CONTENTS NEAR OPTIMUM TO PROMOTE COMPACTION. TEST BY ASTM D-2922 (NUCLEAR METHOD).

12. GRAVEL SHALL BE COMPOSED OF WELL-GRADED, WASHED RIVER GRAVEL, APPROVED BY THE ENGINEER, ONE HUNDRED (100) PERCENT PASSING A TWO-INCH SIEVE, AT LEAST NINETY-FIVE (95) PERCENT PASSING A ONE AND THREE-QUARTER INCH (1 3/4") SIEVE, AND AT LEAST NINETY PERCENT RETAINED ON A ONE-HALF INCH (1/2") SIEVE.

13. ALL GEOTEXTILE FABRICS AND CLAY LINERS SHALL MEET THE REQUIREMENTS OF THE TNRCC TGM, PAGE 3-32.

14. PROVIDE CLASS "A" CONCRETE ACCORDING TO TXDOT ITEM 421 WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI. CONCRETE SHOULD HAVE 3 TO 5 PERCENT ENTRAINED AIR. CAST AND PLACE CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET FORTH BY THE AMERICAN CONCRETE *INSTITUTE.*

15. REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL HAVE DEFORMATIONS CONFORMING TO ASTM A-615 AND SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

A-615, GRADE 40.....#3 BARS AND DOWELS.
A-185.....WELDED WIRE FABRIC.
A-615, GRADE 60.....ALL OTHER REINFORCING.

ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS, EXCEPT WHERE REFERRING TO CLEARANCE. USE PLASTIC BAR SUPPORTS (CHAIRS) TO HOLD REINFORCEMENT IN POSITION DURING CONCRETE PLACEMENT OPERATIONS. SUPPORT THE REINFORCING STEEL TO OBTAIN A MINIMUM OF 2.5 INCHES OF CONCRETE COVER.

16. CONSTRUCT SITE GRADING IMPROVEMENTS TO THE FOLLOWING ELEVATION TOLERANCES:

DRAINAGE FACILITIES.....+0.02 FOOT
GRADING/LANDSCAPING.....+0.16 FOOT

SHOULD ANY ELEVATIONS BE FOUND TO BE OUT OF LEVEL BEYOND THE STATED TOLERANCE AFTER CONTRACTOR'S OPERATIONS, RETURN AND CORRECT THE GRADING, REMOVE AND DISPOSE OF ALL EXCESS MATERIALS AT CONTRACTOR EXPENSE.

17. PROTECT TREES DURING CONSTRUCTION ACCORDING TO FIGURE 2-1 OF THE TNRCC TGM.

18. COVER THE SITE DISTURBED DURING CONSTRUCTION WITH LIVE GRASS BEFORE ACCEPTANCE. USE SOD AND HYDRAULICALLY MULCH WITH OVER SEED THAT WILL PROVIDE AT LEAST 90 PERCENT COVERAGE. DEMONSTRATE GROWTH AND COVERAGE THOUGHOUT ONE YEAR.

19. EXISTING ABOVE GROUND UTILITIES HAVE BEEN PLOTTED BY DIRECT FIELD INVESTIGATION. UNDERGROUND UTILITIES HAVE BEEN COMPILED FROM VARIOUS SOURCES AND REQUIRE VERIFICATION BY THE CONTRACTOR TO ESTABLISH THEIR EXACT LOCATION AND DEPTH. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON DRAWINGS. DEAD UTILITY LINES SHALL BE SUITABLY CAPPED.

20. REPAIR OR REPLACE ANY EXISTING OFF-SITE IMPROVEMENTS OR UTILITY REMOVED, DAMAGED OR UNDERCUT BY CONTRACTOR'S OPERATIONS AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY AT THE CONTRACTOR'S EXPENSE.

21. POLYVINYL CHLORIDE (PVC) PIPE SHALL CONFORM TO ASTM D-3034 FOR SDR 35. JOINTS SHALL BE ELASTOMERIC GASKET MATERIALS CONFORMING TO *ASTM D-3212. INSTALLATION SHALL CONFORM TO ASTM D-3921.*

NOTES

Aluma A, LLC
An Alliance of Environmental Resource Professionals
P.O. Box 207 Sabinal, Texas
Phone: (830) 988-2102 Fax: (830) 988-3197

COYLE ENGINEERING INC.
3320 H 90 WEST SUITE B / BOERNE, TEXAS / 78006
PHONE: (830) 755-8266 / FAX: (830) 755-8267

STATE OF TEXAS
ROBERT D. LEHMANN
74462
REGISTERED PROFESSIONAL ENGINEER
3-8-00

HOFFMANN LANE
ELEMENTARY SCHOOL
COMAL I.S.D.
COMAL COUNTY, TEXAS

DESIGNED	3/8/000
DRAWN	RTS
CHECKED	RDL
DATE	RDL

REVISIONS

SHEET TITLE
PERMANENT EROSION CONTROL PLAN

SHEET
C4
OF 5

FILE NAME - WP4P4.dwg

Appendix B

The EDR-Radius Map
with GeoCheck®

Comal ISD FM 306
Hoffman Land at FM 306
New Brawnfels, TX 78132

Inquiry Number: 411376.1s

September 13, 1999

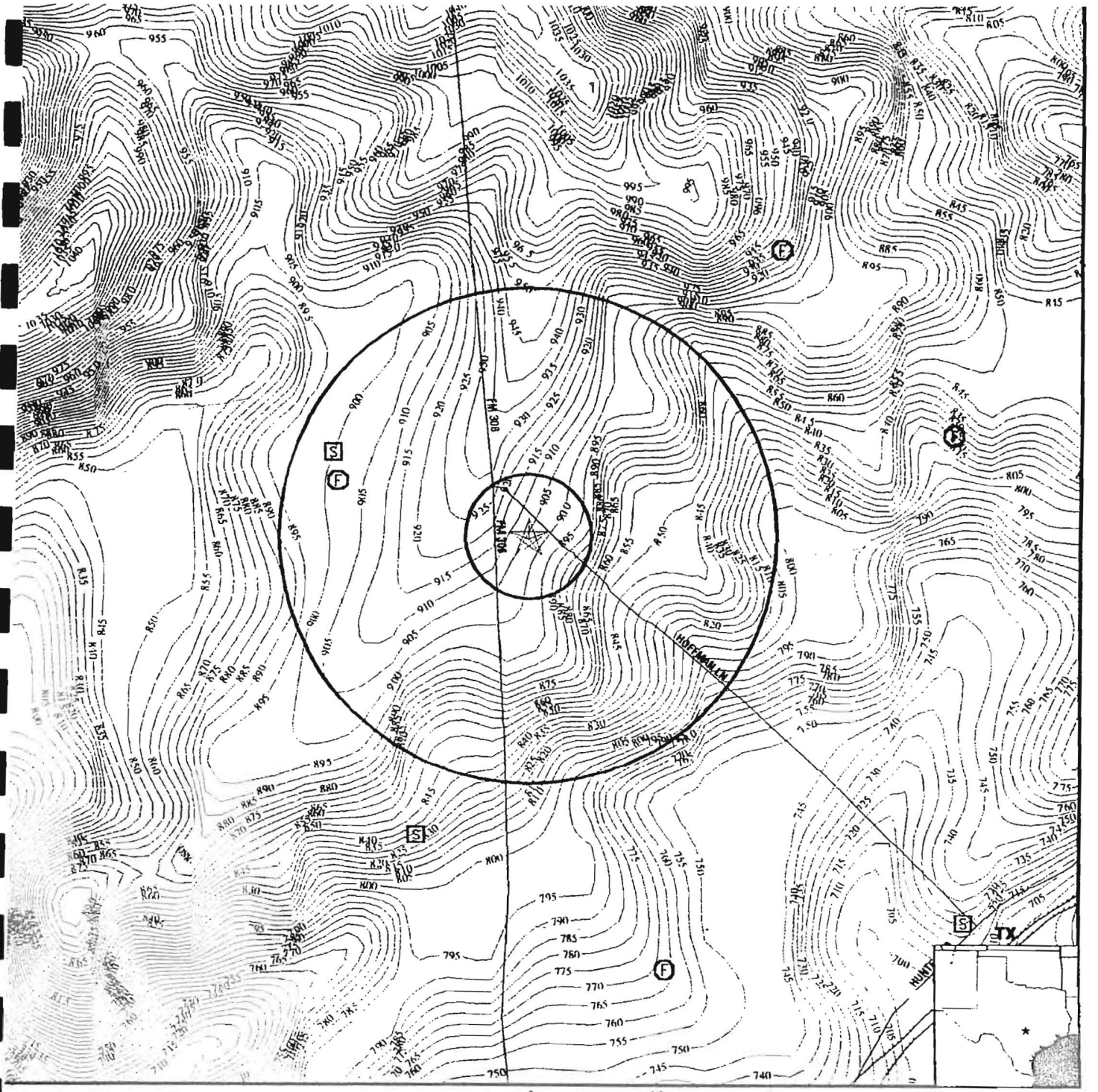
Environmental Data Resources, Inc.
an edr company

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com



Major Roads
Contour Lines
Waterways
Earthquake epicenter, Richter 5 or greater
Closest Federal Well in quadrant
Closest State Well in quadrant
Closest Public Water Supply Well

● Oil or gas wells
(in certain Texas counties)

TARGET PROPERTY:	Comal ISD FM 306	CUSTOMER:	Alianza LLC
ADDRESS:	Hoffman Land at FM 306	CONTACT:	Mr. Ken Cave
CITY/STATE/ZIP:	New Brawnfels TX 78132	INQUIRY #:	411376.1s
LAT/LONG:	29.7926 / 98.1031	DATE:	September 13, 1999 6:32 pm

GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Northern Quadrant)

BASIC WELL DATA

Site ID:	294834098051001	Distance from TP:	1 - 2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Comal
Altitude:	977.00 ft.	State:	Texas
Well Depth:	400.00 ft.	Topographic Setting:	Undulating
Depth to Water Table:	300.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	11031936	Prim. Use of Water:	Domestic

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Eastern Quadrant)

BASIC WELL DATA

Site ID:	294755098042901	Distance from TP:	1 - 2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Comal
Altitude:	Not Reported	State:	Texas
Well Depth:	307.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	239.03 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	01161951	Prim. Use of Water:	Domestic

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Southern Quadrant)

BASIC WELL DATA

Site ID:	294602098053801	Distance from TP:	1 - 2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Comal
Altitude:	Not Reported	State:	Texas
Well Depth:	190.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	178.83 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	01051951	Prim. Use of Water:	Domestic

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Western Quadrant)

BASIC WELL DATA

Site ID:	294745098065701	Distance from TP:	1/2 - 1 Mile
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1937	County:	Comal
Altitude:	Not Reported	State:	Texas
Well Depth:	Not Reported	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Stock

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Water Well Information:

Well Within >2 Miles of Target Property (Eastern Quadrant)

Well Number:	6816805		
Owner:	Floyd McGowan		
Driller:	Not Reported		
Basin:	Guadalupe River		
Accuracy of Coordinates:	Accurate to +/- 1 second		
Latitude:	980426	Longitude:	294612
Info Source:	Texas Water Development Board	Previous Well Number:	Not Reported
FIPS County Code:	91	County:	Comal
Zone:	1	Region Number:	11
Aquifer Code:	218EBFZA	Users Code Economics:	Not Reported
Ground Elevation AMSL:	720	Elevation Method:	Interpolated from topographic maps
Date Drilled:	Not Reported	Well Type:	Withdrawal of Water
Well Depth (ft):	Not Reported	Source of Depth Data:	Not Reported
Type of Lift:	Not Reported	Type of Power:	NO POWER SOURCE
Horsepower:	Not Reported	Tertiary Water Use:	Not Reported
Primary Water Use:	Domestic	Secondary Water Use:	Not Reported
Well Schedule in file:	Yes	Construction Method:	Not Reported
Method of Finish:	Not Reported	Lithological Log Type:	Not Reported
Casing Material:	Not Reported	Screen Material:	Not Reported
Lithological Interpreter:	Not Reported	Interpretation Date:	Not Reported
Qlty Analysis Available:	Yes	Level Data Available:	No water-level available
Data Collection Date:	05181984	Reporting Agency:	U.S. Geological Survey
Water Logs Available:	Not Reported		
Other Data Available:	Not Reported		
Aquifer:	EDWARDS AND ASSOCIATED LIMESTONES - (BALCONES FAULT ZONE AQUIFER)		

Water Quality Information::

Sample Number:	Not Reported	Sample Date:	5/18/1984
Temperature (C):	24	Sampled Aquifer Code:	Not Reported
Top of sampled interval:	Not Reported	Bottom of sampled interval:	Not Reported
Balanced/unbal Analysis:	Unbalanced	Collection Agency:	U.S. Geological Survey
Silica Flag:	Not Reported	Silica MGL:	Not Reported
Calcium Flag:	Not Reported	Calcium MGL:	Not Reported
Magnesium Flag:	Not Reported	Magnesium MGL:	Not Reported
Sodium Flag:	Not Reported	Sodium MGL:	Not Reported
Potassium Flag:	Not Reported	Potassium MGL:	Not Reported
Strontium Flag:	Not Reported	Strontium MGL:	Not Reported
Carbonate MGL:	0.0	Bicarbonate MGL:	292.88
Sulfate Flag:	Not Reported	Sulfate MGL:	Not Reported
Chloride Flag:	Not Reported	Chloride MGL:	Not Reported
Fluoride Flag:	Not Reported	Fluoride MGL:	Not Reported
Nitrate Flag:	Not Reported	Nitrate Flag:	Not Reported
pH Flag:	Not Reported	pH:	7.1
Total Dissolved Fluids:	Not Reported	Total Hardness:	Not Reported
Phenol Alkalinity:	0.0	Total Alkalinity:	240.0
SAR:	Not Reported	RSC:	Not Reported
Specific Conductance:	548	Spec. Conductance Flag:	Not Reported
Percent Sodium:	Not Reported		
Collection Remark:	Not Reported		
Reliability Remark:	Sample collected from well sufficiently pumped but not filtered or preserved. Holding time probably not honored		
Lab Name:	TWDB Field Analysis		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Well Within 1 - 2 Miles of Target Property (Southern Quadrant)

Well Number:	6816702		
Owner:	John Karback		
Driller:	--		
Basin:	Guadalupe River		
Accuracy of Coordinates:	Accurate to +/- 1 second		
Latitude:	980638	Longitude:	294630
Info Source:	Texas Water Development Board	Previous Well Number:	G-95
FIPS County Code:	91	County:	Comal
Zone:	1	Region Number:	11
Aquifer Code:	218GLRSU	Users Code Economics:	Not Reported
Ground Elevation AMSL:	932	Elevation Method:	Interpolated from topographic maps
Date Drilled:	Not Reported	Well Type:	Withdrawal of Water
Well Depth (ft):	400	Source of Depth Data:	reported by Owner,certain or documented depth
Type of Lift:	Piston	Type of Power:	Not Reported
Horsepower:	Not Reported	Tertiary Water Use:	Not Reported
Primary Water Use:	Stock	Secondary Water Use:	Not Reported
Well Schedule in file:	Yes	Construction Method:	Not Reported
Method of Finish:	Not Reported	Lithological Log Type:	Not Reported
Casing Material:	Not Reported	Screen Material:	Not Reported
Lithological Interpreter:	Not Reported	Interpretation Date:	Not Reported
Qlty Analysis Available:	No	Level Data Available:	Historical water-level observation well
Data Collection Date:	Not Reported	Reporting Agency:	U.S. Geological Survey
Water Logs Available:	Not Reported		
Other Data Available:	Not Reported		
Aquifer:	GLEN ROSE LIMESTONE,UPPER MEMBER		

Water Level Information::

Measurement Number:	01		
Depth from land surface:	-314.2	Measurement Date:	12/14/1956
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Electric Line	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-282.65	Measurement Date:	6/7/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Electric Line	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-286.51	Measurement Date:	7/18/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Electric Line	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-291.49	Measurement Date:	8/13/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-295.23	Measurement Date:	9/18/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-283.41	Measurement Date:	10/2/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -281.59 Measurement Date: 10/24/1957
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -284.18 Measurement Date: 11/20/1957
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -283.36 Measurement Date: 12/10/1957
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -281.16 Measurement Date: 1/15/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -287.7 Measurement Date: 2/14/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -281.35 Measurement Date: 3/12/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -282.09 Measurement Date: 4/15/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -281.74 Measurement Date: 5/20/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -285.13 Measurement Date: 6/18/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -297.33 Measurement Date: 7/16/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -286.7 Measurement Date: 8/20/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -284.7 Measurement Date: 10/16/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -287.15 Measurement Date: 11/18/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.47 Measurement Date: 12/16/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -286.4 Measurement Date: 1/19/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -288.11 Measurement Date: 2/23/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -286.2 Measurement Date: 4/8/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -293.77 Measurement Date: 6/9/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -292.72 Measurement Date: 8/4/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -291.94 Measurement Date: 10/7/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -292.8 Measurement Date: 12/4/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -293.2 Measurement Date: 1/7/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -292.55 Measurement Date: 3/10/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -295.93 Measurement Date: 4/12/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -296.91 Measurement Date: 5/10/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -298.55 Measurement Date: 5/30/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -295.0 Measurement Date: 7/11/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -293.8 Measurement Date: 8/4/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -292.05 Measurement Date: 10/4/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.24 Measurement Date: 11/1/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -280.68 Measurement Date: 12/14/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -282.25 Measurement Date: 1/10/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -282.07 Measurement Date: 2/23/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -288.28 Measurement Date: 3/23/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -288.01 Measurement Date: 4/24/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -294.2 Measurement Date: 5/24/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -295.47 Measurement Date: 6/20/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -290.7 Measurement Date: 7/18/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -293.66 Measurement Date: 8/22/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -292.21 Measurement Date: 9/27/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -295.35 Measurement Date: 10/25/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -294.95 Measurement Date: 11/29/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -295.22 Measurement Date: 12/19/1961
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -296.41 Measurement Date: 1/26/1962
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -297.01 Measurement Date: 2/20/1962
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -311.11 Measurement Date: 7/25/1962
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -297.22 Measurement Date: 9/27/1962
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -297.93 Measurement Date: 11/27/1962
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -297.42 Measurement Date: 1/28/1963
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -298.01 Measurement Date: 3/18/1963
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 5/24/1963
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: No measurement - casing leaking or wet

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 7/24/1963
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: No measurement - casing leaking or wet

Measurement Number: 01
Depth from land surface: -302.64 Measurement Date: 9/26/1963
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -303.08 Measurement Date: 11/20/1963
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 1/24/1964
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: No measurement - casing leaking or wet

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -300.75 Measurement Date: 3/25/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -301.23 Measurement Date: 5/20/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -300.18 Measurement Date: 7/21/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -304.6 Measurement Date: 8/19/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -299.46 Measurement Date: 9/22/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 10/22/1964
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Not Reported Measuring Agency: U.S. Geological Survey
Remark: No measurement - well pumping

Measurement Number: 01
Depth from land surface: -296.13 Measurement Date: 11/24/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -299.4 Measurement Date: 12/21/1964
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -305.38 Measurement Date: 1/20/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: Well pumped recently

Measurement Number: 01
Depth from land surface: -286.59 Measurement Date: 2/18/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.05 Measurement Date: 3/23/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -294.6 Measurement Date: 4/20/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -283.79 Measurement Date: 5/19/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -290.3 Measurement Date: 6/17/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: Well pumped recently

Measurement Number: 01
Depth from land surface: -290.93 Measurement Date: 7/20/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 8/23/1965
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Not Reported Measuring Agency: U.S. Geological Survey
Remark: No measurement - well pumping

Measurement Number: 01
Depth from land surface: -292.9 Measurement Date: 9/22/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.69 Measurement Date: 10/22/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.65 Measurement Date: 11/19/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.1 Measurement Date: 12/30/1965
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -288.48 Measurement Date: 1/25/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -287.92 Measurement Date: 2/24/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -285.27 Measurement Date: 3/31/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -289.01 Measurement Date: 5/2/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -287.55 Measurement Date: 6/3/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -287.96 Measurement Date: 7/8/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -293.14 Measurement Date: 8/12/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -297.1 Measurement Date: 10/21/1966
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -292.2 Measurement Date: 9/30/1971
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 2/7/1972
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: No measurement - casing leaking or wet

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 4/4/1972
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: No measurement - casing leaking or wet

Measurement Number: Not Reported
Depth from land surface: Not Reported Measurement Date: 6/6/1972
Visit Mark: Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained
Measurement Method: Steel Tape Measuring Agency: U.S. Geological Survey
Remark: No measurement - casing leaking or wet

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		
Measurement Number:	01		
Depth from land surface:	-284.83	Measurement Date:	8/9/1976
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	U.S. Geological Survey
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		
Measurement Number:	Not Reported		
Depth from land surface:	Not Reported	Measurement Date:	2/2/1977
Visit Mark:	Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained		
Measurement Method:	Not Reported	Measuring Agency:	Texas Water Development Board
Remark:	No measurement - access to well bore temporarily blocked (well winterized,covered, or contains debris		
Measurement Number:	Not Reported		
Depth from land surface:	Not Reported	Measurement Date:	2/9/1978
Visit Mark:	Not publishable - water-level is not indicative of aquifer's piezometric surface or no measurement was obtained		
Measurement Method:	Not Reported	Measuring Agency:	Texas Water Development Board
Remark:	Well deleted from current well-level program. Well owner does not want well measured		

Remarks:

Historical observation well.

Well Within 1/2 - 1 Mile of Target Property (Western Quadrant)

Well Number:	6816401		
Owner:	C.T. Lackey		
Driller:	E.B. Kutscher		
Basin:	Guadalupe River		
Accuracy of Coordinates:	Accurate to +/- 1 minute		
Latitude:	980658	Longitude:	294751
Info Source:	Texas Water Development Board	Previous Well Number:	G-16
FIPS County Code:	91	County:	Comal
Zone:	1	Region Number:	11
Aquifer Code:	218GLRSU	Users Code Economics:	Not Reported
Ground Elevation AMSL:	911	Elevation Method:	Altimeter
Date Drilled:	06 1937	Well Type:	Withdrawal of Water
Well Depth (ft):	Not Reported	Source of Depth Data:	Not Reported
Type of Lift:	Submersible Pump	Type of Power:	Not Reported
Horsepower:	Not Reported	Tertiary Water Use:	Not Reported
Primary Water Use:	Stock	Secondary Water Use:	Not Reported
Well Schedule in file:	Yes	Construction Method:	Not Reported
Method of Finish:	Not Reported	Lithological Log Type:	Not Reported
Casing Material:	Not Reported	Screen Material:	Not Reported
Lithological Interpreter:	Not Reported	Interpretation Date:	Not Reported
Qlty Analysis Available:	Yes	Level Data Available:	Historical water-level observation well
Data Collection Date:	01311991	Reporting Agency:	Texas Water Development Board
Water Logs Available:	Not Reported		
Other Data Available:	Not Reported		
Aquifer:	GLEN ROSE LIMESTONE,UPPER MEMBER		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Water Quality Information::

Sample Number:	Not Reported	Sample Date:	12/15/1944
Temperature (C):	Not Reported	Sampled Aquifer Code:	Not Reported
Top of sampled interval:	Not Reported	Bottom of sampled interval:	Not Reported
Balanced/unbal Analysis:	Unbalanced	Collection Agency:	U.S. Geological Survey
Silica Flag:	Not Reported	Silica MGL:	Not Reported
Calcium Flag:	Not Reported	Calcium MGL:	Not Reported
Magnesium Flag:	Not Reported	Magnesium MGL:	Not Reported
Sodium Flag:	Not Reported	Sodium MGL:	Not Reported
Potassium Flag:	Not Reported	Potassium MGL:	Not Reported
Strontium Flag:	Not Reported	Strontium MGL:	Not Reported
Carbonate MGL:	0.0	Bicarbonate MGL:	242.0
Sulfate Flag:	Not Reported	Sulfate MGL:	3.0
Chloride Flag:	Not Reported	Chloride MGL:	12.0
Fluoride Flag:	Not Reported	Fluoride MGL:	Not Reported
Nitrate Flag:	Not Reported	Nitrate Flag:	Not Reported
pH Flag:	Not Reported	pH:	Not Reported
Total Dissolved Fluids:	Not Reported	Total Hardness:	Not Reported
Phenol Alkalinity:	0.0	Total Alkalinity:	198.3
SAR:	Not Reported	RSC:	Not Reported
Specific Conductance:	Not Reported	Spec. Conductance Flag:	Not Reported
Percent Sodium:	Not Reported		
Collection Remark:	USGS WSP 1138		
Reliability Remark:	Chemical analysis taken from a report. Sample collection and preservation procedures unknown		
Lab Name:	U.S. Geological Survey Lab		

Water Level Information::

Measurement Number:	01		
Depth from land surface:	-295.59	Measurement Date:	12/14/1956
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	TWC/TNRCC
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-273.09	Measurement Date:	6/7/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Electric Line	Measuring Agency:	TWC/TNRCC
Remark:	Well pumping (pumping-level measurement)		

Measurement Number:	01		
Depth from land surface:	-272.7	Measurement Date:	7/18/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Electric Line	Measuring Agency:	TWC/TNRCC
Remark:	Well pumping (pumping-level measurement)		

Measurement Number:	01		
Depth from land surface:	-275.46	Measurement Date:	7/18/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	TWC/TNRCC
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

Measurement Number:	01		
Depth from land surface:	-273.51	Measurement Date:	8/13/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Electric Line	Measuring Agency:	TWC/TNRCC
Remark:	Well pumping (pumping-level measurement)		

Measurement Number:	01		
Depth from land surface:	-272.31	Measurement Date:	10/24/1957
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	TWC/TNRCC
Remark:	MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: -271.31 Measurement Date: 11/20/1957
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -270.5 Measurement Date: 12/10/1957
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: Well pumping (pumping-level measurement)

Measurement Number: 01
Depth from land surface: -268.86 Measurement Date: 1/15/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: Well pumping (pumping-level measurement)

Measurement Number: 01
Depth from land surface: -269.46 Measurement Date: 2/14/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -268.32 Measurement Date: 3/12/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: Well pumping (pumping-level measurement)

Measurement Number: 01
Depth from land surface: -265.87 Measurement Date: 4/15/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -266.1 Measurement Date: 5/20/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: Well pumping (pumping-level measurement)

Measurement Number: 01
Depth from land surface: -266.88 Measurement Date: 6/18/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -277.62 Measurement Date: 7/16/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -282.59 Measurement Date: 8/20/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -269.51 Measurement Date: 9/11/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number: 01
Depth from land surface: 0.0 Measurement Date: 10/16/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: 0 Measuring Agency: TWC/TNRCC
Remark: Not Reported

Measurement Number: 01
Depth from land surface: -269.21 Measurement Date: 11/18/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: -270.8 Measurement Date: 12/17/1958
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: 0.0 Measurement Date: 1/19/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: 0 Measuring Agency: TWC/TNRCC
Remark: Not Reported

Measurement Number: 01
Depth from land surface: -272.92 Measurement Date: 2/23/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: MEASUREMENT GOOD. NO UNUSUAL CONDITIONS NOTED AT OR NEAR WELL SITE

Measurement Number: 01
Depth from land surface: 0.0 Measurement Date: 6/9/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: 0 Measuring Agency: TWC/TNRCC
Remark: Not Reported

Measurement Number: 01
Depth from land surface: -278.18 Measurement Date: 10/4/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: Well pumping (pumping-level measurement)

Measurement Number: 01
Depth from land surface: -276.64 Measurement Date: 10/7/1959
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Steel Tape Measuring Agency: TWC/TNRCC
Remark: Well pumping (pumping-level measurement)

Measurement Number: 01
Depth from land surface: 0.0 Measurement Date: 1/7/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: 0 Measuring Agency: TWC/TNRCC
Remark: Not Reported

Measurement Number: 01
Depth from land surface: -278.77 Measurement Date: 4/20/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: Electric Line Measuring Agency: TWC/TNRCC
Remark: Well pumped recently

Measurement Number: 01
Depth from land surface: 0.0 Measurement Date: 5/10/1960
Visit Mark: Publishable - water-level is indicative of aquifer's piezometric surface
Measurement Method: 0 Measuring Agency: TWC/TNRCC
Remark: Not Reported

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Measurement Number:	01		
Depth from land surface:	0.0	Measurement Date:	7/11/1960
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	0	Measuring Agency:	TWC/TNRCC
Remark:	Not Reported		

Measurement Number:	01		
Depth from land surface:	-270.9	Measurement Date:	8/5/1960
Visit Mark:	Publishable - water-level is indicative of aquifer's piezometric surface		
Measurement Method:	Steel Tape	Measuring Agency:	TWC/TNRCC
Remark:	Well pumped recently		

Infrequent Constituent Information::

Sample Number:	1	Storet Number:	00900
Sample Flag:	Not Reported	Sample Date:	12/15/1944
Constituent Value:	294.	Confidence (+ or -):	Not Reported
Storet Code Description:	HARDNESS, TOTAL (MG/L AS CACO3)		
Constituent Name:	TOT HARD	Unit of Measurement:	MG/L

Remarks:

Historical observation well.

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

PWS ID:	TX0940087	PWS Status:	Active	Distance from TP:	>2 Miles
Date Initiated:	Not Reported	Date Deactivated:	Not Reported	Dir relative to TP:	South
PWS Name:	LAKESIDE MOBILE LIVING C/O CHARLES FOX - OWNER ROUTE 2 BOX 654-P NEW BRAUNFELS, TX 78130				
Addressee / Facility:	System Owner/Responsible Party CHARLES FOX				
Facility Latitude:	29 42 10		Facility Longitude:	098 07 27	
City Served:	Not Reported				
Treatment Class:	Treated		Population Served:	Under 101 Persons	

PWS currently has or has had major violation(s) or enforcement: No