

PRESLEY, BRANNAN, & ASSOCIATES, INC.

CONSULTING ENGINEERS AND LAND SURVEYORS

Office (479) 738-2979

CHARLES PRESLEY, PE & PLS

Cell (479) 409-6550

P.O. BOX 607

cjpres@madisoncounty.net

HUNTSVILLE, AR 72740

Colby Ungerank

Engineer, Permits Branch

Office of Water Quality

A.D.E.Q.

5301 Northshore Drive

North Little Rock, AR 72118-5317

Sept. 8, 2017

Re: Deer Haven Subdivision

Benton County, Arkansas

Permit No.: 4908-WR-2; AFIN: 04-01681

Dear Mr. Ungerank:

Following are answers to the "Deficiencies" listed in your letter to Mr. Charles B. Cook dated Aug. 11, 2017.

- 1.) There are nineteen (19) homes currently connected to the drip irrigation system.
- 2.) See the enclosed set of plans for:
 - a.) the drip zones.
 - b.) the area of each drip zone.
 - c.) the location of each soil test pit with the loading rate written in red.

3.)

Zone Identification	Loading X Rate Limit	Units	Maximum X Volume Limit	Units	Monitoring
Zone 1	0.250	gpd/ft ²	5,425	gpd	Daily
Zone 2					
Zone 3					
Zone 4					
Zone 5		gpd/ft ²		gpd	Daily
Zone 6					
Zone					

** All 6 Zones are loaded the same, see sheet #3 of the plans.*

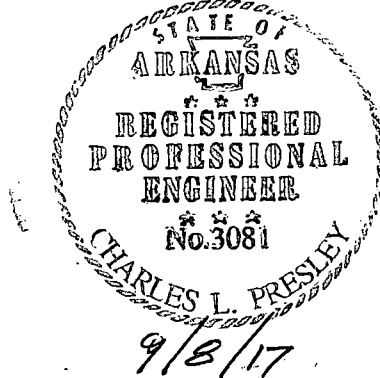
4.) Fescue is the cover crop on the drip field.

If you have any questions or need more information, please contact me.

Sincerely,

Charles Presley

Charles Presley, PE



ADFR
Corbitt Environmental Consulting
P.O. Box 937
Lowell, AR 72745
(479) 466-6183

March 23, 2006

Franklin Miller
1000 Captain Good St.
Pea Ridge, AR 72751

Charlie Presley, P.E.
Presley Brannan and Associates, Inc.
2143 Worth Lane
Springdale, AR 72764

RE: Deer Haven Subdivision
Section 10, Township 20 North, Range 29 West, Benton County

Charlie,

Per your request I have performed the additional soil morphology analyses in the proposed drip field for the above referenced project in Avoca. The purpose of the additional pits was because the area of the original study was not large enough to size the field with. The pits were dug on 100' grids in the proposed drip field. The soil loading rates given are based on the Arkansas Department of Health's most current guidelines made available. Currently the Arkansas Department of Health and Arkansas Department of Environmental Quality is allowing the systems to be designed on the average soil loading rate, but special consideration should taken when designing the separate zones if that particular area of the field has pits with lower than average loading rates.

The 13 pits have been marked on site with numbers so that you may indicate the exact locations of the new pits on the plat.

Benny Mays, performed the site evaluations of the first set of test pits on this site, but another EHS from Benton County will be coming to check the new ones. You may want to fax over a vicinity map of the site so that they are able to locate the site.

If you have any questions about any of the information in this report, please don't hesitate to give me a call.

Sincerely,



Rebecca Corbitt, PSC #60
Professional Soil Classifier
Designated Representative #1136373



Corbitt Environmental Consulting
P.O. Box 937
Lowell, AR 72745
(479) 466-6183

Soil Morphology Determinations for Community Drip Dispersal

Soil Test Pit information & Seasonal water table depths and loading rates

Pit #	Brief SWT	Moderate SWT	Adj. Mod. SWT	Loading rate Drip Irrigation
1	NA	NA	NA	NOT INCL
2	20"	NA	NA	.41
3	18"	32"	27"	.185
4	20"	29"	26"	.178
5	24"	34"	31"	.212
6	NA	22"	22"	.150
7	19"	24"	22"	.150
8	22"	27"	25"	.171
9	20"	26"	24"	.164
11	NA	29"	29"	.198
12	24"	NA	NA	.492
AA1	20"	24"	23"	.157
AA2	19"	29"	26"	.178



Arkansas Department of Health and Human Services

Division of Health
Loy Bailey, RS, Administrator



Benton County Health Unit

1202 SW 14th Street Bentonville, AR, 71712 479-271-1055 479-464-6171

Division of Engineering
4815 W Markham
Little Rock, AR 72205

RE: Deer Haven Subdivision Drip Disposal System
Section 10, Township 20, Range 29, Benton County

Gentleman,

Thirteen soil pits were evaluated by this office in the proposed absorption field area for Deer Haven Subdivision. Soil analyses was performed by Rebecca Corbitt, a licensed DR. We found no significant discrepancies in the morphology determinations that Ms. Corbitt made and recommend that this design be considered for approval by the Division of Engineering.

Sincerely,

Shadrick D. Adams, REHS/RS

Cc: Franklin Miller, Developer
Charles Presley, P.E.
Rebecca Corbitt, RS, DR

APER
Corbitt Environmental Consulting
P.O. Box 937
Lowell, AR 72745
(479) 466-6183

Franklin Miller
1000 Captain Good St
Pea Ridge, AR 72751

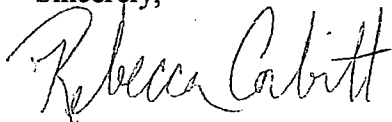
Dear Franklin,

Per your request, I have performed the preliminary soil morphology analysis in several soil test pits to determine soil suitability and loading rates for an approximately 200 lot subdivision serviced by a decentralized sewer system.

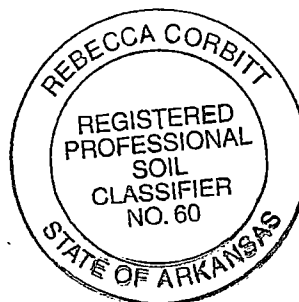
On April 4, 2005, I conducted a soil morphology analysis in (21) soil pits in an area of the proposed drip irrigation field. All of the pits were suitable for a decentralized sewer system. My professional interpretation and opinion of the soil suitability and loading rates for each soil pit, based on the Arkansas Department of Health's Policies and Procedures Relating to A Voluntary Soil Morphology Program implemented November 1, 2000 and the Arkansas Department of Health's Guidelines for the Design and Construction of Drip Dispersal Systems is listed on the following page.

As always, if you have any questions about any of the information in this report, please feel free to contact me.

Sincerely,



Rebecca Corbitt, PSC #60
Professional Soil Classifier
Designated Representative #1136373



Corbitt Environmental Consulting
P.O. Box 937
Lowell, AR 72745
(479) 466-6183

The Deer Haven Subdivision

The Deer Haven Subdivision

Soil Test Pit information &
Seasonal water table depths and loading rates for drip irrigation

Zone 1 (Power Line easement along North property line)

Lot #	Brief SWT	Moderate SWT	Adj. Mod. SWT	Loading rate (g/ft ² /d)
1	Full	Of	water	NA
2	20"	26"	24"	.164
3	NA	28"	28"	.191
4	NA	27"	27"	.185
5	Full	of water	at 20"	NA
6	NA	27"	27"	.185
7	NA	30"	30"	.205
8	NA	26"	26"	.178
9	NA	25"	25"	.171
10	NA	34"	34"	.232
11	NA	30"	30"	.205

Average loading rate= .191

250 GPD per home divided by .191= 1308.9 sq ft. of drip x 1.5 (for alternate area)=

1963.35 total sq ft. of drip field divided by 43,560 sq. ft per acre=

.04 acres per house of drip field

Zone 2 (Along NE property line and toeslope of stream terrace)

12	None	NA	NA	.738
13	Too	close to	creek	NA
14	20"	NA	NA	.410
15	24"	34"	31"	.212
16	25"	32"	30"	.205
17	28"	33"	31"	.212
18	Pit	Filled	In	NA
19	22"	31"	28"	.191
20	27"	34"	32"	.219
21	22"	NA	NA	.451
22	None	NA	NA	.738
23	23"	NA	NA	.472
24	28"	NA	NA	.574
25	25"	31"	29"	.198

Average loading rate=.385

250 GPD per home divided by .385= 649.35 sq ft. of drip x 1.5 (for alternate area)=

974 total sq ft. of drip field divided by 43,560 sq. ft per acre=

.02 acres per house of drip field

ADEQ

Corbitt Environmental Consulting
P.O. Box 937
Lowell, AR 72745
(479) 466-6183

July 11, 2006

Charlie Presley, P.E.
Presley Brannan and Associates, Inc.
2143 Worth Lane
Springdale, AR 72764

RE: Deer Haven Subdivision

Charlie,

Per your request I have performed 1 (one) additional soil morphology analysis for the proposed drip dispersal field for Deer Haven Subdivision. The pit was dug in the lower North East corner of the proposed drip field in the area as shown on the fax that you sent to our office. The soil loading rate and depth to seasonal water tables for this pit is listed below. The loading rate given is based on the Arkansas Department of Health's most current guidelines made available.

Brief Seasonal Water Table at 23"

Loading rate: gal/ft²/day .472

If you have any further questions, please don't hesitate to give me a call.

Sincerely,



Rebecca Corbitt, PSC #60
Professional Soil Classifier
Designated Representative #1136373



Arkansas Department of Health



TO: Roy Davis, PE

FROM: Benny Mays, EHS

SUBJECT: Franklin Miller Subdivision, Avoca, AR

DATE: May 31, 2005

This is to inform you that I have looked at the 16 soil pits in the above subdivision for a drip irrigation absorption field. It is my opinion that the soils appear to be acceptable for this type of absorption field but considering that the absorption field is to be installed under Carroll Electric's 69kV transmission line, who ever reviews this application should take a close look at the enclosed agreement between the Developer and Carroll Electric, especially items #4 and #5. If you have any questions concerning this matter please call me.

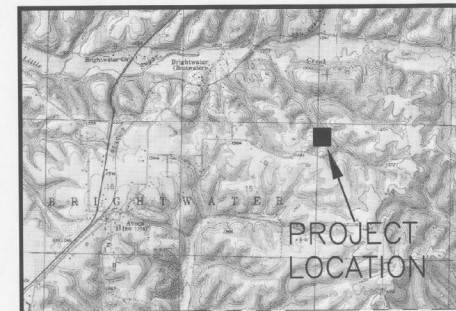
Benny Mays
Benny Mays, RS
Madison Co.

cc: Teresa Bullock, Env. Leader
NW Region

751-2865

WASTE WATER TREATMENT PLANS FOR DEER HAVEN SUBDIVISION

PROJECT No. 06-1001
AVOCA, BENTON COUNTY ARKANSAS



VICINITY MAP
SCALE: NONE

TABLE OF CONTENTS

1	COVER SHEET
2	DRIPPER FIELD LAYOUT
3	TREATMENT PLANT LAYOUT
4	DETAILS

GOVERNING AGENCIES

BENTON CO. WATER AUTH., DIST. #1
P.O. BOX 127
111 E. ROSE ST.
AVOCA, AR 72711
CONTACT: WAYNE ALLEN
TEL.: (877) 647-8030
CELL.: (479) 936-0333

ADEQ
8001 NATIONAL DRIVE
P.O. BOX 8913
LITTLE ROCK, AR 72219-8913
CONTACT: HENRY INSUA
TEL.: (501) 682-0651

ARKANSAS DEPARTMENT OF HEALTH & HUMAN SERVICES
4815 WEST MARKHAM STREET
P.O. BOX 3867
LITTLE ROCK, ARKANSAS 72205-3867
CONTACT: ROY DAVIS
TEL.: (501) 661-2000
FAX.: (501) 661-2032

APPROVALS

ARKANSAS DEPARTMENT OF HEALTH AND HUMAN SERVICES:

DATE: _____ No. 56608-3

ADEQ:
DATE: _____

BENTON COUNTY WATER DISTRICT #1:
DATE: _____

OWNER

FRANKLIN MILLER
1000 CAPTAIN GOOD ST.
PEA RIDGE, AR 72751
(479) 451-9030

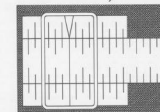
SAFETY NOTICE TO CONTRACTOR

In accordance with generally accepted construction practices, the contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not limited to normal working hours.

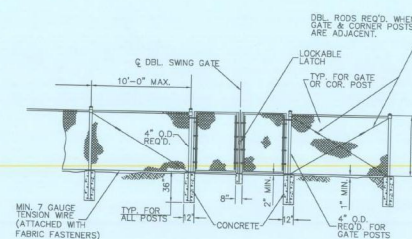
The duty of the engineer to conduct construction review of the contractor's performance is not intended to include review of the adequacy of the contractor's safety measures, in, or near the construction site.



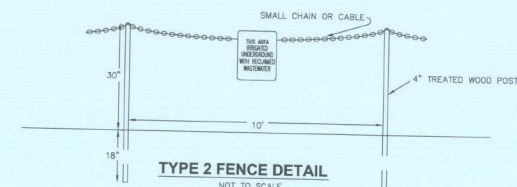
PRESLEY, BRANNAN, & ASSOCIATES, Inc.
CONSULTING ENGINEERS



2143 WORTH LANE
SPRINGDALE, AR 72764
OFFICE: (479) 756-8720
FAX: (479) 756-8714




TYPE 1 FENCE DETAIL
NOT TO SCALE

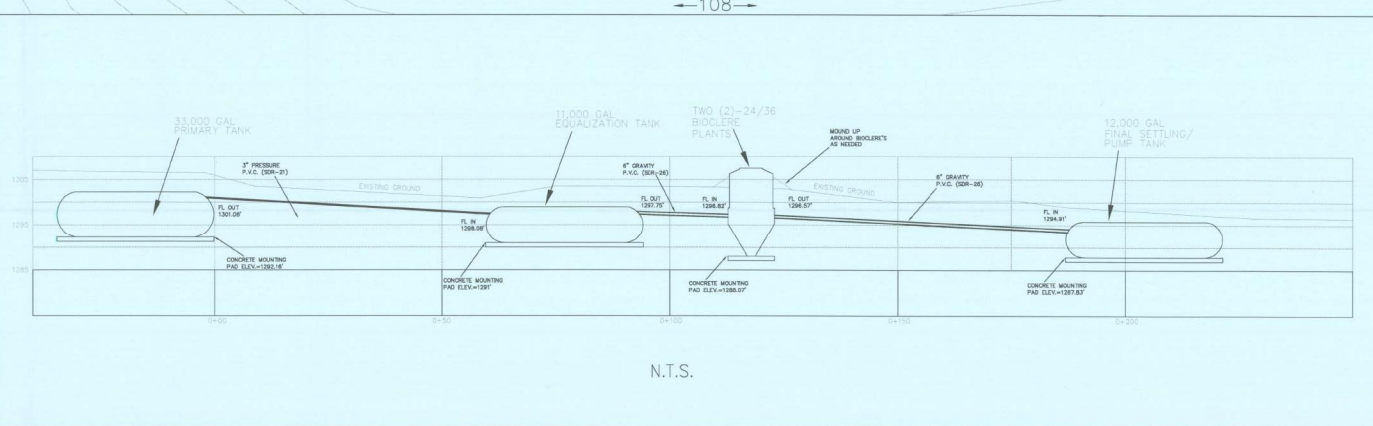
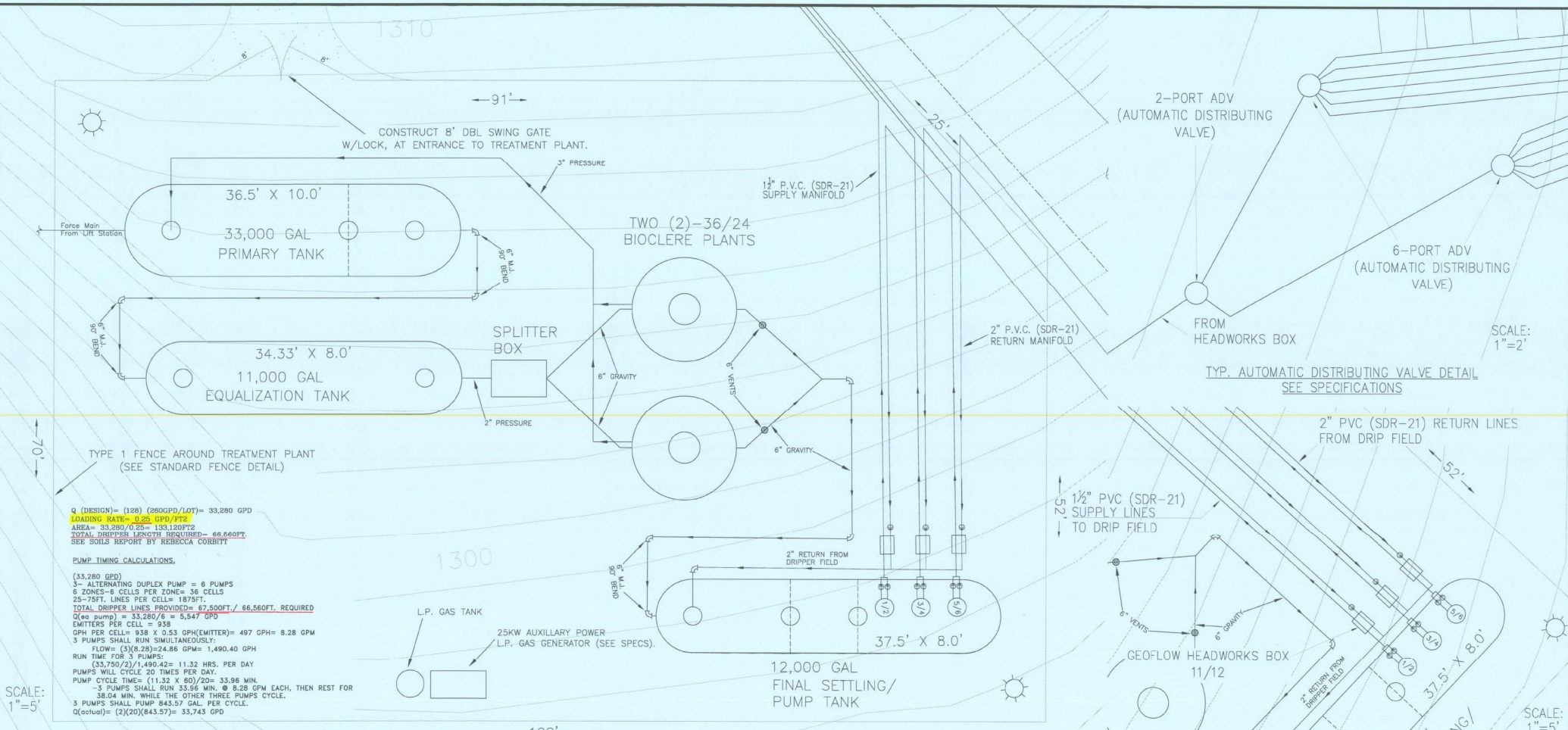


TYPE 2 FENCE DETAIL
NOT TO SCALE

- 25 TEST PIT LOCATIONS
- CHECK VALVE
- SHALLOW GROUNDWATER MONITORING WELL
(SEE DETAIL, SHEET 4/4)
- LYSIMETER LOCATION
(SEE SPECIFICATIONS)
- 1-1 ZONE-CELL LABELS



REVISIONS	 <p>PRESLEY, BRANNAN, & ASSOCIATES, Inc. CONSULTING ENGINEERS</p> <p>2143 WORTH LANE SPRINGDALE, AR. 72784 OFFICE: (479) 756-8720 FAX: (479) 756-8714</p>	<div>4/11/01</div> DRIPPER FIELD LAYOUT for DEER HAVEN SUBDIVISION for FRANKLIN MILLER to the COUNTY of BENTON, ARKANSAS		DRAWN BY: RWB CHECKED BY: CJ	JOB NO.: 06-1001 FILE NAME: 06-1001-001
06/24/01		SCALE: 1/4"=1'	SHEET: 2		
07/26/01		DATE: 06/14/01			



20,000 LUMENS FLOOD LAMPS

TEST PIT LOCATIONS

CHECK VALVE

SHALLOW GROUNDWATER MONITORING WELL (SEE DETAIL, SHEET 4/4)

LYSIMETER LOCATION (SEE SPECIFICATIONS)

CERTIFICATE OF AUTHORIZATION
 ARKANSAS-ENGINEER
 PRESLEY, BRANNAN & ASSOCIATES, INC.
 NO. 1012

REGISTERED PROFESSIONAL ENGINEER
 ARKANSAS
 NO. 3081
 CHARLES L. PRESLEY
 4/18/06

REVISIONS:
 06/29/06
 07/26/06

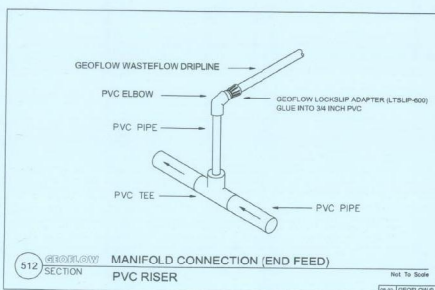
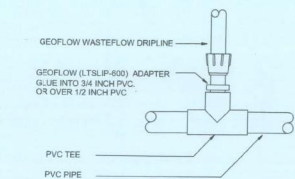
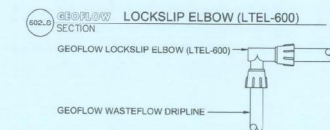
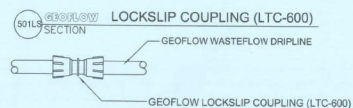
PRESLEY, BRANNAN, & ASSOCIATES, Inc.
 CONSULTING ENGINEERS
 2143 WORTH LANE
 SPRINGDALE, AR 72754
 OFFICE: (479) 756-8720
 FAX: (479) 756-8714

TREATMENT PLANT LAYOUT
 for
 DEER HAVEN SUBDIVISION
 for
 FRANKLIN MILLER
 TO THE COUNTY OF
 BENTON, ARKANSAS

DRAWN BY: RHW
 CHECKED BY: CLP
 JOB NO.: 06-1001
 FILE NAME: 06-1001.mxd

SCALE: 1"=40'
 DATE: 04/18/06

SHEET: 3
 4



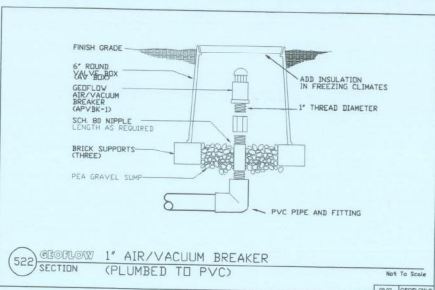
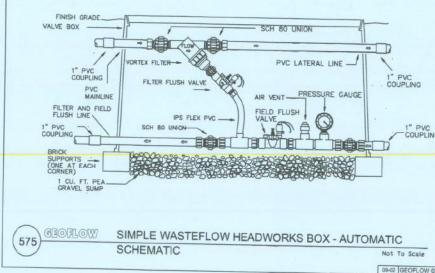
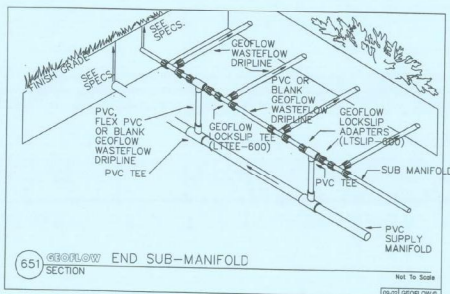
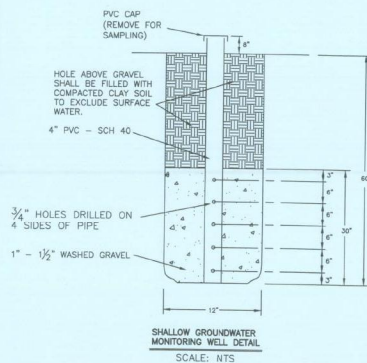
NOTES:
1) CONTRACTOR SHALL NOT DISTURB AREA WITHIN DRIPPER FIELD AREA OR ALTERNATE AREA (SEE DASHED LINES ON PLAN). NO STRIPPING, GRADING, STAGING, OR ACCESS ACROSS THE AREA WILL BE ALLOWED.

ALL MATERIALS AND CONSTRUCTION FOR WATER LINES SHALL COMPLY WITH STANDARD SPECIFICATIONS AND REQUIREMENTS OF THE MADISON COUNTY WATER FACILITIES BOARD AND ARKANSAS DEPT. OF HEALTH AND HUMAN SERVICES. ALL TAPS SHALL BE MADE UNDER DIRECT SUPERVISION OF THE MADISON COUNTY WATER FACILITIES BOARD. PRIOR TO CONSTRUCTION A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED WITH ENGINEER AND THE MADISON COUNTY WATER FACILITIES BOARD.

A MAINTENANCE BOND IN THE AMOUNT OF 50% OF CONSTRUCTION COST FOR WATER AND SEWER IMPROVEMENTS SHALL BE REQUIRED.

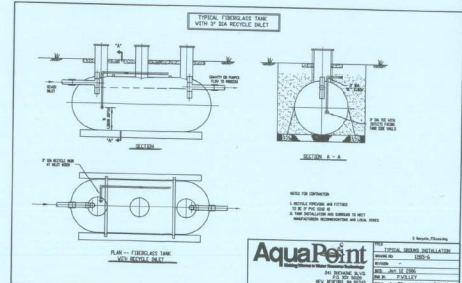
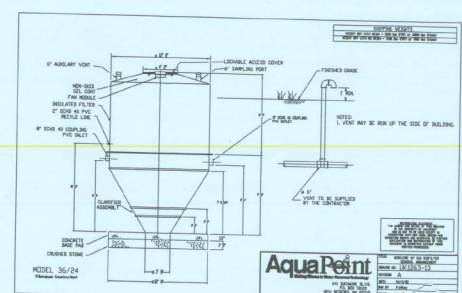
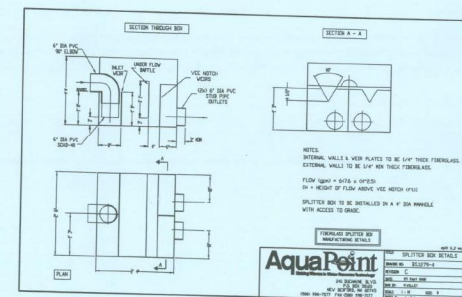
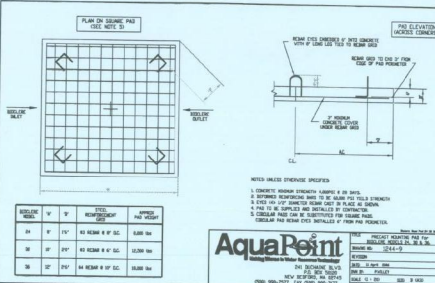
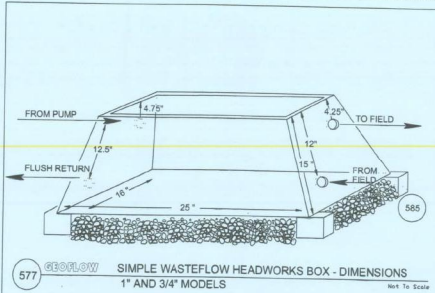
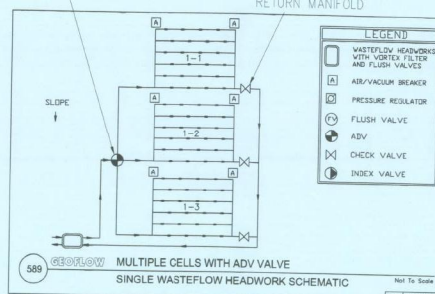
A MINIMUM HORIZONTAL DISTANCE OF TEN FEET SHALL BE MAINTAINED BETWEEN WATER LINES AND SEWER LINES OR OTHER SOURCES OF CONTAMINATION. WATER LINES AND SEWERS SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ARKANSAS DEPARTMENT OF HEALTH, WATER MAINS NECESSARILY IN CLOSE PROXIMITY TO SEWERS MUST BE PLACED SO THAT THE BOTTOM OF THE WATER LINE WILL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE AT ITS HIGHEST POINT. IF THIS DISTANCE MUST UNAVOIDABLY BE REDUCED, THE WATER LINE OR THE SEWER LINE MUST BE ENCASED IN WATER TIGHT PIPE WITH SEALED WATER TIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING. ANY JOINT IN THE ENCASEMENT PIPE IS TO BE MECHANICALLY RESTRAINED. THE ENCASEMENT PIPE MAY BE VENTED TO THE SURFACE IF CARRYING WATER OR SEWER UNDER PRESSURE. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH THE SEWER LINE, AT LEAST 18 INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES. IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT, EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY THE ARKANSAS DEPARTMENT OF HEALTH.

RELATIVE LOCATION OF WATER AND SEWER LINES
NTS



3-PORT AUTOMATIC DISTRIBUTING VALVE

A CHECK VALVE SHALL BE PLACED AT EACH CELL CONNECTION TO THE RETURN MANIFOLD



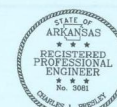
ALL ENGINEERED FILL BELOW PROPOSED WATER & SEWER LINES SHALL BE COMPACTED TO MIN 100% S.P.O. DENSITY TESTS FOR EACH LIFT SHALL BE TAKEN W/MAX SPACING OF 100 FT ALONG PIPELINE.

REVISIONS
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2
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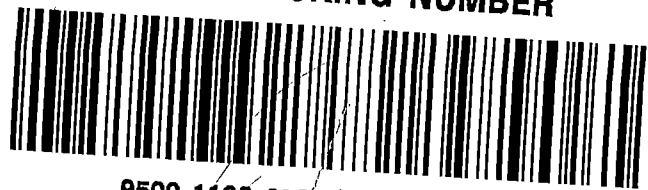
PRESLEY, BRANNAN, & ASSOCIATES, Inc.
CONSULTING ENGINEERS
2143 WORTH LANE
SPRINGDALE, AR 72764
OFFICE: (479) 756-8720
FAX: (479) 756-8714

STANDARD
SEWER DETAILS
FOR
DEER HAVEN SUBDIVISION
TO THE COUNTY OF
BENTON, ARKANSAS

DRWN BY: JMB
CHKD BY: JMB
FILE NAME: 08-1001.mxd
SCALE: 1/4" = 1'-0"
SHEET: 4/4



USPS TRACKING NUMBER



9500 1136 3502 7251 0486 62

PRESLEY ENGINEERING INC.

P.O. Box 607

Huntsville, Arkansas 72740

(501) 738-6630 Fax (501) 738-1184

To: Colby Ungerank
Engineer, Permits Branch
Office of Water Quality
A.D.E.Q.
5301 Northshore Drive
North Little Rock, AR 72118-5317



1005



72118