ADEQ
ARKANSAS
Department of Environmental Quality

October 15, 2012

Laura J. Mushinski, Environmental Quality Director
Allen's, Inc.
P.O. Box 250
Siloam Springs, Arkansas 72761

RE: AFIN: 04-00175 Permit No.: 4438-WR-4

Dear Ms. Mushinski:

On September 12, 2012, I performed a reconnaissance-level compliance inspection of the Allen's Country Plant in response to a complaint. The complainant contended that two plugs in the wastewater lagoon had come out and that the lagoon was leaking into Gallatin Creek. The complainant also had concerns about the amount of caustic (50% sodium hydroxide) allegedly introduced into the lagoon. This inspection was conducted in accordance with the provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.

Alison West, District 1 Inspector, and I met with Ira Lane, Plant Manager, Don Whitlock, Wastewater Supervisor, and Jonathan Fuller to discuss the complaint. They were aware that some means of dewatering the lagoon of groundwater had been used during installation of a new liner, but were unsure of how it had operated. Regarding the caustic material, it was explained that several bags of caustic material had become wet, but rather than dumping it into the lagoon all at once, the caustic was introduced into the lagoon at recommended intervals as it is routinely used to adjust the pH in the lagoon.

There were two areas of concern noted during a walk-through of the facility. Liquid from screened vegetable waste had escaped the outdoor concrete pad on which it is staged before being loaded and transported to the animal feed barns and had drained across the gravel drive. Additionally, a sump intended to collect irrigation pump seal water had not been pumped down and the sump pump and high-level alarm were not being maintained. On September 13, 2012, you provided me with a photograph documenting that the vegetable waste had been cleaned up and explained that it had escaped the pad because the pad drains had needed to be cleared. You also provided me with a photograph documenting that the sump had been pumped down and cleaned out. I later learned that this sump had not been in use and will not be part of a new inlet screening process to be implemented in the future.

On October 10, 2012, I received a detailed report which addressed all areas of concern. Most notably, the section regarding the alleged leaks in the lagoon explains the dewatering process utilized during installation of the liner and explains that the PVC pipe used to dewater the lagoon was grouted before wastewater was introduced into the lagoon to prevent any leakage of

wastewater. Groundwater monitoring wells surrounding the lagoon are sampled on a monthly basis, and the analytical results suggest that no wastewater is leaking from the lagoon.

The Department has determined that your report adequately addresses all areas of concern raised in the complaint and those found during the inspection and appreciates your prompt attention to these matters. No further action is necessary at this time.

If I can be of any assistance, please contact me at 479-267-0811, ext. 16.

Sincerely,

John Fazio
District 1 Inspector
Water Division

cc: Water Division Enforcement Branch
Water Division Permits Branch

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

NO DISCHARGE INDUSTRIAL PERMIT INSPECTION FORM

AFIN: **04-00175** Log No.: **068256**

Permit No.: **4438-WR-4** Inspection Date: **September 12, 2012**

Media: **Water** Inspector: **John Fazio**

Compliance Status: ☑ **IN** / ☐ **OUT**

1A. Name of Facility: **Allen's Country Plant**
Address: **14691 Readings Rd. Siloam Springs, Arkansas**
County: **Benton**

2A. Name of On-Site Representative: **Ira Lane, Plant Manager; Don Whitlock, Wastewater Supervisor; Jonathan Fuller**

3A. Name of Responsible Official: **Laura Mushinski, Environmental Quality Director**
Address: **P.O. Box 50, Siloam Springs, AR 72761** Telephone: **479-524-9591**

4A. Parent Company: **N/A**
Address: Telephone:

5A. Description of Process (including type of industry, materials produced, and major by-products): **Fruit and vegetable canning; wastewater is land applied; waste solids are mixed with hay and fed to cattle.**

6A. Any complaints registered against this permitted facility? ☑Yes ☐No
If yes, give date and description of complaint: 1/10: alleged sanitary waste being land-applied (not valid); 8/28/12: leaking lagoon, too much caustic being introduced into lagoon, pond has no fence around it and animals falling in (not valid).

7A. Are there any additions, modifications, or corrections to the facility since the last inspection? ☐ Yes ☑No
If yes, explain: **However, 3 years ago, DAF unit taken out-of-service.**

1B. Furnish a simplified flow diagram of the treatment system and include main components, flow sequence through plant, and calculated or estimated flows.

Plant floor/trenches → gravity flow to parking lot pump station → rotary screens → screened wastewater to 12.6 million gallon lined lagoon (stationary screen at bottom of lagoon) → 200-HP Irrigation Pumps (Vertical Turbine Pumps) → irrigation Fields

2B. Nearest Stream: **Gallatin Creek**

3B. Does wastewater from this facility cause adverse effect on the waters of the State: ☐ Yes ☑ No
If yes, describe: _____

4B. Are operating records kept as required by permit? ☐ Yes ☐ No ☑ N/E
If no, explain: _____

5B. Are maintenance records kept as required by permit? ☐ Yes ☐ No ☑ N/E
If no, explain: _____

6B. Are Samples routinely taken? ☐ Yes ☐ No ☑ N/E

7B. Does the sampling program meet the requirements of the permit? ☐ Yes ☐ No ☑ N/E
If no, explain: _____

8B. What laboratory does the facility use? **N/E**
Address: _____ Telephone: _____

1C. Do laboratory procedures and records meet the requirements of the permit? ☐ Yes ☐ No ☑ N/E
If no, explain: _____

2C. Is contaminated runoff a problem? ☐ Yes ☑ No ☐ N/A
If yes, explain: _____

3C. Is sludge disposal required? ☑ Yes ☐ No ☐ N/A
If yes, describe (including final destination): **Vegetable cuttings/waste disposed of on**

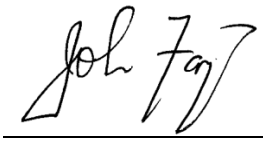
fields permitted by the state permit and are incorporated into hay for feeding cows.

4C. Is the treatment system being properly operated and maintained as required by permit?
☑ Yes ☐No ☐N/A

If no, explain

SUMMARY OF FINDINGS/COMMENTS

The complaint was not valid. A report dated October 10, 2012 was submitted by Allen's and adequately addressed all concerns and allegations. See attached letter to Allen's and Allen's October 10, 2012 report (attached).

Inspector Signature:  Date of Report: 10/12/2012

Signature of Reviewer:  Date of Review: 10/15/2012

Water Division No Discharge Industrial Photographic Evidence Sheet								
Location:	Allen's Country Plant							
Photographer:	John Fazio				**Witness:**	Alison West		
Photo #	1	**Of**	4		**Date:**	09/12/12	**Time:**	1133
Description:	High density polyethylene heat-fused lined lagoon.							

Photographer:	John Fazio				**Witness:**	Alison West		
Photo #	2	**Of**	4		**Date:**	09/12/12	**Time:**	1146
Description:	Monitoring well between lagoon and Gallatin Creek.							

Water Division No Discharge Industrial Photographic Evidence Sheet								
Location:	Allen's Country Plant							
Photographer:	John Fazio				**Witness:**	Alison West		
Photo #	3	**Of**	4		**Date:**	09/12/12	**Time:**	1154
Description:	Out-of-use irrigation pump seal sump. Floats and high-level alarm not maintained. Cleaned out the following day.							

Photographer:	John Fazio				**Witness:**	Alison West		
Photo #	4	**Of**	4		**Date:**	09/12/12	**Time:**	1156
Description:	Carrot waste and wastewater that had escaped the staging pad. Drains cleared immediately and area cleaned up immediately.							

October 10, 2012

Mr. John Fazio
District 1 Inspector, Water Division
Arkansas Department of Environmental Quality
FAZIO@adeq.state.ar.us

RE: Allens, Inc. – Plant #1
Information Related to August 28, 2012 Complaint

Dear Mr. Fazio:

Allens, Inc. (Allens) understands that a former employee lodged a complaint with the Arkansas Department of Environmental Quality (ADEQ) regarding wastewater issues at the company facility in Siloam Springs (Plant#1 or the Country Plant). An inspection was conducted in response to the concerns raised by Mr. John Fazio and Ms. Alison West, on behalf of ADEQ, on September 12, 2012. Additional information about the nature of the concerns raised was provided by Mr. Fazio in an email dated September 21, 2012 and in subsequent telephone calls with Allens staff, both Ms. Laura Mushinski and Dr. Neelakandan Sathiyakumar (Sathi). The purpose of this letter and attachments is to provide the requested information about the concerns raised with the complaint and the inspection. Each area of concern is discussed separately below.

Sump

During the inspection, ADEQ staff questioned why a sump had not been pumped down and why it was not covered. This sump is intended to collect the irrigation pump seal water and return it to the wastewater system. However, these irrigation pumps were not currently in use at the time of the inspection since it was necessary to bring in an alternative pump because of issues with plugging the inlet screen on the irrigation pumps. As Sathi indicated when he spoke to Mr. Fazio, Allens is completing plans for a different type of inlet screening system that will address the concerns that we have had with the irrigation pumps. Since the sump (and the irrigation pumps related to it) had not been in use, the sump pump and high level alarm were not being maintained. Nonetheless, the sump was cleaned out, pumped down, and temporary cover has been placed over this sump. (See the following photos.) This sump will not be part of the new inlet screening system.

Vegetable Waste Drainage

Also during the inspection, the ADEQ noted some liquid from the screened vegetable waste had escaped the concrete pad and gotten into the gravel drive. Allens believes this occurred because a drain (back to the wastewater system) on the concrete pad had become plugged. The drain has been cleared and the area has been cleaned up as shown in the following photo. Staff was reminded of the importance to contain all drainage from vegetable waste.

Sodium Hydroxide

The complaint alleged that 7,500 pounds of caustic material was put into the wastewater pond. It is important to note that sodium hydroxide is a normal and routine component of the wastewater

at Country Plant. Caustic (or 50% sodium hydroxide) is used for peeling root crops such as carrots and potatoes. The peel waste, with the spent caustic, is part of the wastewater stream. Additionally, many of the sanitation chemicals used to clean the plant equipment contain sodium hydroxide as an active ingredient. Sodium hydroxide is also used to pretreat boiler feed water and boiler boil-down is also a normal constituent of the wastewater.

Although a great deal of information is not provided by the complaint, Allens believes it may be alluding to a time when bags of caustic that were added to the lagoon because some 50-pound sacks had gotten wet and were not useable in the plant. The total weight was about 1,000 pounds, it was added over the course of several days, and the caustic was readily and completely neutralized in the 12.6-million gallon lagoon. There is no negative impact to adding caustic to the lagoon for the lagoon itself or the irrigation system. Indeed the permit requires soil monitoring for land application sites for pH and liming, if necessary, to maintain soil pH levels above 5.7 standard units.

Typically the wastewater in the lagoon is on the acidic side due to the biological processes that occur in the wastewater pond (please see the table below). Periodically, Allens staff add caustic (sodium hydroxide) to the pond to neutralize the wastewater. Allens has hired Environmental Services Company to collect and analyze wastewater from the pond, prior to irrigation, on a monthly basis. (This is far more often that the annual sample required by the wastewater permit.) As the following data shows, wastewater pH has not been above 7.0 standard units. Any caustic additions have been consistently and completely neutralized.

Sample Date	pH Level (by ESC)
1/31/2011	5.0
2/28/2011	4.8
3/31/2011	4.6
4/29/2011	4.3
5/26/2011	4.8
6/21/2011	5.0
7/19/2011	5.3
8/23/2011	6.0
9/27/2011	5.8
10/18/2011	5.2
11/29/2011	4.0
12/20/2011	4.8
1/24/2012	4.4
2/21/2012	4.2
3/30/2012	4.5
4/27/2012	4.6
5/29/2012	5.1
6/19/2012	5.0
7/27/2012	6.0
8/29/2012	5.8
Samples have continued to be collected on a monthly basis but reports are not complete yet.	

Plugs & Lagoon Leakage

The complaint stated that the wastewater pond is leaking into the creek and that two "plugs" came out and "nothing has been done to fix the problem."

The current wastewater lagoon at the Country Plant was installed in 1997 (or thereabouts) and is approximately 12.6-million gallons in capacity. The lagoon has concrete floor and sides. When it was originally constructed, a spray-on 40 mil polyurea SS-100 coating was used to protect the concrete from the wastewater. The concrete lagoon had expansion/contraction joints sealed with a 2-part polysulfide Sanneborn joint sealant. The concrete lagoon was also constructed with an 18-inch concrete waterstop. The original plans are attached. Although there are no environmental or engineering employees with firsthand knowledge of the original construction, it is Allens understanding that the concrete lagoon was constructed to be water-tight and that the coating was protecting the concrete.

In approximately 2008, it appeared that some of the spray-on coating had begun to delaminate, and in a proactive measure to protect the integrity of concrete lagoon from wastewater corrosion, Allens began a project to empty the lagoon, land apply lagoon sediments, and re-line the concrete with a high density polyethylene heat-fused liner. Allens hired USI Consulting Engineers from Springdale to design and engineer the liner replacement. Allens worked with ADEQ to get the necessary permits for land application of the lagoon sediment and this was completed in 2008. The lagoon was completely emptied, cleaned, and the new liner was placed on top of the concrete and existing polyurea coating. Hydrostatic pressure from groundwater – a particular concern when the concrete lagoon was empty – was relieved with a large diameter casing well that was constructed on the northwest side of the lagoon during the project. USI was in contact with Mr. Bob Singleton, ADEQ, about discharge of the groundwater from the dewatering activities during the 2008 lagoon project.

In response to the complaint, Allens contacted USI for input about the nature of construction of the pressure relief valves. USI has reiterated the need for hydrostatic relief, but did not provide a great deal of detail on their design, construction, or how they were attached. In fact, the valves do not appear on USI's drawings (copy attached). As best as USI can recollect, they believe the pressure relief valves were installed by the lining contractor.

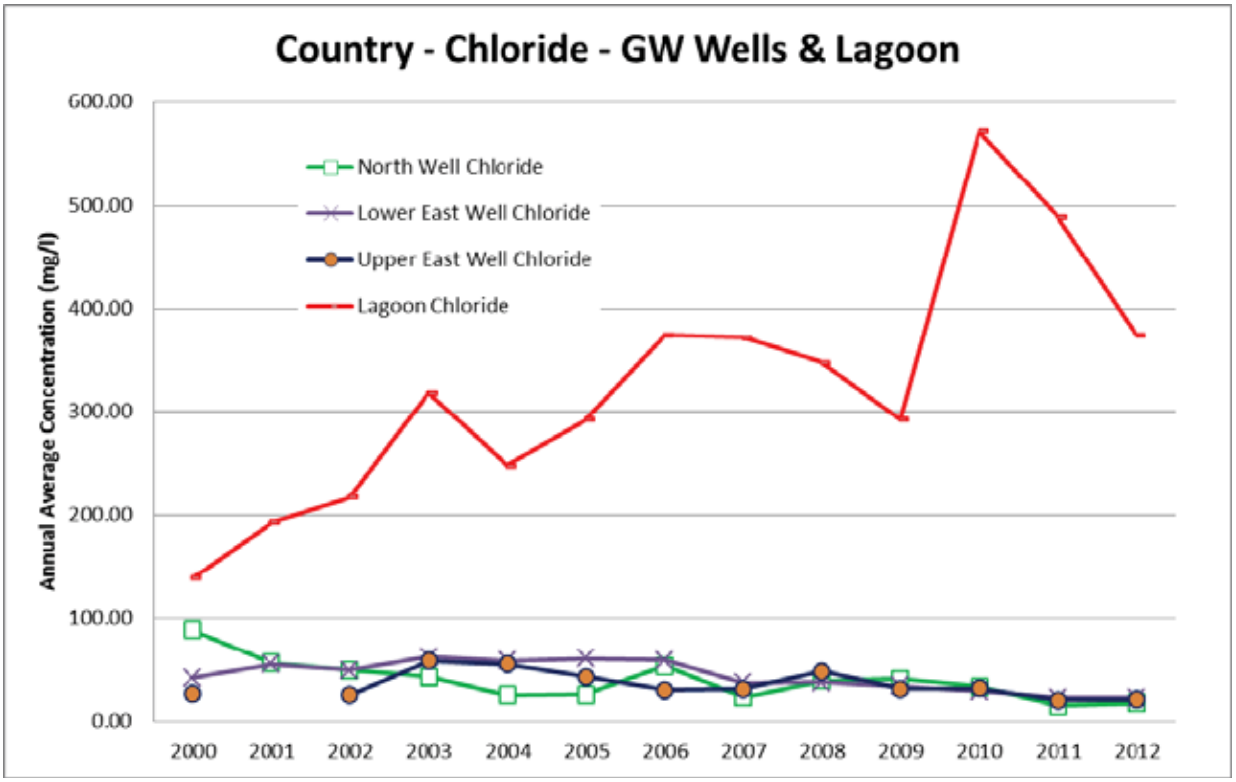
USI stated the following related to the "plug" and "relief valves" via an email to Neel Sathi on October 3, 2012:

"Sathi, here is a detail of the air relief flap for the liner. It was to release any gas or air that may get between the HDPE liner and the concrete liner. There were no pressure relief valves installed with the liner. The things that became detached are de-watering ports utilized by the liner installing contractor to facilitate installation of the liner. These were necessary to lower the surrounding ground water table to prevent it from pushing the concrete out and into the lagoon. The existing plans of record did indicate that there were pressure relief valves installed. But, I don't think they were. That's why the liner contractor installed the PVC pipes for dewatering. This is stated in my letter to Laura, dated December 17, 2007. The Type of PRV that was specified was constructed of cast iron. Our experience has been that these do not perform well

due to corrosion. PRV's are necessary, though, to prevent the heaving of the liners due to hydrostatic pressure caused by the surrounding ground water. The flap is found on page 25 of the attachment".

Based on the above correspondence with USI, there is a clear misunderstanding of relief valve and relief flap among the wastewater employees. So, what surfaced in the wastewater lagoon is 2-inch white PVC pipe with a cap that was installed by the liner contractor for groundwater dewatering purposes during the liner installation. Also, USI informed us verbally that the PVC pipe is grouted in the bottom.

Upon learning that one of the plugs dislodged a few months ago, Allens environmental staff reviewed the groundwater monitoring data from around the wastewater lagoon to see if there were any disturbing trends. Although the current permit no longer requires it, Allens has continued to monitor the groundwater around the wastewater lagoon with three groundwater monitoring wells that are sampled and analyzed monthly. Two of these monitoring wells are located on the outside berm of the lagoon on the side nearest the stream, so Allens would anticipate minimal elapsed time between any lagoon leakage concerns and evidence in the monitoring wells. Allens believes the most indicative parameter of potential lagoon leakage to be chloride since it is not treated in the lagoon system and the wastewater has a fairly high concentration of chloride from the salt used in canning. A graph on chloride concentrations in the monitoring wells versus the wastewater concentrations is provided below.



During the most recent months of July, August, and September, the ranges in concentrations for all three of groundwater monitoring wells were as follows:

- Biochemical Oxygen Demand (BOD) <2 to 6 mg/l
- Total Dissolved Solids (TDS) 198 to 383 mg/l

In contrast, typical wastewater concentrations range from 500 to 4500 mg/l for BOD and 900 to 3500 mg/l for TDS. If you would like all the groundwater monitoring data, please let us know and we will provide it.

Based on the on-going groundwater monitoring results, Allens does not believe there is an immediate and significant concern about lagoon leakage. Because of the concerns raised in the alleged complaint, it is now recognized that there must have been much speculation amongst hourly staff about the potential source of the PVC pipes with caps found in the lagoon, and in contrast, the results of the groundwater monitoring were not really discussed with all employees. In any event, Allens plans on again emptying the lagoon with the new inlet screening project and inspecting the liner to confirm this and will make any corrective measures if necessary.

The following items were specifically requested in Mr. Fazio's email on September 21, 2012 and during the site visit at the feed barn on October 10, 2012. A brief explanation and/or clarification is provided for each.

- Up-to-date schematics for the wastewater treatment and disposal system.
  - *A schematic is attached for your review.*
- Detailed schematics for: the pond; the liner; the pipes used to control groundwater.
  - *A copy of the 1997 plans by Atkins Engineering and the 2008 plans by USI are attached. These plans show the pond and liner. There are no pipes used to control groundwater.*
- Any repair/modification for the liner.
  - *There have not been any repairs or modifications for the lagoon liner since the project was completed in 2008 and the 2008 plans have been included.*
- An explanation of how the pipes used to control groundwater at the pond function.
  - *There are no pipes in use which function to control groundwater.*
- How/why caustic is used for the wastewater pond.
  - *An explanation about the use of caustic is provided in that section of this letter, titled* Sodium Hydroxide.
- Monitoring well analysis.
  - *A summary of groundwater monitoring data is provided in this letter. If requested by ADEQ, Allens can provide a copy of all the groundwater monitoring reports.*

Allens hopes that we have provided all the requested information and that this adequately addresses the concerns raised in the complaint. If ADEQ has any questions or requires additional information, please contact Dr. Sathiyakumar or Ms. Mushinski at (479) 220-2311 or (479) 228-0102, respectively. Thank you for your time and consideration with the correspondence and the telephone calls regarding these issues.

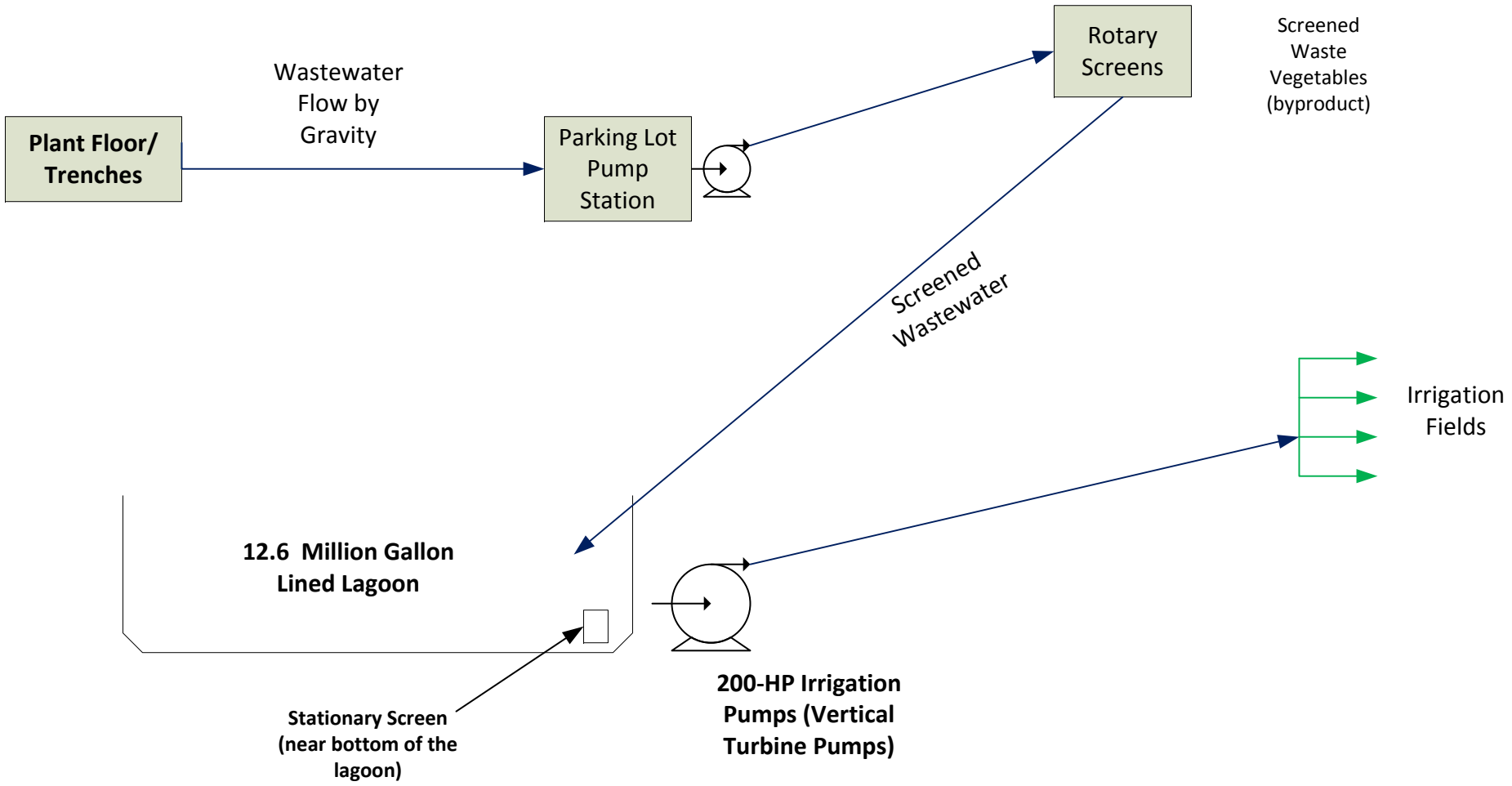
Sincerely,

Allens, Inc.

Laura J. Mushinski, CHMM
Director – Environmental Quality

Neelakandan Sathiyakumar, PhD, PE
Vice President

cc: Ira Lane, Allens - Country



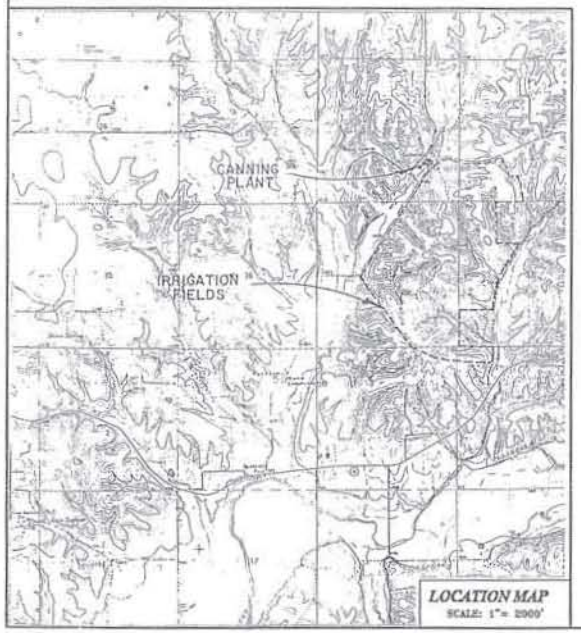
Country Plant – Wastewater Schematic

PLANS FOR CONSTRUCTION OF

WASTEWATER IRRIGATION FACILITIES

ALLEN CANNING COMPANY

COUNTRY PLANT



LOCATION MAP
SCALE: 1"= 2000'

SILOAM SPRINGS, ARKANSAS

JULY 1997

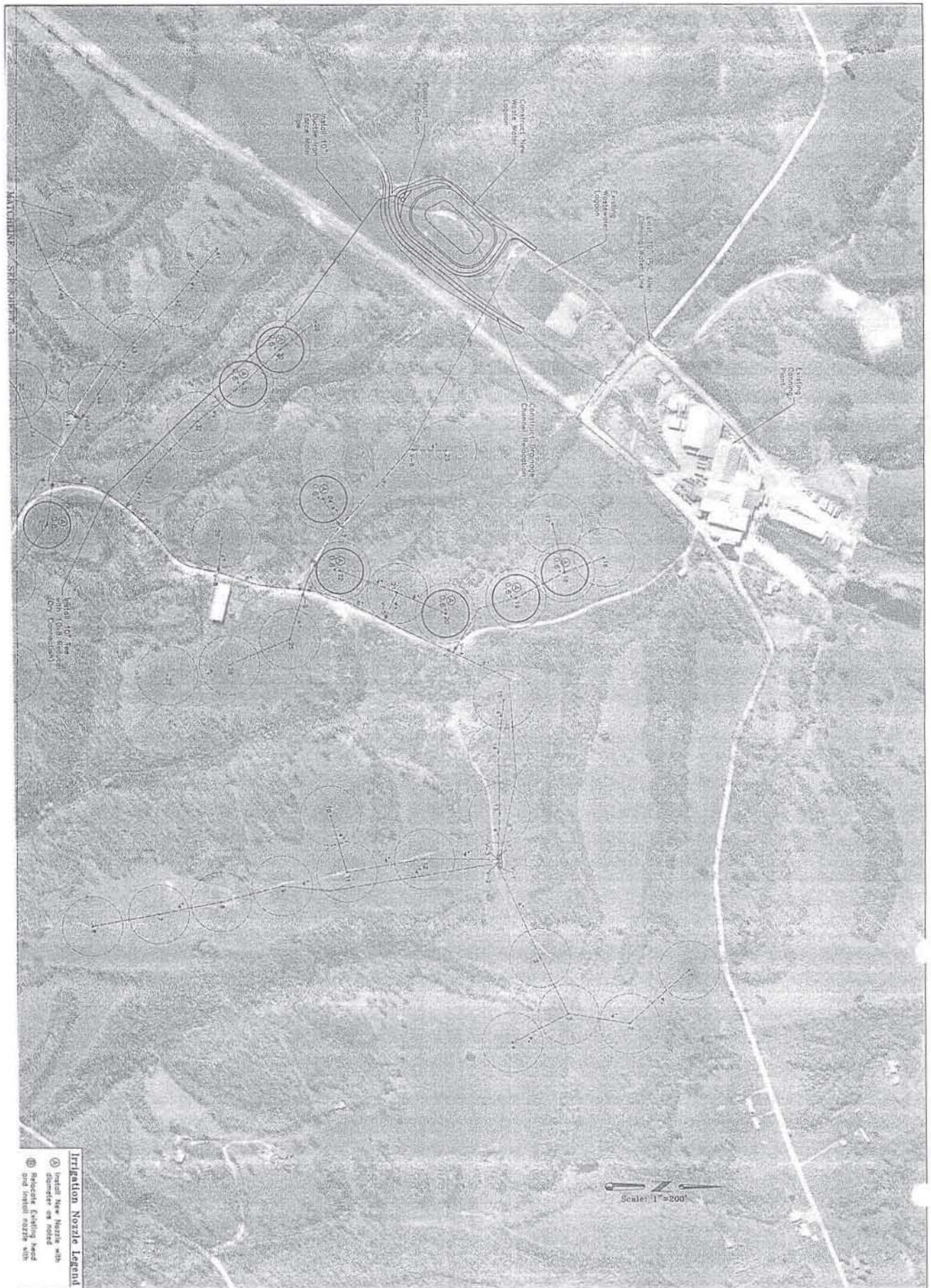
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4361
GERALD W. ATKINS

OWNER
ALLEN CANNING COMPANY
305 N. MAIN STREET
SILOAM SPRINGS, AR 72761
(501) 524-6431

ENGINEER
ATKINS ENGINEERING COMPANY
1301 "H" STREET - PO BOX 640
BALDING, ARKANSAS 72923
(501) 484-0823

INDEX TO SHEETS

1. TITLE SHEET
2. IRRIGATION SITE A
3. IRRIGATION SITE B
4. LAGOON SITE PLAN
5. LAGOON DETAILS
6. IRRIGATION PUMP STATION



Irrigation Nozzle Legend

- (A) Install New Nozzle with diameter as noted
- (B) Relocate Existing Head and Install nozzle with

Project:	IRRIGATION SITE A
	WASTEWATER IRRIGATION IMPROVEMENTS
	ALLEN CANNING COMPANY – COUNTRY PLANT
	EAST OF SILOAM SPRINGS, ARKANSAS
Date:	JULY 1997
Scale:	1"=200'
Drawn by:	J. Atkins

ATKINS ENGINEERING COMPANY

Gerald W. Atkins

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 4381
GERALD W. ATKINS

Irrigation Nozzle Legend

(A) Install New Nozzle with diameter as noted

(B) Relocate Existing Head and Install nozzle with

IRRIGATION SITE B

WASTEWATER IRRIGATION FACILITIES
ALLEN CANNING COMPANY – COUNTRY PLANT
EAST OF SILOAM SPRINGS, ARKANSAS

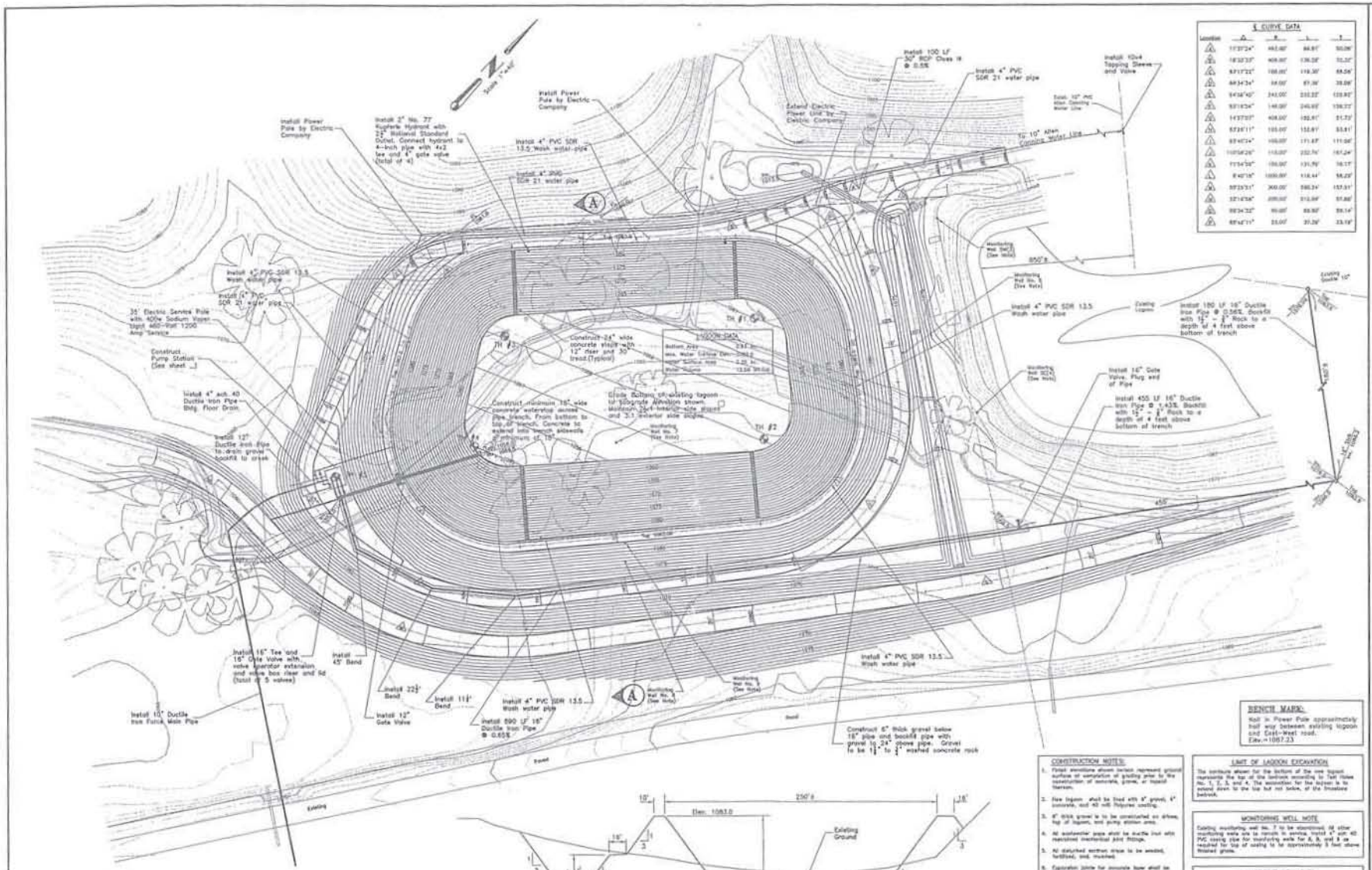
Project:
Date: JULY 1997
Scale: 1"=200'
Drawn By: T. Atkins

DATE	REVISION DESCRIPTION

ATKINS ENGINEERING COMPANY
1101 W. Sloan • PO Box 640 • Gentry, AR • (501) 481-6833

Gerald W. Atkins

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 4281



Σ CURVE DATA

Location	Δ	R	L	T
A	11°37'24"	443.48'	84.81'	50.09'
A	18°32'33"	408.00'	136.58'	72.22'
A	83°17'22"	108.00'	119.30'	88.56'
A	68°34'34"	98.00'	87.36'	49.08'
A	94°56'40"	243.00'	233.22'	155.82'
A	93°15'24"	149.00'	242.65'	198.22'
A	14°37'07"	408.00'	152.91'	51.72'
A	57°26'11"	103.00'	152.81'	83.81'
A	83°47'24"	108.00'	171.83'	111.06'
A	110°06'26"	113.00'	232.76'	167.24'
A	71°54'58"	126.00'	131.78'	76.17'
A	8°40'16"	1000.00'	118.44'	59.33'
A	59°25'51"	300.00'	580.34'	157.51'
A	52°47'56"	600.00'	512.99'	97.80'
A	98°34'32"	90.00'	88.80'	59.14'
A	88°42'11"	25.00'	37.28'	23.19'

EARTHWORK VOLUMES

Creek	Cut	12,730 CY
Lagoon	Cut	20,480 CY
	Fill	33,140 CY
Stripping Area		7.4 Ac
Volume		5,340 CY

The Cut and Fill volumes listed above represent raw volume between the existing ground contours and the finish grading contours shown on the drawing. The volumes do not take into account the stripping volume nor any shrinkage or swell factor.

NOTE:
All Ductile Iron Pipe shall be Thickness Class 50. 12" force main pipe shall have 250 PSI joints. 16"&12" pipe shall have 125 PSI joints.

CONSTRUCTION NOTES:

1. Finish elevations shown (actual) represent original surface of construction or grading prior to the construction of concrete, gravel, or topsoil thereon.
2. New lagoon shall be lined with 6" gravel, 4" concrete, and 40 mill Polyvinyl sealing.
3. 6" thick gravel is to be constructed on drives, top of lagoon, and pump station area.
4. All wastewater pipe shall be ductile iron with restrained mechanical joint fittings.
5. All disturbed earthen areas to be seeded, fertilized, and mulched.
6. Expansion joints for concrete liner shall be constructed at 80 foot intervals in each direction. See expansion joint detail sheet 6.

LIMIT OF LAGOON EXCAVATION

The contours shown for the bottom of the new lagoon represents the top of the bedrock according to Test Holes No. 1, 2, 3, and 4. The excavation for the lagoon is to extend down to the top but not below, of the limestone bedrock.

MONITORING WELL NOTE

Existing monitoring well No. 7 to be abandoned. All other monitoring wells are to remain in service. Install 4" sch. 40 PVC casing pipe for monitoring wells for 6, 8, and 9 as required for top of casing to be approximately 3 feet above finished grade.

BENCH MARK:

Nail in Power Pole approximately half way between existing lagoon and East-West road.
Elev.=1067.23

TEST HOLE DATA

	Exist. Ground Elev.	Bedrock Elev.	Ground Water Elev.
TH(1)	1070.0	1061.0	---
TH(2)	1070.2	1057.8	---
TH(3)	1067.1	1057.1	1058
TH(4)	1063.3	1058.0	1061
TH(5)	1062.7	1059.2	1058

MONITORING WELL DATA

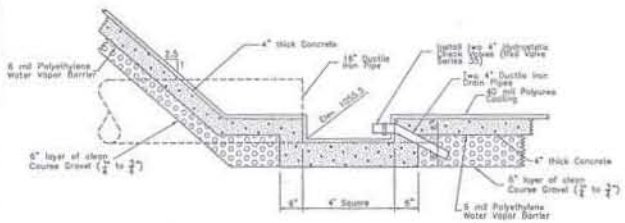
	Exist. Top Casing Elev.	Exist. Ground Elev.	Bedrock Elev.	Bottom Well Elev.
well(1)	1065.13	1063.80	1058.45	
#(2)	1064.39	1061.56	1062.79	
(#(3)	1078.66	1078.32	1064.45	
#(4)	1077.24	1076.52	1058.84	
No. 5	1080.71	1080.77	1068.96	1070.51
No. 6	1075.90	1073.40	1058.70	1060.59
No. 7	1074.04	1070.40	1056.80	1058.08
No. 8	1075.85	1071.70	1056.85	1058.20
No. 9	1075.34	1071.80	1058.70	1058.14

ATKINS ENGINEERING COMPANY
Consulting Engineers
Harold G. Atkins

LAGOON SITE PLAN

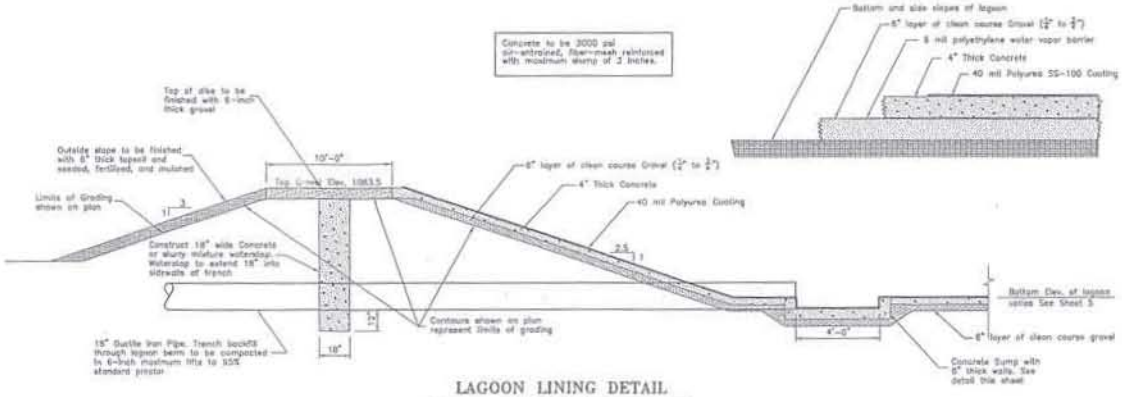
WASTEWATER IRRIGATION IMPROVEMENTS
ALLEN CANNING COMPANY - COUNTRY PLANT
SILOAM SPRINGS, ARKANSAS

Project:
Date: JUNE 1997
Scale: 1"=40'
Drawn By: J. Atkins
Sheet: 4 of 6



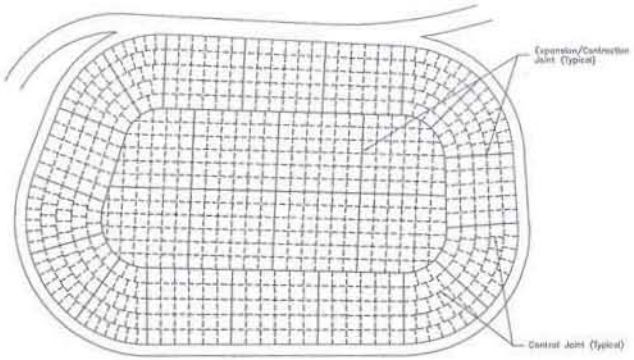
CONCRETE SUMP

SCALE: 1/2"=1'-0"



LAGOON LINING DETAIL

SCALE: 3/8"=1'-0"

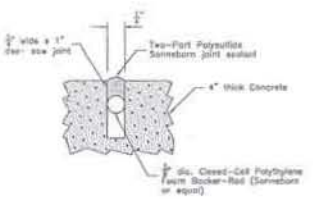


EXPANSION/CONTRACTION AND CONTROL JOINT LAYOUT

SCALE: 1"=50'

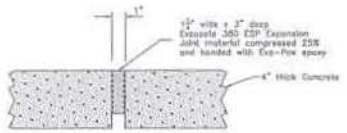
NOTE:

1. Joint to be cleaned and primed prior to installation per manufacturers recommendations
2. Maximum spacing of Expansion/Contraction Joint shall be 60 feet
3. Maximum spacing of Control Joint shall be 15 feet



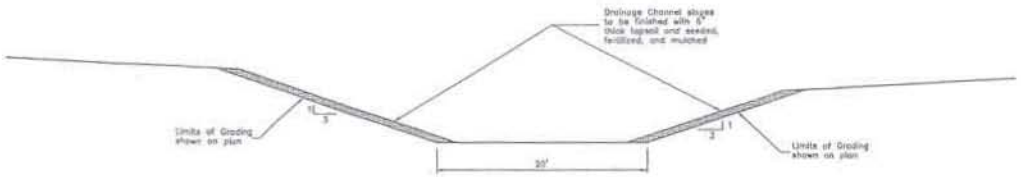
CONTROL JOINT

No Scale



EVAZOTE 380 ESP
EXPANSION/CONTRACTION JOINT

No Scale



DRAINAGE CHANNEL IMPROVEMENTS

ARKANSAS REGISTERED PROFESSIONAL ENGINEER

ATKINS ENGINEERING COMPANY

LAGOON DETAILS

WASTEWATER IRRIGATION IMPROVEMENTS
ALLEN CANNING COMPANY - COUNTRY PLANT
SILOAM SPRINGS, ARKANSAS

Project:

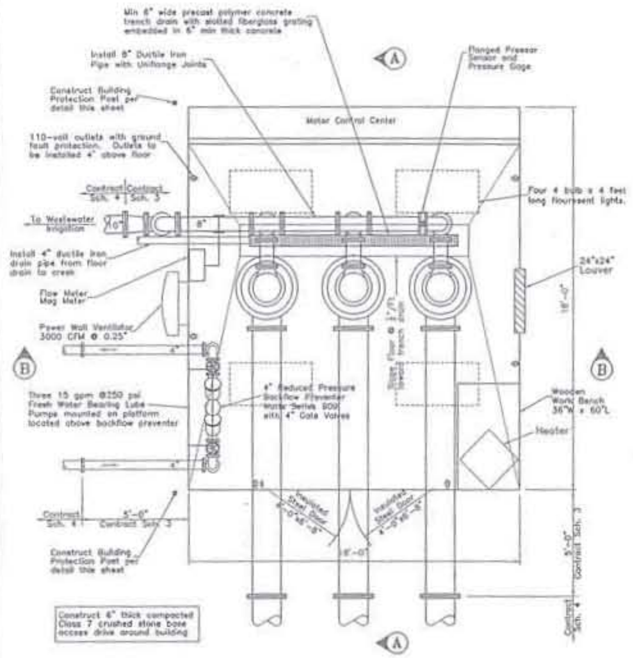
Date: July 1997

Scale: As Shown

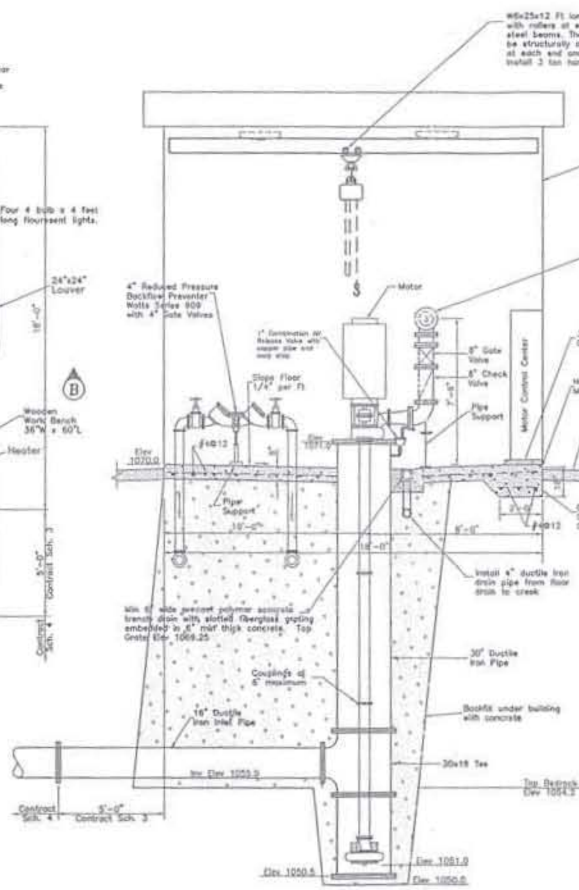
Drawn By: J. Atkins

BENCH MARK

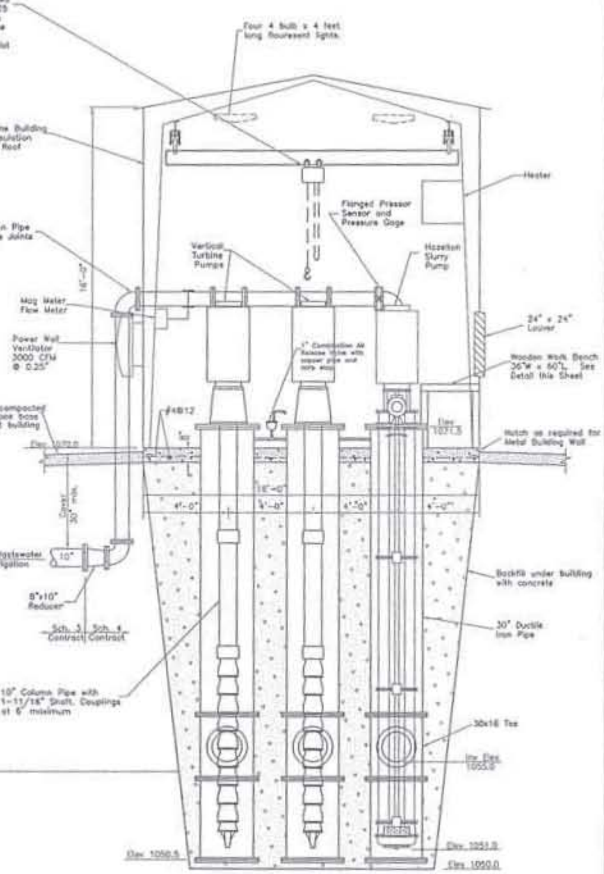
Spike in Power Pole approximately 200 feet North of existing Lagoon ELEV = 1087.23



BUILDING FLOOR PLAN



SECTION A-A



SECTION B-B

Pump and Motor Data

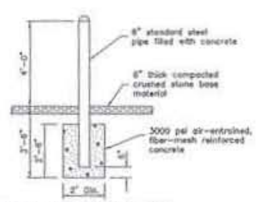
Flow : 920 gpm
TDH : 510 Ft
Horsepower : 200

Vertical Turbine Pump

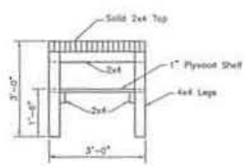
Make : Floway
Model : 12DDM
Impeller : 8.2 in
RPM : 1770
Fresh Water Lubricated

Centrifugal Slurry Pump

Make : Hazelton
Model : 6" VSM
Impeller : 13.5" (Max)
RPM : 3550



BUILDING PROTECTION POST



WOODEN WORK BENCH

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER

ATKINS ENGINEERING COMPANY

IRRIGATION PUMP STATION

WASTEWATER IRRIGATION IMPROVEMENTS

ALLEN CANNING COMPANY - COUNTRY PLANT

SILOAM SPRINGS, ARKANSAS

Date: NOV. 1996

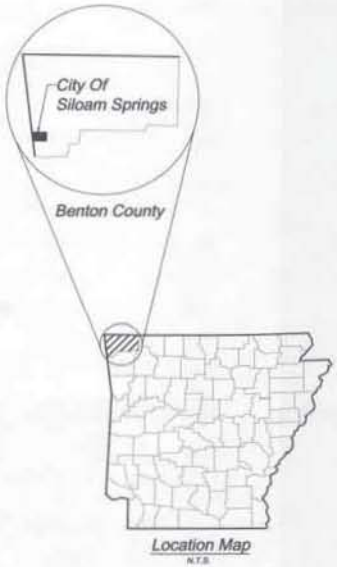
Scale: 3/8"=1'-0"

Drawn By: J. Atkins

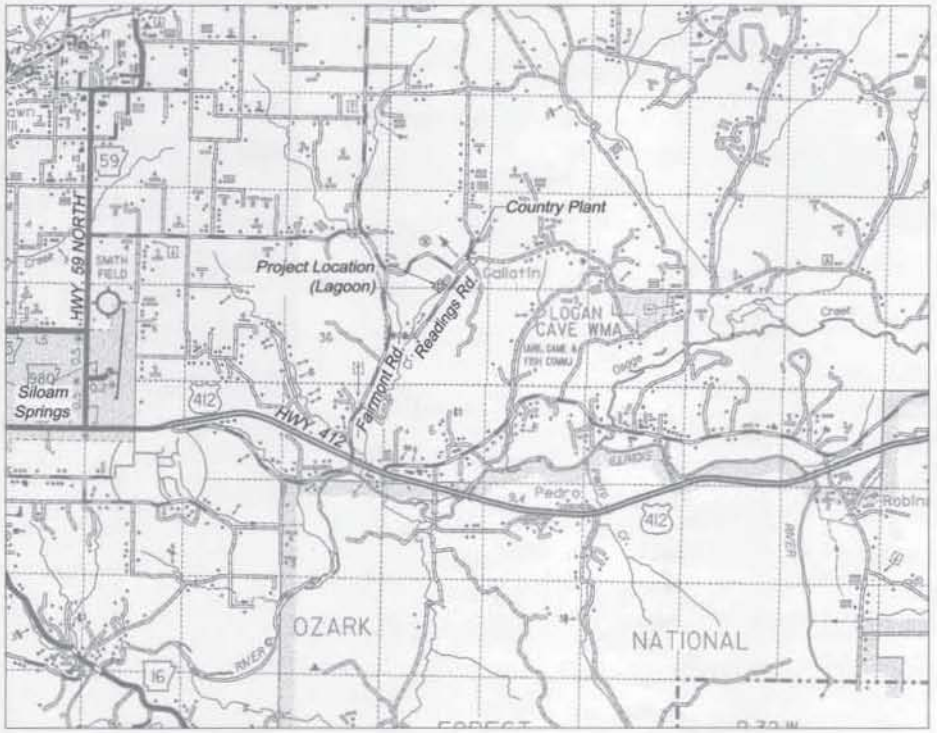
COUNTRY PLANT WASTEWATER IMPROVEMENTS
LAGOON SYSTEM IMPROVEMENTS

FOR ALLENS, INC.

USI Project No. 0709034.02
Dated: April, 2008



Location Map
N.T.S.



Vicinity Map
N.T.S.

Index of Sheets
1. Cover Sheet
2. Existing Site Plan
3. Storm Water Pollution Prevention Plan
4. Liner Installation And Wastewater Intake Screen
5. Lagoon Bypass Pumping
6. Detail Sheet

Springdale, Arkansas

TERRY W. CARPENTER SR.
ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 7057

NO.	DATE	BY	CHD	DESCRIPTION

USI Consulting Engineers Springdale Arkansas

ALLEN'S INC.
WASTEWATER IMPROVEMENTS
BILOAM SPRINGS, ARKANSAS

EXISTING SITE PLAN

DATE	DRAWN
4/02/2008	J.WILSON
DESIGNED	CHECKED
T.CARPENTER	T.CARPENTER
SCALE	
1" = 40'	
USI PROJECT NO.	
07080402	
SHEET	
2 OF 6	

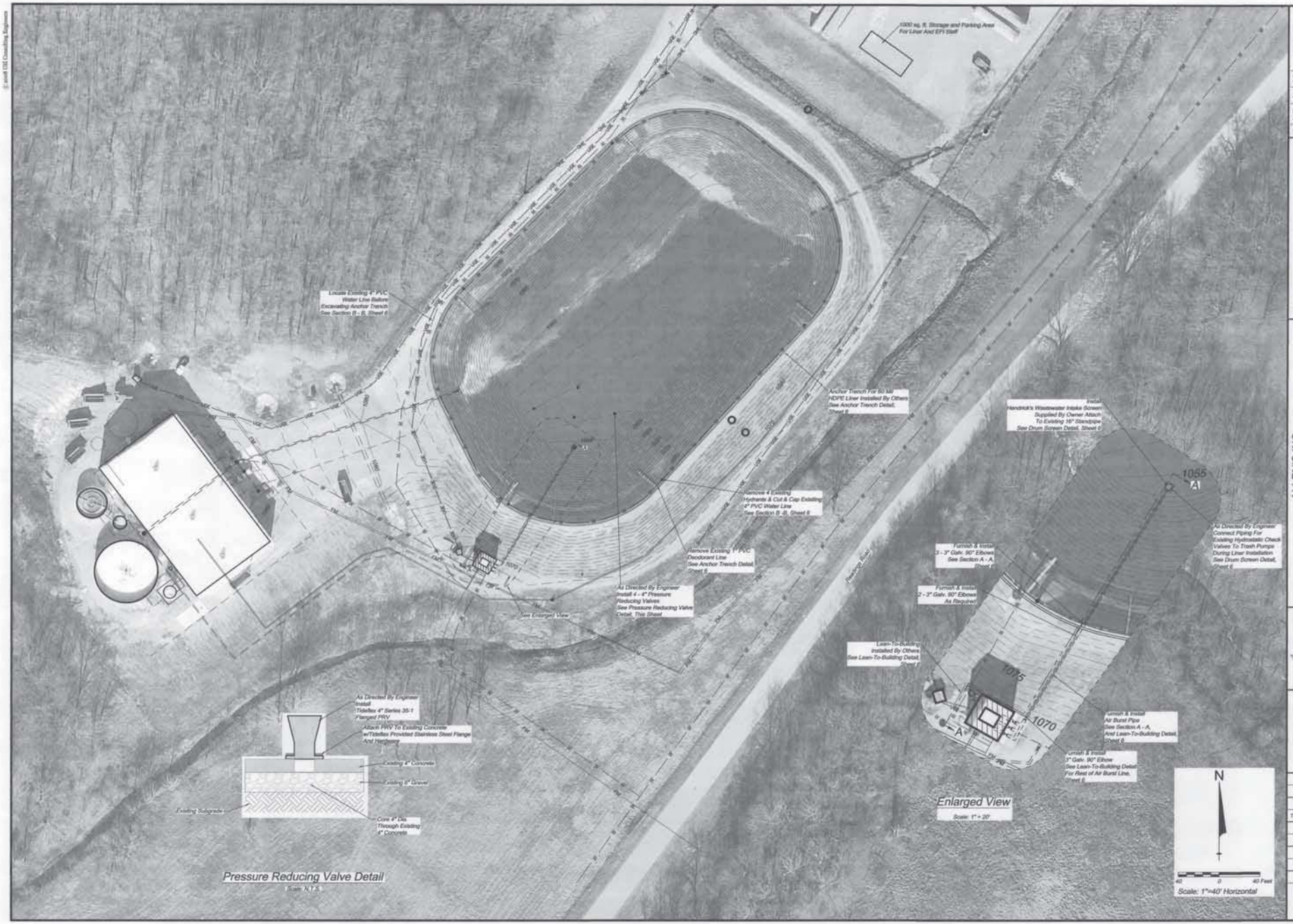
ALLEN'S INC.
WASTEWATER IMPROVEMENTS
SILOAM SPRINGS, ARKANSAS

STORM WATER POLLUTION PREVENTION PLAN

USI Consulting Engineers
Springdale Arkansas

NO.	DATE	BY	CHD	DESCRIPTION

DATE	DRAWN
4/26/2006	J.WILMOTH
DESIGNED	CHECKED
T.CARPENTER	T.CARPENTER
SCALE	
1" = 40'	
USI PROJECT NO.	
0706034.02	
SHEET	
3 OF 6	



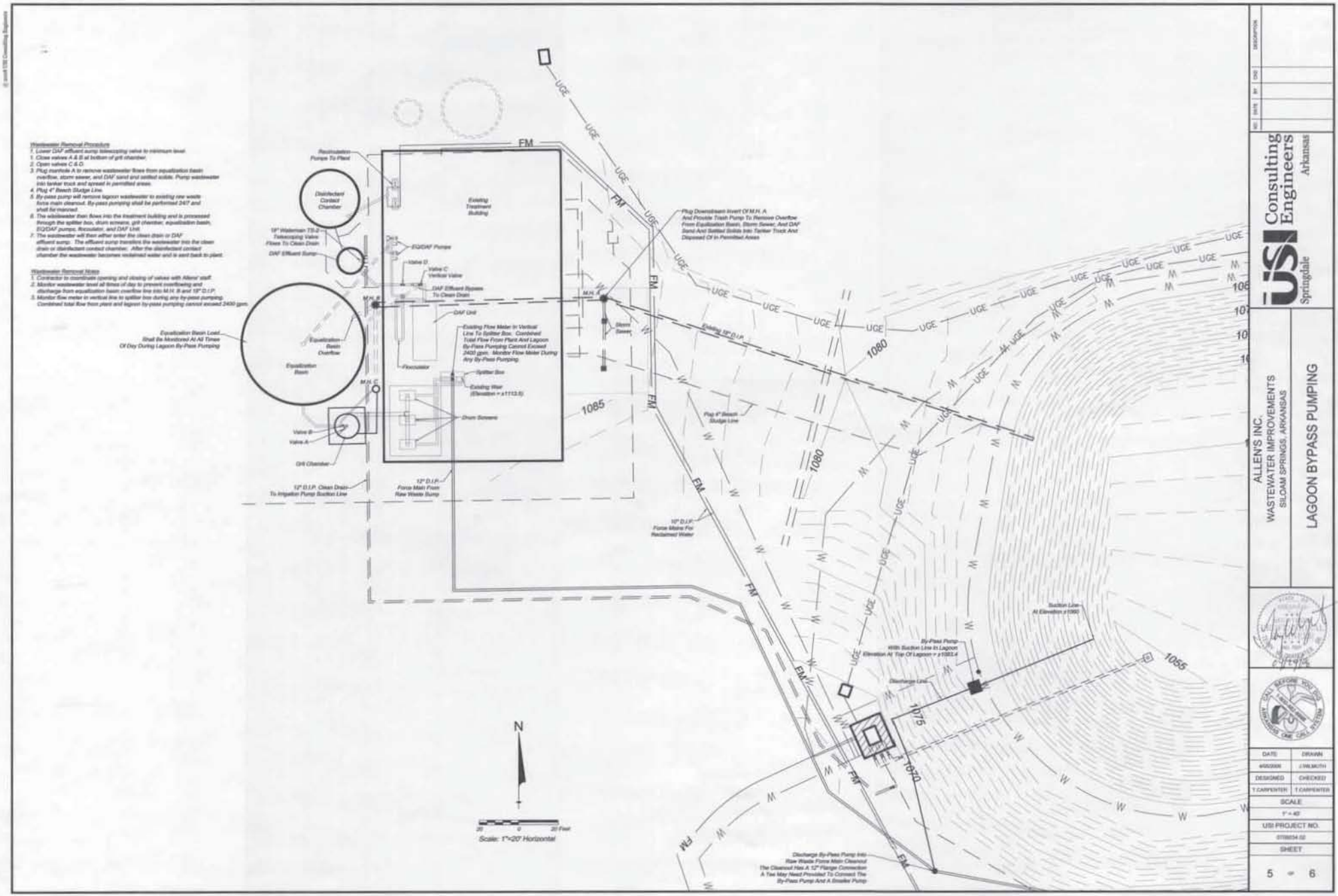
NO.	DATE	BY	CHG	DESCRIPTION

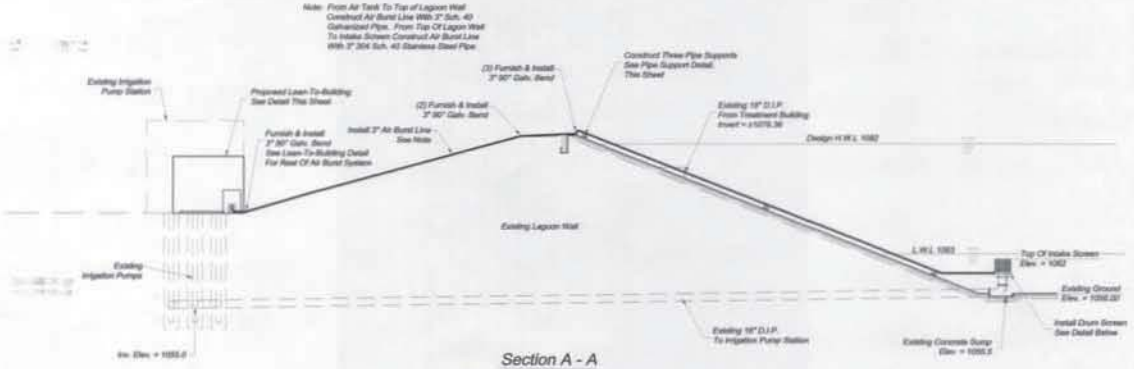
USI Consulting Engineers
Springdale Arkansas

ALLEN'S INC.
WASTEWATER IMPROVEMENTS
SILOAM SPRINGS, ARKANSAS

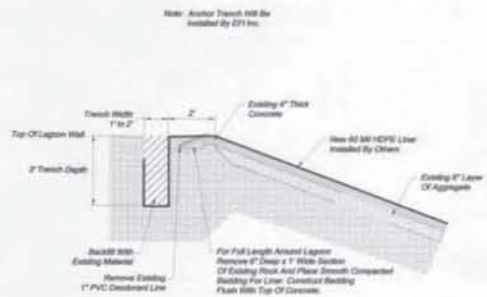
LINER INSTALLATION AND WASTEWATER INTAKE SCREEN

DATE	DRAWN
4/09/2008	J.WILMOTH
DESIGNED	CHECKED
T.CARPENTER	T.CARPENTER
SCALE	
1" = 40'	
USI PROJECT NO.	
0709034.02	
SHEET	
4 OF 6	

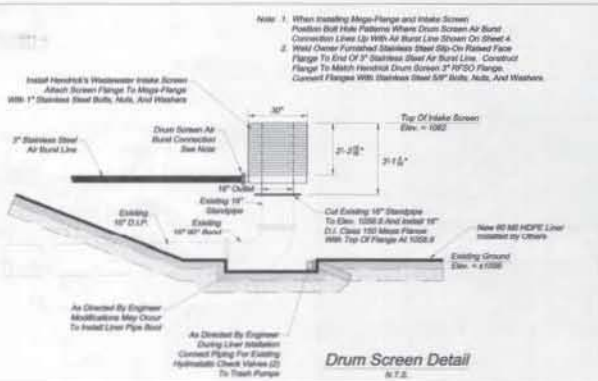

Wastewater Removal Procedure
1. Lower DAF effluent sump telescoping valve to minimum level.
1. Close valves A & B at bottom of grit chamber.
2. Open valves C & D.
3. Plug manhole A to remove wastewater flows from equalization basin overflow, storm sewer, and DAF sand and settled solids. Pump wastewater into tanker truck and spread in permitted areas.
4. Plug 4" Beach Sludge Line.
5. By-pass pump will remove lagoon wastewater to existing raw waste force main cleanout. By-pass pumping shall be performed 24/7 and shall be manned.
6. The wastewater then flows into the treatment building and is processed through the splitter box, drum screens, grit chamber, equalization basin, EQ/DAF pumps, Recirculator, and DAF Unit.
7. The wastewater will then either enter the clean drain or DAF effluent sump. The effluent sump transfers the wastewater into the clean drain or disinfectant contact chamber. After the disinfectant contact chamber the wastewater becomes reclaimed water and is sent back to plant.
Wastewater Removal Notes
1. Contractor to coordinate opening and closing of valves with Allens' staff.
2. Monitor wastewater level all times of day to prevent overflowing and discharge from equalization basin overflow line into M.H. B and 18" D.I.P.
3. Monitor flow meter in vertical line to splitter box during any by-pass pumping. Combined total flow from plant and lagoon by-pass pumping cannot exceed 2400 gpm.
Recirculation Pumps To Plant
Disinfectant Contact Chamber
Existing Treatment Building
18" Waterman TS-2 Telescoping Valve Flows To Clean Drain
DAF Effluent Sump
EQ/DAF Pumps
Valve D
Valve C Vertical Valve
DAF Effluent Bypass To Clean Drain
M.H. B
M.H. A
DAF Unit
Equalization Basin Level Shall Be Monitored At All Times Of Day During Lagoon By-Pass Pumping
Equalization Basin Overflow
Equalization Basin
Existing Flow Meter In Vertical Line To Splitter Box. Combined Total Flow From Plant And Lagoon By-Pass Pumping Cannot Exceed 2400 gpm. Monitor Flow Meter During Any By-Pass Pumping.
Storm Sewers
Existing 18" D.I.P.
Flocculator
Splitter Box
Existing Weir (Elevation = ±1113.5)
M.H. C
Drum Screens
Valve B
Valve A
Grit Chamber
12" D.I.P. Clean Drain To Irrigation Pump Suction Line
12" D.I.P. Force Main From Raw Waste Sump
Plug Downstream Invert Of M.H. A And Provide Trash Pump To Remove Overflow From Equilization Basin, Storm Sewer, And DAF Sand And Settled Solids Into Tanker Truck And Disposed Of In Permitted Areas
Plug 4" Beach Sludge Line
10" D.I.P. Force Mains For Reclaimed Water
Suction Line At Elevation ±1060
By-Pass Pump With Suction Line In Lagoon Elevation At Top Of Lagoon = ±1082.4
Discharge Line
Discharge By-Pass Pump Into Raw Waste Force Main Cleanout The Cleanout Has A 12" Flange Connection A Tee May Need Provided To Connect The By-Pass Pump And A Smaller Pump
UGE
FM
W
M
1080
1085
1075
1070
1055
N
20 0 20 Feet
Scale: 1"=20' Horizontal
NO. | DATE | BY | CHD | DESCRIPTION
USI Consulting Engineers Arkansas
Springdale
ALLEN'S INC.
WASTEWATER IMPROVEMENTS
SILOAM SPRINGS, ARKANSAS
LAGOON BYPASS PUMPING
DATE 4/05/2006
DRAWN J.WILMOTH
DESIGNED T.CARPENTER
CHECKED T.CARPENTER
SCALE 1" = 40'
USI PROJECT NO. 0706034.02
SHEET 5 = 6



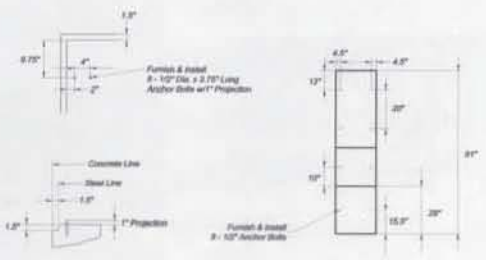
Section A - A
Irrigation Water Intake System
N.T.S.



Anchor Trench Detail
N.T.S.

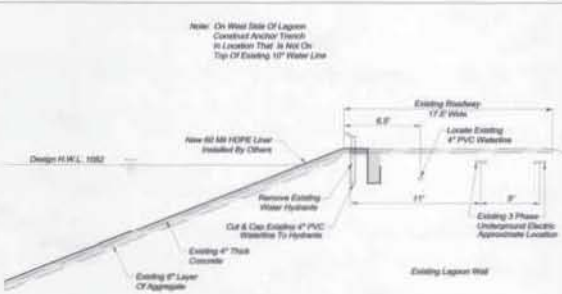


Drum Screen Detail
N.T.S.

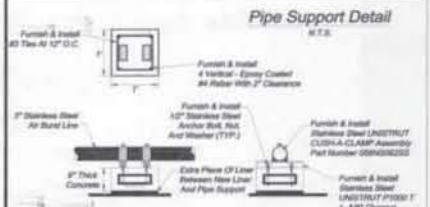


Base Slab And
Anchor Bolt Detail

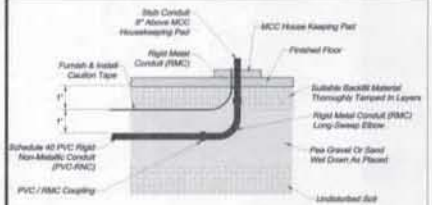
House Keeping Pad
Anchor Bolt Detail



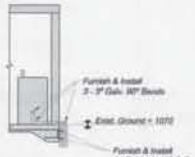
Section B - B
N.T.S.



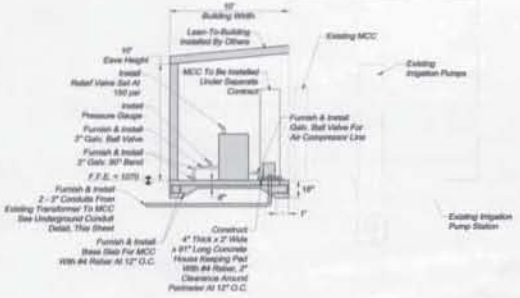
Pipe Support Detail
N.T.S.



Underground Conduit Detail
N.T.S.

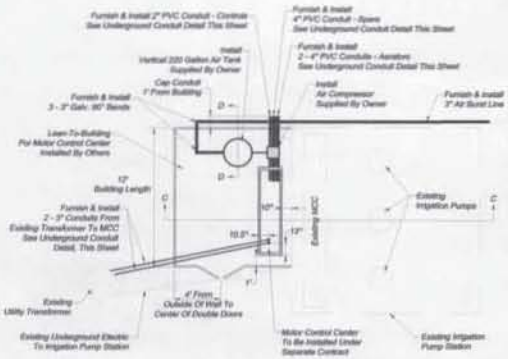


Section D - D
Air Burst Detail
Scale: 1" =5'



Section C - C
Air Burst Detail
Scale: 1" =5'

Lean-To-Building Detail



Plan View
Scale: 1" =5'

NO.	DATE	BY	CHD	DESCRIPTION

Consulting Engineers
Arkansas
Springdale

ALLEN'S INC.
WASTEWATER IMPROVEMENTS
SILOAM SPRINGS, ARKANSAS

DETAIL SHEET

DATE	DRAWN
4/05/2006	J.WILMOTH
DESIGNED	CHECKED
T.CARPENTER	T.CARPENTER
SCALE	
1" = 5'	
USI PROJECT NO.	
0720634.02	
SHEET	
6 OF 6	