



Henry Walker
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September 29, 2016

VIA HAND DELIVERY

Ms. Sharla Dillon, Docket Manager
Tennessee Regulatory Authority
460 James Robertson Pkwy.
Nashville, TN 37243

Re: Docket No. 16-00069

Dear Ms. Dillon:

Please accept for filing the attached responses to Staff Data Requests.

Please note that the enclosed proposed tariffs are substantially the same as the tariffs approved by the TRA in Docket 11-00081 for service to Genesis Village and not, as erroneously stated in paragraph six of the Joint Petition, the rates approved by the Authority in Docket 07-00079 for service at another development.

Respectfully submitted,

BRADLEY ARANT BOULT CUMMINGS LLP

By:

A handwritten signature in black ink, appearing to read "Henry Walker", written over a horizontal line.

Henry Walker

HW/dbi
Enclosures

7/3884641.1
201473.301001

CUMBERLAND BASIN WASTEWATER SYSTEMS
CCN APPLICATION TO PROVIDE SERVICE TO GENESIS VILLAGE ESTATES

EXHIBIT CBWS-E
CALCULATION OF PRO FORMA RATES AND COST OF SERVICE

**Cumberland Basis Wastewater Systems
Pro Forma Rate Calculation for Genesis Village Estates
Proposed Rates**

**Exhibit CBWS-E
Schedule 1**

	<u>5 Year Billing Determinants</u>	<u>Proposed Rates</u>	<u>5 Year Revenue Projection</u>
Pro Forma Five Year Revenues:			
Customer Charges (Bills)	2,862 <i>A/</i>	\$51.50	\$147,393.00
Less Escrow Requirements @ 29%	2,862 <i>A/</i>	-\$14.94	-\$42,743.97
Access Fees	108 <i>A/</i>	100.00	10,800.00
Total Five Year Pro Forma Revenues			<u>\$115,449.03</u>
 Five Year Cost of Service			 <u>\$51,778.33</u> <i>A/</i>
 Five Year Net Operating Income Surplus (Deficiency)			 <u>\$63,670.70</u>

Genesis Village Estates will need a monthly billing rate of \$51.5 and an annual access charge of \$100 in order to cover its projected five year cost of service.

NOTE: *The above Pro Forma calculations are the Company's best "guesstimate" based upon the current economic conditions that may change during the course of this project.*

A/ Schedule 2.

**Cumberland Basis Wastewater Systems
Pro Forma Rate Calculation for Genesis Village Estates
Proposed Rates**

**Exhibit CBWS-E
Schedule 1**

	<u>10 Year Billing Determinants</u>	<u>Proposed Rates</u>	<u>10 Year Revenue Projection</u>
Pro Forma Ten Year Revenues:			
Customer Charges (Bills)	7,122 A/	\$51.50	\$366,783.00
Less Escrow Requirements @ 29%	7,122 A/	-\$14.94	-\$106,367.07
Access Fees	108 A/	100.00	10,800.00
Total Ten Year Pro Forma Revenues			<u><u>\$271,215.93</u></u>
 Ten Year Cost of Service			 <u><u>\$110,721.52 A/</u></u>
 Ten Year Net Operating Income Surplus (Deficiency)			 <u><u>\$160,494.41</u></u>

Genesis Village Estates will need a monthly billing rate of \$51.5 and an annual access charge of \$100 in order to cover its projected ten year cost of service.

NOTE: *The above Pro Forma calculations are the Company's best "guesstimate" based upon the current economic conditions that may change during the course of this project.*

A/ Schedule 2.

Cumberland Basis Wastewater Systems
Pro Forma Rate Calculation for Genesis Village Estates
Five Year Income Projection

Exhibit CBWS-E
Schedule 2

Lots Available for Sale		<u>71</u> **					
	Billing Rate	2016	2017	2018	2019	2020	5 Year Total
Projected Customer Count		17	35	53	71	71	
Projected Bill Count		102	420	636	852	852	2,862
Unsold Lots		54	36	18	0	0	108
Pro Forma Revenue:							
Customer Charge Revenue	\$51.50 A/	\$5,253.00	\$21,630.00	\$32,754.00	\$43,878.00	\$43,878.00	\$147,393.00
Less Escrow Requirements	-29%	-1,523.37	-6,272.70	-9,498.66	-12,724.62	-12,724.62	-42,743.97
Net Customer Charge Revenue		<u>\$3,729.63</u>	<u>\$15,357.30</u>	<u>\$23,255.34</u>	<u>\$31,153.38</u>	<u>\$31,153.38</u>	<u>\$104,649.03</u>
Access Fee Revenue	\$100.00 A/	<u>\$5,400.00</u>	<u>\$3,600.00</u>	<u>\$1,800.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$10,800.00</u>
Total Net Pro Forma Revenue		<u>\$9,129.63</u>	<u>\$18,957.30</u>	<u>\$25,055.34</u>	<u>\$31,153.38</u>	<u>\$31,153.38</u>	<u>\$115,449.03</u>
Expenses	B/	<u>\$9,831.80</u>	<u>\$10,085.99</u>	<u>\$10,347.81</u>	<u>\$10,617.48</u>	<u>\$10,895.24</u>	<u>\$51,778.33</u>
Net Income/(Loss)		<u>-\$702.17</u>	<u>\$8,871.31</u>	<u>\$14,707.53</u>	<u>\$20,535.90</u>	<u>\$20,258.14</u>	<u>\$63,670.70</u>

Assumptions:

The customer projections for years one through five were made by the developer.

- ** The complete total of 100 Lots are not established at this time.
Only Phase I is represented by this Pro Forma Calculation and Phase II for the remaining Lots may happen if the economy improves.

NOTE: The above Pro Forma calculations are the Company's best "guesstimate" based upon the current economic conditions that may change during the course of this project.

A/ Schedule 1.

B/ Schedule 3.

Cumberland Basis Wastewater Systems
Pro Forma Rate Calculation for Genesis Village Estates
Ten Year Income Projection

Exhibit CBWS-E
Schedule 2

Lots Available for Sale	71 **										10 Year Total
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Projected Customer Count	17	35	53	71	71	71	71	71	71	71	
Projected Bill Count	102	420	636	852	852	852	852	852	852	852	7,122
Unsold Lots	54	36	18	0	0	0	0	0	0	0	108
Pro Forma Revenue:											
Customer Charge Revenue	\$5,253.00	\$21,630.00	\$32,754.00	\$43,878.00	\$43,878.00	\$43,878.00	\$43,878.00	\$43,878.00	\$43,878.00	\$43,878.00	\$366,783.00
Less Escrow Requirements	-1,523.37	-6,272.70	-9,498.66	-12,724.62	-12,724.62	-12,724.62	-12,724.62	-12,724.62	-12,724.62	-12,724.62	-106,367.07
Net Customer Charge Revenue	\$3,729.63	\$15,357.30	\$23,255.34	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$260,415.93
Access Fee Revenue	\$5,400.00	\$3,600.00	\$1,800.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10,800.00
Total Net Pro Forma Revenue	\$9,129.63	\$18,957.30	\$25,055.34	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$31,153.38	\$271,215.93
Expenses	B/	\$9,831.80	\$10,085.99	\$10,347.81	\$10,617.48	\$10,895.24	\$11,181.34	\$11,476.01	\$11,779.53	\$12,092.15	\$110,721.52
Net Income/(Loss)	-\$702.17	\$8,871.31	\$14,707.53	\$20,535.90	\$20,258.14	\$19,972.04	\$19,677.37	\$19,373.85	\$19,061.23	\$18,739.23	\$160,494.41

Assumptions:

The customer projections were made by the developer.

** The complete total of 100 Lots are not established at this time. Only Phase I is represented by this Pro Forma Calculation and Phase II for the remaining Lots may happen if the economy improves.

NOTE: The above Pro Forma calculations are the Company's best "estimate" based upon the current economic conditions that may change during the course of this project.

A/ Schedule 1.

B/ Schedule 3.

Cumberland Basis Wastewater Systems
Pro Forma Rate Calculation for Genesis Village Estates
Estimated Annual Cost of Service

Exhibit CBWS-E
Schedule 3

Budget Item	Cost Classification	Monthly Cost	Annual Cost	Inflation Rate	2016 Year 1 Cost	2017 Year 2 Cost	2018 Year 3 Cost	2019 Year 4 Cost	2020 Year 5 Cost
Telephone / Telemetry	Variable	\$57.92	\$694.98	0.00%	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98
Electric	Variable	55.00	660.00	3.00%	660.00	679.80	700.19	721.20	742.84
Quarterly Monitoring - Analysis	Variable	48.21	578.50	3.00%	578.50	595.86	613.73	632.14	651.11
Quarterly Monitoring - Sampling	Variable	61.82	741.80	3.00%	741.80	764.05	786.98	810.58	834.90
Monthly OnSite Inspection to 8/13/13	Variable	310.14	3,721.68	3.00%	3,721.68	3,833.33	3,948.33	4,066.78	4,188.78
Monthly OnSite Inspection after 8/13/13	Variable	535.14	6,421.68 *	3.00%					
Billing	Variable	19.50	233.94	3.00%	233.94	240.96	248.19	255.64	263.31
STEP Inspections	Variable	132.93	1,595.10	3.00%	1,595.10	1,642.95	1,692.24	1,743.01	1,795.30
Permit Fee	Fixed	29.17	350.00	0.00%	350.00	350.00	350.00	350.00	350.00
Office Administration	Fixed	30.00	360.00	3.00%	360.00	370.80	381.92	393.38	405.18
Office Rental	Fixed	15.00	180.00	0.00%	180.00	180.00	180.00	180.00	180.00
Regulatory	Fixed	3.00	36.00	0.00%	36.00	36.00	36.00	36.00	36.00
Accounting	Fixed	12.50	150.00	3.00%	150.00	154.50	159.14	163.91	168.83
Attorney Fees	Fixed	36.00	432.00	3.00%	432.00	444.96	458.31	472.06	486.22
Insurance	Fixed	3.65	43.80	0.00%	43.80	43.80	43.80	43.80	43.80
Ad Valorem Taxes	Fixed	4.50	54.00	0.00%	54.00	54.00	54.00	54.00	54.00
Total		\$1,354.46	\$16,253.48		\$9,831.80	\$10,085.99	\$10,347.81	\$10,617.48	\$10,895.24

NOTE: The detailed assumptions on Schedule 4 are an integral component of this estimated cost of service.

* For illustration purposes only.

Cumberland Basis Wastewater Systems
Pro Forma Rate Calculation for Genesis Village Estates
Estimated Annual Cost of Service

Exhibit CBWS-E
Schedule 3

Budget Item	Classification	Monthly Cost	Annual Cost	Inflation Rate	2016 Year 1 Cost	2017 Year 2 Cost	2018 Year 3 Cost	2019 Year 4 Cost	2020 Year 5 Cost	2021 Year 6 Cost	2022 Year 7 Cost	2023 Year 8 Cost	2024 Year 9 Cost	2025 Year 10 Cost
Telephone / Telemetry	Variable	\$57.92	\$694.98	0.00%	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98	\$694.98
Electric	Variable	55.00	660.00	3.00%	660.00	679.80	700.19	721.20	742.84	765.12	788.07	811.72	836.07	861.15
Quarterly Monitoring - Analysis	Variable	48.21	578.50	3.00%	578.50	595.86	613.73	632.14	651.11	670.64	690.76	711.48	732.83	754.81
Quarterly Monitoring - Sampling	Variable	61.82	741.80	3.00%	741.80	764.05	786.98	810.58	834.90	859.95	885.75	912.32	939.69	967.88
Monthly OnSite Inspection to 8/13/13	Variable	310.14	3,721.68	3.00%	3,721.68	3,833.33	3,948.33	4,066.78	4,188.78	4,314.45	4,443.88	4,577.20	4,714.51	4,855.95
Monthly OnSite Inspection after 8/13/13	Variable	535.14	6,421.68	3.00%										
Billing	Variable	19.50	233.94	3.00%	233.94	240.96	248.19	255.64	263.31	271.21	279.34	287.72	296.35	305.24
STEP Inspections	Variable	132.93	1,595.10	3.00%	1,595.10	1,642.95	1,692.24	1,743.01	1,795.30	1,849.16	1,904.63	1,961.77	2,020.62	2,081.24
Permit Fee	Fixed	29.17	350.00	0.00%	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00
Office Administration	Fixed	30.00	360.00	0.00%	360.00	370.80	381.92	393.38	405.18	417.34	429.86	442.75	456.04	469.72
Office Rental	Fixed	15.00	180.00	0.00%	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Regulatory	Fixed	3.00	36.00	0.00%	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
Accounting	Fixed	12.50	150.00	3.00%	150.00	154.50	159.14	163.91	168.83	173.89	179.11	184.48	190.02	195.72
Attorney Fees	Fixed	36.00	432.00	3.00%	432.00	444.96	458.31	472.06	486.22	500.81	515.83	531.31	547.24	563.66
Insurance	Fixed	3.65	43.80	0.00%	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
Ad Valorem Taxes	Fixed	4.50	54.00	0.00%	54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
Total		\$1,354.46	\$16,253.48		\$9,831.80	\$10,085.99	\$10,347.81	\$10,617.48	\$10,895.24	\$11,181.34	\$11,476.01	\$11,779.53	\$12,092.15	\$12,414.15

NOTE: The detailed assumptions on Schedule 4 are an integral component of this estimated cost of service.

Telephone/Telemetry

Current monthly cost for telemetry service for each subdivision. Genesis Village Estates has a lift station and a treatment system that needs monitored. IRM will need two telemetry systems that are web based that is presently being billed at \$347.49 per year for one unit. Genesis will require two units. One for the lift station and one for the treatment system for a current cost of \$694.98 per year. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Electric

Our experience has been that electric costs are approximately \$55 per month for each subdivision. Electric Utilities costs and increases are based on many factors including coal prices, source prices, the value of the dollar against foreign markets, NASDAQ and Futures Indexes, and many other variable inputs. This price is from existing systems and IRM's best estimated cost with an annual inflation increase of 3%. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Quarterly Monitoring - Analysis

According to the State Operating Permit of TDEC, the required analysis of Genesis Village Estates is BOD₅, Ammonia-Nitrogen and Nitrate-Nitrogen. The cost of the analyses are \$42.00, \$37.75, and \$31.50 respectively, for a total of \$111.25 per quarter or \$445.00 per year. A management multiplier of 1.3 yields an annual cost of \$578.50 pr year or \$48.20 per month. This is in line with most other systems as this may required in the future has additional bacterial analysis for Escherichia coli which is not included in this estimate. This price is from existing systems and IRM's best estimated cost with an annual inflation increase of 3% AIR and CLI etc. to the best of our knowledge is proposed. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Quarterly Monitoring - Sampling

5 hours per Quarter @ \$30.00 per hour **plus** travel of 255 miles round trip to site and laboratory @ **\$0.505 (allowed by the federal government per mile)**, **plus** \$20.00 Reporting Fee. This price is from existing systems and IRM's best estimated cost with an annual increase of 3% AIR and CLI etc. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Monthly OnSite Inspection to 8/13/2013

Monthly: 6 hours per trip @ \$30.00 per hour **plus** travel of 228 miles round trip @ **\$0.505 (allowed by the federal government per mile)** **plus** .5 hours making notes. This price is from existing systems and IRM's best estimated cost with an annual inflation increase of 3%. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Bi-Monthly OnSite Inspection after 8/13/2013

This is being required on all TDEC, SOP Permit Renewals not included in previous CCN Petitions. IRM is anticipating this cost due to past renewals from TDEC, SOP Permits: This will require two trips per month to the site at 6 hours per trip @ \$30.00 per hour **plus** travel of 228 miles round trip @ **\$0.505 (allowed by the federal government per mile)**, **plus** 2 hours filling out TDEC Reports. This price is fbased on the experience of existing systems and IRM's best estimated cost with an annual inflation increase of 3%. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Billing

Billing includes the time needed to write letters to late paying customers, communication with address changes, owner changes, adding customers calls to customers, etc. Associated with billing is going to the Post Office box each day, logging in the billing program to credit accounts, prepare deposits, calculate escrow, and making deposits at the bank. The time necessary to complete billing is 16 hours per month @ \$12.50 per hour. In addition, there are 16 trips per month to the bank and post office per month of 16 round trip miles @ \$0.505 (allowed by the federal government per mile) with an additional 2 hours of clerical work @ \$12.50 per hour. In addition to these amounts, billing also includes the following: office phone @ \$113.25 per month, fax phone @ \$24.00 per month, billing program maintenance @ \$84.47 per month, postage @ \$33 per month, postcard stock @ \$16.80 per month. This totals to \$625.80 per month. IRM currently has 321 **equivalent** customers, so this cost would equal \$1.95 per customer per month. Genesis Estates is expected to have approximately 10 customers over the next five years which would bring their subdivision cost to \$19.50 per month. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

STEP Inspections

3 hours per Month @ \$30.00 per hour **plus** travel of 85 miles round trip @ \$0.505 per mile * 1 occurrences per Month. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

Permit Fee

TDEC Annual Permit Fee of \$350 per subdivision. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

Office Administration

Annual cost = \$12,000. IRM currently has 321 **equivalent** customers. Genesis Estates is expected to have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$360. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

Office Rental

Annual cost = \$6,000. IRM currently has 321 **equivalent** customers. Genesis Estates is expected to have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$180. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

Regulatory

Annual cost = \$1,200. IRM currently has 321 **equivalent** customers. Genesis Estates is expected to have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$36. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

Accounting

have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$150. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

Legal

have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$432. **CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.**

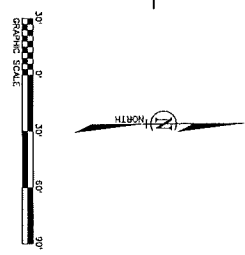
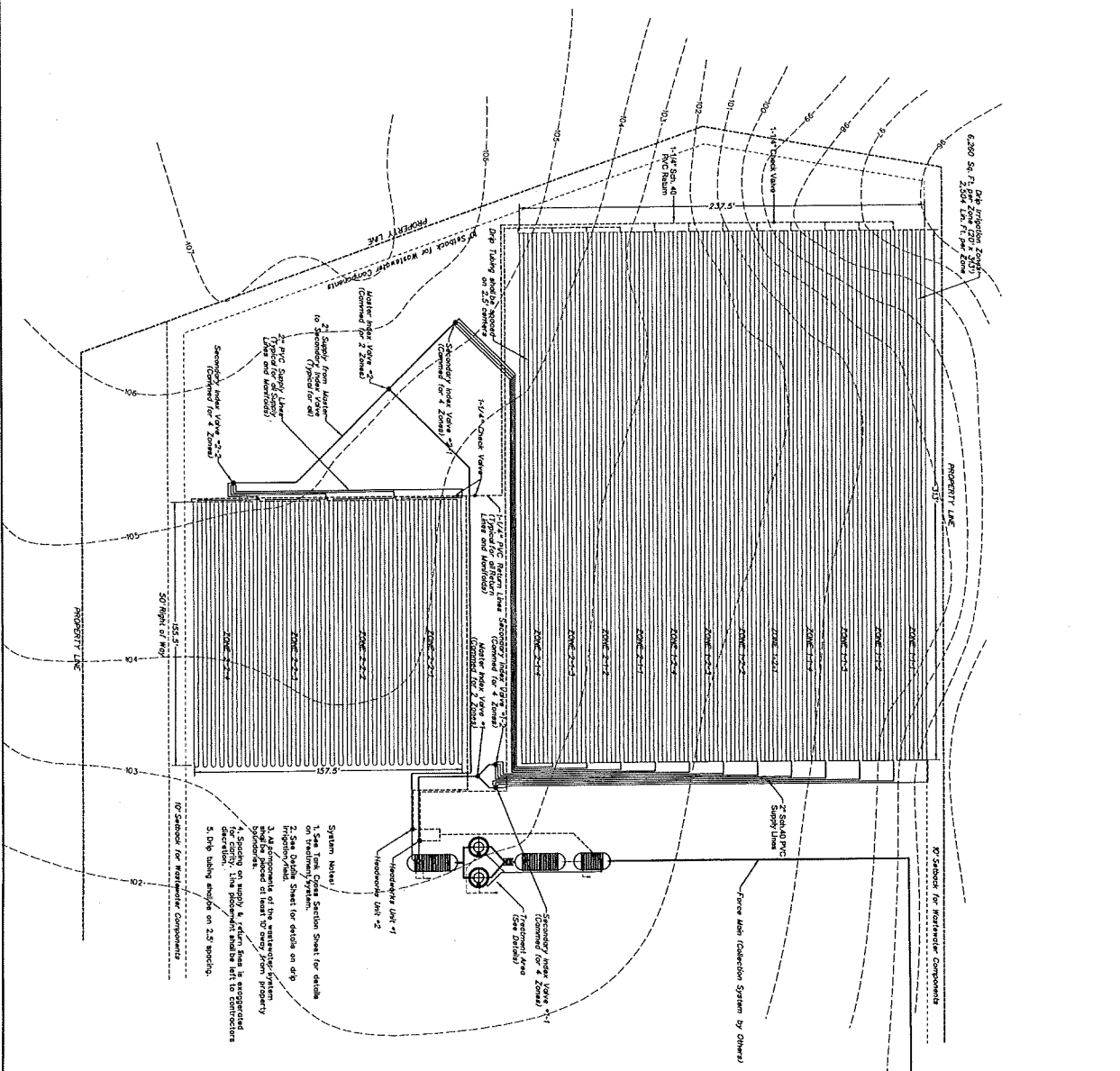
Insurance

have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$44.80. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Ad Valorem Taxes

have approximately 10 customers over the next 5 years bringing this total to 331. Therefore, cost allocation to Genesis Estates will be 3% (10/331) or \$54. ***CBWS has reviewed and adopted this assumption that was originally prepared by IRM Utility.***

Name of Drawing:



Project Overview

1/4" PNC Supply Line
1/4" PNC Return Line

General Notes

1. The contractor shall be responsible for the design and construction of the wastewater treatment system, including all necessary permits and approvals.
2. This is not a Boundary Survey and should not be used as such. Boundary information is for reference purposes only.
3. It is the contractor's responsibility to locate all underground utilities and structures prior to construction. He shall be responsible for the location, depth, and direction of all utilities and structures. The location, depth, and direction of all utilities and structures shall be shown on the construction drawings.
4. The contractor shall be responsible for the location, depth, and direction of all utilities and structures. The location, depth, and direction of all utilities and structures shall be shown on the construction drawings.
5. The contractor shall be responsible for the location, depth, and direction of all utilities and structures. The location, depth, and direction of all utilities and structures shall be shown on the construction drawings.
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11. The contractor shall be responsible for the location, depth, and direction of all utilities and structures. The location, depth, and direction of all utilities and structures shall be shown on the construction drawings.
12. The contractor shall be responsible for the location, depth, and direction of all utilities and structures. The location, depth, and direction of all utilities and structures shall be shown on the construction drawings.

DATE	BY	REVISION
10/1/07	J. L. HAYES	1.00
10/1/07	J. L. HAYES	1.01
10/1/07	J. L. HAYES	1.02
10/1/07	J. L. HAYES	1.03
10/1/07	J. L. HAYES	1.04
10/1/07	J. L. HAYES	1.05
10/1/07	J. L. HAYES	1.06
10/1/07	J. L. HAYES	1.07
10/1/07	J. L. HAYES	1.08
10/1/07	J. L. HAYES	1.09
10/1/07	J. L. HAYES	1.10
10/1/07	J. L. HAYES	1.11
10/1/07	J. L. HAYES	1.12
10/1/07	J. L. HAYES	1.13
10/1/07	J. L. HAYES	1.14
10/1/07	J. L. HAYES	1.15
10/1/07	J. L. HAYES	1.16
10/1/07	J. L. HAYES	1.17
10/1/07	J. L. HAYES	1.18
10/1/07	J. L. HAYES	1.19
10/1/07	J. L. HAYES	1.20

Genesys Village Estates
Wastewater Treatment and Disposal
Cumberland County

PROJECT TITLE
Project Overview

GULF COAST ENGINEERING
CIVIL AND ENVIRONMENTAL ENGINEERING

111 W. MYRTLE AVE. SUITE 4
FOLEY, ALABAMA 36555

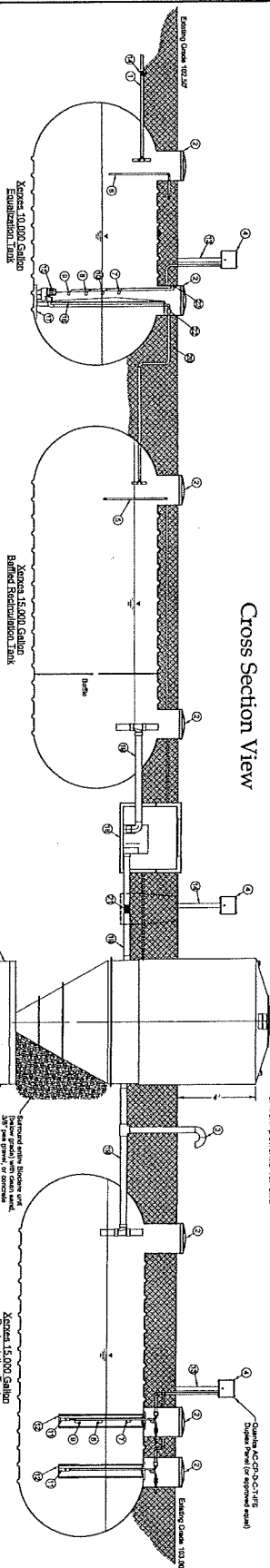
PHONE: (913) 945-8395 FAX: (913) 945-8391

1 OF 5

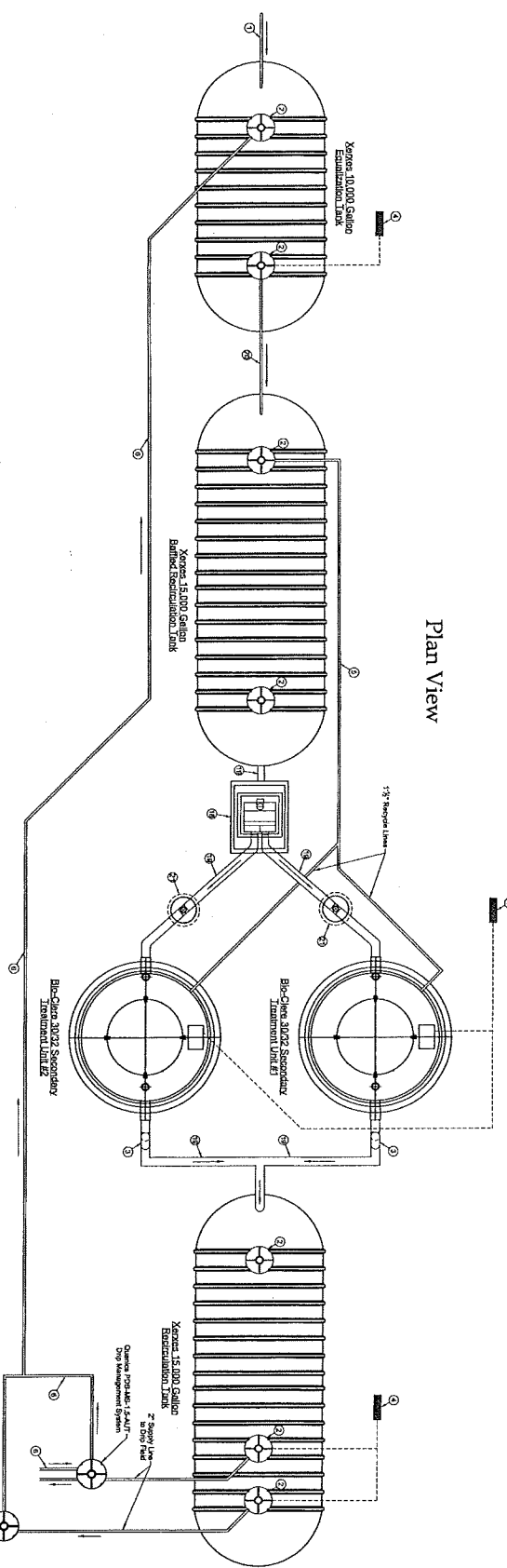
Name of Project:

1	Project Name: Genesis Village Estates
2	Project Location: Genesis Village Estates, Cumberland County, Alabama
3	Project Description: Wastewater Treatment and Disposal
4	Project Owner: Genesis Village Estates, Inc.
5	Project Engineer: GCE Engineering
6	Project Designer: GCE Engineering
7	Project Date: 04/25/97
8	Project Sheet: 02 of 5
9	Project Title: Tank Cross Section
10	Project No. 02
11	Project Date: 04/25/97
12	Project Sheet: 02 of 5
13	Project Title: Tank Cross Section
14	Project No. 02
15	Project Date: 04/25/97
16	Project Sheet: 02 of 5
17	Project Title: Tank Cross Section
18	Project No. 02
19	Project Date: 04/25/97
20	Project Sheet: 02 of 5
21	Project Title: Tank Cross Section
22	Project No. 02
23	Project Date: 04/25/97
24	Project Sheet: 02 of 5
25	Project Title: Tank Cross Section
26	Project No. 02
27	Project Date: 04/25/97
28	Project Sheet: 02 of 5
29	Project Title: Tank Cross Section
30	Project No. 02
31	Project Date: 04/25/97
32	Project Sheet: 02 of 5
33	Project Title: Tank Cross Section
34	Project No. 02
35	Project Date: 04/25/97
36	Project Sheet: 02 of 5
37	Project Title: Tank Cross Section
38	Project No. 02
39	Project Date: 04/25/97
40	Project Sheet: 02 of 5
41	Project Title: Tank Cross Section
42	Project No. 02
43	Project Date: 04/25/97
44	Project Sheet: 02 of 5
45	Project Title: Tank Cross Section
46	Project No. 02
47	Project Date: 04/25/97
48	Project Sheet: 02 of 5
49	Project Title: Tank Cross Section
50	Project No. 02
51	Project Date: 04/25/97
52	Project Sheet: 02 of 5
53	Project Title: Tank Cross Section
54	Project No. 02
55	Project Date: 04/25/97
56	Project Sheet: 02 of 5
57	Project Title: Tank Cross Section
58	Project No. 02
59	Project Date: 04/25/97
60	Project Sheet: 02 of 5
61	Project Title: Tank Cross Section
62	Project No. 02
63	Project Date: 04/25/97
64	Project Sheet: 02 of 5
65	Project Title: Tank Cross Section
66	Project No. 02
67	Project Date: 04/25/97
68	Project Sheet: 02 of 5
69	Project Title: Tank Cross Section
70	Project No. 02
71	Project Date: 04/25/97
72	Project Sheet: 02 of 5
73	Project Title: Tank Cross Section
74	Project No. 02
75	Project Date: 04/25/97
76	Project Sheet: 02 of 5
77	Project Title: Tank Cross Section
78	Project No. 02
79	Project Date: 04/25/97
80	Project Sheet: 02 of 5
81	Project Title: Tank Cross Section
82	Project No. 02
83	Project Date: 04/25/97
84	Project Sheet: 02 of 5
85	Project Title: Tank Cross Section
86	Project No. 02
87	Project Date: 04/25/97
88	Project Sheet: 02 of 5
89	Project Title: Tank Cross Section
90	Project No. 02
91	Project Date: 04/25/97
92	Project Sheet: 02 of 5
93	Project Title: Tank Cross Section
94	Project No. 02
95	Project Date: 04/25/97
96	Project Sheet: 02 of 5
97	Project Title: Tank Cross Section
98	Project No. 02
99	Project Date: 04/25/97
100	Project Sheet: 02 of 5

Approved and provided may be used



Cross Section View



Plan View

Drop Panel Pump House:
The drop panel pump house is located at the end of the drop panel. It is a concrete structure with a pump house and a drop panel. The drop panel is a concrete structure with a pump house and a drop panel. The drop panel is a concrete structure with a pump house and a drop panel.

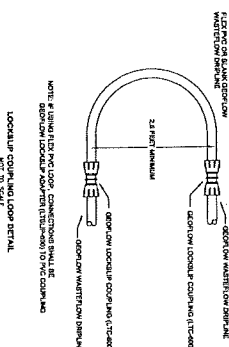
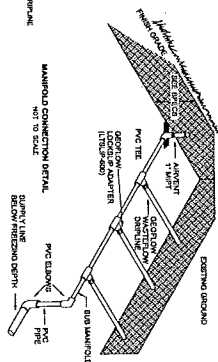
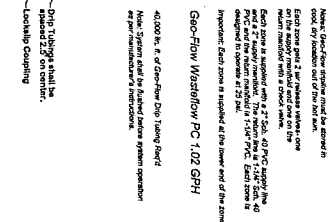
General Notes: (1) Unless otherwise specified, all materials shall be of standard commercial grade. (2) All dimensions shall be in feet and inches. (3) All dimensions shall be in feet and inches. (4) All dimensions shall be in feet and inches. (5) All dimensions shall be in feet and inches.

Note: Biosolids are not a solid material. They are a liquid material. They are a liquid material. They are a liquid material. They are a liquid material. They are a liquid material.

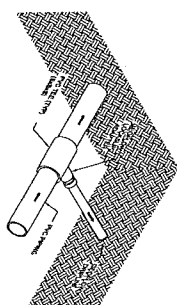
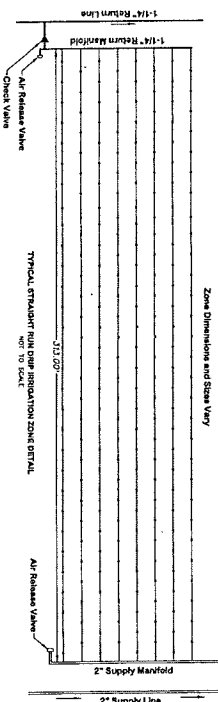
In the case of a high water table, the drop panel shall be elevated above the water table. The drop panel shall be elevated above the water table. The drop panel shall be elevated above the water table.

Note: The drop panel shall be elevated above the water table. The drop panel shall be elevated above the water table. The drop panel shall be elevated above the water table.

<p>PROJECT TITLE Genesis Village Estates Wastewater Treatment and Disposal Cumberland County</p>		<p>GULF COAST ENGINEERING CIVIL AND ENVIRONMENTAL ENGINEERING 111 W. MYRTLE AVE. SUITE 4 FOLEY, ALABAMA 36535 PHONE: (913) 945-4595 FAX: (913) 945-4591</p>	
<p>SHEET NUMBER 02 2 OF 5</p>		<p>PROJECT NO. 02</p>	
<p>DATE 04/25/97</p>		<p>PROJECT TITLE Tank Cross Section</p>	
<p>CHECKED BY J. King</p>		<p>PROJECT NO. 02</p>	
<p>DESIGNED BY J. King</p>		<p>PROJECT NO. 02</p>	
<p>NO. DATE DESCRIPTION</p>		<p>PROJECT NO. 02</p>	
<p>1 04/25/97</p>		<p>PROJECT NO. 02</p>	
<p>2 04/25/97</p>		<p>PROJECT NO. 02</p>	
<p>3 04/25/97</p>		<p>PROJECT NO. 02</p>	
<p>4 04/25/97</p>		<p>PROJECT NO. 02</p>	

[illegible]

CROSS-SECTION THROUGH DRIPLINE:
NOT TO SCALE

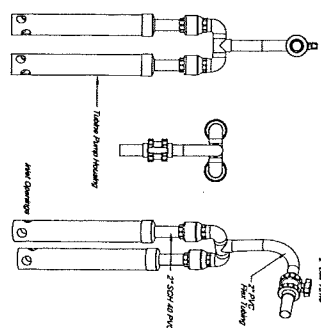


REVISIONS		
NO.	DATE	DESCRIPTION
1		
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4		

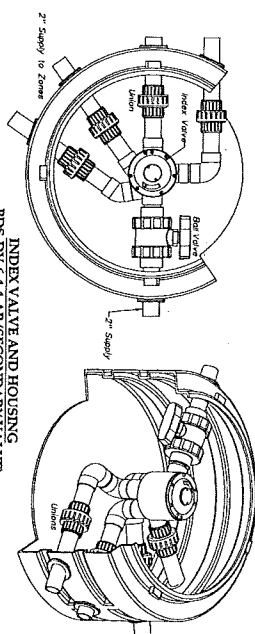
PROJECT TITLE	Genesis Village Estates Wastewater Treatment and Disposal
SHEET TITLE	Drip Components

GULF COAST ENGINEERING
CIVIL AND ENVIRONMENTAL ENGINEERING

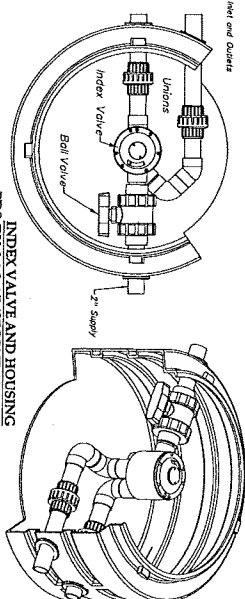
111 W. MYRTLE AVE. SUITE 4
FOLEY, ALABAMA 36535
PHONE: (251) 943-4535 FAX: (251) 943-4581



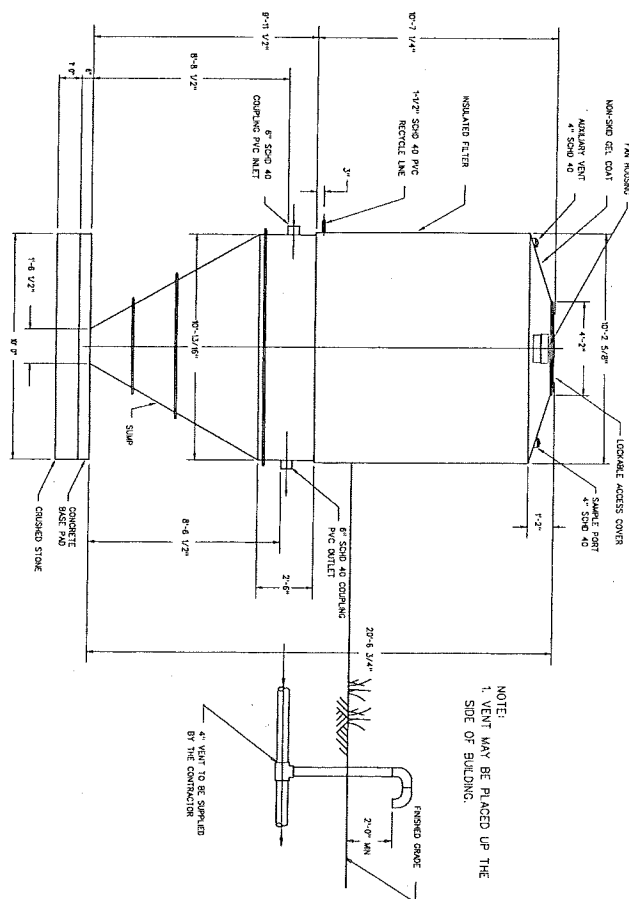
PUMP DISCHARGE AT TREATMENT AREA
PD5-TD-2.0-D
(FOR APPROVED EQUAL)
NOT TO SCALE



INDEX VALVE AND HOUSING
PDS-DV-644-AP (SECONDARY VALVE)
(OR ATTACHED EQUAL)
NOT TO SCALE

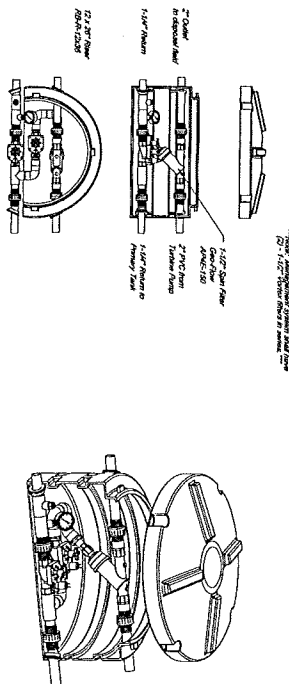


INDEX VALVE AND HOUSING
PDS-DV-6-4-2-AP (SECONDARY VALVE)
(OR APPROVED EQUAL)
NOT TO SCALE



NOTE:
1. VENT MAY BE PLACED UP THE
SIDE OF BUILDING.

BIO-CLERE MODEL 30/32 SECONDARY TREATMENT (OR APPROVED EQUAL) NOT TO SCALE



1-1/2" AUTOMATIC MANAGEMENT SYSTEM
PDS-MS-15-AUT
(OR APPROVED EQUAL)
NOT TO SCALE

REVISIONS		
NO.	DATE	DESCRIPTION
1		
2		
3		
4		

PROJECT TEAM

PROJECT TITLE
Genesis Village Estates
Wastewater Treatment and Disposal
Cumberland County

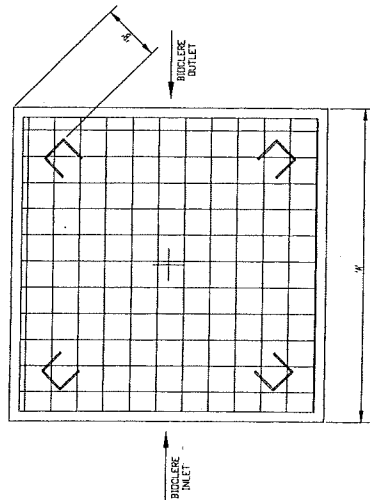
SHEET TITLE
Components

GULF COAST ENGINEERING
CIVIL AND ENVIRONMENTAL ENGINEERING

111 W. MYRTLE AVE. SUITE 4
FOLEY, ALABAMA 36535

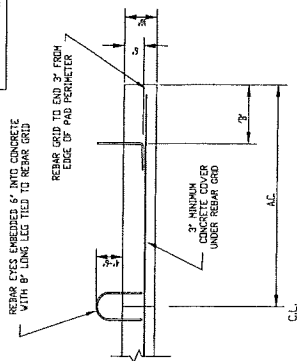
SECONDARY TREATMENT CONCRETE PAD DETAIL

PLAN ON SQUARE PAD
(SEE NOTE 5)



BIODIGESTER MODEL	W	D	STEEL REINFORCEMENT GRID	APPROX PAD WEIGHT
24	8'	15'	#3 REBAR @ 8" O.C.	9,200 lbs
30	10'	20'	#3 REBAR @ 6" O.C.	12,500 lbs
36	12'	24'	#4 REBAR @ 10" O.C.	18,000 lbs

PAD ELEVATION
(ACROSS CORNERS)



NOTES: UNLESS OTHERWISE SPECIFIED

1. CONCRETE MINIMUM STRENGTH 4,000 PSI @ 28 DAYS.
 2. DEFORMED REINFORCING BARS TO BE 60,000 PSI YIELD STRENGTH.
 3. EYES (4x 1/2" DIAMETER REBAR CAST IN PLACE AS SHOWN.
 4. PAD SHALL BE CONCRETE WITH 4% FIBER.
 5. CIRCULAR PADS CAN BE SUBSTITUTED FOR SQUARE PADS.
- CIRCULAR PAD REBAR EYES INSTALLED 6" FROM PAD PERIMETER.

GULF COAST ENGINEERING
CIVIL AND ENVIRONMENTAL ENGINEERING
1111 W. MYRTLE AVE., SUITE 4
FOLLET, ALABAMA 36555
PHONE: (205) 944-4593 FAX: (205) 944-4591

Genesis Village Estates
Wastewater Treatment and Disposal
Cuthbert County

PROJECT TITLE
Cuthbert County

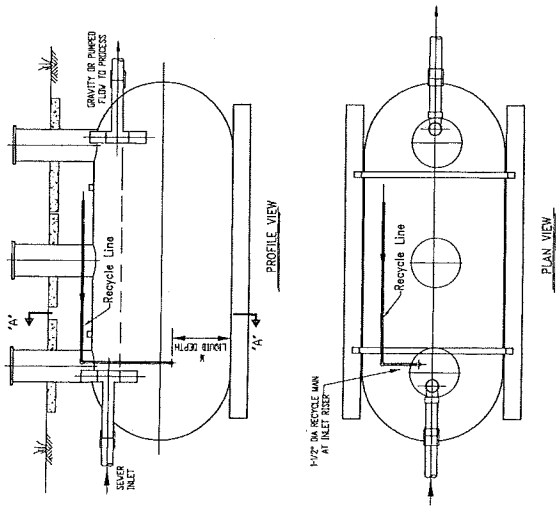
NO.	DATE	DESCRIPTION
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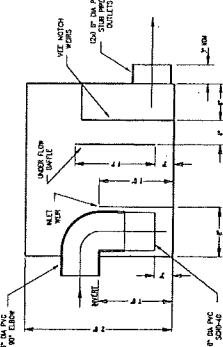
DESIGNED BY: E. Lopez
DRAWN BY: J. Lopez
CHECKED BY: J. Lopez
DATE: 09/10/09
PROJECT NO.

SHEET NUMBER
05
5 OF 5

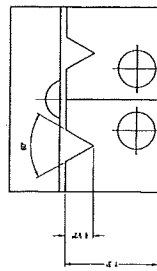
FIBERGLASS TANK WITH 1-1/2"
DIAMETER RECYCLE LINE



SECTION THROUGH BOX



FIBERGLASS SPLITTER BOX



SECTION A - A

NOTES:
INTERNAL WALLS & VEE PLATES TO BE 1/4" THICK FIBERGLASS.
EXTERNAL WALLS TO BE 1/4" THICK FIBERGLASS.
FLOW (90°) - 5478 x 10231
IN - HEIGHT OF FLOW ABOVE VEE NOTCH (H)
SPLITTER BOX TO BE INSTALLED IN A 4' DIA MANHOLE
WITH ACCESS TO GROUND.

SECTION A - A

NOTES FOR CONTRACTOR
1. RECYCLE LINE AND FITTINGS
TO BE 1-1/2" PVC SDR 40
& TANK INSTALLATION AND SURROUND TO MEET
MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODES.

SEWER TREATMENT AND DISPOSAL EASEMENT

For and in consideration of the sum of One (\$1.00) Dollar, cash in hand paid, and other good and valuable consideration not herein mentioned, the receipt and sufficiency of which is hereby acknowledged, **GENESIS VILLAGE ESTATES TOWNHOMES, LLC, a Tennessee limited liability company, ("Grantor")**, does hereby bargain, transfer, quitclaim and convey unto **CUMBERLAND BASIN WASTEWATER SYSTEMS, LLC, a Tennessee limited liability company, its successors and assigns, ("Grantee")**, a permanent easement to construct and maintain a sewage treatment and drip field, including without limitation a treatment and sub-surface sewage disposal system, and further including, without limitation, all sewer lines, field lines, drains, fixtures and septic tanks incidental to the same upon the property hereinafter described. Said easement shall be the perpetual right for the Grantee, its successors and assigns, to enter upon the property from time-to-time to construct, install, maintain, repair, rebuild, protect, extend, connect to, operate and patrol the lines and system described above for the purposes described above. This easement shall run with the land, and is appurtenant to the real property owned by the Grantor described in the deed of record at Book 1358, pages 183, et seq., Register's Office, Cumberland County, Tennessee, which deed is incorporated herein by reference thereto.

*gary Emery
Insisted
on recording
as is Notary +
signature is
copies*

This instrument prepared by:
Looney, Looney & Chadwell, PLLC
156 Rector Ave. Crossville, Tennessee 38555

BK/PG: 1485/1418-1420
16012308

3 PGS:AL-EASEMENT	
BATCH: 104121	
09/28/2016 - 12:06 PM	
VALUE	0.00
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	15.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	17.00

STATE OF TENNESSEE, CUMBERLAND COUNTY
JUDY GRAHAM SWALLOWS
REGISTER OF DEEDS

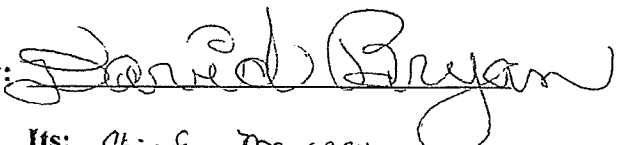
The easement area granted herein lies upon and affects real property of Grantor lying and being in the **FIRST CIVIL DISTRICT of Cumberland County, Tennessee**, and is more particularly described as follows:

Map 63, Portion of Parcel 48.00

BEGINNING at the northeast corner to which this is a part (Map 63, Parcel 048.00), being an iron rod and a common corner to Burton and in the line of Proffitt, thence leaving Proffitt and with Burton, S39-00-10E, 470.00 feet to a point, thence leaving Burton and with a new severance line, S50-59-50W, 350.00 feet to a point, thence N39-00-10W, 421.15 feet to a point in the line of Proffitt, thence with said line, N31-38-36E, 223.83 feet to an iron rod at a stone, thence N61-19-53E, 141.10 feet to the **point of beginning**, containing 3.76 acres as per survey of Dion Ault RLS #2678 dated August 30, 2016. Said description will require an easement along the eastern line of the tract from which it is a part, being five foot in width paralleling said eastern line to the pump station, said pump station is approximately 483.00 feet from the above described sewage drip field.

Being part of the same property acquired by Genesis Village Estates Townhomes, LLC, by virtue of a deed of record at Book 1358, page 183, Register's Office, Cumberland County, Tennessee.

**GENESIS VILLAGE ESTATES
TOWNHOMES, LLC**

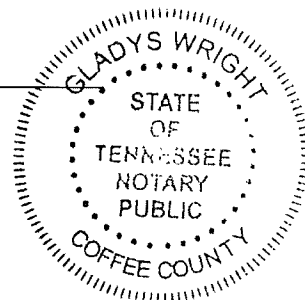
By: 
Its: Chief Manager

State of TN)
)
County of Coffee)

Before me, the undersigned authority, a Notary Public in and for said State and County, personally appeared David Bryan with whom I am personally acquainted, (or proved to me on the basis of satisfactory evidence), and who, upon oath, acknowledged himself to be chief manager of **Genesis Village Estates Townhomes, LLC, a Tennessee limited liability company**, and that he as such officer, being authorized so to do executed the foregoing instrument for the purposes therein contained by signing the name of the company by himself as such officer.

WITNESS my hand and seal of office this 28th day of September, 2016.

Gladys Wright
NOTARY PUBLIC



My commission expires: 5/15/19

The name and address of the property owner is:

The name and address of the person or entity responsible for payment of real property taxes is:

Genesis Village Estates Townhomes, LLC
P.O. Box 368 398
Morrison, Tennessee 37357

SAME

This instrument was prepared at the specific request of the parties, based solely upon information supplied by one or more of the parties to this instrument, and without examination of title or being furnished a survey. The preparer makes no representations or warranties as to the accuracy of the description or the status of the title to the property. The preparer of this instrument assumes no liability for any errors, inaccuracies, or omissions in this instrument resulting from the information provided, and the parties hereto signify their assent to this disclaimer by the execution and the acceptance of this instrument. The parties to this instrument have not sought or obtained from the preparer any advice regarding the possible tax consequences, if any, of this transaction and no such advice has been furnished by the preparer.

**Cumberland Basin Wastewater Systems
Residential Service -- Sand-Gravel Filter**

All Systems

Description	Monthly Amount
The Bluffs at Cumberland Cove	\$35.11*
Genesis Village Estates	51.50**

An additional \$0.35 per month will be added to systems with metering stations.

In addition to the rates described above, the following Miscellaneous Fees shall also be in effect:

Late Payment – 5.00%

Disconnection – \$10.00

Reconnection – \$15.00

Returned Check – \$20.00

Access – \$84.00 per year for The Bluffs at Cumberland Cove, \$100.00 per year for Genesis Village Estates.

* - Of this rate, \$7.03 will be placed into an escrow account for non-routine maintenance.

** - Of this rate, \$14.94 will be placed into an escrow account for non-routine maintenance.

**Cumberland Basin Wastewater Systems
Commercial Non-Food Service
The Bluffs At Cumberland Cove**

Commercial Non-Food Service will be charged on a monthly basis. The monthly wastewater charge is based on the daily design flow expected from the type of establishment being served. A minimum monthly service charge of \$75.00 will be applied regardless of the customer's actual usage. The following rates shall be applied to each customer's Expected Daily Design Flow:

Expected Daily Design Flow	Rate
0 – 300 gallons per day	\$75.00
301 – 1000 gallons per day	\$15.00 per 100 gallons
1001 – 3000 gallons per day	\$140.00 per 1000 gallons
Over 3000 gallons per day	\$116 per 1000 gallons

Additional charges shall apply when the customer's actual daily usage exceeds their expected daily design flow. For any month that a customer's water meter reading exceeds the expected design flow, the following surcharges shall apply:

Excess Daily Usage	Rate
1 – 1000 gallons above Expected Daily Design Flow	\$175.00
1001 – 2000 gallons above Expected Daily Design Flow	\$200.00
Over 2000 gallons above Expected Daily Design Flow	\$200.00 per 1000 gallons

If the water meter readings exceed the expected design flow for any three consecutive months, the monthly charge will be revised to reflect the increased usage and any capital costs associated with increasing the capacity of the system will be paid by the customer.

In addition to the rates described above, the following Miscellaneous Fees shall also be in effect:

- Late Payment – 5.00%
- Disconnection – \$10.00
- Reconnection – \$15.00
- Returned Check – \$20.00