TENNESSEE Wastewater
an Adenus Utility

851 Aviation Parkway
Smyrna, TN 37167

August 19, 2014

Mr. David Foster, Chief
Utilities Division
Tennessee Regulatory Authority
502 Deaderick Street, 4th Floor
Nashville, TN 37243

RE: Docket # 14-00062 – Clovercroft Acres - Data Response

Dear Mr. Foster:

Tennessee Wastewater Systems, Inc. provides the following information per your request dated July 30, 2014.

1. Explain the company's reasoning and overall rationale (and specific criteria) for not requiring the Developer/Contractor to install a drip field prior to the Utility accepting ownership to the wastewater system? What are the criteria used in determining when a drip should be built and who makes that decision?

Response: For traditional smaller scale fixed film plants (Reciruclating Sand Filter, BioClere, Sequential Batch Reactor or AdvanTex) that have limited storage capacity and are designed to serve a single development such as the one proposed to be built for Clovercroft Acres, this question does not apply as the treatment plant and drip dispersal system are installed prior to system conveyance.

For the larger regional facilities (generally facultative ponds designed and built for a long term development), there is no need for drip to be installed when the pond is constructed. It usually takes years for the pond to reach a level that it is ready for discharge. If the drip is installed and not used, the emitters in the drip pipe will become clogged with clay and silt, effectively rendering the drip pipe useless. Installing the drip system usually takes 5 to 8 weeks for the first phase, so timing is not an issue. Mechanical equipment installed and not used will likely have to be replaced or upgraded if put into service years later. The best example is the Paris Landing system, the drip pipe was installed soon after the facultative pond was constructed. Several years later, before it was placed into service, a forest fire crossed the drip field causing severe damage to valves, drip lines and the control wiring system. The cost to repair the system was far greater than the cost to install a new system due to the incremental nature of finding leaks, repairing cut pipes and burned irrigation wiring. Ultimately, the rate payers bore the cost of fixing the drip system.

Standard design criteria for facultative ponds have been established as part of the plans which have been submitted and approved by TDEC for all permitted sites of this nature. This criteria benefits both TWS and the ratepayers by deferring the ongoing operational expenses

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(such as purchased power and remote telemetry monitoring) until the system has the critical mass of customer revenue needed to offset those expenses.

One of the standards established is the delay of installing the drip system until the pond has reached 75% of its holding capacity. TWS performs monthly site visits on all of its permitted systems and inspection of the lagoon level is part of that process. When the lagoon approaches 75% of capacity, the operator notifies the Chief Technical Officer (CTO-Engineer). The CTO then visits the site and determines the timeframe for installing the drip system. The initial evaluation is done visually, but if necessary the CTO will use laser levels or other depth measuring equipment to verify the status of the pond. When CTO determines that it is time to install the drip system, he notifies the President of TWS who then schedules the installation.

The lagoons typically take several years to reach capacity, and would take at least another year to reach normal operating level. No TWS pond has ever reached operating level prior to drip irrigation being installed. Paris Landing was the first lagoon to reach 75%, and drip was installed six years ago. The system started discharging approximately two years later after reaching normal operating levels. Maple Green (TRA 00-01128) was installed earlier this year. Several of the sites have little or no flow coming to the systems. Clarkrange (TRA 05-00162), Cross Plains (TRA 05-00293), and the Highlands at Big South Fork (TRA 05-00162) have less than 5 customers per system, and are at low levels. Dyers Hollow is approaching 75% full and drip is scheduled to be installed.

2. Specifically, please discuss the rationale for not installing drip fields at Maple Green and Cedar Hill. Further, would properly installed drip fields have alleviated any of the problems currently being experienced at Maple Green and Cedar Hill.

Response: Similar to the response to #1, the timeline to install the drip system is very short. The risk of damage and clogging of drip emitters is very high. There is no benefit to installing mechanical equipment and controls and let it lay dormant for years before putting into service. This plan of when the drip irrigation installation was to occur was part of plans and specifications approved by TDEC.

3. Explain why drip fields are routinely included in the State Operating Permit ("SOP") application and in the Petition for a Certificate of Public Convenience and Necessity (CCN) for a wastewater system if they are not needed initially?

Response: Before TWSI can commit to serving an area, we must be in receipt of a set of system plans approved by TDEC. The ability to land apply effluent is a key component to our program. Soil areas must be identified and permitted as part of the engineering of the system. The system and the land comes to TWSI as contribution in aid of construction. All necessary components of the system must be transferred to the Utility. The land for the drip system is a critical component. Not having the land would create a significant liability to ratepayers.

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4. Since the drip field requires additional land owned by the wastewater utility, does TWS own land (approved by TDEC) for both Maple Green and Cedar Hill that was reserved for the drip field at each location? If not, please explain. If so, please provide a copy of the deeds.

Response: TWS owns the land for both facilities. See Attachment A for ownership information.

5. Will the drip field be constructed for the Scales Project prior to TWS accepting transfer of the wastewater system? If not, please explain.

Response: Yes. As alluded to in the first paragraph of response #1, any non-capacity scale plant will have the drip dispersal system installed within the same construction period as the treatment plant. The characteristics of the treatment plant, in particular its capacity for storage, are what drives the time frame for installation of its dispersal system.

6. Will the drip field be constructed for Clovercroft Acres prior to TWS accepting transfer of the wastewater system. If not, please explain.

Response: Yes.

7. Provide a list of each drip field, by system, that has been built or is in the process of being built (include an estimated completion date for those in process). For each system that TWS operates and a drip field has not been built, provide a copy of all documentation TWS received from the Developer/Contractor guaranteeing that a drop field will be built (e.g., promissory notes, contracts of completion, etc.).

Response: All the drip fields that have active SOPs from TDEC have been built with the exceptions of Cedar Hill (TRA 05-00212), Dyer's Hollow (TRA 01-00229), Clarkrange (TRA 05-00162), Cross Plains (TRA 05-00293), and the Highlands at Big South Fork (TRA 05-00162). The drip fields are the responsibility of Adenus Capacity, LLC to install. These drip fields will be installed according to the approved plans with TDEC.

8. Does TWS own land necessary to build drip fields for all systems where a drip field has not been built. If not, please explain.

Response: TWS either owns the land, has a permanent easement, or has the land dedicated on the recorded Plat.

9. In general how long does it take to build a drip field?

Response: Approximately 6 – 8 weeks.

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10. Has TWS requested that the Developer/Contractor of the Cedar Hill wastewater system build the drip field? If so, when will the construction of the drip field be started and when will it be completed? If not, please explain why such a request has not been made.

Response: The Cedar Hill drip dispersal field is the responsibility of Adenus Capacity, LLC. The drip field will be installed once the revised plans have been approved by TDEC. The approved plans for the drip field indicated it would not be installed until the lagoon reached a certain percentage of storage capacity. That capacity has not yet been obtained.

11. The Petition filed in this Docket states, "it is the intention of the parties that TWSI will own the collection, treatment and dispersal system and will own a permanent easement on the property that the system occupies". Most all other Petitions filed by TWS state the same. Has TWS received documentation (deed or easement) from the Developer/Contractor transferring ownership of the land or easement to TWS for all other wastewater systems that have a CCN approved by the Authority for TWS to operate.

Response: TWS has either received ownership, a permanent easement, or has been recorded as the Sewer Utility provider on the Plat for the systems it operates.

12. In its annual report, Tennessee Wastewater has been including amounts of $30,000 for Cedar Hill Collection, $320,000 Cedar Hill Land and $300,000 for Cedar Hill Treatment (page F-8) in its total for Contribution in Aid of Construction. Are these amounts correct? Please explain your answer.

Response: Yes. These amounts were the cost contributed to the Utility by the Developer at the time in 2007.

13. To this date, how much has the Utility spent to "bandaid" the problems with the Lagoon at Cedar Hill? How did the Utility fund any repairs?

Response: TWS has spent $57,171.54 for the bandaid. The funds came from the Escrow Reserve.

14. How much has the Utility spent to "bandaid" the problems with the Lagoon at Maple Green? How did the Utility fund these repairs?

Response: TWS has spent $12,573.01 to temporarily fix the Lagoon at Maple Green. The monies came from operating cash.

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15. The Petition to amend the Certificate of Convenience and Necessity is for an area called The Scales Project; however, the application for the State Operating Permit was filed as Clovercroft Well Treatment. Please reconcile this discrepancy.

Response: Since there was not a designated name for the development at the time of the application, TWS labeled the facility name as "Clovercroft Wells Treatment Facility" based on the project's location off of Clovercroft Road and our primary contact with Turnberry Homes, Nicky Wells. The Scales Project is the current name of the development.

16. How many acres is TWS requesting to be included in the requested area? The Petition filed January 22, 2014 states that the parcel of area requested covers 171 acres of land; however, the Data Response, filed April 17, 2015 states that the 86 lots will encompass 70 acres. Please explain this discrepancy.

Response: The parcel covers 171+/- acres. The 70 acres answer in the data response was a typo.

17. Please clarify why the TDEC permit application filed for Clovercroft Wells Treatment Facility states that Adenus Operations is the company that will operate the permitted system rather than TWS.

Response: At the time of filing, Adenus Operations was the company that operated the facilities for TWS. Effective July 1, 2014, TWS will operate the facility.

18. Are there other systems, in addition to Maple Green and Cedar Hill, that are in immediate need of repairs exceeding $25,000? If so, please provide a list of the systems in need of such repairs and TWS' detailed plans to make such repairs, including all timeframes and available funding.

Response: Smokey Village, Star Crest Resorts, Hidden Springs Resort, Black Bear Ridge Resort and Summit View Resorts are in need of expansion or repair that would exceed $25,000.00. Smokey Village, Maple Green, and Cedar Hill will be proposed in an emergency rate case. The cabin resorts will be accomplished by either a pre-negotiated settlement with the Cabin owners or a rate petition will be made to the TRA for those Cabin communities unwilling to address their over abuse.

19. Provide an update for TWS' proposal to repair the Maple Green and Cedar Hill systems. Include all proposed timeframes and available funding.

Response: TWS was in receipt of TDEC approval for the Maple Green wetlands system in a letter drafted on July 24, 2014 (see attachment B). The wetlands system will be installed at Maple Green once we have secured the emergency rate relief assurance from the TRA. We

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anticipate the construction to take 8-12 weeks from that point. As for the Cedar Hill system, we are unable to provide a timeline until approved plans have been provided by TDEC. The funding will come from a bank or other financial institution.

If you have any further questions, or need any additional information, please feel free to contact me.

Sincerely,

Matt Pickney, Operations Manager
Tennessee Wastewater Systems, Inc.

Attachment "A"

State of Tennessee Comptroller of the Treasury

Real Estate Assessment Data

County Number: 074 **County Name:** ROBERTSON **Tax Year:** 2014

Property Owner and Mailing Address

Jan 1 Owner:
TENNESSEE WASTEWATER
SYSTEMS INC
851 AVIATION PKY
SMYRNA, TN 37167

Property Location

Address: HWY 41

Map: 043 **Grp:** **Ctrl Map:** 043 **Parcel:** 021.01 **PI:** **S/I:** 000

Value Information

Reappraisal Year:	2013
Land Mkt Value:	$0
Improvement Value:	$0
Total Market Appraisal:	$0
Assessment %:	0
Assessment:	$0

General Information

Class:	07 - SAP UTILITY		
City #:	000	**City:**	
SSD1:	000	**SSD2:**	000
District:	08	**Mkt Area:**	S99
# Bldgs:	0	**# Mobile Homes:**	0
	03 -		03 -

Utilities - Water:	PUBLIC / INDIVIDUAL	**Utilities - Sewer:**	PUBLIC / INDIVIDUAL
Utilities - Elec:	01 - PUBLIC / PUBLIC	**Utilities - Gas:**	00 - PUBLIC / NONE
Utilities - Gas Type:		**Zoning:**	

Subdivision Data

Subdivision:

Plat Bk: **Plat Pg:** **Block:** **Lot:**

Sale Information

Sale Date	Price	Deed Book	Page	Vac/Imp	Type Instrument	Qualification
03/22/2006	$0	1097	662			

Land Information

Deed Acres:	80.00	**Calc Acres:**	0.00	**Total Land Units:**	80.00
Land Type:	70 - EXEMPT	**Soil Class:**		**Units:**	80.00

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Property Labels
21.01
80AC
OIR-GIS Services | TN Department

State of Tennessee Comptroller of the Treasury

Real Estate Assessment Data

County Number: 074 **County Name:** ROBERTSON **Tax Year:** 2014

Property Owner and Mailing Address

Jan 1 Owner:
TENNESSEE WASTEWATER
SYSTEMS INC
851 AVIATION PKY
SMYRNA, TN 37167

Property Location

Address: SANDY SPRINGS RD

Map: 111 **Grp:** **Ctrl Map:** 111 **Parcel:** 215.00 **PI:** **S/I:** 000

Value Information

Reappraisal Year:	2013
Land Mkt Value:	$373,200
Improvement Value:	$30,900
Total Market Appraisal:	$404,100
Assessment %:	0
Assessment:	$0

General Information

Class:	07 - SAP UTILITY		
City #:	160	**City:**	COOPERTOWN
SSD1:	000	**SSD2:**	000
District:	13	**Mkt Area:**	P99
# Bldgs:	1	**# Mobile Homes:**	0
	11 -		

Utilities - Water:	INDIVIDUAL / INDIVIDUAL	**Utilities - Sewer:**	11 - INDIVIDUAL / INDIVIDUAL
Utilities - Elec:	01 - PUBLIC / PUBLIC	**Utilities - Gas:**	00 - PUBLIC / NONE
Utilities - Gas Type:		**Zoning:**	

Subdivision Data

Subdivision:

Plat Bk: **Plat Pg:** **Block:** **Lot:**

Additional Description

112 112 022.00 000
SEE NOTE

Building Information

Building # 1

Improvement Type:	01 - SINGLE FAMILY	**Stories:**	1
Base Area Sq. Ft.:	1,214		
Foundation:	02 - CONTINUOUS FOOTING	**Floor System:**	03 - WOOD W/O SUB FLOOR
Exterior Wall:	04 - SIDING AVERAGE	**Structural Frame:**	00 - NONE
Roof Framing:	02 - GABLE/HIP	**Roof Cover/Deck:**	00 - CORRUGATED METAL
Cabinet/Millwork:	02 - BELOW AVERAGE	**Floor Finish:**	08 - PINE/SOFT WOOD
Interior Finish:	07 - DRYWALL	**Paint/Decor:**	02 - BELOW AVERAGE
Bath Tile:	00 - NONE	**Electrical:**	02 - BELOW AVERAGE
Heat and A/C:	00 - NONE	**Plumbing Fixtures:**	3
Shape:	01 - RECTANGULAR DESIGN	**Quality:**	00 - BELOW AVERAGE

Act Yr Built: 1927 **Condition:** A - AVERAGE

Building Areas:

Area: BAS **Sq Ft:** 1,214

Area: OPF **Sq Ft:** 328

Area: SPU **Sq Ft:** 180

Sale Information

Sale Date	Price	Deed Book	Page	Vac/Imp	Type Instrument	Qualification
01/01/2002	$65,000	832	1	IMPROVED	WD	E
11/01/2001	$0	716	685			
11/01/2001	$68,000	715	397	IMPROVED	WD	J
12/03/1920	$0	72	512			

Land Information

Deed Acres: 80.81 **Calc Acres:** 0.00 **Total Land Units:** 80.81

Land Type: 20 - ACREAGE **Soil Class:** **Units:** 56.81

Land Type: 10 - COMMERCIAL **Soil Class:** **Units:** 24.00

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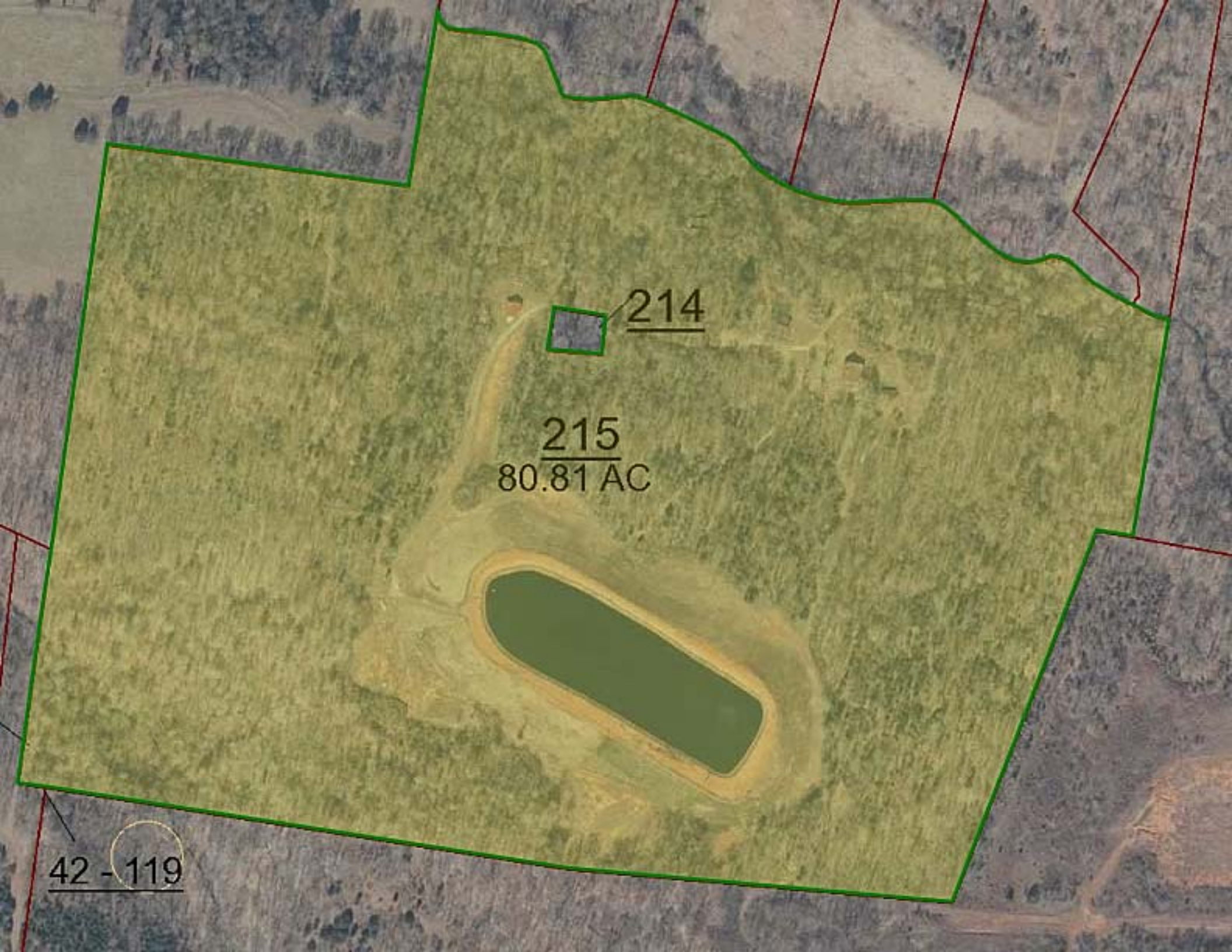
214
215
80.81 AC
42 - 119

Attachment "B"

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

July 24, 2014

Mr. Roy Denney, P.E.
Adenus Group, LLC
e-copy: roy.denney@adenus.com
849 Aviation Pkwy.
Smyrna, TN 37167

Subject: **Robertson County**
County: Robertson
Wastewater Project Number: 14-0471
Project: Maple Green Reclamation Facility, SOP-01028

Mr. Denney:

The Tennessee Department of Environment and Conservation, Division of Water Resources, acknowledges the receipt of 3 sets of construction documents on May 21, 2014 and July18, 2014.

The project consists of two surface flow wetland cells to provide wastewater treatment in place of the failed lagoon at the Maple Green Reclamation facility. The design flow for the wetland system is 35,000GPD. There appears to be limited examples of this approach to wetlands treatment. No performance data from similar systems was presented to support this design.

It is the division's understanding that Adenus plans to incorporate similar wetland system designs for other facilities. While the division is agreeable to consideration of innovative technologies, such as the wetland system proposed at Maple Green, the division is not supportive of applying this technology to multiple sites until such time that the success of the technology can be demonstrated. The division will consider applying this technology on a more wide-spread basis after a minimum of two years of performance data is collected for the Maple Green facility.

Approval is granted in accordance with certain requirements of the Water Quality Control (WQC) Act of 1977 and Regulations of the Water Quality Control Board. **The SITE set of plans and specifications will be stamped with the APPROVAL and APPROVAL EXPIRES STAMPS on the cover sheets only. Any indication of tampering with the bound set of documents will be subject to investigation and prosecution.** One complete set of construction documents, bearing the official stamp, must be kept at the construction site.

Approval expires one year from the stamped approval date (July 24, 2015) unless construction is either underway or complete. Any request for extension must be made prior to this expiration date. Significant deviations from the approved plan documents must be submitted and approved in writing before such changes are made. Minor changes made during construction need not have prior written approval. Modifications, however, may be required by this division should the changes be deemed inappropriate. It is advisable, therefore to obtain prior approval in cases where the significance of the change is uncertain.

The Division of Water Resources is authorized to inspect the construction work to verify compliance with the approved plans and specifications, which are on the site. Therefore, the engineer shall notify our staff at the Nashville Environmental Field Office by calling (615) 687-7000 before the start of construction.

Approval of these construction documents should not be construed as a permit for any activities related to this project. Activities which may require a permit under the WQC Act and Regulations include, but are not limited to, the following: streambank vegetation removal; creek crossing(s) for equipment or utility lines; construction within twenty (20) feet of a stream bank; construction in or near a marshy area or wetland, and/or land disturbance greater than one acre. Additionally, this approval does not authorize connection and use of sewer that will cause or contribute to collection system overflow or overload of receiving wastewater treatment facility.

The Nashville Environmental Field Office should also be contacted for determinations regarding whether modification of the existing NPDES or SOP permit, an Aquatic Resource Alteration Permit (ARAP) and/or a National Pollutant Discharge Elimination System (NPDES) construction stormwater permit will need to be obtained prior to the beginning of construction of this project.

The division's most recent TDEC Technical/Engineering Documents, including "Design Criteria for Sewage Works", Chapters 1-18 is available on our website: http://www.tn.gov/environment/water/water-quality_publications.shtml#tech.

To expedite matters, please reference the assigned wastewater project number 14-0471 on any future correspondence. If we may be of any assistance, please feel free to contact Mr. Robert O'dette at (615) 253-5319 or by E-mail at *Robert.Odette@tn.gov*.

Sincerely,

Brad C. Harris, P.E.
Manager, Land-Based Systems

cc: Water-Based Systems File
Ms. Ann M. Morbitt, Unit Manager, TDEC Division of Water Resources, Ann.Morbitt@tn.gov