

651 East 4th Street, Suite 407 • Chattanooga, TN 37403 • phone: (423) 266-3501 • fax: (423) 266-3286

Ms. Jennifer Innes
Division of Water Resources
Tennessee Department of Environment and Conservation
Chattanooga Field Office
540 McCallie Avenue, Suite 550
Chattanooga, TN 37402-2013

October 29, 2014

RE: Aquatic Resource Alteration Permit (ARAP) Application for Three Minor Road Crossings for Rocky Branch Farm 212 County Road 804, Etowah, TN 37331 ADES Project No. 14209

Dear Ms. Innes.

A.D. Engineering Services, Inc. (ADES) has prepared this Aquatic Resource Alteration Permit (ARAP) Application for the installation of three proposed culverted minor road crossings at the above referenced site. A USGS topographical map showing the locations of the crossings and photographs of the existing conditions have been included with this application.

The following has been included with this letter:

- 1. ARAP Application Form
- 2. USGS Topographic Map showing the approximate location of the stream crossings
- 3. ADES Photographic Log of each stream crossing
- 4. ARAP Application Drawings AR-1, AR-2, and AR-3
- 5. TDEC Hydrologic Determination Letter
- 6. ADES Drawings including:

Drawing No. Title

- C1.0 Existing Conditions & Site Demo Plan
- C2.0 Site Plan
- C3.0 Overall Grading & Drainage Plan
- C3.1 Grading & Drainage Plan
- C3.2 Grading & Drainage Plan
- C3.3 Grading & Drainage Plan
- C4.0 Erosion & Sediment Control Plan Phase 1

- C4.1 Erosion & Sediment Control Plan Phase 2
- C4.2 Erosion & Sediment Control Plan Phase 3
- C4.3 Grading, Drainage, And Erosion & Sediment Control Details
- C5.0 Project Notes

Existing Stream Characteristics:

Running water was present at all three (3) stream crossings when A.D. Engineering visited the site on September 5, 2014.

<u>Crossing No. 1</u> – The proposed gravel drive crosses a water feature that has been determined to be a stream and is described as channel 4 in the included hydrologic determination letter provided by TDEC. The stream bottom at the crossing location is approximately 4' wide with mostly silt, sticks, and leafy debris as substrate. The wooded banks are approximately 1' tall with 1:1 side slopes, and the water depth varies between 0" to 3" deep.

Crossing No. 2 – The proposed gravel drive crosses a water feature that has been determined to be a stream and is described as channel 3 in the included hydrologic determination letter provided by TDEC. This stream is called out as Rocky Branch on the included USGS topographical map. The bottom of the stream is approximately 9' wide at the crossing location and the distance from top of bank to the top of bank is 20'. The banks are approximately 6' tall and are steeper than 1:1 in some areas and approximate 2:1 in others The banks are mostly exposed dirt with some vegetation. At the crossing location the flow depth is approximately 6' deep. The substate is mostly silt and sand with some rocks and tree debris.

<u>Crossing No. 3</u> – The proposed gravel drive crosses a water feature that has been determined to be a stream and is described as channel 2 in the included hydrologic determination letter provided by TDEC. The proposed stream crossing is located in the same area that an existing dirt road with a 12" CMP currently crosses the stream. The existing CMP will be removed and replaced with a larger culvert. The stream bottom at the crossing location is approximately 2' wide with mostly sticks and leafy debris as substrate. The wooded banks are approximately 1.5' tall with 3:1 side slopes, and the water depth varies between 0" to 2" deep.

Project Description:

The owner proposes to install HDPE pipes of various sizes with precast concrete headwalls at each crossing to allow for the construction of a gravel access road. The road leads to the future site of four new chicken houses.

Table 1 below provides culvert information for each proposed crossing.

	Table 1 - Drainage Information and Proposed Culvert Data								
	D	rainage In	formation		Proposed Culvert Data				
Crossing Number	Drainage Area (ac)	Curve Number	Time of Concentration (min)	10-Yr Storm Peak Discharge (cfs)	Size & Type	Length (If)	Slope (%)	Culvert Capacity (cfs)	
1	23.75	60	15	40	30" HDPE	34	1.00	41	
2	550.89	60	41	485	(2) 60" HDPE	30	1.00	521	
3	31.44	60	12	60	36" HDPE	33	1.00	67	

<u>Description of Construction Methods for Crossings No. 1, 2 and 3:</u>

The culverts shall be installed per the following construction details:

- 1. The bottom of the installed culverts shall be placed below the streambed level (approximately 1 2 inches), in a manner that allows natural substrate to reestablish.
 - Bed rock is not anticipated at these crossings, however if bed rock is encountered and is not rippable with road construction equipment, a hoe ram will be used to ensure that the culvert is placed slightly below the streambed level.
- 2. The culverts will be backfilled with 3/4 inch clean stone which shall be compacted to provide adequate support of the pipe haunches.
- 3. Concrete headwalls will be installed to protect the pipe and stream bank from erosion at the entrance and exits of the proposed crossing.

Alternatives

An alternative to the stream crossing would be to construct a bridge or arch structure to span across the stream locations. This alternative would be prohibitively costly to the project.

General Permit Requirements

Because the total land disturbance for this project is greater than 1 acre, a Stormwater Pollution Prevention Plan (SWPPP) for NPDES General Permit for Construction Activities has been developed and submitted for this project.

General ARAP Terms and Conditions shall also be followed including, but not limited to, the following:

 Where practicable, excavation and backfill activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted through utilization of cofferdams, berms, flexible plastic pipe, and/or a stream diversion channel. Cofferdams and berms must be constructed of sandbags, clean rock, steel sheeting, or other non-erodible material. The stream diversion channel must be constructed per the attached detail from the TDEC Handbook.

- 2. Excavated materials, removed vegetation, construction debris, and other wastes shall be removed to an upland location and properly stabilized or disposed of in such a manner as to prevent re-entry into the waterway.
- 3. Sediment shall be prevented from entering waters of the state. Erosion and sediment controls shall be designed according to the size and slope of disturbed or drainage areas to detain runoff and trap sediment and shall be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices.
- 4. Erosion and sediment control measures shall be in place and functional before earth moving operations begin, and shall be constructed and maintained throughout the construction period.
- 5. Clearing, grubbing and other disturbance to the riparian vegetation shall be kept at the minimum necessary for slope construction and equipment operations.

 Unnecessary riparian vegetation removal, including trees, is prohibited.
- 6. Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed more than ten (10) calendar days prior to grading or earth moving unless the area is seeded and/or mulched or other temporary cover is installed.
- 7. Streambeds shall not be used as transportation routes for construction equipment. Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where stream banks are disturbed.

Please call me at (423) 266-3501 with any questions you might have.

Sincerely,

A.D. ENGINEERING SERVICES, INC.

Mike Hodge

Mike Hodges, P.E

attachments: ARAP Application Form

USGS Topographic Map

Photographic Log

ARAP Application Drawings – AR-1, AR-2, AR-3

TDEC Hydrologic Determination Letter

cc: Brian Akins, owner



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 1-888-891-8332 (TDEC)

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Permit

OFFICIAL STATE USE ONLY	Site #:				Permit	t #:			
Section 1. Applicant Information (individual responsible for site, signs certification below)									
Applicant Name: Brian Akins									
Company:				Signatory's	s Title o	r Posit	ion: Own	er	
Mailing Address: 116 County Road	681			City: Etov	wah			State: TN	Zip: 37331
Phone: (423) 368-5495		Fax:		E-mail: ba	akins(@gm	ail.com		
Section 2. Alternate Contact/Consultant	Inforn	nation (a consu	ltant is not requ	uired)					
Alternate Contact Name: Adam Driver									
Company: A.D. Engineering Services				Title or Pos	sition: P	roject N	Manager		
Mailing Address: 651 E. 4th St., Suit	e 407			City: Char	ttanoo	ga		State: TN	Zip: 37403
Phone: (423) 266-3501		Fax: (423) 266-	3286	E-mail: ada	am@ade	engine	ering.us		
Section 3. Fee (check appropriate box and	l submii	requisite fee w	ith application)						
■ No Fee Submitted	■ Fee	Submitted with	Application		Amou	nt Sub	mitted:	50.00	
Current fee schedules for Aquatic Resourchttp://www.tn.gov/environment/permits/ar									
Section 4. Project Details (fill in informa	tion and	d check appropr	riate boxes)						
Site or Project Name: Rocky Branch	n Far	m		Nearest C	ity, Tow	vn or N	Major Land	mark: Ettowa	h, TN
Street Address or Location: 212 County	/ Road	l 804, Etowa	nh, TN						
County(ios): Mandian			MS4 Jurisdie	ction: NI/A		Latitude (dd.dddd): 35.303133			
County(ies): McMinn				IN/A		Longitude (dd.dddd): -84.547292			
Resource Proposed for Alteration:	Stream	■ We	etland	Reservo	oir				
Name of Water Resource: Rocky Branc	h								
Brief Project Description (a more detailed	descrip	tion is required	under Section 8	3):					
Installation of culverts to acce	ess no	ew chicken	houses.						
Does the proposed activity require approvagovernment agency? Yes	al from	the U.S. Army (Corps of Engine	eers, the Ten	nessee V	Valley	Authority,	or any other fe	deral, state, or local
If Yes, provide the permit reference number	ers:								
		()							
Is the proposed activity associated with a l	•	•	-				_		
If Yes, submit site plans and identify the location and overall scope of the common plan of development. Plans attached? Yes No									
	If applicable, indicate any other federal, state, or local permit authorizations that the overall project site (common plan of development) has obtained in the past (i.e. construction general permit coverage and/or other ARAPs):								
TDEC Construction General Permit applied for									
Section 5 Ducient Schedule (61) in information	ation a	ud ahaak ammua	oviata hovas)						
Section 5. Project Schedule (fill in information and check appropriate boxes)									
Start date: November 2014 Estimated end date: November 2015									
Is any portion of the activity complete now? Yes No If yes, describe the extent of the completed portion:									

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Permit

The required information in Sections 6-11 must be submitted on a separate sheet(s) and submitted in the same numbered format as presented below. If any question in not applicable, state the reason why it is not applicable.

	The state of the s							
Section	n 6. Project Description	Attac Yes	ched No					
6.1	A narrative description of the scope of the project	□						
6.2	USGS topographic map indicating the exact location of the project (can be a photographic copy)							
6.3	Photographs of the resource(s) proposed for alteration with location description (photo locations should be noted on map)	ū						
6.4	A narrative description of the existing stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation	•						
6.5	A narrative description of the proposed stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation	0						
6.6	In the case of wetlands, include a wetland delineation with delineation forms and site map denoting location of data points N/A							
6.7	A copy of all hydrologic or jurisdictional determination documents issued for water resources on the project site		▣					
Section	7. Project Rationale	Attac Yes	ched No					
Describe the need for the proposed activity, including, but not limited to, the purpose, alternatives considered, and what will be done to avoid or minimize impacts to streams or wetlands.								
Section	8. Technical Information	Attac Yes	ched No					
8.1	Detailed plans, specifications, blueprints, or legible sketches of present site conditions and the proposed activity. Plans must be 8.5.x 11 inches. Additional larger plans may also be submitted to aid in application review. The detailed plans should be superimposed on existing and new conditions (e.g., stream cross sections where road crossings are proposed)	•						
8.2	For both the proposed activity and compensatory mitigation, provide a discussion regarding the sequencing of events and construction methods	▣						
8.3	Depiction and narrative on the location and type of erosion prevention and sediment control (EPSC) measures for the proposed alterations	0						
	Section 9. Water Resources Degradation (degree of proposed impact) Note that in most cases, activities that exceed the scope of the General Permit limitations are considered greater than de minimis degradation to water quality.							
My acti	ivity, as proposed:							
a.	☐ Will not cause measurable degradation to water quality							
b.	b. Will only cause de minimis degradation to water quality							
c.	c. Will cause more than de minimis degradation to water quality (Complete additional sections 9-11)							
d.	☐ Unsure/need more information							
Tenness	For information and guidance on the definition of de minimis and degradation, refer to the Antidegradation Statement in Chapter 0400-40-0306 of the Tennessee Water Quality Criteria Rule: https://www.tn.gov/sos/rules/0400/0400-40/0400-40-03.20131216.pdf . For more information on specifics on what General Permits can cover, refer to the Natural Resources Unit webpage at http://www.tn.gov/environment/permits/arap.shtml							
If you checked "c." above in Section 9, complete the following 2 sections, 10-11.								
Section	10. Detailed Alternative Analysis	Attac	hed					
Section	AND A VENNER A AREN AND VALUE OF THE SECOND	Yes	No					

Section	Section 10. Detailed Alternative Analysis			
Bectio	Section 10. Detailed Alternative Analysis			
10.1	Analyze all reasonable alternatives and describe the level of degradation caused by each of the feasible alternatives			
10.2	Discuss the social and economic consequences of each alternative			
10.3	Demonstrate that the degradation associated with the preferred alternative will not violate water quality criteria for uses designated in the receiving waters, and is necessary to accommodate important economic and social development in the area			

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Permit

Section	on 11. Compensatory Mitigation	Atta Yes	ched No
11.1	A detailed discussion of the proposed compensatory mitigation		
11.2	Describe how the compensatory mitigation would result in no net loss of resource value		
11.3	Provide a detailed monitoring plan for the compensatory mitigation site	D	0
11.4	Describe the long-term protection measures for the compensatory mitigation site (e.g., deed restrictions, conservation easement)		

Certification and Signature

An application submitted by a corporation must be signed by a principal executive officer; from a partnership or proprietorship, by the partner or proprietor respectively; from a municipal, state, federal or other public agency or facility, the application must be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.

"I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury".

Brian Akins	Owner	R'AL	1-121/-11	
Printed Name	Official Title	Signature	Date /	

Submitting the form and obtaining more information Note that this form must be signed by the principal executive officer, partner or proprietor, or a ranking elected official in the case of a municipality; for details see Certification and Signature statement above. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit the completed ARAP Application form (keep a copy for your records) to the appropriate EFO for the county(ies) where the ARAP activity is located, addressed to Attention: ARAP Processing. You may also electronically submit the complete application and all associated attachments (e.g., maps, wetland delineations and narrative portions) to water.permits@tn.gov.

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett	38133-4119	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305-4316	Chattanooga	540 McCallie Avenue STE 550	37402-2013
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601



OFFICIAL STATE USE ONLY

Received Date:	Permit Number:	Reviewer:		Field Office:		
Fee amount paid:	T & E Aquatic Flora and Fauna:		Impaired Receiving Stream:	Application Review:		
Date:			,	Deficient	Date:	
Check #:	Exceptional TN Water:			Complete	Date:	

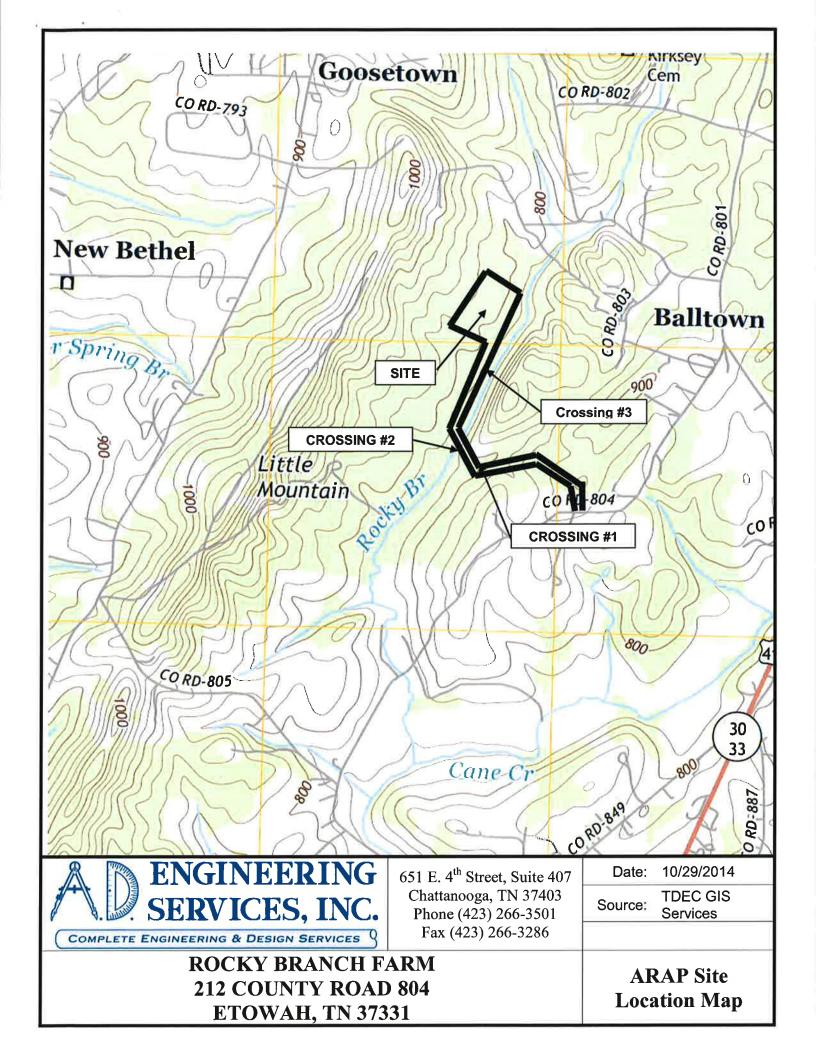


Photo 1: Stream Crossing #1 Looking Downstream

Photo Taken 9/5/2014





Photo 2: Stream Crossing #1 Looking Upstream

Photo Taken 9/5/2014



651 E. 4th Street, Suite 407 Chattanooga, TN 37403 Phone (423) 266-3501 Fax (423) 266-3286

Date: 10/29/2014

ROCKY BRANCH FARM 212 County Road 804 Etowah, TN

Photo 3: Stream Crossing #2 Looking Downstream

Photo Taken 9/5/2014





Photo 4: Stream Crossing #2 Looking Upstream

Photo Taken 9/5/2014



651 E. 4th Street, Suite 407 Chattanooga, TN 37403 Phone (423) 266-3501 Fax (423) 266-3286

Date: 10/29/2014

ROCKY BRANCH FARM 212 County Road 804 Etowah, TN

Photo 5: Stream Crossing #3 Looking Downstream

Photo Taken 10/21/2014





651 E. 4th Street, Suite 407 Chattanooga, TN 37403 Phone (423) 266-3501 Fax (423) 266-3286

Date: 10/29/2014

ROCKY BRANCH FARM 212 County Road 804 Etowah, TN

Photo 6: Stream Crossing #3 Looking Upstream

Photo Taken 10/21/2014





651 E. 4th Street, Suite 407 Chattanooga, TN 37403 Phone (423) 266-3501 Fax (423) 266-3286

Date: 10/29/2014

ROCKY BRANCH FARM 212 County Road 804 Etowah, TN

Photo 7: Stream Crossing #3 Looking At Existing Road Crossing

Photo Taken 10/21/2014

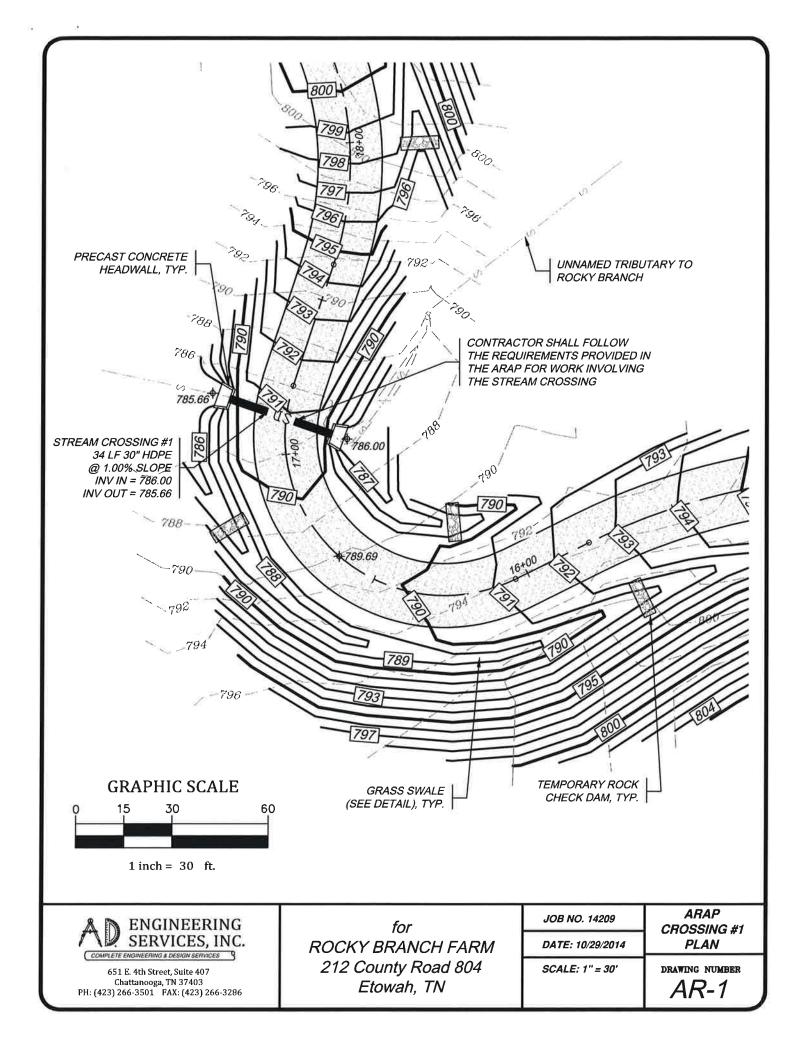


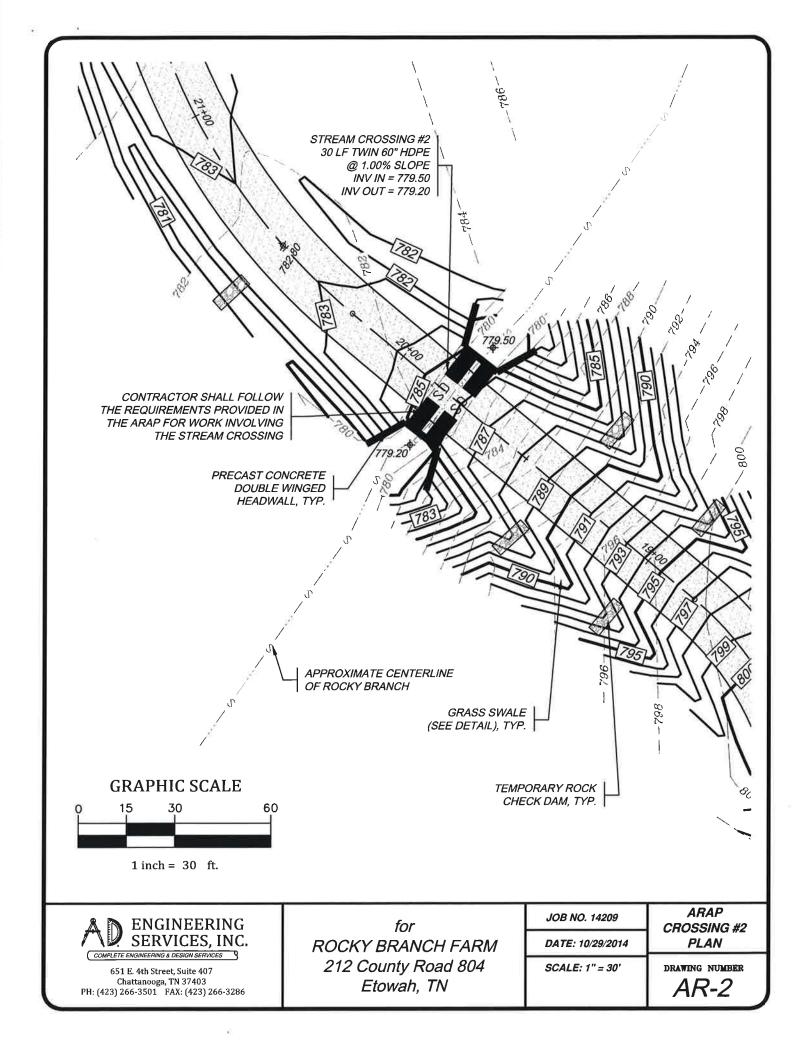


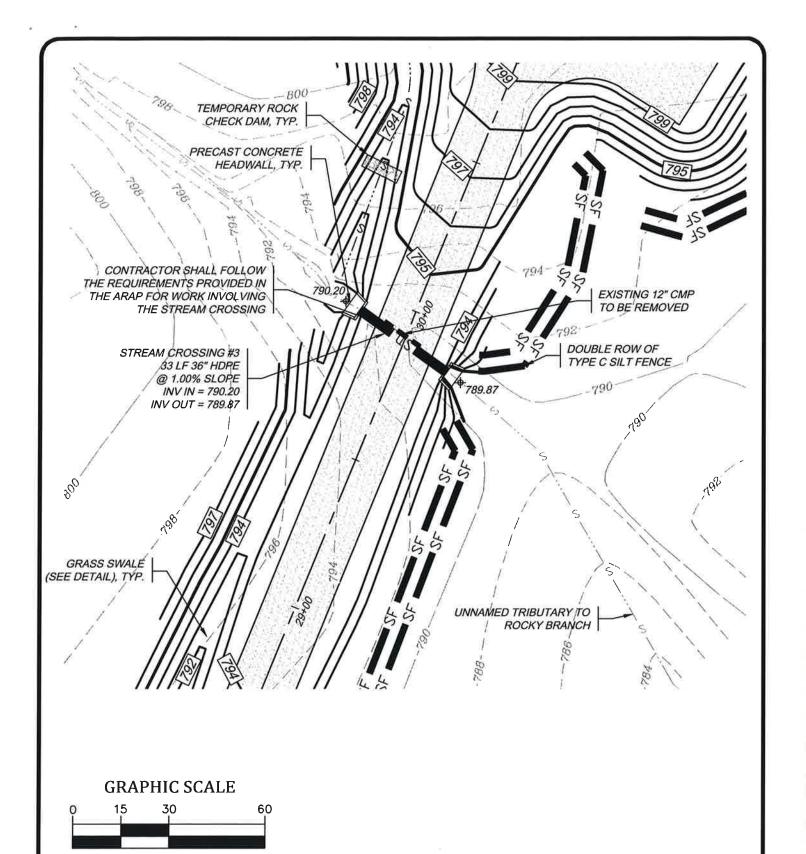
651 E. 4th Street, Suite 407 Chattanooga, TN 37403 Phone (423) 266-3501 Fax (423) 266-3286

Date: 10/29/2014

ROCKY BRANCH FARM 212 County Road 804 Etowah, TN









1 inch = 30 ft.

COMPLETE ENGINEERING & DESIGN SERVICES

651 E. 4th Street, Suite 407 Chattanooga, TN 37403 PH: (423) 266-3501 FAX: (423) 266-3286 for ROCKY BRANCH FARM 212 County Road 804 Etowah, TN JOB NO. 14209

DATE: 10/29/2014

ARAP CROSSING #3 PLAN

SCALE: 1" = 30'

AR-3



STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION CHATTANOOGA ENVIRONMENTAL FIELD OFFICE DIVISION OF WATER RESOURCES 540 MCCALLIE AVENUE, SUITE 550 CHATTANOOGA, TN 37402

March 25, 2014

- letter returned undeliverable - remailed 4-3-14 to:

Brian Akins 116 County Road 681 Calhoun, TN 33309 116 Co Rd 681 Etowah, TN 37331

RE:

Brian Akins Property Hydrologic Determination

Rocky Branch Watershed, McMinn County

Dear Mr. Akins:

On March 14, 2014 I met with you at your property located off County Road 805 in McMinn County. The purpose of this site visit was to assess the jurisdictional status of several water features located onsite. Four channels were inspected in all. The determinations made are as follows:

Channel 1:

This water feature has been determined to be a stream from Lat. 35.3059/ Long. -84.5535 to its confluence with Rocky Branch. It is highlighted in yellow and labelled Channel 1 on the enclosed map.

Channel 2:

This water feature has been determined to be a stream from Lat. 35.3091/Long. -84.5529 to its confluence with Rocky Branch. It is highlighted in yellow and labelled Channel 2 on the enclosed map.

Channel 3:

This water feature has been determined to be a stream and is called out as Rocky Branch on USGS topographic map. It is highlighted in yellow and labeled Channel 3 on the enclosed map.

Channel 4:

This water feature has been determined to be a stream from Lat. 35.3052/ Long. -84.5485 to its confluence with Rocky Branch. It is highlighted in yellow and labeled Channel 4 on the enclosed map.

Any alterations to designated streams or other jurisdictional water features may only be performed under the coverage of, and conformance to, a valid Aquatic Resource Alteration Permit (ARAP) issued by the Tennessee Division of Water Resources.

Please be aware that land disturbance activities (such as clearing, filling or grading) of one acre or greater require coverage under the Tennessee Construction General Permit. For more information, you may refer to the following web page: http://state.tn.us/environment/permits/conststrm.shtml.

I appreciate the opportunity to assess the site prior to site plan finalization and initiation of construction activities. Because natural variation and human activities can alter hydrologic conditions, the Division reserves the right to reassess the status of these water features in the future. Please note that geographic coordinates provided in this document have a limited precision and should be considered approximate. If you have any questions concerning this letter; or need further information, please contact me at 423-634-5704 or by email at Jason.Dees@tn.gov.

Sincerely

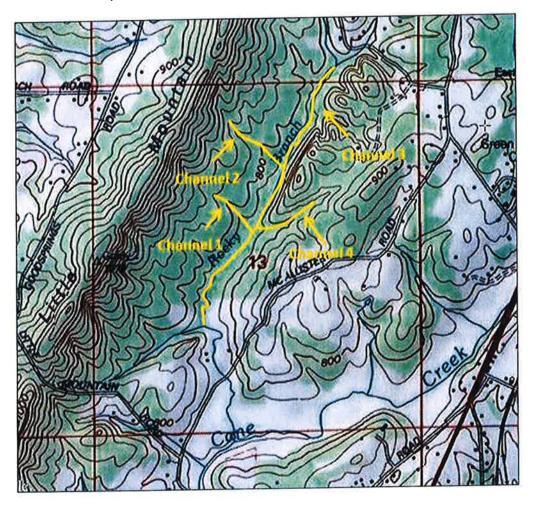
Jason Dees

Division of Water Resources

Chattanooga Environmental Field Office

CC: File

Hydrologic Determination Map





651 East 4th Street, Suite 407 • Chattanooga, TN 37403 • phone: (423) 266-3501 • fax: (423) 266-3286

Project Transmittal Sheet

Го:	Jennifer 1 TDEC	<u>Innes</u>		Date:		10/31/2014
	540 McCa			Project Name:		Rocky Branch Farm
	Suite 550 Chattano	<u>.</u> oga, TN 37	<u>402</u>	ADES Job Num	ber:	14209
Phon	ne No.:			From:		Mike Hodges
٧	Ve are sen	ding you vi	a:			
	You Pick	•	US Mail	UPS		Other
	Hand De	•	Courier	Fed Ex		
	he followi Letter Change Contract Request	Order	☐ Invoice ☐ Permit Application ☐ Computer Disk	☐ Specifications☐ Drawings (origina☐ Shop Dwg/Submit☐ Other <u>Forms an</u>	tals	☐ Request for Proposal ☐ Drawings (copies) ☐ Certificate of Payment
	For Your	· Approval · Information d as Noted		teturn to ADES		ested nd Resubmit Review and Comment
	Date	No.	Title			
	10/29/14	1	Construction Dra	awings Set		
	10/27/14	1	Written SWPPP			
	10/29/14	1	NOI Form	\$ 1000 fee pa	id	
	10/29/14	1	ARAP Application		pand	,
	10/31/14	1	\$1,050.00 check	for permit fees		
N	otes:					

Сору:

OCT 3 1 '14

ENVIRONMENT & CONSERVATION GRAFTARCOCKA, FOLD OFFICE

Page 1 of 1



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION **ENVIRONMENTAL FIELD OFFICE**

State Office Building, Suite 550 540 McCallie AvenueChattanooga, TN 37402 (423)634-5745 STATEWIDE 1-888-891-8332 (423)634-6389

RECEIPT

Receipt:

EAC-CH-2553

Date of Receipt:

31-Oct-2014 2:08 pm

Created By:

Richard Bunch (BG55010)

County:

EFO/Office:

Chattanooga Field Office

Received From:

Brian Akins

Company/Affiliation:

Recipient Address: 116 County Road 681

ETOWAH, TN- 37331

Amount Received:

\$1,050.00

Description.

Method of Payment: CHECK

Check Number:

1719

Comments:

ARAP for Three Minor Road Crossings NOI for Rocky Branch Farm

Division WPC

WPC

WPC-NOI \$50 Permit Application

TDEC Code 43.340.F02

43.340.F02

Quantity 1

Unit Price \$50.00

\$1,000.00

Line To

\$50.00 \$1,000.00

WPC-NOI \$1000 Permit Application

Receipt Total:

\$1,050.00

Visit us at: http://tn.gov/environment/

CN-1139 (Rev. 6-09)

RDA \$1730



* Indicates a mandatory field comments, <u>Email</u> or call the TDEC Help Deak at (815) 532-0287, and several in Internal Explorar version 6,0 and above.

