

September 3, 2009

Paul Estill Davis, P.E.
Director,
Division of Water Pollution Control
Tennessee Department of Environment and Conservation
6th Floor L & C Annex
401 Church St.
Nashville, TN 37243

Dear Mr. Davis:

On behalf of the Tennessee Responsible Water Coalition (the "Coalition") the undersigned members are pleased to submit these comments for your consideration pertaining to the proposed rules and guidance required to be submitted to the Water Quality Control Board by Public Chapter 464, Acts of 2009 (the "Act"). We understand the Act requires the proposed rules to address the following:

- (1) Standard procedures for making stream and wet weather conveyance determinations that take into consideration biology, geology, geomorphology, precipitation, hydrology, and other scientifically based principles; and
- (2) A certification program for department staff and other persons who wish to become certified hydrologic professionals;

We understand the Act requires the proposed guidance to address the following:

- (3) Proposed guidance that provides instructions, examples and definitions based upon scientifically based principles for consistently and accurately making hydrologic determinations; and
- (4) Proposed guidance that provides minimum qualifications for staff who are responsible for making or reviewing wet weather conveyance determinations.

These comments are presented to make sure that certain key concepts are considered for inclusion. The Coalition as a group and its individual members reserve the right to make other comments and to otherwise negotiate language once the Division has presented its proposal to the Board in September. Ultimately, in order to fulfill the clear and unequivocal legislative intent the rules must embrace the requirements of the Act in detail and explain in a clearly understood manner the scientifically-based principles necessary to consistently and accurately make hydrologic determinations.

I. WET WEATHER CONVEYANCE GUIDANCE

Comment 1.

The Coalition desires and the legislative intent, we believe, dictates that the Division must propose and the Board must adopt rules that are much more detailed than the check list or field collection mechanism similar to that attached as Exhibit 1. The Division must develop procedures, and while a checklist with a scoring system could be part of such procedures, the rules should be drafted in such manner that defines how each of the check list and/or scoring values are derived.

Comment 2.

All procedures and accompanying definitions and guidance should be derived from the express language of the Act. Neither the rules nor the guidance should contain procedures not directly related to and not relevant to finding one of the four elements of the wet weather conveyance. For example, the identification of crayfish or other aquatic organisms, other than as expressly set out in the Act, is not relevant to any of the four key elements, and the procedures and guidance should not address this factor.

Comment 3.

All definitions and authority should be those used in the Act, current rules of the Board—consistent with the Act – or other generally accepted scientific definitions. The rules and guidance should provide clear examples of each of key terms. Where no existing definition is available from neither the Act or existing rules, the rules and guidance should reflect the most widely accepted definitions with citations to authority. For example a number of key terms are defined either by the United States Geologic Survey or the United States Army Corps of Engineers. All key terms used in the definition of wet weather conveyance must be defined and developed with reference either to the Act itself or existing regulations of the Water Quality Control Board to the extent consistent with the Act.

Comment 4.

The guidance should also include hypothetical examples of determinations for each of the four major wet weather conveyance elements. Photographs should be used where appropriate in guidance. The Act requires the rules and the guidance to provide procedures, instructions, examples and definitions all based on scientifically-based principles.

A. Channels Are At All Times Above The Groundwater Table

Comment 5.

The guidance should use the definition of “ground water” promulgated by the Board at Tenn. Comp. R & Regs. 1200-4-3-.07(2)(b) as the definition for “groundwater table.” This definition is the scientifically valid and accepted geologic definition of groundwater table. Thus when using the term “ground water” in any rule or guidance, the clear meaning of that term is the “groundwater table.” Consistent with this definition, the proposed rules and guidance should clarify that the emergence of water from the ground is is not necessarily water from the groundwater table. In addition, the rules and the guidance should clearly state that perched water is not

considered the groundwater table. Perched water may have some hydrologic significance for one of the other elements but not as a definition of groundwater table. The term “ground water connection” which is frequently used in existing Division checklists does not appear in the definition of “wet weather conveyance,” and neither the rules nor guidance should include this misleading term without reference to a connection with the “groundwater table.”

Comment 6.

The rules and the guidance should reflect accepted geologic terms and should refer to the accepted geologic definition of streams to further clarify groundwater table. The guidance should define and explain perennial, intermittent and ephemeral streams using USGS terminology and terminology from the U.S. Army Corps of Engineers. The reason for this reference is that these types of watercourses derive their name based their relationship to the groundwater table. Perennial and intermittent streams intersect the groundwater table in time, or space, or both and ephemeral streams never do so. Thus, perennial and intermittent streams by definition are not wet weather conveyances. Intermittent streams are not just streams that have flow in the channel only part of the year; rather, they are streams that experience saturation due to the rising groundwater table. Thus, with some minor exceptions, a wet weather conveyance determination will almost always focus on ephemeral streams. Once a watercourse is determined to be ephemeral (that is, above the groundwater table), then the other tests for wet weather conveyance can be applied. In this regard, recognizing the location of the stream or conveyance channel in its local and regional watershed setting is a critical evaluation to be conducted at the outset of the determination process and the guidance should include procedures to accommodate this critical step.

B. Flow Only In Direct Response To Precipitation Runoff In Their Immediate Locality

Comment 7.

The rules and the guidance should recognize that precipitation runoff is not only surface water runoff, but also interflow and interstitial flow. These terms should be defined with reference to USGS definitions and should be distinguished from perched water, springs and seeps.

Comment 8.

Neither the rules nor the guidance should establish as a presumptive indicator an arbitrary number of days on which flow is observed in a channel following precipitation events. The rules should explain and clarify that the presence of flow in a channel following precipitation depends on the amount of precipitation, duration and history of precipitation, geology, soils, and watershed size and location, and should not establish an arbitrary number of days as a presumptive indicator. A watercourse can and frequently does experience flow for more than two (2) weeks following a precipitation event depending upon site specific conditions.

Comment 9.

The guidance should require that precipitation data be obtained and recorded from a recognized source as near as practically possible to the watercourse in question and that documentation be provided showing the recorded rainfall on the day of the inspection and each of

previous thirty (30) days. The rules and the guidance should describe the impact of the size of the immediate watershed and the location of the watercourse in relation to the top of the watershed.

Comment 10.

The rules and guidance should require the person making a determination to provide a hydrologic explanation of the presence of flowing water where the source is not the ground water table.

C. **Hydrological And Biological Analyses Indicate That, Under Normal Weather Conditions, Due To Naturally Occurring Ephemeral Or Low Flow There Is Not Sufficient Water To Support Fish, Or Multiple Populations Of Obligate Lotic Aquatic Organisms Whose Life Cycle Includes An Aquatic Phase Of At Least Two Months**

Comment 11.

The rules should state clearly that the hydrological analysis is still required even if the number of target biological organisms is present. The Act requires that the watercourse must be *capable* of supporting and *does support* the target number of biological life. The hydrological analysis is necessary to determine if the watercourse can sustain the necessary flow. The biological analysis demonstrates that the populations of target organisms are present. The Act does not permit the biological findings to be a presumptive indicator of hydrology and the guidance must clarify that situation to avoid confusion.

Comment 12.

The presence of fish other than *gambusia* are presumptive indicators that the watercourse is not a wet weather conveyance.

1. Hydrological Analyses

Comment 13.

The rules should describe key measures for evaluating hydrology. The hydrological analysis must include a finding relative to the groundwater table. Intermittent and perennial streams are not wet weather conveyances so no additional analysis is necessary. However, ephemeral streams meet the “above the groundwater table” test and are wet weather conveyances unless one of the other tests is applicable. The following items should be identified and described as to significance: (1) watershed size, (2) location of watercourse in relation to the top of the watershed, (3) types of soils, (4) geology, (5) frequency of rainfall, and (6) surrounding land cover.

Comment 14.

Geomorphology as a hydrologic indicator must identify whether the watercourse has a defined bed and bank and an ordinary high water mark. A watercourse that does not contain such

a feature does not provide necessary hydrology, and even if target biological organisms are present, the test is not met.

Comment 15.

The rules and guidance should require that evaluation of geomorphologic features is only for the purpose of determining the required hydrology. The rules should restrict evaluation of geomorphologic factors to only those that are relevant to the hydrological analysis and provide the reasons for relevancy. The use of ambiguous indicators such as sediment “sorting” or “sinuosity” should be avoided and, if used, should be expressly supported as a condition exclusively indicative of frequent flow.

2. Biological Analysis

Comment 16.

The rules and guidance relating to the biological analysis should not include unrelated or “secondary” indicators of biological life such as plants, other aquatic organisms, algae, or fungi. The Act refers to one biological indicator: “multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months.” Nothing else is, therefore, relevant.

Comment 17.

The rules should define “multiple populations.” The Coalition believes the intent of the language in the Act was to clarify that wet weather conveyances may have a presence of target organisms and not lose the regulatory status of wet weather conveyance. It is only when the watercourse has the hydrologic capability to support and does support “multiple populations” of the target organisms that the watercourse does not qualify as a wet weather conveyance.

Comment 18.

A population should be defined as a separate species and multiple populations should include a given number of species in sufficient number.

Comment 19.

The rules should specify the type and level of reconnaissance necessary required to make the biological determination, when field calls will be acceptable as opposed to laboratory analysis, and should specifically identify the target organisms by genus and preferably by species. The target organisms should also be restricted to late instar stages. The rules should not refer to the presence of any other aquatic organisms (other than fish) as such reference is not related to the express definitions in the Act.

II. MINIMUM QUALIFICATIONS

Comment 20.

The rules and guidance should allow staff to make determinations only when the Division Director determines in writing that such employee is so qualified in accordance with established qualifications. Qualifications of those who may make hydrologic determinations must include (1) educational qualifications, (2) formal training, and (3) experience.

A. Education

Comment 21.

Educational qualifications should include at least a bachelor's degree in a field related to biology or geology. Formal training must include specific training on Tennessee law including the Act.

B. Training

1. Elements of Formal Training

Comment 22.

All training formal training programs must include instruction in geology, hydrology, and biology in addition to the guidance prepared for identifying wet weather conveyances as required by the Act. At least two full days should be devoted to instruction given in the field. All participants must be able to pass a written examination developed by the Division and be required to demonstrate proper field technique for making the determinations. In addition, employees must have at least a year of experience working under the direct supervision of a person who meets the qualifications.

2. Continuing Education

Comment 23.

The rules and guidance should require staff to periodically obtain continuing education in hydrologic determination.

3. Service Providers

Comment 24.

The guidance should allow the Division to develop formal training programs in addition to any on the job training. The Board may also approve programs offered by third parties. In order to receive approval any third party must submit to the technical secretary a description of the program, description of speakers, and the proposed written materials and program format.

III. CERTIFICATION OF HYDROLOGIC PROFESSIONALS

1. Minimum Requirements

Comment 25.

The rules should provide that a hydrologic professional is a person who has at least a bachelor's degree in geology, biology or related field who has a minimum of 5 years' experience in conducting hydrologic determinations in Tennessee.

2. Training Program

Comment 26.

The rules should provide that a hydrologic professional must successfully complete a program offered either by the Division or by an approved third party that provides instruction in geology, hydrology, and biology in addition to the guidance prepared for identifying wet weather conveyances as required by the Act. At least two full days should be devoted to instruction given in the field. All participants must be able to pass a written examination developed by the Division and be required to demonstrate proper field technique for making the determinations. In addition, employees must have at least a year of experience working under the direct supervision of a qualified person.

3. Continuing Education.

Comment 27.

The rules should require hydrologic professionals to periodically obtain continuing education in hydrologic determination of at least one 8 hour course as approved by the Board.

4. List of Certified Hydrologic Professionals

Comment 28.

The Division should maintain a list of all certified hydrologic professionals and place the listing on the Division's web site.

Comment 29.

Rules should have provisions for denying and revoking certification.

Sincerely,

Associated Builders & Contractors, Inc.
Associated General Contractors of Tennessee
Home Builders Association of Tennessee
Tennessee Bankers Association
Tennessee Chamber of Commerce & Industry
Tennessee County Highway Officials Association
Tennessee Farm Bureau Federation
Tennessee Mining Association
Tennessee Road Builders Association