

1                                   **SUBCHAPTER 2E - WATER USE REGISTRATION AND ALLOCATION**

2  
3                                   **SECTION .0500 - CENTRAL COASTAL PLAIN CAPACITY USE AREA**

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5   **15A NCAC 02E .0501    DECLARATION AND DELINEATION OF CENTRAL COASTAL PLAIN**  
6                                   **CAPACITY USE AREA**

7   The area encompassed by the following 15 North Carolina counties and adjoining creeks, streams, and rivers is hereby  
8   declared and delineated as the Central Coastal Plain Capacity Use Area: Beaufort, Carteret, Craven, Duplin,  
9   Edgecombe, Greene, Jones, Lenoir, Martin, Onslow, Pamlico, Pitt, Washington, Wayne and Wilson. The  
10   Environmental Management Commission finds that the use of ground water requires coordination and limited  
11   regulation in this delineated area for protection of the public interest. The intent of this Section is to protect the long  
12   term productivity of aquifers within the designated area and to allow the use of ground water for beneficial uses at  
13   rates which do not exceed the recharge rate of the aquifers within the designated area.

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15   *History Note:    Authority G.S. 143-215.13;*  
16                                   *Eff. August 1, 2002.*

17  
18   **15A NCAC 02E .0502    WITHDRAWAL PERMITS**

19   ~~(a) Existing ground water withdrawal permits issued in Capacity Use Area No. 1 (15A NCAC 02E .0200) within the~~  
20   ~~Central Coastal Plain Capacity Use Area are reissued under Section .0500 of this Subchapter and are valid until the~~  
21   ~~expiration date specified in each permit. Water use permits are no longer required for withdrawals in Hyde and Tyrrell~~  
22   ~~Counties as of the effective date of this Rule. Permits are not required for surface water use under Section .0500 of~~  
23   ~~this Subchapter in the Central Coastal Plain Capacity Use Area as delineated in Rule .0501 of this Section.~~

24   (b) No person shall withdraw ground water after the effective date of this Rule in excess of 100,000 gallons per day  
25   by a well, group of wells operated as a system, or sump for any purpose unless such person shall first obtain a water  
26   use permit from the Director. ~~Existing withdrawals of ground water as of the effective date of this Rule and proposed~~  
27   ~~withdrawals previously approved for funding appropriated pursuant to the "Clean Water and Natural Gas Critical~~  
28   ~~Needs Bond Act of 1998" or other local, state or federally funded projects as of the effective date of this Rule shall be~~  
29   ~~allowed to proceed with construction or to continue to operate under interim status until a permit has been issued or~~  
30   ~~denied by the Director, provided that persons withdrawing in excess of 100,000 gallons per day by a well, group of~~  
31   ~~wells operated as a system, or sump comply with the following requirements:~~

32                   (1) ~~Persons conducting withdrawals in the Capacity Use Area that require a permit shall submit a permit~~  
33                   ~~application to the Division of Water Resources within 180 days of the effective date of this Rule.~~

34                   (2) ~~Persons who have submitted applications shall provide any additional information requested by the~~  
35                   ~~Division of Water Resources for processing of the permit application within 30 days of the receipt~~  
36                   ~~of that request.~~

37                   (3) ~~Persons conducting withdrawals in the Capacity Use Area that require a permit shall submit water~~  
38                   ~~level and water use data on a form supplied by the Division four times a year, within 30 days of the~~

1 ~~end of March, June, September, and December until a permit has been issued or denied by the~~  
2 ~~Division of Water Resources.~~

3 (c) Ground water withdrawals shall be governed by the following standards:

4 (1) Adverse impacts of ground water withdrawals shall be avoided or minimized. Adverse impacts  
5 include, but are not limited to:

6 (A) dewatering of aquifers;

7 (B) encroachment of salt water;

8 (C) land subsidence or sinkhole development; or

9 (D) declines in aquifer water levels that indicate that aggregate water use exceeds the aquifer  
10 replenishment rate.

11 (2) Adverse impacts on other water users from ground water withdrawals shall be corrected or  
12 minimized through efficient use of water and development of sustainable water sources.

13 (3) In determining the importance and necessity of a proposed withdrawal the efficiency of water use  
14 and implementation of conservation measures shall be considered.

15 (d) An application for a water use permit must be submitted on a form approved by the Director to the North Carolina  
16 Division of Water Resources. The application shall describe the purpose or purposes for which water shall be used,  
17 shall set forth the method and location of withdrawals, shall justify the quantities needed, and shall document water  
18 conservation measures to be used by the applicant to ensure efficient use of water and avoidance of waste. Persons  
19 who have submitted applications shall provide any additional information requested by the Division of Water  
20 Resources for processing of the permit application within 30 days of the receipt of that request. Withdrawal permit  
21 applications shall include the following information:

22 (1) Location by latitude and longitude of all wells to be used for withdrawal of water.

23 (2) Specifications for design and construction of existing and proposed production and monitoring wells  
24 including:

25 (A) Well diameter;

26 (B) Total depth of the well;

27 (C) Depths of all open hole or screened intervals that will yield water to the well;

28 (D) Depth of pump intake(s);

29 (E) Size, capacity and type of pump;

30 (F) Depth to top of gravel pack; and

31 (G) Depth measurements shall be within accuracy limits of plus or minus 0.10 feet and  
32 referenced to a known land surface elevation.

33 Exceptions may be made where specific items of information are not critical, as determined by the  
34 Director, to manage the ground water resource.

35 (3) Withdrawal permit applications for use of ground water from the Cretaceous aquifer system shall  
36 be reviewed recognizing the Cretaceous aquifer system zones as described ~~include plans to reduce~~  
37 ~~water use from these aquifers as specified in Rule .0503 of this Section.~~ ~~Withdrawal rates from the~~

1 ~~Cretaceous aquifer system that exceed the approved base rate may be permitted during Phase I of~~  
2 ~~Rule .0503 of this Section if the applicant can demonstrate to the Director's satisfaction a need for~~  
3 ~~the greater amount.~~ Cretaceous aquifer system wells shall be identified using the specifications in  
4 Rule .0502(d)(1) and .0502(d)(2) of this Section and the hydrogeological framework.

- 5 (4) Withdrawal permit applications for dewatering of mines, pits or quarries shall include a dewatering  
6 or depressurization plan that includes:
- 7 (A) the current withdrawal rate or estimates of the proposed withdrawal rate;
  - 8 (B) the location, design and specifications of any sumps, drains or other withdrawal sources  
9 including wells and trenches;
  - 10 (C) the lateral extent and depth of the zone(s) to be dewatered or depressurized;
  - 11 (D) a monitoring plan that provides data to delineate the nature and extent of dewatering or  
12 depressurization;
  - 13 (E) certification of all engineering plans and hydrogeological analyses prepared to meet these  
14 requirements consistent with professional licensing board statutes and rules governing such  
15 activities.

16 Exceptions may be made where specific items of information are not critical, as determined by the  
17 Director, to manage the ground water resource.

- 18 (5) Conservation Measures. The applicant shall provide information on existing conservation measures  
19 and conservation measures to be implemented during the permit period as follows:
- 20 (A) Public water supply systems shall develop and implement a feasible water conservation  
21 plan incorporating, at a minimum, the following components. Each component shall be  
22 described, including a timetable for implementing each component that does not already  
23 exist.
    - 24 (i) Adoption of a water conservation-based rate structure, such as: flat rates,  
25 increasing block rates, seasonal rates, or quantity-based surcharges.
    - 26 (ii) Implementation of a water loss reduction program if unaccounted for water is  
27 greater than 15 percent of the total amount produced, as documented annually  
28 using a detailed water audit. Water loss reduction programs shall consist of  
29 annual water audits, in-field leak detection, and leak repair.
    - 30 (iii) Adoption of a water conservation ordinance for irrigation, including such  
31 measures as: time-of-day and day-of-week restrictions on lawn and ornamental  
32 irrigation, automatic irrigation system shut-off devices or other appropriate  
33 measures.
    - 34 (iv) Implementation of a retrofit program that makes available indoor water  
35 conservation devices to customers (such as showerheads, toilet flappers, and  
36 faucet aerators).

1 (v) Implementation of a public education program (such as water bill inserts, school  
2 and civic presentations, water treatment plant tours, public services  
3 announcements, or other appropriate measures).

4 (vi) Evaluation of the feasibility of water reuse as a means of conservation, where  
5 applicable.

6 (B) Users of water for commercial purposes, other than irrigation of crops and forestry stock,  
7 shall develop and implement a water conservation plan as follows:

8 (i) an audit of water use by type of activity (for example, process make-up water,  
9 non-contact cooling water) including existing and potential conservation and  
10 reuse measures for each type of water use;

11 (ii) an implementation schedule for feasible measures identified in the above item for  
12 conservation and reuse of water at the facility.

13 (C) Users of water for irrigation of crops and forestry stock shall provide the following  
14 information:

15 (i) total acreage with irrigation available;

16 (ii) types of crops that may be irrigated;

17 (iii) method of irrigation (for example, wells that supply water to canals, ditches or  
18 central pivot systems or any other irrigation method using ground water);

19 (iv) a statement that the applicant uses conservation practice standards for irrigation  
20 as defined by the Natural Resources Conservation Service.

21 (6) If an applicant intends to operate an aquifer storage and recovery program (ASR), the applicant shall  
22 provide information on the storage zone, including the depth interval of the storage zone, lateral  
23 extent of the projected storage area, construction details of wells used for injection and withdrawal  
24 of water, and performance of the ASR program.

25 (e) The Director shall issue, modify, revoke, or deny each permit as set forth in G.S. 143-215.15. Permittees may  
26 apply for permit modifications. Any application submitted by a permittee shall be subject to the public notice and  
27 comment requirements of G.S. 143-215.15(d).

28 (f) Permit duration shall be set by the Director as described in G.S. 143-215.16(a). Permit transferability is established  
29 in G.S. 143-215.16(b).

30 (g) Persons holding a permit shall submit signed water usage and water level reports to the Director not later than 30  
31 days after the end of each permit reporting period as specified in the permit. Monitoring report requirements may  
32 include:

33 (1) Amounts of daily withdrawal from each well.

34 (2) Pumping and static water levels for each supply well as measured with a steel or electric tape, or an  
35 alternative method as specified in the permit, at time intervals specified in the permit.

36 (3) Static water levels in observation wells at time intervals specified in the permit.

1 (4) Annual sampling by applicants located in the salt water encroachment zone and chloride  
2 concentration analysis by a State certified laboratory.

3 (5) Any other information the Director determines to be pertinent and necessary to the evaluation of the  
4 effects of withdrawals.

5 (h) Water use permit holders shall not add new wells without prior approval from the Director.

6 (i) The Director may require permit holders to construct observation wells to observe water level and water quality  
7 conditions before and after water withdrawals begin if there is a demonstrated need for aquifer monitoring to assess  
8 the impact of the withdrawal on the aquifer.

9 (j) For all water uses other than dewatering of mines, pits or quarries, withdrawals shall be permitted only from wells  
10 that are constructed such that the pump intake or intakes are at a shallower depth than the top of the uppermost confined  
11 aquifer that yields water to the well. Confined aquifer tops are established in the hydrogeological framework. Where  
12 wells in existence as of the effective date of this Rule are not in compliance with the requirements of this provision,  
13 the permit shall include a compliance schedule for retrofitting or replacement of non-compliant wells. Withdrawals  
14 from unconfined aquifers shall not lower the water table by an amount large enough to decrease the effective thickness  
15 of the unconfined aquifer by more than 50 percent.

16 (k) For withdrawals to dewater mines, pits or quarries, the permit shall delimit the extent of the area and depths of  
17 the aquifer(s) to be dewatered or depressurized. Maximum withdrawal rates and the permissible extent of dewatering  
18 or depressurization shall be determined by the Director using data provided by the applicant, data related to permits  
19 under G.S. 74-47, and other publicly available information. Withdrawal rates that do not cause adverse impacts, as  
20 defined in Rule .0502(c) of this Section, shall be approved.

21 (l) Withdrawals of water that cause changes in water quality such that the available uses of the resource are adversely  
22 affected shall not be permitted. For example, withdrawals shall not be permitted that result in migration of ground  
23 water that contains more than 250 milligrams per liter chloride into pumping wells that contain chloride at  
24 concentrations below 250 milligrams per liter.

25 (m) General permits may be developed by the Division and issued by the Director for categories of withdrawal that  
26 involve the same or substantially similar operations, have similar withdrawal characteristics, require the same  
27 limitations or operating conditions, and require similar monitoring.

28 (n) Permitted water users may withdraw and sell or transfer water to other users provided that their permitted  
29 withdrawal limits are not exceeded.

30 (o) A permitted water user may sell or transfer to other users a portion of his permitted withdrawal. To carry out such  
31 a transfer, the original permittee must request a permit modification to reduce his permitted withdrawal and the  
32 proposed recipient of the transfer must apply for a new or amended withdrawal permit under Section .0500 of this  
33 Subchapter.

34 (p) Where an applicant or a permit holder can demonstrate that compliance with water withdrawal limits established  
35 under Section .0500 of this Subchapter is not possible because of construction schedules, requirements of other laws,  
36 or other reasons beyond the control of the applicant or permit holder, and where the applicant or permit holder has  
37 made good faith efforts to conserve water and to plan the development of other water sources, the Director may issue

1 a temporary permit with an alternative schedule to attain compliance with provisions of Section .0500 of this  
2 Subchapter, as authorized in G.S. 143-215.15(c)(ii).

3  
4 *History Note:* Authority G.S. 143-215.14; 143-215.15; 143-215.16;  
5 Eff. August 1, 2002.

6  
7 **15A NCAC 02E .0503 ~~PREScribed WATER USE REDUCTIONS IN~~ CRETACEOUS AQUIFER**  
8 **SYSTEM ZONES**

9 ~~Cretaceous aquifer water use shall be reduced in prescribed areas over a 16 year period, starting from approved base~~  
10 ~~rates on the effective date of this Rule. The Cretaceous aquifer system zones and the three phases of water use~~  
11 ~~reductions are listed as follows:~~

- 12 (1) Cretaceous aquifer system zones are regions established in the fresh water portion of the Cretaceous  
13 aquifer system that delimit zones of salt water encroachment, dewatering and declining water levels.  
14 These zones are designated on the paper and digital map entitled "Central Coastal Plain Capacity  
15 Use Area Cretaceous Aquifer Zones" (CCPCUA) on file in the Office of the Secretary of State ~~one~~  
16 ~~week prior to the effective date of these Rules. These zones encompass areas sensitive to over-~~  
17 ~~development because aquifer withdrawal rates can exceed recharge rates. Between August 1, 2002~~  
18 ~~and July 31, 2019 Cretaceous Aquifer system zone users were required to reduce withdrawals from~~  
19 ~~their Approved Base Rates up to 30% in the declining water level zone and up to 75% in the~~  
20 ~~dewatering and salt water encroachment zones. The reductions came about through large~~  
21 ~~investments by water users in alternative water sources and water treatment systems. Intermittent~~  
22 ~~users were not required to reduce withdrawals. Users of wells exclusively screened or open to the~~  
23 ~~Peedee aquifer were not required to reduce withdrawals.~~
- 24 (2) ~~The reductions specified in this Rule do not apply to intermittent users.~~
- 25 (3) ~~If a permittee implements an aquifer storage and recovery program (ASR), reduction requirements~~  
26 ~~will be based on the total net withdrawals. The reductions specified in this Rule do not apply if the~~  
27 ~~volume of water injected into the aquifer is greater than the withdrawal volume. If the withdrawal~~  
28 ~~volume is greater than the injected volume, reductions specified in this Rule apply to the difference~~  
29 ~~between the withdrawal volume and the injected volume.~~
- 30 (4) ~~The reductions specified in this Rule shall not reduce permitted water use rates below 100,001~~  
31 ~~gallons per day.~~
- 32 (5) ~~Phase definitions:~~
- 33 (a) ~~Phase I: The six year period extending into the future from the effective date of this Rule.~~
- 34 (b) ~~Phase II: The five year period extending into the future from six years after the effective~~  
35 ~~date of this Rule to 11 years after the effective date of this Rule.~~
- 36 (c) ~~Phase III: The five year period extending into the future from 11 years after the effective~~  
37 ~~date of this Rule to 16 years after the effective date of this Rule.~~

1 ~~(6) Phase reductions:~~

2 ~~(a) Phase I:~~

3 ~~(i) At the end of the Phase I, permittees who are located in the dewatering zone shall~~  
4 ~~reduce annual water use from Cretaceous aquifers by 25% from their approved~~  
5 ~~base rate.~~

6 ~~(ii) At the end of the Phase I, permittees who are located in the salt water~~  
7 ~~encroachment zone shall reduce annual water use from Cretaceous aquifers by~~  
8 ~~25% from their approved base rate.~~

9 ~~(iii) At the end of the Phase I, permittees who are located in the declining water level~~  
10 ~~zone shall reduce annual water use from Cretaceous aquifers by 10% from their~~  
11 ~~approved base rate.~~

12 ~~(b) Phase II:~~

13 ~~(i) At the end of the Phase II, permittees who are located in the dewatering zone shall~~  
14 ~~reduce annual water use from Cretaceous aquifers by 50% from their approved~~  
15 ~~base rate.~~

16 ~~(ii) At the end of the Phase II, permittees who are located in the salt water~~  
17 ~~encroachment zone shall reduce annual water use from Cretaceous aquifers by~~  
18 ~~50% from their approved base rate.~~

19 ~~(iii) At the end of the Phase II, permittees who are located in the declining water level~~  
20 ~~zone shall reduce annual water use from Cretaceous aquifers by 20% from their~~  
21 ~~approved base rate.~~

22 ~~(c) Phase III:~~

23 ~~(i) At the end of the Phase III, permittees who are located in the dewatering zone~~  
24 ~~shall reduce annual water use from Cretaceous aquifers by 75% from their~~  
25 ~~approved base rate.~~

26 ~~(ii) At the end of the Phase III, permittees who are located in the salt water~~  
27 ~~encroachment zone shall reduce annual water use from Cretaceous aquifers by~~  
28 ~~75% from their approved base rate.~~

29 ~~(iii) At the end of the Phase III, permittees who are located in the declining water level~~  
30 ~~zone shall reduce annual water use from Cretaceous aquifers by 30% from their~~  
31 ~~approved base rate.~~

32 ~~(7) The CCPCUA Cretaceous Aquifer Zones map shall be updated, if necessary, in the sixth, eleventh,~~  
33 ~~and sixteenth years following the effective date of this Rule to account for aquifer water level~~  
34 ~~responses to phased withdrawal reductions. The map update shall be based on the following~~  
35 ~~conditions:~~

36 ~~(a) Rate of decline in water levels in the aquifers;~~

37 ~~(b) Rate of increase in water levels in the aquifers;~~

1                   ~~(c) — Stabilization of water levels in the aquifers; and~~

2                   ~~(d) — Chloride concentrations in the aquifers.~~

3 ~~This aquifer information shall be analyzed on a regional scale and used to develop updated assessments of aquifer~~  
4 ~~conditions in the Central Coastal Plain Capacity Use Area. The Environmental Management Commission (EMC)~~  
5 ~~may adjust the aquifer zones and the water use reduction percentages for each zone based on the assessment of~~  
6 ~~conditions. The EMC shall adopt the updated map and reduction percentage changes after public hearing.~~

7           ~~(8) — The reductions specified in this Rule do not apply to wells exclusively screened or open to the~~  
8           ~~Peedee aquifer.~~

9           ~~(9) — An applicant may submit documentation supporting the exemption of a well located in the Declining~~  
10           ~~Water Level Zone from the withdrawal reductions specified in this Rule. This documentation must~~  
11           ~~include a record of monthly static water levels from that well over at least a three-year period, ending~~  
12           ~~with the month when the request for exemption is submitted. The Director may exempt a well from~~  
13           ~~reductions if the water level history shows no pattern of decline during this three year period. A~~  
14           ~~well previously exempted from the withdrawal reductions shall become subject to the reduction if~~  
15           ~~water levels begin to show a pattern of decline.~~

16  
17 *History Note:*     *Authority G.S. 143-215.15;*

18                   *Eff. August 1, 2002.*

19  
20 **15A NCAC 02E .0504     REQUIREMENTS FOR ENTRY AND INSPECTION**

21 (a) The Division may enter and inspect property in order to evaluate wells, pumps, metering equipment or other  
22 withdrawal or measurement devices and records of water withdrawals and water levels, if:

23           (1)     Persons conduct an activity that the Division believes requires the use of water at quantities that  
24           subject the person to regulation under these Rules;

25           (2)     A permittee or applicant has not provided data or information on use of water and wells and other  
26           water withdrawal facilities as required by these Rules; or

27           (3)     Water levels and chloride concentrations at the person's facility, or at nearby facilities or monitoring  
28           stations, indicate that aquifers may be damaged by overpumping or salt water encroachment, or  
29           other adverse ~~effects~~ ~~affects~~ that may be attributed to withdrawal by the person.

30 (b) All information submitted to fulfill the requirements of these Rules, or to obtain a permit under these Rules, or  
31 obtained by inspection under these Rules, shall be treated as Confidential Business Information, if requested by the  
32 applicant, and found to be such by the Division. Reports defined in Rule .0502(g) of this Section are not considered  
33 Confidential Business Information.

34  
35 *History Note:*     *Authority G.S. 143-215.19;*

36                   *Eff. August 1, 2002.*

1 **15A NCAC 02E .0505 ACCEPTABLE WITHDRAWAL METHODS THAT DO NOT REQUIRE A**  
2 **PERMIT**

3 (a) As of the effective date of this Rule, any person who is not subject to Rule .0502 of this Section and withdraws  
4 more than 10,000 gallons per day from surface or ground water in the Central Coastal Plain Capacity Use Area, shall  
5 register such withdrawals on a form supplied by the Division and comply with the following provisions:

- 6 (1) Construct new wells such that the pump intake or intakes are above the top of the uppermost  
7 confined aquifer that yields water to the well. Confined aquifer tops are established in the  
8 hydrogeological framework;
- 9 (2) Report surface and ground water use to the Division of Water Resources on an annual basis on a  
10 form supplied by the Division; and
- 11 (3) Withdraw water in a manner that does not damage the aquifer or cause salt water encroachment or  
12 other adverse impacts.

13 (b) These requirements do not apply to withdrawals to supply an individual domestic dwelling.

14 (c) Agricultural water users may either register water use with the Division of Water Resources as provided in this  
15 Rule or provide the information to the North Carolina Department of Agriculture and Consumer Services.

16  
17 *History Note: Authority G.S. 143-215.14; 143-355(k);*  
18 *Eff. August 1, 2002.*  
19

20 **15A NCAC 02E .0506 CENTRAL COASTAL PLAIN CAPACITY USE AREA STATUS REPORT**

21 Within two years of the effective date of this Rule, and at five year intervals thereafter, the Division of Water Resources  
22 shall publish a status report on the Central Coastal Plain Capacity Use Area. The report shall include the following:

- 23 (1) Compilations of water use data;
- 24 (2) Evaluations of surface and ground water resources;
- 25 (3) Updated information about the hydrogeologic framework in the Central Coastal Plain Capacity Use  
26 Area;
- 27 (4) A summary of alternative water sources and water management techniques that may be feasible by  
28 generalized geographic location; and
- 29 (5) A status report on actions by water users to develop new water sources and to increase water use  
30 efficiency.

31  
32 *History Note: Authority G.S. 143-215.14;*  
33 *Eff. August 1, 2002.*  
34

35 **15A NCAC 02E .0507 DEFINITIONS**

36 The following is a list of definitions for terms found in Section .0500 of this Subchapter:

- 1 (1) Approved base rate: The larger of a person's January 1, 1997 through December 31, 1997 or August  
2 1, 1999 through July 31, 2000 annual water use rate from the Cretaceous aquifer system, or an  
3 adjusted water use rate determined through negotiation with the Division using documentation  
4 provided by the applicant of:
- 5 (a) water use reductions made since January 1, 1992;
  - 6 (b) use of wells for which funding has been approved or for which plans have been approved  
7 by the ~~Division of Environmental Health~~ Department of Environmental Quality by the  
8 ~~effective date of this Rule~~ August 1, 2002;
  - 9 (c) the portion of a plant nursery operation using low volume micro-irrigation; or
  - 10 (d) other relevant information.
- 11 (2) Aquifer: Water-bearing earth materials that are capable of yielding water in usable quantities to a  
12 well or spring.
- 13 (3) Aquifer storage and recovery program (ASR): Controlled injection of water into an aquifer with  
14 the intent to store water in the aquifer for subsequent withdrawal and use.
- 15 (4) Confining unit: A geologic formation that does not yield economically practical quantities of water  
16 to wells or springs. Confining units separate aquifers and slow the movement of ground water.
- 17 (5) Cretaceous aquifer system: A system of aquifers in the North Carolina coastal plain that is  
18 comprised of water-bearing earth materials deposited during the Cretaceous period of geologic time.  
19 The extent of the Cretaceous Aquifer System is defined in the hydrogeological framework and  
20 includes the Peedee, Black Creek, Upper Cape Fear and Lower Cape Fear aquifers.
- 21 (6) Dewatering: Dewatering occurs when aquifer water levels are depressed below the top of a confined  
22 aquifer or water table declines adversely affect the resource.
- 23 (7) Flat rates: Unit price remains the same regardless of usage within customer class.
- 24 (8) Fresh water: Water containing chloride concentrations equal to or less than 250 milligrams per liter.
- 25 (9) Gravel pack: Sand or gravel sized material inside the well bore and outside the well screen and  
26 casing.
- 27 (10) Ground water: Water in pore spaces or void spaces of subsurface sediments or consolidated rock.
- 28 (11) Hydrogeological framework: A three-dimensional representation of aquifers and confining units  
29 that is stored in Division data bases and may be adjusted by applicant supplied information.
- 30 (12) Increasing block rates: Unit price increases with additional usage.
- 31 (13) Intermittent users: Persons who withdraw ground water less than 60 days per calendar year and ~~or~~  
32 who withdraw less than 15 million gallons of ground water in a calendar year; or aquaculture  
33 operations licensed under the authority of G.S. 106-761 using water for the initial filling of ponds  
34 or refilling of ponds no more frequently than every five years.
- 35 (14) Observation well: A non-pumping well screened in a particular aquifer where water levels can be  
36 measured and water samples can be obtained.

