

**Mecklenburg County Board of Health
Rule Groundwater Well Regulations
for Governing Wells Other Than
Drinking Water Supply Wells**



CHAPTER I GENERAL PROVISIONS

Be it ordained by the Mecklenburg ~~County~~ Board of ~~County~~ Commissioners (while exercising the power of a ~~board~~ Board of ~~health~~ Health, which powers it has assumed and conferred on itself by action pursuant to G.S. 153A-77), that the following Mecklenburg County ~~Board of Health Rule Governing Wells Other Than Drinking Water Supply Wells (hereinafter the Rule)~~ ~~Groundwater Well Regulations~~ requiring registration, permitting ~~sampling~~ and monitoring activities for certain wells in Mecklenburg County for the protection of ~~the~~ public health and safety, are hereby adopted pursuant to G.S. 130A-39(a). ~~These~~ ~~This~~ ~~Regulations~~ ~~Rule~~ shall apply throughout Mecklenburg County, North Carolina; ~~including, but not limited to, all cities and towns, whether incorporated or unincorporated.~~

SECTION I GENERAL PROVISIONS and ADMINISTRATION

- (A) Authorization - The Mecklenburg ~~County~~ Board of ~~County~~ Commissioners (~~hereinafter called BOCC~~), acting as a ~~board~~ Board of ~~health~~ Health, is authorized under the provisions of ~~G.S. 130A-39 Chapter 130A, Section 39 of the General Statutes of North Carolina~~ to adopt appropriate rules and regulations for the protection of ~~the~~ public health.
- (B) Delegation of Authority- The ~~Public~~ Health Director (hereinafter called the Director) may delegate the processing of permit applications, the issuance of permits, the denial of permits, the renewal of permits, and the modification of permits, to the supervisory level that he/~~she~~ considers appropriate, ~~provided this delegation shall not include the authority to revoke, or suspend a permit.~~ The Director shall appoint adequate administrative and technical staff ~~within the Department~~ to ~~ensure~~ ~~assure~~ the efficient administration of this ~~section~~ ~~Rule~~.
- (C) Purpose – It is the finding of the ~~BOCC~~ ~~Mecklenburg County Board of Commissioners~~, acting as a ~~board~~ Board of ~~health~~ Health, that the entire geographical area of Mecklenburg County is vulnerable to groundwater pollution

from improperly located, constructed, operated, altered or abandoned ~~water supply and other~~ wells. Therefore, in order to ~~ensure~~ ~~insure~~ reasonable protection of the groundwater resource and ~~to be~~ consistent with the responsibility to protect and advance ~~the~~ public health, it is declared to be policy of the ~~BOCC~~ ~~Mecklenburg County Board of Commissioners~~ to require that the location, construction, repair, ~~sampling~~ and abandonment of ~~such~~ wells conform to ~~these this~~ Regulationsule ~~which it has determined to be necessary to protect the public health and groundwater resources.~~

(D) Scope - No Person shall construct, repair or abandon or cause to be constructed, repaired or abandoned, any well contrary to the provisions of ~~these this~~ Regulationsule and standards. and pursuant to Articles 7 and 7A of G.S. 87-7-7(a). Previously adopted procedures and requirements of the Mecklenburg County Public Health Department (hereinafter called the Department) are superseded by ~~these~~ this RegulationsRule.

~~(E) Conflict with other Laws and Regulations—The provisions of any federal, sState or municipal law or regulation establishing standards affording greater protection to the public welfare, safety, health and the groundwater resources shall prevail within the jurisdiction of such agency or municipality over standards established by these Regulations. If any section or sections conflict within these Regulations or with any other regulation, the more stringent strict regulation prevails.—~~ The provisions of any federal, state or municipal law or regulation establishing standards affording greater protection to the public, and groundwater resources shall prevail over standards established by ~~these~~ this RegulationsRule. If any section or sections conflict within ~~these this~~ Regulations Rule or with any other regulation, the more stringent regulation prevails. ~~These This rules Rule does~~ not replace North Carolina Rules ~~Governing the~~ standards for Permitting and Inspection of Private Drinking Water Wells in 15A NCAC 02C but apply in addition to those ~~rules~~ standards.

(F) If any section or sections of ~~these Regulations~~this Rule is/are held to be invalid or unenforceable, all other sections shall nevertheless continue in full force and effect.

(G) ~~Permit— All newly constructed wells must be evaluated by the Director in accordance with these Regulations. A well construction permit shall be issued in compliance with these Regulations.—~~ All well permit applications must be evaluated by the Director in accordance with ~~these Regulation~~this Rule. A well permit or subsurface investigation permit shall be issued in compliance with ~~these Regulation~~this Rule. No person shall construct an Irrigation Water Supply Well without first obtaining a well construction permit from the Department. All applications, permitting, construction standards, and sampling requirements will follow the Mecklenburg County Board of Health Rule Governing Private Drinking Water Supply Wells ~~Regulations-unless these Regulation~~that Rule or any applicable part thereof becomes invalid or unenforceable, in which case the applications, permitting, construction standards, and/or sampling for Irrigation Water Supply Wells shall meet the standards set forth in the applicable section of 15A NCAC 02C.

(H) ~~Inspection and final permit—~~No Person shall consume water from a newly constructed well or following a permitted repair of an existing well until an inspection by the Director, following notification by the Well Owner, has determined confirms that the well meets all ~~complies with the~~ provisions of ~~this Rule~~these Regulations. ~~The Director shall make these inspections as soon as practicable after he receives notice that an installation is to be made.~~

~~No Person shall occupy a residence, place of business or place of public assembly or place a well into use for a residence, place of business or place of public assembly until a Certificate of Completion final certificate of inspection for the construction or repair of a for the new potable well has been issued and the hold on the Certificate of Occupancy has been released, or authorization has been granted from the Director. A new potable well serving new construction of a residence, business or place of assembly will require a Certificate of Completion prior to a hold being released on the Certificate of Occupancy.~~

~~Emergency repairs to an existing well that are made outside normal working hours (8 am – 5 pm Monday-Friday) of the Department, i.e., nights, weekends and holidays, shall meet all requirements of these Regulations. require the use of well casing complying with all the provisions of Chapter II, Section IV (D). Location of the well must comply with all requirements of Chapter II, Section IV (A) and a A completed~~

application for a ~~well repair permit must be~~ submitted to the Department by close of next business day. obtained on the next regular working day from the Department.

- (I) ~~Responsibilities of Well Owners~~ – ~~It shall be unlawful for any~~ No Person shall ~~to~~ rent or offer to rent, lease or offer to lease, any residence or place of business which does not have a potable water supply. The Well Owner, when required by the Department, shall provide proof that the water supply meets the water quality standards of these Regulations.

SECTION II DEFINITIONS

Abandon means to To discontinue the use of and to seal a well according to the requirements of Chapter II, Section VIII of these Regulations 15A NCAC 2C .0113. ~~these Regulations~~ this Rule.

Abandoned ~~W~~well means a A-well whose use or construction has been discontinued, or which is in such a state of disrepair that continued use for obtaining groundwater or other useful purpose is impracticable; a A-well can be temporarily or permanently abandoned.

Access ~~P~~port means an An-opening in a the-well casing or wellhead installed for the primary purpose of determining the position of the water level in the well or to facilitate disinfection.

Active means A term denoting the status of a well. To be considered active a well must be in use for its intended purpose in a current and ongoing fashion.

Addition means Aany structure, whether free standing or attached to another (including swimming pools, oil tanks, signs, etc.) which is constructed, altered or placed on property that contains one or more wells. This would not include replacement of existing equipment within the existing footprint of a structure and addresses only those situations for which a building permit is required.

Agent means Aany Pperson who by mutual and legal agreement who by agreement with a Well Owner has authority to act on his or her behalf of a Person in executing applications for permits. The agent may be either general agent or a limited agent authorized to do one particular act.

Annual or annually means ~~Recurring,~~ done or performed once every year, yearly.

Annular ~~S~~space means the space between the casing and the walls of the borehole or outer casing, or the space between a liner pipe and well casing.

Approved means ~~T~~that which is ~~has been~~ considered acceptable to the State or Director.

Area of Regulated Groundwater Usage or ARGU means ~~That the zone surrounding and including a contamination plume or contamination site in which construction of new wells may be restricted or modified, and regular sampling and testing for the contaminant of concern may be required for both new and existing wells. The Area of Regulated Groundwater Usage is defined by the Department following a hydrogeologic review:~~ means the zone surrounding and including a contamination plume or contamination site according to the requirements of this Rule.

Artesian flowing ~~W~~well means ~~A~~ a well in which that taps groundwater flows above the land surface without the use of a pump and, under natural conditions, the static water level or hydraulic head elevation is greater than the land surface elevation. ~~under pressure, causing the water to rise above the surface without pumping.~~

ASTM means ~~the~~ American Society for Testing and Materials.

Authorized agent ~~Representative~~ means ~~A~~ an employee of the Mecklenburg County Public Health Department authorized person empowered or designated by the ~~Mecklenburg County Public Health~~ Director to enforce ~~the provisions of the Mecklenburg County Well Regulation~~ this Rule.

Bedrock means Any consolidated rock which is encountered in the place in which it was formed or deposited, and which cannot be readily excavated without the use of explosives or heavy rock cutting power equipment; (15A NCAC 02L .0102). Bedrock generally underlies soil or other consolidated, superficial material.

~~Biannual~~ Means ~~done or performed~~ occurring ~~Once~~ every two years.

Biofilm means ~~A~~ a collection of microorganisms which may exist on solid surfaces such as a well casing, ~~within a water well.~~ This collection includes, but is not limited to, slime-formers, iron related bacteria, sulfate-reducing bacteria, pseudomonas and coliforms.

BOCC means The Mecklenburg Board of County Commissioners

Breakthrough means ~~in~~ in a treatment system, the condition of the treatment media becoming saturated with the contaminant to the point the system is no longer effective at removing the contaminant.

Casing means ~~P~~ pipe or tubing constructed of specified materials and having dimensions and weights as specified in ~~these Regulationsthis Rule,~~ Rules of this Subchapter, that is installed in a borehole; during or after completion of the borehole; to support the side of the hole and thereby prevent caving, to allow completion of a well, to prevent formation material from entering the well, to prevent the loss of

drilling fluids into permeable formations, and to prevent entry of contamination.

Certified Laboratory ~~means~~ ~~A~~ a laboratory certified under the requirements of ~~NCAC Title 10A NCAC Subchapter 42D Section .02100.~~

Certified ~~W~~well
~~C~~contractor ~~means~~ ~~A~~ a person who has ~~satisfactorily~~ met the requirements of the Well Contractors Commission relating to well contractor activities referenced in 15A NCAC 27-~~0100-0900.~~

Clay ~~means~~ ~~A~~ a substance comprised of natural, inorganic, fine-grained crystalline mineral fragments ~~that~~~~which~~, when mixed with water, forms a pasty, moldable mass that preserves its shape when air dried.

~~Committee~~ ~~means~~ ~~The Mecklenburg County Groundwater Advisory Committee.~~

Community ~~W~~well ~~means~~ ~~A~~ a well that serves 15 or more connections or at least 25 year round residents.

Compliance ~~A~~udit ~~means~~ ~~A~~ a scheduled or unscheduled visit to a site ~~and its environs~~ by the Department ~~personnel~~ for the purpose of inspecting and documenting the physical characteristics of the site, including but not limited to the physical characteristics of wells.

Consolidated ~~R~~rock ~~means~~ ~~R~~rock that is firm and coherent, solidified or cemented, such as granite, gneiss, limestone, slate or sandstone, that has not been decomposed by weathering.

Contaminant or Contamination means the introduction of foreign materials of such nature, quality, and quantity in to the Any substance or combination of substances occurring in groundwaters as to exceed the groundwater quality standards set forth in in concentrations exceeding the lower of 15A NCAC 2L .0202 standards, National Primary Drinking Water Regulations, or site specific standard established by the North Carolina Department of Health and Human Services, Epidemiology Section.

Contamination ~~The introduction of a contaminant into the soil or groundwater.~~

Contamination Plume means the ~~T~~three-dimensional zone containing a contaminant or contaminants

Contamination Site means a parcel(s) of ~~Real~~ property where contamination has occurred.

County Mecklenburg County, North Carolina.

Department means The Mecklenburg County Public Health Department

Designed Capacity means ~~The that~~ capacity that is equal to the yield that is specified by the well ~~O~~owner or his ~~or her~~ agent prior to the construction of the well.

Director The Mecklenburg County Public Health Director or his/her authorized ~~representative agent~~.

Disinfection means a process which inactivates pathogenic organisms in water.

~~Division of~~ means a section of The North Carolina Department of Health and Epidemiology section Human Services, Division of Public Health, ~~Epidemiology Section~~.

~~Dritter~~ See certified well contractor.

Existing ~~W~~well means A well constructed prior to January 1, 2005.

Fecal coliform means a B bacteria consistently found in the intestine of human and other warm-blooded animals which are not normally disease-producing; but serve as indications of recent fecal contamination. They are members of the family Enterobacteriaceae, genus Esherichia, species coli.

Federal means The United States of America government.

Fee ~~S~~schedule means F the current schedule of fees as approved by the ~~Mecklenburg County Board of Commissioners~~.

Filtered Means F for a substance, the state of having been passed through or over another substance such that the quality of the first substance is improved.

Formation ~~M~~material means ~~N~~naturally occurring material generated during the drilling process that is composed of sands, silts, clays or fragments of rock and ~~that which~~ is not in a dissolved state.

Free ~~P~~product means a non-aqueous phase liquid which may be present within the saturated zone or in surface water. Any accumulation of a substance of greater than or equal to 1/8 inch (0.01 feet) in contact with groundwater or perched on the water table, with a density of less than or greater than water and existing as a non-aqueous phase liquid.

GPM and GPD means gallons per minute and gallons per day, respectively.

~~Groundwater
Advisory
Committee~~ means ~~T~~the ~~C~~ommittee ~~appointed by the Mecklenburg County Board of County Commissioners with duties as provided outlined in Chapter VIII~~ X ~~of these the Mecklenburg County Private Drinking Water Well Regulations.~~

Groundwater
remediation well means wells that are used for the clean-up of contaminated soil or groundwater to include but not limited to wells used to recover groundwater, treat soil and/or groundwater, or inject additives, treated groundwater, or ambient air.

Grout ~~M~~means a material approved in accordance with ~~these~~ ~~Regulationsthis Rule~~Chapter II Section IV(E) 3 or Chapter IV Section IV(E)3 for use in sealing the annular space of a well or liner or for sealing a well during abandonment.

Health Department ~~The Mecklenburg County Department of Public Health.~~

Health Director ~~The Director of the Mecklenburg County Department of Public Health or his/her Authorized Representative.~~

High Risk ~~For sites where an underground storage tank system is the source of contamination a high risk classification means that any of the following apply:~~
~~a) an existing water supply well, including one used for non-drinking purposes, has been contaminated~~
~~b) a water supply well used for drinking water is located within 1,000 feet of the source of contamination~~
~~c) a water supply well not used for drinking water is located within 250 feet of the source of contamination~~
~~d) the groundwater within 500 feet of the source of contamination had the potential for future use in that there is no source of water supply other than the groundwater~~
~~e) there exist a serious threat of explosion due to the accumulation of vapors in a confined space as a result of the contamination~~
~~f) there exist an imminent danger to public health, public safety or the environment, as a result of the release.~~

Hydrogeologic Review ~~means~~ ~~F~~the consideration of ~~existing~~ scientific data, ~~the relevancy of which is determined by the Department, that describes the to evaluate the~~ interrelationships of ~~geologic geology, groundwater, and fate and transport of materials and processes with groundwater impacted by a contaminant or contaminants.~~

Injection Well means ~~Any well as defined in G.S. 87-85 excavation which is cored, bored, drilled, jetted, dug, or otherwise constructed,~~ whose depth is greater than its largest surface dimension and ~~that which~~ is used, or intended to be used, for the injection of fluids or solids into the subsurface or groundwater.

Inspection means ~~A~~ visit to a site ~~and its environs~~ by the Department ~~personnel~~ to examine and document the construction, ~~and~~ installation, ~~abandonment, repair or sampling~~ of new or ~~the repair of~~ existing wells.

Intermediate Risk ~~For sites where an underground storage tank system is the source of contamination an intermediate risk classification means that any of the following apply:~~

- ~~a) surface water is located within 500 feet of the source of contamination and the maximum groundwater contaminant concentration exceeds the applicable surface water quality standard and criteria found in 15A NCAC 2B. 0200 by a factor of 10;~~
- ~~b) the source of contamination is located within a designated wellhead protection area, as defined in 42 USC 300h-7(e);~~
- ~~c) the levels of groundwater contamination for any contaminant (except ethylene dibromide, benzene and the aliphatic and aromatic carbon fraction classes) exceed 50 percent of the solubility of the contaminant at 25 degrees Celsius or 1,000 times the groundwater quality standard or interim standard established in 15A NCAC 2L .0202;~~
- ~~d) the levels of groundwater contamination for ethylene dibromide or benzene exceed 1,000 times the federal drinking water standard set out in 40 CFR 141;~~
- ~~e) free product is present.~~

Irrigation well ~~Means a~~An excavation that is cored, bored, drilled, jetted, dug or otherwise constructed for the purpose of withdrawing groundwater to be used for agricultural purposes either commercial or residential and will not be used as a potable water supply.

Liner ~~P~~pipe ~~means a~~Ppipe that is installed inside a completed and cased well for the purpose of preventing the entrance of contamination into the well or for repairing ruptured, corroded or punctured casing or screen.

~~Memorandum of Agreement (MOA)~~ ~~A written collaborative work agreement between the Mecklenburg County Land Use and Environmental Service Agency (LUESA) and NCDENR.~~

Monitoring ~~W~~well ~~means A~~any well constructed for the primary purpose of obtaining information about physical, chemical, radiological, or biological characteristics samples of groundwater or other liquids, ~~for examination or testing~~, or for the observation or measurement of groundwater levels. This definition excludes lysimeters, tensiometers and other devices used to investigate the characteristics of the unsaturated zone but includes piezometers, a type of monitor well constructed solely for the purpose of determining groundwater levels. This definition includes all monitoring well types, including temporary wells and wells using Geolprobe® or direct-push technology (DPT).

NCDENR North Carolina Department of Environment and Natural Resources.

NCDEQ means the North Carolina Department of Environmental Quality.

NCPWS means the North Carolina Public Water Supply Section.

Non-community Well means a well that serves 25 or more transient people 60 days- of the year.

Non-potable well means a well that has groundwater Water-containing bacteria, minerals, organic or inorganic chemicals or volatile organic compounds petroleum products of such quantity as to render the water unsafe, harmful or generally unsuitable for domestic use.

Non-transient non-community Well means a well that regularly serves at least 25 of the same persons over 6 months per year.

Orphan Site A means a contamination site where a responsible party has not been identified or assigned.

Owner means Any person who holds the fee or other property rights in the well being constructed. A well is real property and its construction on land rests ownership in the land Owner in the absence of contrary agreement in writing.

Permit means a written document and associated plot plan issued by the ~~Health~~ Department authorizing ~~or allowing~~ the construction, abandonment or repair of ~~any a~~ well as defined by ~~these this~~ Regulations Rule.

Person means Aany and all persons including individuals, firms, partnerships, associations, public or private institutions, municipalities or political subdivisions, governmental agencies or private or public corporations organized or existing under the laws of this State or of any other state or county.

Pitless adapters or pitless units means a ~~Are~~ devices specifically manufactured to the standards specified under 15A NCAC ~~02Ce~~.0107 (h) (5) for the purpose of allowing a subsurface lateral connection between a well and plumbing appurtenances.

Place of business means Aa store, warehouse, manufacturing establishment, place of amusement or recreation, service station, office building, or any other place where people work.

Place of Public Assembly means Aa fairground, auditorium, stadium, church, campground, theater or and other place where people assemble.

Plat means a plot of land or map of an area of land or site for construction

Potable ~~W~~water means Water of such quality that it is suitable for human consumption.

Public Notice ~~The act of providing information to the persons required. This should take the form of certified mail sent to every occupant and Owner of all buildings, condominiums, office buildings, etc., within the specified area. If the number of correspondents makes certified mail impractical, then the responsible party may post the notice in a prominent place where the occupants are most likely to see it.~~

Private water supply ~~Means any excavation that is cored, bored, drilled, jetted, dug or otherwise constructed to obtain groundwater for human consumption.~~

Public water system ~~M~~means a water system as defined in 15A NCAC 18C, which is hereby incorporated by reference, including subsequent amendments.

Pump means ~~T~~the well pump, pump pipe, pump supply line and any other equipment or materials used or intended to be used for with-drawing or obtaining groundwater.

Raw ~~W~~water means ~~W~~groundwater which has not been treated to make it potable.

Recovery ~~W~~well means ~~A~~any well constructed for the purpose of removing contaminated groundwater or other ~~liquids~~ contaminants from the subsurface.

Registered Pump Installer ~~A person that has fulfilled the requirements of 15A NCAC 2C. 0103.~~

Repair means ~~W~~work involved in deepening or changing depths, reaming, sealing, lining, perforating, screening, cleaning, acidizing, "dry icing", freezing, hydraulic fracturing, or otherwise redeveloping a well excavation or any other work which requires breaking ~~or opening~~ the well seal. ~~This shall not apply to routine pump maintenance or replacement; However, routine pump maintenance or replacement shall be followed by disinfection of the water system and proper replacement of the seat. Permitting prior to the repair and chlorination after a repair shall meet the standards of these Regulations.~~

Residence means ~~T~~the place in which one lives, a dwelling.

Responsible Party(s) means ~~E~~entity(ies) determined by the regulating agency State to be responsible for the ~~have caused~~ contamination.

Sample means ~~A~~a representative portion of a substance collected for analysis.

Sealed means ~~N~~no detectable leakage under the casing or around the well head shall be allowed to enter the bore hole.

Seated ~~A part of the surface on or which another part or surface rests to fix firmly in place to rest or fit into another part.~~

Settleable ~~S~~solids means ~~F~~the volume of solid particles in a well mixed one liter sample ~~that which~~ will settle out of suspension, in the bottom of an Imhoff Cone, after one hour.

Site means ~~All the land or water area where any facility, activity or situation is physically located, including adjacent or other land used in connection with the facility, activity or situation. contiguous property under the same ownership or all contiguous property wherein wells are under the same ownership.~~

Site ~~P~~plan means ~~A~~a drawing not necessarily drawn to scale that shows the existing and proposed property lines with dimensions, ~~and~~ the specific location of all structures and proposed structures and appurtenances, including decks, porches, pools, driveways, out buildings, existing and proposed wastewater systems, existing and proposed wells, springs, water lines, surface waters or designated wetlands, easements, including utility easements, and the location of existing or proposed sewer lines and/or sewage disposal systems, and existing or proposed chemical or petroleum storage tanks above or below ground..

Source ~~A~~area means ~~F~~that portion or point on a site where a contaminant or contaminants has been released.

Specific ~~C~~capacity means ~~F~~the yield of the well expressed in gallons per minute per foot of draw-down of the water level (gpm/ft.dd).

State means The State of North Carolina government.

Static ~~W~~water ~~L~~level ~~means~~ ~~F~~the level at which the water stands in the well when the well is not being pumped and is expressed as the distance from a fixed reference point to the water level in the well.

Suspended ~~S~~solids ~~means~~ ~~F~~the weight of those solid particles in a sample ~~which~~ ~~that~~ are retained by a standard glass micro-fiber filter, with pore openings of one and one-half microns, when dried at a temperature of 103 to 105 degrees Fahrenheit.

~~Temporary Well~~ ~~A well, other than a water supply well that is constructed to determine aquifer characteristics, and which will be permanently abandoned or converted to a permanent well within five days (120 hours) of the completion of drilling of the borehole.~~

Transient ~~N~~non-community ~~W~~well ~~means~~ ~~A~~a water supply well that provides potable water to a non-community water system that does not regularly serve at least 25 of the same persons over six months per year

Treated ~~W~~water ~~means~~ ~~W~~water that has been successfully purified by a system designed to remove contaminants or other unwanted particles from the water by either physical or chemical processes.

Turbidity ~~means~~ ~~F~~the cloudiness in water; due to the presence of suspended particles such as clay ~~and~~ ~~or~~ silt that may create ~~aesthetic problems~~ ~~or~~ analytical difficulties for determining contamination ~~above 15A NCAC 02L. Turbidity measure in Nephelometric Turbidity Units (NTU) is based on a comparison of the cloudiness in the water with that in a specially prepared standard.~~

Unconsolidated
Rrock means ~~F~~those rock formations that are not firm and coherent, solidified or cemented, such as sand rock, sand, clay, shell, saprolite or decaying rock.

Underground
Sstorage ~~F~~tank (UST) Underground Storage Tank means any one or a combination of tanks (including underground pipes connected thereto) that is used to contain and accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10% or more beneath the surface of the ground (For a full definition, see 15A NCAC 02N .0203).

Vent means ~~A~~a permanent opening in the well casing or well head, wellhead installed for the purpose of allowing changes in the water level in a well due to natural atmospheric changes or to pumping. A vent can also serve as an access port.

Water Ssample means ~~A~~a representative portion of groundwater collected specifically for water quality analysis, whether by field or laboratory testing.

~~Water supply~~ The groundwater that is obtained through a water supply well.

Water Ssupply
Sstandard means ~~F~~the maximum allowable concentration of any substance or combination of substances in the groundwater, which may be tolerated without creating a threat to human health. These standards include the following: EPA Primary & Secondary Drinking Water Standards, NC 2L Groundwater Standards and the US EPA Health Advisories.

Water ~~S~~upply ~~W~~ell ~~means~~ ~~A~~a well, well pump and pipe used in connection with or pertaining to the operation of a water supply, including pressure tank and fittings. ~~An~~ irrigation well is a type of water supply well.

Well ~~means~~ ~~A~~any excavation that is cored, bored, drilled, jetted, dug or otherwise constructed for the purpose of locating, testing, ~~or~~ ~~withdrawing groundwater for evaluating, testing~~ developing, draining or recharging any groundwater reservoirs or aquifer, or that may control, divert, or otherwise cause the movement of water from or into any aquifer ~~including any and all materials installed to facilitate these actions.~~

Well ~~C~~ap ~~means~~ ~~A~~a watertight, lockable, removable plug used to temporarily seal the well casing ~~in order~~ to prevent water or other material from entering the well.

Well ~~C~~ontractor ~~means~~ ~~A~~a person who undertakes to perform a well contractor activity- or who undertakes to personally supervise or personally manage the performance of a well contractor activity on the person's own behalf or for any person, firm, or corporation in accordance with the well contractor certification requirements of 15A NCAC 27.

Well ~~C~~ontractor ~~A~~activity ~~means~~ ~~T~~the construction, installation, repair, alteration, or abandonment of any well.

Well ~~C~~cover means Ffor a monitoring well either flush-mount or above-grade intended to protect the well casing from tampering and damage. Typically flush-mount covers are used in areas of vehicular traffic and have bolt-on lids and a o-ring seal. Above-grade covers are typically used in areas where vehicle traffic does not have the potential to cause damage to the well and have lockable covers.

means Ffor water supply wells, any structure placed around the well head with the intent of affording protection to the well head.

~~Well D~~ritter See certified well contractor.

Well ~~H~~head means Tthe upper ~~terminus-terminal~~ of ~~a-the~~ well including adapters, ports, valves, seals and ~~or~~ other attachments.

Well ~~O~~wner means Entity(ies) who hold the fee or other property rights in the well. A well is real property and its construction on land rests ownership in the land ~~O~~wner in absence of a contrary agreement. A monitoring well is real property and its construction on land rests ownership in the landowner in the absence of contrary agreement in writing.

Well Permit means Aa document issued by the Department allowing the construction, repair, or abandonment of any well as defined in these Regulations.

Yield Means the volume Amount of water or other fluid per time that can be ~~discharged extracted~~ from a well under a given set of circumstances-conditions.

CHAPTER II

CONSTRUCTION, REPAIR, AND ABANDONMENT FOR WATER SUPPLY WELLS

NOTE – THIS ENTIRE CHAPTER HAS BEEN REMOVED; STATE
CONSTRUCTION STANDARDS FOR WATER SUPPLY WELLS WILL BE
FOLLOWED

CHAPTER III

PUBLIC WATER SUPPLY WELLS

COMMUNITY AND NON-TRANSIENT NON-COMMUNITY WATER SUPPLY WELLS

NOTE – THIS ENTIRE CHAPTER HAS BEEN REMOVED; THE STATE HANDLES
THE PERMITTING AND REGULATION OF THESE WELLS

CHAPTER IV-II

CONSTRUCTION, REPAIR, AND ABANDONMENT FOR TRANSIENT NON-COMMUNITY WATER SUPPLIES

SECTION I REGISTRATION

- (A) The Owner of a Transient Non-Community water supply well installed prior to January 1, 2005 must register a Transient Non-Community water supply well with the Department by submitting the following information:
1. Names, addresses and phone numbers of the Transient Non-Community water supply well Owner and/or legal agent of the property Owner.
 2. Address and tax parcel number of the property for the Transient Non-Community water supply well.
 3. Use of water (domestic, irrigation, etc.)
- (B) Transient Non-Community water supply well must be registered every 12 months. The registration shall be submitted on forms to be supplied by the Department during the period from January 1 to January 31 of each year or such time as the Department designates.
- (C) A non-refundable fee as specified in the fee schedule shall be submitted with each registration.
- (D) The Owner of a Transient Non-Community water supply well installed or repaired after January 1, 2005 must initially register the Transient Non-Community water supply well with the Department by completing the following Application and Permit process.

SECTION II APPLICATION

(A) A complete application for a permit to construct, repair or abandon a Transient Non-Community water supply well shall be submitted to the Director by an Owner or legal agent of the property Owner who intends to construct a Transient Non-Community water supply well within Mecklenburg County. The following information will be required.

1. Names, addresses and phone numbers of the proposed Transient Non-Community water supply well Owner and/or legal agent.
2. Signature of property Owner and /or legal agent.
3. Address and tax parcel number of the property for the proposed Transient Non-Community water supply well.
4. A plat or site plan as defined in these rules.
5. Intended use(s) of the property.
6. Proposed use of water (domestic, irrigation, etc.)
7. Other information deemed necessary to determine the location of the property and any site characteristics such as existing or permitted sewage disposal systems, easements or rights of way, existing wells or springs, surface water or designated wetlands, chemical or petroleum storage tanks, landfills, waste storage, known underground contamination and any other characteristics or activities on the property or adjacent properties that could impact groundwater quality or suitability of the site for Transient Non-Community water supply well construction.

8. Any current of pending restrictions regarding groundwater use as specified in G.S. 87-88(a) and
- a. Any Variances regarding well construction or location issued under 15A NCAC 2C ~~.0118.~~
- (B) Applications for Transient Non-Community water supply well construction repair and abandonment shall be submitted on forms to be supplied by the Department.
- (C) A non-refundable fee as specified in the fee schedule shall be submitted with each permit application.
- (D) An application for a permit shall be submitted by the Owner or his legal agent. In the event that the permit applicant is not the Owner of the property on which the Transient Non-Community water supply well or Transient Non-Community water supply well system is to be constructed, the permit application must contain written approval from the property Owner and a statement that the applicant assumes total responsibility for ensuring that the Transient Non-Community water supply well(s) will be located, constructed, maintained and abandoned in accordance with ~~these rules and regulations~~ this Rule.

~~History Note: Authority G.S. 87-85; 87-87; 87-88~~

~~Reference (15A NCAC 02C .0303)~~

~~Reference (15A NCAC 02C .0105)~~

SECTION III PERMITS

(A) Transient Non-Community Water Supply Wells

1. It shall be unlawful for any Person to commence any Transient Non-Community water supply well contractor activities in Mecklenburg County without first obtaining a Transient Non-Community water supply well construction permit from the Department. The Transient Non-Community water supply well Owner or their authorized legal agent shall obtain the permit. The permit is valid for one year from date of issuance except that the Department may revoke a permit if it determines that there has been a material change in any fact or circumstance upon which the permit is issued. The validity of a construction permit or a repair permit is not affected by a change in ownership of the site on which a Transient Non-Community water supply well is proposed to be located. If well excavation by use of powered equipment designed specifically for that purpose and operated by a well contractor, or well repair, is not commenced within one year from the date of issuance of the permit, the permit then becomes invalid. When a permit has become invalid, construction or repairs may not be commenced until a new permit is issued.

2. It shall be unlawful for any person to repair a Transient Non-Community water supply well in Mecklenburg County without first obtaining a Transient Non-Community water supply well repair permit from the Department. The Transient Non-Community water supply well Owner or their authorized legal agent shall obtain the permit. Except a Transient Non-Community water supply well repair permit is not required for maintenance or pump repair or replacement. Disinfection in accordance with 15A NCAC 02C .0113 is a maintenance activity that does not require a repair permit.

3. The location of all new proposed Transient Non-Community water supply wells in Mecklenburg County shall comply with ~~these rules and regulations~~ [this Rule](#).

4. Before issuing a Transient Non-Community water supply well construction permit the Department shall conduct a field investigation to evaluate the topography, landscape position, available space and potential sources for groundwater contamination on or around the site on which the Transient Non-Community water supply well is to be located.
5. The Department shall issue a Transient Non-Community water supply well construction permit after determining the site can be permitted for a Transient Non-Community water supply well meeting the rules of this Chapter. Notwithstanding the above, the Department shall not issue a construction permit for a Transient Non-Community water supply well with a design capacity of 100,000 gal per day or greater. The construction permit shall include a site plan showing the location of potential sources of contamination and area(s) suitable for Transient Non-Community water supply well construction.
6. The Department shall issue a written notice of denial of a construction permit if it determines a Transient Non-Community water supply well cannot be constructed in compliance with the rules of this Chapter. The notice of denial shall include reference to specific laws or rules that cannot be met and shall be provided to the applicant.
7. The well contractor shall maintain a copy of the Transient Non-Community water supply well construction permit or repair permit on the job site at all times during the construction, repair or abandonment of the Transient Non-Community water supply well. The Transient Non-Community water supply well contractor shall meet all the conditions of the permit.
8. A Department representative is authorized to witness any portion of the drilling or construction process, repair, or abandonment of any Transient Non-Community water supply well in Mecklenburg County as part of the inspection. Failure of the Owner or contractor to allow inspection of any material or observation of any drilling or construction, repair or abandonment of any Transient Non-Community water supply well in Mecklenburg County will be grounds for the revocation of the permit.

9. Failure to comply with ~~the regulationsthis Rule~~ authorizes the Director to revoke any permits issued pursuant to ~~these regulationsthis Rule~~.
10. Only Certified well contractors shall perform well contractor activities
11. If there is an improperly abandoned well(s) on site, the construction permit shall be conditioned upon repair or abandonment of any improperly abandoned well(s) in accordance with the 15A NCAC 02C ~~.0100~~.
12. No permit will be issued until all fees have been paid in accordance with Section II (C) of this Chapter.

~~History Note: Authority G.S. 87- 85; 87-87; 87-88~~

~~Reference (15A NCAC 02C .0304)~~

SECTION IV STANDARDS OF CONSTRUCTION

(A) Scope - No Person shall construct, repair or abandon or cause to be constructed, repaired or abandoned, any Transient Non-Community well contrary to the provisions of this Rule and G.S. 87-85 (10a) and 15A NCAC 02C. Previously adopted procedures and requirements of the Mecklenburg County Public Health Department (hereinafter called the Department) are superseded by this Rule.

~~(B) Location~~

~~1. The Transient Non-Community water supply well shall not be located in an area generally subject to flooding. Areas which have a propensity for flooding include those with concave slope, alluvial or colluvial soils, gullies, depressions and drainage ways. The Transient Non-Community water supply well shall not be~~

located in the Community Special Flood Hazard area designated on the Flood Insurance Rate Maps (FIRMS):

2. ~~The minimum horizontal separation between a Transient Non-Community water supply well and potential sources of groundwater contamination, which exist or have been permitted at the time the Transient Non-Community water supply well is constructed, shall be as follows unless otherwise specified:~~

- i. ~~Septic tank and drain field including drainfield repair area
100 ft.~~
- ~~Other sub-surface ground absorption waste disposal system 100 ft.~~
- ~~Industrial or municipal sludge-spreading or wastewater irrigation sites 100 ft.~~
- ~~Sewage or liquid-waste collection or transfer facility constructed to water main standards in accordance with 15 A NCAC 02T.0305 (g)(2) or 15A NCAC 18A.1950(e) 50 ft.~~
- ~~Other sewage or liquid-waste collection or transfer facility 100 ft.~~
- ~~Cesspools and privies 100 ft.~~
- ~~Animal feed lots or manure piles 100 ft.~~
- ~~Fertilizer, pesticide, herbicide or other chemical storage areas 100 ft.~~
- ~~Non-hazardous waste storage, treatment or disposal lagoons 100 ft.~~
- ~~Sanitary landfills /Hazardous Waste landfills/Construction & Demolition landfills/ municipal solid waste landfill facilities/ incinerators 500 ft.~~
- ~~Other non-hazardous solid waste landfills, such as Land Clearing and Inert Debris (LCID) landfills (Permitted, Non-permitted, Nonconforming) 100 ft.~~
- ~~Animal barns, watering troughs, or animal feeding areas 100 ft.~~
- ~~Building foundations, excluding the foundation of a structure housing a~~

water supply well head	50 ft.
Surface water bodies	50 ft.
Chemical or petroleum fuel underground storage tank systems regulated under 15A NCAC 02N:	
(I) with secondary containment	100 ft.
(II) without secondary containment	500 ft.
Aboveground or underground storage tanks which contain petroleum fuels used for heating equipment, boilers, or furnaces	100 ft.
ii. — Interstate Petroleum Pipeline	
100 ft.	
iii. — Cemetery or Burial Ground	100 ft.
iv. — All other potential sources of ground water contamination	
100 ft.	
v. — Property boundaries	10 ft.

3. — ~~Separation distances as required in Sections IV(A)2 of this Chapter apply to all additions. Additions of a type not covered by Sections IV(A)2 of this Chapter shall be located the maximum distance possible from any existing Transient Non-Community water supply well but shall in no case be less than 25 feet.~~

4. — ~~The Transient Non-Community water supply well Owner shall not place potential sources of groundwater contamination closer to the Transient Non-Community water supply well than the separation distances specified in Section IV (A)2 or Section IV (A) 3 as applicable.~~

5. — ~~When water tight public sewer lines are installed or extended, they shall maintain a minimum distance of 100 feet from any Transient Non-Community water supply well. In some cases, the Director may allow water tight sewer lines constructed of ductile iron pipe with mechanical joints or push-on joints equivalent to water main standards within 25 feet of a Transient Non-Community water supply well. Locating public water tight sewer lines closer to a Transient Non-Community water supply~~

~~well, shall necessitate proper abandonment of the Transient Non-Community water supply well according to these rules.~~

- ~~6.—The Transient Non-Community water supply well shall not be located in any easement or right-of-way except for easements such as conservation easements.~~
- ~~7.—Actual separation distances must conform with the most stringent of applicable federal, State or local requirements.~~
- ~~8.—Transient Non-Community water supply wells drilled for public water supply systems regulated by the NC Department of Environment and Natural Resources, Division of Environmental Health shall meet all requirements of that Division.~~
- ~~9.—The Transient Non-Community water supply well location must allow access for maintenance, repair, treatment, testing and such other attention as may be necessary.~~
- ~~10.—Additional restrictions apply for Transient Non-Community water supply wells located within an area of regulated groundwater usage. The additional restrictions are defined in Chapter VII.~~

~~(C) —Drilling Fluids and Additives~~

- ~~1.—Drilling fluids and additives shall not contain organic or toxic substances or include water obtained from surface water bodies or water from non potable supply and may be comprised only of:
 - ~~a.—the formational material encountered during drilling; or~~
 - ~~b.—materials manufactured specifically for the purpose of borehole conditioning or Transient Non-Community water supply well construction.~~~~

- 2.—Lubricants used on drill pipe and down hole hammers and lubricating liquids injected into the air flowing through the drill stem shall be designed and approved for use in potable Transient Non-Community water supply wells

(C)—Source of Water

- 1.—Shall be at least 40 feet below land surface.
- 2.—Shall not be from a water bearing zone or aquifer that is known to be contaminated.

(D)—Casing

- 1.—In constructing any Transient Non-Community water supply well, all water bearing zones that are known to contain polluted, saline or other non-potable water shall be adequately cased and cemented so that the pollution of underlying or overlying groundwater zones shall not occur.
- 2.—Every Transient Non-Community water supply well shall be cased with the bottom of the casing adequately seated and sealed to a minimum depth of at least forty feet below the surrounding land surface or at least 5 feet into the top of bedrock.
- 3.—The top of the casing shall be terminated by the well driller at least twelve inches above the surrounding land surface.

- 4.—The casing in Transient Non-Community water supply wells constructed to obtain water from consolidated rock formation shall be:
- a.—the casing shall be adequate to prevent any formation material from entering the Transient Non-Community water supply well in excess of the levels specified in Section IV (H) of this Chapter.
 - b.—firmly seated and sealed at least five feet into the rock.
- 5.—The casing in Transient Non-Community water supply wells constructed to obtain water from an unconsolidated rock formation shall extend at least 12 inches into the top of the water bearing formation:
- 6.—The Director may inspect the casing material before it is installed, as the casing is installed in a borehole and/or after the casing is set. The well contractor shall contact the Department to schedule a casing inspection before casing a Transient Non-Community water supply well. Contact shall include the location, permit number and anticipated time for casing each Transient Non-Community water supply well. The inspection shall be scheduled during regular Mecklenburg County work hours on regular work days according to the Well Regulation Notification Policy:
- 7.—Galvanized Steel Transient Non-Community Water Supply Well Casing
- a.—The casing shall be new, seamless or electric-resistance welded galvanized steel pipe. Galvanizing shall be done in accordance with requirements of ASTM A-53/A53M-07.
 - b.—The casing, threads and couplings shall meet or exceed the specifications of ASTM A53/A53M-07 or A589M-06.
 - c.—The minimum wall thickness for a given diameter shall equal or exceed that specified in Table 1.

d.—Each length of galvanized steel Transient Non-Community water supply well casing shall be legibly marked by rolling, stamping or stenciling to show the name or brand of the manufacturer's and ASTM designation number.

e.—Shall have water-tight joints that are electrically welded or threaded and coupled with heavy recessed-type couplings. The couplings should cover the threads when power tight.

f.—Shall be equipped with a drive shoe if the casing is driven in a consolidated rock formation. The drive shoe shall be made of forged, high carbon, tempered seamless steel and shall have a beveled, hardened cutting edge. A drive shoe shall not be required for Transient Non-Community water supply wells in which a cement or concrete grout surrounds and extends the entire length of the casing.

8.—Thermoplastic Transient Non-Community Water Supply Well Casing

a.—The casing shall be new.

b.—The casing and joints shall meet or exceed all the specifications of ASTM F-480-06b, except that the outside diameters shall not be restricted to those listed in F-480-06b.

c.—Solvent cement used for joining sections of thermoplastic Transient Non-Community water supply well casing, liner pipe, pump pipe or any connections thereto shall bear the National Sanitation Foundation (NSF) seal of approval for use on potable water systems and shall be marked with the designation ASTM D-2564 as meeting all the requirements of ASTM D-2564, requirements and recommendations of ANSI/ASTM.

d.—~~Shall have a minimum wall thickness and tolerance, which meets or exceeds requirements for SDR-21 thermoplastic Transient Non-Community water supply well casing pipe for a maximum depth of 185 feet. Galvanized steel Transient Non-Community water supply well casing as specified in subparagraph (D)(8) shall be required for the entire length of the casing for any Transient Non-Community water supply well in which the casing depth exceeds 185 feet.~~

e.—~~Shall be equipped with a coupling or other device approved by the manufacturer of the casing that is sufficient to protect the physical integrity of the thermoplastic casing during the processes of seating and grouting the casing and subsequent drilling operations.~~

f.—~~Shall be installed in straight, obstruction free bore holes only.~~

g.—~~Thermoplastic casing shall not be driven into consolidate rock.~~

9.—~~Stainless Steel Transient Non-Community Water Supply Well Casing~~

a.—~~Stainless steel casing, threads and couplings shall conform in specifications to the general requirements in ASTM A-530/A530M-04a and also shall conform to the specific requirements in the ASTM standard that best describes the chemical make-up of the stainless steel casing that is intended for use in the construction of the Transient Non-Community water supply well.~~

b.—~~Stainless steel casing shall be equipped with a drive shoe if the casing is driven in a consolidated rock formation. The drive shoe shall be made of forged, high carbon, tempered seamless steel and shall have a beveled, hardened cutting edge. A drive shoe will not be required for Transient Non-Community water supply wells in which a cement or concrete grout surrounds and extends the entire length of the casing.~~

c.—Stainless steel casing shall have a minimum wall thickness that is equivalent to standard schedule number 10S.

(E) Grouting

1.—The water supply well contractor shall contact the Department to schedule a grout inspection before grouting a Transient Non-Community water supply well. Contact shall include the location, permit number and anticipated time for grouting each Transient Non-Community water supply well. The inspection shall be scheduled during regular Mecklenburg County work hours on regular workdays according to the Well Regulation Notification Policy.

2.—Upon completion of a grout inspection, the Department shall provide a written certification on the Transient Non-Community water supply well permit that a grout inspection was completed and in compliance with the rules in Chapter II. When the Department is unable to conduct a grout inspection within one hour of the scheduled time, the water supply well contractor may grout a Transient Non-Community water supply well without a grout inspection by the Department. The water supply well contractor shall provide a written certification to the Department that the Transient Non-Community water supply well has been grouted in compliance with the rules in Chapter II. A completed Transient Non-Community water supply well construction record for GW-1 indicating the Transient Non-Community water supply well was grouted in compliance with the rules of Chapter II shall serve as the water supply well contractor's grout certification. For the purpose of issuing the Certificate of Completion, the water supply well contractor's grout certification shall be accepted by the Department as evidence the grout complies with the rules of this Section if the Department:

a.—Was contacted by the water supply well contractor to schedule a grout inspection;

b.—Was unable to inspect the grouting of the Transient Non-Community water supply well within the one hour following the scheduled time; and

c.—Upon final inspection, finds no evidence to indicate the Transient Non-Community water supply well grout does not comply with the rules of this Section.

3.—Allowable Grouts

a.—One of the following grouts shall be used wherever grout is required by a Rule of this Section. Where a particular type of grout is specified by a Rule of this Section no other type of grout shall be used:

i.—"Neat cement grout" shall consist of a mixture of not more than six gallons of clear, potable water to one 94 pound bag of Portland cement. Up to five percent, by weight of bentonite clay may be used to improve flow and reduce shrinkage. If Bentonite is used additional water may be added at a rate not to exceed 0.6 gallons of water for each pound of bentonite

ii.—"Sand cement grout" shall consist of a mixture of not more than two parts sand and one part cement and not more than six gallons of clear, potable water per 94 pound bag of Portland cement.

iii.—"Concrete grout" shall consist of a mixture of not more than two parts gravel to one part cement and not more than six gallons of clear, potable water per 94 pound bag of Portland cement. One hundred percent of the gravel must pass through a one-half inch mesh screen.

iv.—"Gravel cement grout, sand cement grout or rock cutting cement grout" shall consist of a mixture of not more than two parts gravel and sand or rock cuttings to one part cement and not more than six gallons of clear, potable water per 94 pound bag of Portland cement.

v.—"Bentonite slurry grout" shall consist of a mixture of not more than 20 gallons of clear potable water to one 50 pound bag of commercial sodium bentonite. Non-organic, non-toxic substances may be added to improve particle distribution and pumpability. Bentonite slurry grout may only be used in those instances where specifically approved in this Section and only in accordance with the manufacturer's written instructions.

vi.—Bentonite Chips or pellets shall consist of pre-screened sodium bentonite chips or compressed sodium bentonite pellets with largest dimension of at least one-fourth (1/4) inch but not greater than one-fifth (1/5) of the width of the annular space into which they are being placed. Bentonite chips or pellets shall be hydrated in place. Bentonite chips or pellets may only be used in accordance with the manufacturer's written instructions.

vii.—"Specialty grout" means a mixture of non-organic, non-toxic materials with characteristics of expansion, chemical-resistance, rate of heat of hydration, viscosity, density or temperature-sensitivity applicable to specific grouting requirements. Specialty grouts may not be used without prior approval by the Director. Approval of the use of specialty grouts shall be based on a demonstration that the finished grout has permeability less than 10^{-6} centimeters per second and will not adversely impact human health or the environment

b. With the exception of bentonite chips or pellets, the liquid and solid components of all grout mixtures shall be thoroughly blended prior to emplacement below land surface,

c. No fly ash, other coal combustion byproducts, or other wastes may be used in any grout.

4.—Grout Emplacement

- a.—Casing shall be grouted to a minimum depth of 20 feet below land surface.
- b.—Casing shall be grouted as necessary to seal off, from the producing zone(s), all aquifers or zones that are know to contain contaminated, saline or other non-potable water so that contamination of the overlying and underlying aquifers or zones shall not occur.
- c.—Where grouting is required by the provisions of this section, the grout shall extend outward from the casing wall to a minimum thickness equal to either one-third of the diameter of the outside dimension of the casing or two inches, whichever is greater; excepting, however, that large diameter bored Transient Non-Community water supply wells shall meet the requirement of Section IV (E)(10) of this Chapter.
- d.—Bentonite slurry grout may be used in that portion of the borehole that is at least three feet below land surface. Bentonite slurry grout must be placed in the annular space by use of either the pumping or pressure method. That portion of the borehole from land surface to three feet below land surface shall be filled with a cement or concrete grout, or bentonite chips or pellets that are hydrated in place.
- e.—The grout shall be placed around the casing by one of the following methods:
- i.—Pressure-grout shall be pumped or forced under pressure through the bottom of the casing until it fills the annular space around the casing and overflows at the surface.
- ii.—Pumping - grout shall be pumped into place through a hose or pipe extended to the bottom of the annular space which can be raised as the grout is applied. The grout hose or pipe shall remain submerged in grout during the entire application.

iii.—Other—Grout may be emplaced in the annular space by gravity flow in such a way to ensure complete filling of the space. Gravity flow shall not be used if water or any visible obstruction is present in the upper 20 feet of annular space at the time of grouting. If the grout contains bentonite clay it must be emplaced by either the pumping or pressure method.

f.—Where consolidated rock is encountered at a depth of less than twenty feet below land surface such that the annular space around the casing (as required by Section IV (E)4 of this Chapter) may not be kept free of formation material from the drilling process to a minimum depth of twenty feet, the grout shall be placed around the casing immediately following the placement of the casing in the bore hole. Subsequent drilling operations may not continue until such time as the grout remains permanently in place around the Transient Non-Community water supply casing.

g.—If an outer casing is installed, it shall be grouted by either the pumping or pressure method.

5.—The liquid and solid components of all cement grouts, concrete grouts, and bentonite slurry grouts shall be thoroughly blended prior to emplacement below land surface.

6.—Bentonite chips or pellets shall be used in compliance with all manufacturer's instructions including pre-screening the material to eliminate fine-grained particles, installation rates, hydration methods, tamping and other measures to prevent bridging

7.—Bentonite grout shall not be used to seal zones of water with chloride concentration of 1500 parts per million or greater.

~~8.—The Transient Non-Community water supply well shall be grouted within five working days after the casing is set.~~

~~9.—No additives, which will accelerate the process of hydration, shall be used in grout for thermoplastic Transient Non-Community water supply well casing.~~

~~10.—For large diameter Transient Non-Community water supply wells cased with concrete pipe or ceramic tile, of a pipe diameter equal to or greater than 20 inches the following shall apply:~~

~~a.—The borehole shall have a minimum diameter of six inches larger than the outside diameter of the casing.~~

~~b.—The annular space around the casing shall be filled with grout to a depth of at least twenty feet below land surface.~~

~~c.—The annular space around the casing below the grout shall be filled with sand or gravel.~~

(F) ~~Transient Non-Community Water Supply Well Screen~~

~~1.—The Transient Non-Community water supply well, if constructed to obtain water from an unconsolidated rock formation, shall be equipped with a screen that will prevent the entrance of formation material into the Transient Non-Community water supply well after the Transient Non-Community water supply well has been developed and completed by the water supply well contractor.~~

~~2.—The Transient Non-Community water supply well screen shall be of a design to permit the optimum development of the aquifer with minimum head loss consistent with the intended use of the Transient Non-Community water supply well and with screen placement at intervals, which allow for optimal water movement. The openings shall be designed to prevent clogging and shall be free of rough edges, irregularities or other defects that may accelerate or contribute to corrosion or clogging.~~

3.—Multi-screen Transient Non-Community water supply wells shall not connect aquifers or zones, which have differences in water quality which would result in contamination of any aquifer or zone.

(G) Gravel and/or Sand-Packed Transient Non-Community Water Supply Wells

1.—In constructing a gravel and/or sand-packed Transient Non-Community water supply well:

a.—The packing material shall be composed of quartz, granite, or similar mineral or rock material and shall be clean, of uniform size, water-washed and free from clay, silt or other deleterious material.

b.—The size of the packing material shall be determined from a grain size analysis of the formation material and shall be of a size sufficient to prohibit the entrance of formation materials into the Transient Non-Community water supply well in concentrations above those permitted by Section IV (H) of this Chapter.

c.—The packing material shall be placed in the annular space around the screens and casing by a fluid circulation method, preferably through a conductor pipe to insure accurate placement and avoid bridging.

d.—The packing material shall be disinfected.

e.—Centering guides shall be installed within five feet of the top packing material to insure even distribution of the packing material in the borehole.

2.—The packing material shall not connect water bearing or zones, which have differences in water quality that would result in contamination of any aquifer or zone.

~~(H) — Transient Non-Community Water Supply Well Development~~

- ~~1. — All Transient Non-Community water supply wells shall be developed by the water supply well contractor.~~
- ~~2. — Development shall include removal of formation materials, mud, drilling fluids and additives such that the water contains no more than:
 - ~~a. — Five milliliters per liter of Settleable solids; and~~
 - ~~b. — Ten NTUs of turbidity as suspended solids.~~~~
- ~~3. — Development does not require efforts to reduce or eliminate the presence of dissolved constituents, which are indigenous to the ground water quality in that area. Typical dissolved constituents include, but are not limited to aluminum, calcium, chloride, iron, magnesium, manganese, sodium, and sulfate.~~
- ~~4. — Upon completion of the Transient Non-Community water supply well, the Transient Non-Community water supply well shall be sufficiently free of obstacles including formation material as necessary to allow for the installation and proper operation of pumps and associated equipment.~~

~~(I) — Water Supply Well Contractor Identification Plate~~

- ~~1. — An identification plate showing the water supply well contractor and his individual certification number shall be installed on the Transient Non-Community water supply well within 72 hours after the drilling is complete.~~

- 2.—The identification plate shall be constructed of a durable waterproof, rustproof metal or equivalent material approved by the Director of the Division of Water Quality, NC-DENR.
- 3.—The identification plate shall be permanently attached to either the aboveground portion of the Transient Non-Community water supply well casing, surface grout pad, or enclosure floor around the casing where it is readily visible and easily readable. The method of attachment shall not obscure information on the identification plate.
- 4.—The identification plate shall not be removed by any Person.
- 5.—The identification plate shall be stamped or otherwise imprinted with a permanent legible marking to show the:
 - a.—total depth of Transient Non-Community water supply well
 - b.—casing or liner depth (ft.) and inside diameter (in.);
 - c.—screened interval of screened wall
 - d.—packing interval of gravel or sand-packed Transient Non-Community water supply wells;
 - e.—yield, in gallons per minute (gpm) or specific capacity in gallons per minute per foot of drawdown (gpm/ft-dd)
 - f.—static water level and date measured; and
 - g.—date Transient Non-Community water supply well completed or lined.

~~h.—The Transient Non-Community water supply well construction permit number or numbers if such a permit is required.~~

~~(K)—Pump Installer Identification Plate~~

- ~~1.—An identification plate showing the name and registration number or water supply well contractor certification number of the pump installation contractor shall be installed on the Transient Non-Community water supply well within 72 hours after completion of the pump installation.~~
- ~~2.—The identification plate shall be constructed of a durable waterproof, rustproof, metal or equivalent material approved by the Director of the Division of Water Quality, NC DENR.~~
- ~~3.—The identification plate shall be permanently attached to either the aboveground portion of the Transient Non-Community water supply well casing, surface grout pad or enclosure floor around the casing where it is readily visible and easily readable. The method of attachment shall not obscure information on the identification plate.~~
- ~~4.—The identification plate shall not be removed by any Person.~~
- ~~5.—The identification plate shall be stamped or otherwise imprinted with a permanent legible marking to show the:
 - ~~a.—date the pump was installed~~
 - ~~b.—the depth of the pump intake, and~~
 - ~~c.—the horsepower rating of the pump~~~~

(L) ~~Transient Non-Community Water Supply Well Head Completion and Equipment~~

- ~~1.—The Transient Non-Community water supply well pump must be installed in the Transient Non-Community water supply well and the Transient Non-Community water supply well head completed within 30 days of the date construction is begun on the Transient Non-Community water supply well, or the Transient Non-Community water supply well must be temporarily or permanently abandoned.~~
- ~~2.—The top of the casing shall be cut off smooth and level, be free from dents and cracks, and shall terminate at least eight inches above the concrete slab around the casing where a slab has been installed.~~
- ~~3.—The builder, water supply well contractor, pump installer or homeowner as applicable shall provide assistance when necessary to gain access for inspection of the Transient Non-Community water supply well, pumps and pumping equipment.~~
- ~~4.—The identification plate, if removed or obscured during pump installation shall be relocated and permanently attached to the aboveground portion of the Transient Non-Community water supply well casing, surface grout pad or enclosure floor around the casing where it is readily visible and easily readable.~~
- ~~5.—All piping, wiring, and vents shall enter the Transient Non-Community water supply well at least twelve inches above land surface, except where pitless adapters or pitless units are used, and shall be adequately sealed to preclude the entrance of contaminants into the Transient Non-Community water supply well.~~

- ~~6.—Every Transient Non-Community water supply well shall be equipped by the Person completing the Transient Non-Community water supply well head with a useable access port or air line:~~
- ~~a.—The access port shall be located directly on top of the Transient Non-Community water supply well if the pump is offset from the water supply well:~~
 - ~~b.—For Transient Non-Community water supply wells on which the pump is installed directly over the Transient Non-Community water supply well, an access port pipe shall be installed through the pump base or outside the Transient Non-Community water supply well casing, and terminate inside the Transient Non-Community water supply well casing at some point below the base of the pump:~~
 - ~~c.—The access port shall have a minimum inside diameter of one-half inches, so that the position of the water level may be determined at any time:~~
 - ~~d.—The access port shall be installed and maintained in such a manner as to prevent the entrance of water, dust, insects or other foreign material, and to permit ready access for water level measurements:~~
- ~~7.—Every Transient Non-Community water supply well that flows under natural artesian pressure shall be properly constructed, equipped and operated to prevent the unnecessary discharge of water. Flow shall be completely stopped unless the discharge is for beneficial use and only for the duration of that beneficial use. Flow discharge control shall be provided to conserve the groundwater resource and prevent or reduce the loss of artesian hydraulic head. Flow control may consist of valved pipe connections, watertight pump connections, receiving tank, flowing well pitless adapter, packer or other methods approved by the Department to prevent the loss of artesian hydraulic head and stop the flow of water. The water supply well will be equipped with a check valve sized to the overflow line diameter to prevent back siphonage. Transient Non-~~

~~Community water supply Well Owners shall be responsible for the operation, and maintenance of such equipment.~~

~~8.—Pitless adapters or pitless units shall be allowed as a method of Transient Non-Community water supply well head completion under the following conditions:~~

~~a.—The pitless device shall be manufactured specifically for the purpose of Transient Non-Community water supply well construction;~~

~~b.—Design, installation and performance standards shall be those specified in PAS1 (Pitless Adapter Standard No. 1) as adopted by the Water System Council's Pitless Adapter Division;~~

~~c.—The pitless device shall be compatible with the Transient Non-Community water supply well casing;~~

~~d.—The top of the pitless device shall extend at least 12 inches above land surface;~~

~~e.—The pitless device shall have an access port.~~

~~f.—If a pitless adapter or pitless unit is used as a method of Transient Non-Community water supply well head completion, the Transient Non-Community water supply well is not required to have a cover.~~

~~g.—If a pitless adapter or pitless unit is used as a method of Transient Non-Community water supply well head completion, a sample tap shall be installed between the pump and the pressure tank by the Person installing the pump for the purpose of obtaining water samples.~~

9. ~~Each new Transient Non-Community water supply well shall be equipped with a cover or enclosure, which is free of cracks, holes, etc. and is determined to be approved by the Director. No single dimension of the cover or enclosure shall exceed seven feet in length and it should be secured firmly to the ground surface, while still being easily accessible for inspection. If a concrete floor is poured within the cover or enclosures, a drain hole must be provided to allow water to drain out.~~

10. ~~All new Transient Non-Community Water Supply wells and Transient Non-Community water supply wells constructed after July 1, 1993, and serving an establishment regulated by 15A NCAC 18A shall have a slab which complies with paragraph .1722(e) of Section .1700 – Protection of Water Supplies.~~

11. ~~A new Transient Non-Community water supply well designed to serve a water supply system where system components will require an area with an enclosure having a single dimension exceeding seven feet in length, shall have a four-inch thick concrete floor. The enclosure shall be anchored to the floor and shall have a drain hole provided to allow water to drain out, with the Transient Non-Community water supply well being accessible for inspections.~~

12. ~~The pumping capacity of the pump shall be consistent with the intended use and yield characteristics of the Transient Non-Community water supply well.~~

13. ~~The pump and related equipment for the Transient Non-Community water supply well shall be conveniently located to permit easy access and removal for repair and maintenance.~~
14. ~~The base plate of a pump placed directly over the Transient Non-Community water supply well shall be designed to form a watertight seal with the Transient Non-Community water supply well casing or pump foundation.~~
15. ~~In installations where the pump is not located directly over the Transient Non-Community water supply well, the annular space between the casing and pump intake or discharge piping shall be closed with a water tight seal preferably designed specifically for this purpose.~~
16. ~~The Transient Non-Community water supply well shall be properly vented at the Transient Non-Community water supply well head to allow for the pressure changes within the Transient Non-Community water supply well except when a suction lift type pump is used.~~
17. ~~A sample tap shall be installed between the pump and the pressure tank by the Person installing the pump for the purpose of obtaining water samples. In the case of offset jet pump installations, the sample tap shall be installed on the return (pressure) side of the jet pump installations. To prevent the sample tap from being a possible conduit of contamination, a spring loaded check valve, sized to at least the diameter of the drop pipe, shall be installed at the head of the pump.~~
18. ~~The sample tap must be located in the piping and positioned such that a sample may be obtained by placing the sample bottle underneath the~~

~~sample tap or a minimum distance of 8 inches without interference from the Transient Non-Community water supply well cover, enclosure, slab or any part of the Transient Non-Community water supply well head.~~

- ~~19. A priming tee shall be installed at the Transient Non-Community water supply well head in conjunction with offset jet pump installations.~~
- ~~20. Joints of any suction line installed underground between the Transient Non-Community water supply well and pump shall be tight under system pressure.~~
- ~~21. The drop piping and electrical wiring used in connection with the pump shall meet all applicable underwriters' specifications.~~
- ~~22. Contaminated water shall not be used for priming the pump.~~

~~History Note: Authority G.S. 87-85; 87-87; 87-88~~

~~Reference (15A NCAC 02C .0107)~~

~~Reference (15A NCAC 02C .0301)~~

~~Reference (15A NCAC 02C .0305)~~

~~SECTION V DISINFECTION OF TRANSIENT NON-COMMUNITY WATER SUPPLY WELLS~~

(A) — All Transient Non-Community water supply wells shall be disinfected upon completion of construction, maintenance, repairs, pump installation and testing as follows:

1. — Chlorine shall be placed in the Transient Non-Community water supply well in sufficient quantities to produce a free chlorine residual of at least 100 parts per million in the Transient Non-Community water supply well. The chlorine shall be placed in the Transient Non-Community water supply well by one of the following or equivalent methods:

a. — Chlorine granules or tablets shall be placed in the top of the Transient Non-Community water supply well and allowed to settle to the bottom of the Transient Non-Community water supply well.

OR

b. — Chlorine solution shall be placed in the bottom of the Transient Non-Community water supply well by using a bailer or by pouring the solution through the drill rod, hose or pipe placed in the bottom of the Transient Non-Community water supply well. The solution shall be flushed out of the drill rod, hose or pipe using water or air.

2. — Agitate the water in the Transient Non-Community water supply well to ensure thorough dispersion of the chlorine:

3. — The Transient Non-Community water supply well casing, pump column and any other equipment above the water level in the Transient Non-Community water supply well shall be thoroughly rinsed with the chlorine solution as a part of the disinfecting process:

4. — The chlorinated water shall stand in the Transient Non-Community water supply well for a period of at least 24 hours, then pumped until the system is free of any chlorine residual.

~~5.—The Transient Non-Community water supply well shall not be used as a source of drinking water supply until such time as water samples collected from the Transient Non-Community water supply well indicates that the Transient Non-Community water supply well is free of coliform bacteria.~~

~~6.—Other materials and methods of disinfection, at least as effective as those in Section V (A)1 of this Chapter may be used upon prior approval by the Director.~~

History Note: Authority G.S. 87-85; 87-87; 87-88

Reference (15A NCAC 02C .0111)

SECTION ~~VI~~ V SAMPLING

- (A) Within 30 days of the TNC completion of the Transient Non-Community water supply well for a newly constructed Transient Non-Community water supply well, the Department shall obtain water samples and submit them to a certified laboratory for analyses or ensure that the water obtained from the Transient Non-Community water supply well has been sampled and analyzed by a certified laboratory, in accordance with this Chapter.
- (B) Samples collected from Transient Non-Community water supply wells pursuant to the rules of this Chapter shall be collected by an employee of the Department, or a certified laboratory. The sample collector shall use aseptic sampling techniques for collection of coliform bacteria and sampling techniques and containers for chemical constituents following methods described in 40 Code of Federal Regulations 141.23 Inorganic Chemical Sampling and Analytical Requirements and 40 Code of Federal Regulations 143.4 Monitoring, which are incorporated by reference including any subsequent amendments, additions or editions.

- (C) The sample collectors shall be trained in accordance with guidance developed by the Department.
- (D) Water samples shall be collected from the sample tap at the Transient Non-Community water supply well or the closest accessible collection point to the water source with a tap capable of being disinfected, providing the sampling point shall precede any water treatment devices
- (E) It is the responsibility of the Transient Non-Community water supply well Owner to provide access and a source of power for the purpose of collecting the required water sample.
- (F) For all new Transient Non-Community water supply wells , samples for total coliform and fecal coliform bacteria shall be collected after the disinfectant agent has been flushed from the Transient Non-Community water supply well and water supply system. The water shall be determined to be free of disinfectant before collection of samples for bacteria. Required water samples shall not be collected from Transient Non-Community water supply wells that are not constructed and located in accordance with the rules of this Chapter.
- (G) Samples shall be transported to the laboratory following the procedures for sample preservation and within holding times required in 40 Code of Federal Regulations 141.21(f) Analytical Methodology, 141.23 Inorganic Chemical Sampling and Analytical Requirements, and 143.4 Monitoring, which are hereby incorporated by reference including any subsequent amendments, additions or editions.
- (H) Additional or retest samples may be collected if:

1. during permitting, construction and sampling process, information indicates the potential for other contaminants to be present in the groundwater source; or
 2. if necessary to confirm initial testing results
- (I) Prior to final approval of a new Transient Non-Community water supply well a water sample from the Transient Non-Community water supply well will be analyzed for a suite of Volatile Organic Compounds (VOC) and a suite of toxic metals to be determined by the Director to document the water quality. Additional analysis may be required if deemed necessary by the Director.
1. If the sample analysis indicates the presence of a VOC or toxic metal at or above the laboratory practical quantification level additional sampling as determined by the director will be required.
 2. If the sample analysis does not indicate a concentration of a VOC or a toxic metal. No further sampling will be required unless warranted by changes in site conditions, land use or determined by the Director to protect human health.
 3. If a sample analysis indicates a concentration above the Groundwater Quality Standards referenced in Chapter ~~III~~^{IV} the water must be treated/filtered to remove or lower the contaminant below the Groundwater Quality Standards prior to public use.
- (J) Water samples shall be analyzed in the North Carolina Sate Laboratory of Public Health or a certified laboratory
- (K) A water sample shall be tested for total coliform bacteria and if present, further analyzed for the presence of fecal coliform bacteria or E. coli.

- (L) A Transient Non-Community water supply well shall be analyzed for Arsenic, Barium, Cadmium, Chromium, Copper, Fluoride, Lead, Iron, Magnesium, Manganese, Mercury, Selenium, Silver, Sodium, Zinc, and pH. The Department shall provide information to the Transient Non-Community water supply well Owner or respective lease holder concerning chemical and biological contaminants exceeding public drinking water MCLs and the need for exposure limitation, remediation and or future sampling.
- (M) In addition to the monitoring required by the NCPWS all existing Transient Non-Community water supply wells in Mecklenburg County will be sampled for a suite of Volatile Organic Compounds (VOC) and a suite of toxic metals to be determined by the Director.
1. If the sample analysis indicates a concentration of a VOC or a toxic metal additional sampling as determined by the director will be required.
 2. If the sample analysis does not indicate a concentration of a VOC or a toxic metal. No further sampling for VOC or toxic metals will be required unless warranted by changes in site conditions, land use or determined by the Director to protect human health.
- (N) In addition to the monitoring required by the NCPWS all existing Transient Non-Community water supply wells within an Area of Regulated Groundwater Usage designated in Mecklenburg County will require:
1. an initial water sample following identification of the contaminant. The water sample must be analyzed for the contaminant(s)-of-concern. A laboratory certified by the State must perform the analysis. The analysis must be submitted to the Department for review.
 2. ~~biannual~~ **biennial** sampling and analysis for the contaminant(s)-of-concern. The water sample must be analyzed for the contaminant(s)-of-concern. A laboratory certified by the State must perform the analysis. The analysis must be submitted to the Department for review.

3. the Department may waive or modify sampling requirements on a Transient Non-Community water supply well by Transient Non-Community water supply well basis if:
 - a. it can demonstrated that a non-impacted water supply well of similar dimensions to the subject Transient Non-Community water supply well exist between the contaminant plume and the subject well, or
 - b. a hydrogeologic review of the Area of Regulated Groundwater Usage, conducted by a North Carolina Professional Engineer or a North Carolina Licensed Geologist and presented to the Department, indicates that the Transient Non-Community water supply well is not at risk of being impacted by the contaminant plume. The Department must concur with the findings of the review before modification to the sampling schedule may be granted.
- (O) Fees for sampling services performed by the Department will be charged according to the current fee schedule.
- (P) Records required in this section shall be submitted within 30 days of receipt of laboratory analysis reports.

History Note: Authority G.S. 87- 85; 87-97

Reference (15A NCAC 18A .3802)

~~SECTION VII TRANSIENT NON-COMMUNITY WATER SUPPLY WELL
MAINTENANCE AND REPAIR~~

~~(A) — Every Transient Non-Community water supply well shall be maintained by the Owner in a condition whereby it will conserve and protect the groundwater resources, and whereby it will not be a source or channel of contamination to the groundwater.~~

- ~~(B) — All construction and materials used in the maintenance, replacement or repair of any Transient Non-Community water supply well shall meet the requirements for new installations.~~
- ~~(C) — The Director may inspect the liner and packer materials before they are installed, as they are installed in the casing and bore hole and/or after the liner is set. The water supply well contractor shall contact the Department to schedule a liner inspection before lining a Transient Non-Community water supply well. Contact shall include the location, permit number and anticipated time for lining each Transient Non-Community water supply well. The inspection shall be scheduled during regular Mecklenburg County work hours on regular workdays according to the Well Regulation Notification Policy.~~
- ~~(D) — Broken, punctured or otherwise defective or unserviceable casing, screens, fixtures, seals or any part of the Transient Non-Community water supply well head shall be repaired or replaced, or the Transient Non-Community water supply well shall be abandoned pursuant to the requirements of 15A NCAC 02C .0013.~~
- ~~(E) — National Science Foundation (NSF) approved PVC pipe rated at 160 psi or greater may be used for liner pipe. The annular space around the liner pipe shall be at least five-eighths inches and shall be completely filled with neat-cement grout. Bentonite clay shall not be used in grouting a liner. The Transient Non-Community water supply well liner shall be completely grouted within ten working days after the liner has been installed.~~
- ~~(F) — The Director shall not approve any new Transient Non-Community water supply well which has the uppermost end of the casing terminating below land surface.~~
- ~~(G) — All Transient Non-Community water supply well repairs shall be completed with the wellhead terminating at least twelve inches above land surface~~

(H) ~~Repairs to any Transient Non-Community water supply well completed with the Transient Non-Community water supply well head terminating below ground (buried seal) shall include extending the Transient Non-Community water supply well casing above land surface. The extension shall be made as follows:~~

- ~~1. The extension casing shall be welded or bonded to the existing casing around the outside of the joint, providing a watertight seal or a sleeve shall be forced over the existing casing with at least six inches of overlap, providing a watertight seal.~~
- ~~2.—Grout shall be placed around the casing, extending from land surface to a depth of twenty feet. The grout thickness shall be as specified in these regulations. In lieu of twenty feet of grout for those Transient Non-Community water supply wells drilled prior to 1972 only, a liner properly installed and grouted inside the existing casing, extending below the bottom of the existing casing and firmly sealed a minimum of one foot into consolidated rock, shall be acceptable as meeting this requirement.~~

~~(I) An accepted alternative method of Transient Non-Community water supply well repair is permitted only for Transient Non-Community water supply wells drilled prior to 1972. A sleeve shall be forced over the existing casing with at least six inches of overlap. Cement grout shall be placed around the casing, extending from land surface to a depth of at least one foot below the joint formed by the casings. The grout thickness shall be as specified in these regulations. This alternative method of repair shall not apply to Transient Non-Community water supply wells drilled after January 1, 1972. This procedure involves extending the existing casing. It is therefore a water supply well contractor activity and may only be performed by a certified well contractor. This repair does not meet the requirement of grouting to a depth of twenty feet and the water supply well shall not be considered a properly protected Transient Non-Community water supply well.~~

- (J) ~~Prior to a repaired Transient Non-Community water supply well being returned to service, the Transient Non-Community water supply well shall be redeveloped to remove biofilm or formational material from the Transient Non-Community water supply well. The methods of Transient Non-Community water supply well redevelopment include, but are not limited to, the methods listed in Chapter I, Section II “Repair”. The method of Transient Non-Community water supply well redevelopment shall be listed on the Transient Non-Community water supply well’s record of repair.~~
- (K) ~~Any repair, pump maintenance, or pump replacement shall be completed by disinfection of the Transient Non-Community water supply well and water system in accordance with Section V of this Chapter and the Transient Non-Community water supply well head completed in accordance with Sections IV(J), IV(K) and IV(L) of this Chapter.~~
- (L) ~~Water supply well contractors and pump installers will submit notification of chlorination within 10 working days.~~

History Note: Authority G.S. 87-85; 87-87; 87-88

Reference (15A NCAC 02C .0112)

SECTION VIII ABANDONMENT OF TRANSIENT NON-COMMUNITY WATER SUPPLY WELLS

(A) ~~Temporarily Abandoned Transient Non-Community water supply wells~~

- 1.—Temporarily abandoned Transient Non-Community water supply wells shall be cased and grouted in accordance with these Regulations.
- 2.—Temporarily abandoned Transient Non-Community water supply wells shall be sealed at the top of the casing with a watertight cap compatible with the casing and installed such that it cannot be removed easily by hand.
- 3.—Temporarily abandoned Transient Non-Community water supply wells shall be maintained such that they are not a source or channel of contamination to groundwater.
- 4.—Temporarily abandoned Transient Non-Community water supply wells shall be equipped with a cover or enclosure free of cracks and holes and is determined to be approved by the Director.
- 5.—The identification plate must be maintained as specified in Section IV (I) 3 of this Chapter.
- 6.—Temporarily abandoned Transient Non-Community water supply wells shall be protected with casing.

(B) — Permanently Abandoned Transient Non-Community Water Supply Wells

- 1.—The casing in any Transient Non-Community water supply well to be permanently abandoned shall be grouted in accordance with these rules and regulations or removed.

- 2.—The entire depth of the Transient Non-Community water supply well shall be sounded before it is sealed to ensure freedom from obstructions that may interfere with sealing operations.
- 3.—The Transient Non-Community water supply well shall be thoroughly disinfected according to Section IV(A) of this Chapter prior to sealing.
- 4.—Procedures for permanent abandonment of Transient Non-Community water supply wells, other than bored or hand dug Transient Non-Community water supply wells
 - a.—Transient Non-Community water supply wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with cement grout, bentonite grout, sand, gravel or drill cuttings opposite the zones of consolidated rock. The top of the sand, gravel or cutting fill shall be at least ten feet below the top of the consolidated rock or five feet below the bottom of the casing. The remainder of the Transient Non-Community water supply well shall be filled with cement grout or bentonite grout only. For any Transient Non-Community water supply well in which the depth of casing or the depth to the bedrock is not known or cannot be confirmed, the entire depth of the Transient Non-Community water supply well shall be filled with cement grout or bentonite grout up to land surface.
 - b.—Transient Non-Community water supply wells constructed in unconsolidated rock formations other than bored or hand dug shall be completely filled with neat cement grout or bentonite grout by introducing it through a pipe extending to the bottom of the Transient Non-Community water supply well which can be raised as the Transient Non-Community water supply well is filled.
 - c.—Gravel packed Transient Non-Community water supply wells in which the casing and screen have not been removed shall be abandoned by

injecting neat cement grout or bentonite grout into the Transient Non-Community water supply well filling it from the bottom of the casing to the top.

- 5.—Procedures for permanent abandonment of bored Transient Non-Community water supply wells or cased hand dug Transient Non-Community water supply wells constructed into unconsolidated material:
 - a.—Remove all plumbing or piping into the Transient Non-Community water supply well, along with any obstructions inside the Transient Non-Community water supply well.
 - b.—Remove as much of the Transient Non-Community water supply well tile casing as possible, but no less than to a depth of three (3) feet below land surface;
 - c.—Remove all soil or other subsurface material present down to the top of the remaining Transient Non-Community water supply well casing, and extending to a width of at least twelve (12) inches outside of the Transient Non-Community water supply well casing on all sides
 - d.—Fill the Transient Non-Community water supply well up to the top of the remaining casing with cement grout, concrete grout, or bentonite grout.
 - e.—Pour a one (1) foot thick concrete grout or cement grout plug that fills the entire excavated area above the top of the casing, including the area extending on all sides of the casing out to a width of at least twelve (12) inches on all sides.
 - f.—Complete the abandonment process by filling the remainder of the Transient Non-Community water supply well above the concrete or cement plug with additional concrete grout, cement grout, or soil.

~~6.—Procedures for permanent abandonment of uncased hand dug Transient Non-Community water supply wells constructed into unconsolidated material:~~

~~a.—Remove all plumbing or piping into the Transient Non-Community water supply well, along with any obstructions inside the Transient Non-Community water supply well.~~

~~b.—Remove all soil or other subsurface material present down to a depth of three (3) feet below land surface and extending to a width of at least twelve (12) inches outside of the Transient Non-Community water supply well diameter on all sides.~~

~~c.—Fill the Transient Non-Community water supply well up to the top of the original diameter with cement grout, concrete grout, bentonite grout, or dry clay compacted in place.~~

~~d.—Pour a one (1) foot thick concrete grout or cement grout plug that fills the entire excavated area above the top of the original diameter, including the area extending on all sides of the original diameter out to a width of at least twelve (12) inches on all sides.~~

~~e.—Complete the abandonment process by filling the remainder of the Transient Non-Community water supply well above the concrete or cement plug with additional concrete grout, cement grout, or soil.~~

~~7.—Procedures for permanent abandonment of contaminated Transient Non-Community water supply wells:~~

~~a.—All casing and screen materials may be removed prior to initiation of abandonment procedures if such removal will not cause or contribute to contamination of the groundwater. Any casing not grouted in accordance with 15A NCAC 2C .0107(e) shall be removed or properly grouted.~~

- a.—
- b.— The entire depth of the Transient Non-Community water supply well shall be sounded before it is sealed to ensure freedom from obstructions that may interfere with sealing operations.
- b.—
- c.— In the case of gravelpacked Transient Non-Community water supply wells in which the casing and screens have not been removed, neat cement, or bentonite grout shall be injected into the Transient Non-Community water supply well completely filling it from the bottom of the casing to the top.
- e.—
- d.— Transient Non-Community water supply wells constructed in unconsolidated formations shall be completely filled with cement grout, or bentonite grout by introducing it through a pipe extending to the bottom of the Transient Non-Community water supply well which can be raised as the Transient Non-Community water supply well is filled.
- d.—
- e.— Transient Non-Community water supply wells constructed in consolidated rock formations or that penetrate zones of consolidated rock shall be filled with cement grout or bentonite grout by introducing it through a pipe extending to the bottom of the Transient Non-Community water supply well which can be raised as the Transient Non-Community water supply well is filled. The top of the cement grout or bentonite grout shall extend up to land surface.

(C) — The Owner shall be responsible for permanent abandonment of a Transient Non-Community water supply well except that:

- 1.— The water supply well contractor is responsible for Transient Non-Community water supply well abandonment if abandonment is required because the water supply well contractor improperly locates, construct, repairs or completes the Transient Non-Community water supply well. The water supply well contractor shall permanently abandon any Transient Non-Community water supply well in which the casing has not been installed or from which the casing has been removed prior to removing his equipment from the site.
- 2.— The pump installer is responsible for Transient Non-Community water supply well abandonment if abandonment is required because of

improper Transient Non-Community water supply well pump installation, repair, or removal. A certified water supply well contractor must abandon the Transient Non-Community water supply well.

- (D) — Any Transient Non-Community water supply well not in compliance with the conditions for temporary abandonment shall be brought into compliance or permanently abandoned within thirty days of receipt of notice from the Director.
- (E) — Any Transient Non-Community water supply well whose construction would have a propensity to transfer contamination to the groundwater shall be repaired so that it will not act as a source or channel of contamination to the groundwater, or permanently abandoned within thirty days of receipt of notice from the Department. The person abandoning the Transient Non-Community water supply well shall provide a minimum 24 hour notice to the Department prior to commencement of permanent abandonment procedures.
- (F) — Where a new Transient Non-Community water supply well or public water supply is replacing an old Transient Non-Community water supply well and the Owner wishes to continue using the old Transient Non-Community water supply well for irrigation or other uses, the old Transient Non-Community water supply well may not be connected to the primary water supply system in any way and must conform with Section VIII (E) of this Chapter.
- (G) — Where a new private Transient Non-Community water supply well or public water supply is replacing an existing Transient Non-Community water supply well in which contamination has been confirmed through analyses, the existing Transient Non-Community water supply well shall be permanently abandoned.
- (H) — The Director shall have the right to enter any property for the purpose of determining whether or not there may be an improperly abandoned Transient Non-Community water supply well on the property.

~~(f) — The well contractor shall contact the Department to schedule an abandonment inspection before abandoning a Transient Non-Community water supply well. Contact shall include the location, permit number and anticipated time for abandoning each Transient Non-Community water supply well. The inspections shall be scheduled during regular Mecklenburg County work hours on regular workdays according to the Well Regulation Notification Policy.~~

~~History Note: Authority G.S. 87-85; 87-87; 87-88~~

~~Reference (15A NCAC 02C .0113)~~

SECTION IX RECORDS REQUIRED

~~(A) — Reports~~

- ~~1. — Any Person performing Transient Non-Community water supply well contractor activities in Mecklenburg County shall submit to the Director and to the Transient Non-Community water supply well Owner, a record of construction, repair, or abandonment to include the Owner's name, the Transient Non-Community water supply well's location, size and depth, the casing materials and depth, depth of water bearing zones, the method of finishing, the method of repairing, the method of abandoning, static water level, pumping water level, yield and pump type.~~
- ~~2. — Any Person installing a pump or equipment in a Transient Non-Community water supply well must be registered with the Department and shall be listed separately on the record of construction as having installed the pump.~~
- ~~3. — The reports required in Section IX shall be submitted within 15 days after completing construction, repair, abandonment, or pump installation.~~

4. ~~Reports shall be certified by the water supply well contractor or pump installer completing the construction, repair, abandonment, or pump installation.~~

~~SECTION X TRANSIENT NON-COMMUNITY WATER SUPPLY WELL COMPLETION
AND CERTIFICATION~~

~~(A) — After receiving a permit to construct a Transient Non-Community water supply well, the property Owner or Owners legal agent shall notify the Department prior to Transient Non-Community water supply well construction if any of the following occur:~~

1. ~~The separation criteria specified in Chapter II Section IV cannot be met.~~
2. ~~The residence or other structure is located other than; indicated on the permit;~~
3. ~~The use of the structure is changed from the use; specified on the permit;~~
4. ~~The septic system needs to be changed from the location indicated on the permit;~~
5. ~~Landscaping changes have been made that may affect the integrity of the Transient Non-Community water supply well;~~

6. ~~There are current or pending restrictions regarding groundwater use as specified in G.S. 87-88(a);~~
 7. ~~The water source of any Transient Non-Community water supply well intended for water supply is adjacent to any water-bearing zone suspected or known to be contaminated; or~~
 8. ~~Any other changes occur in the information provided in the application for the Transient Non-Community water supply well permit.~~
- (B) ~~The well contractor shall maintain a copy of the Transient Non-Community water supply well construction permit or repair permit on the job site at all times during the construction, repair or abandonment of the Transient Non-Community water supply well. The well contractor shall meet all the conditions of the permit.~~
- (C) ~~Upon completion of construction of a Transient Non-Community water supply well, the Department shall complete an “as built” drawing of the Transient Non-Community water supply well location. The well contractor shall submit a copy of Transient Non-Community water supply well construction Record to the Department. Upon completion of construction or repair of a Transient Non-Community water supply well for which a permit is required, the Department will inspect the Transient Non-Community water supply well and issue a Certificate of Completion. Prior to issuance of a Certificate of Completion, the Department shall:~~

1. verify that the Transient Non-Community water supply well was constructed in the designated area and according to the Transient Non-Community water supply well construction permit and the rules of this Chapter.
 2. inspect the grout around the casing
 3. inspect the Transient Non-Community water supply wellhead after the Transient Non-Community water supply well seal is in place
 4. obtain a Transient Non-Community water supply well construction record from the Certified Well Contractor
 5. obtain a bacteriological analysis that is absent of coliform bacteria
 6. obtain a nitrate and nitrite analysis that does not exceed the Maximum Contaminant levels (MCLs) for public drinking water, as defined in 40 Code of Federal Regulations 141.
- (D) No person shall place a Transient Non-Community water supply well into service without first having obtained a Certificate of Completion

Authority G.S. 87-87; 87-88

Reference (15A NCAC 02C.0306)

Table 1	
Minimum Wall Thickness for Steel Casing	
Nominal Diameter (inches)	Wall Thickness (inches)
For 3½ or smaller pipe, schedule 40 is required	
4	0.142
5	0.156
5½	0.164
6	0.185
8	0.250

10	0.279
12	0.330
14 and larger	0.375

CHAPTER ~~V~~ III
WATER SUPPLY STANDARDS

SECTION I STANDARDS

- (A) The Water Supply Standards for the protection of the Water Supply in Mecklenburg County are those specified in subsections (B), (C) and (D) below. They are the maximum allowable concentrations of any substance or combination of substances in the groundwater ~~of the County~~, which may be tolerated without ~~creating~~ ~~creating~~ or posing a threat to human health or which would otherwise render the groundwater unsuitable for ~~its usage~~ ~~use~~ as a water supply.
- (B) -The Water Supply Standards are (1) those defined in 40 Code of Federal Regulations 141 and 143 (National Primary Drinking Water ~~Regulations~~ ~~Standards~~; National Secondary Drinking Water ~~Regulations~~ ~~Standards~~) (~~hereinafter called~~ "40 CFR 141, 143"), and (2) ~~for~~ those contaminants for which no standards are contained in 40 CFR 141, 143.
- (C) Those contained in 15A NCAC 2L .0202 (~~hereinafter called the "2L Standard"~~) ~~(g), (h) and (i)~~. ~~(g), (h) or (i)~~.
- (D) The Water Supply Standards for contaminants specified in 15A NCAC 2L .0202 ~~(g), (h) or (i)~~ ~~(g), (h) or (i)~~ (~~hereinafter called~~ "2L Standard") shall be as listed, except ~~that~~:
1. Where the 2L Standard for a substance is less than the practical quantitation limit, the detection of that substance at or above the practical quantitation limit shall constitute a violation of the Water Supply Standards.
 2. Where ~~two or more~~ substance s-exist in combination below the 2L Standards, the Water Supply Standard for the substances shall be ~~as~~ determined by ~~the Division of Epidemiology~~ ~~North Carolina's Department of Health and Human Services~~ ~~Epidemiology Section~~ to be protective of human health.

3. Where an interim maximum allowable concentration has been established by the ~~NCDENR pursuant to~~ ~~NCDEQ~~ to 15A NCAC 2L .0202 ~~(c)~~ such concentration shall constitute a violation of the Water Supply Standards.
 4. Except for tracers used in concentrations which have been determined by the ~~Division of~~ ~~NCDHHS~~ Epidemiology ~~Section~~ to be protective of human health, and the use of which has been permitted by the ~~NCDENR~~ ~~NCDEQ~~, detectible concentrations of substances which are not naturally occurring and for which no standard is specified shall constitute a violation of the Water Supply Standards.
- (E) Parameters exceeding the concentrations listed in the National Secondary Drinking Water Standards will not constitute a violation of the Water Supply Standards for the purpose of requiring the abandonment of the water supply well or treatment of the raw well water prior to usage.

CHAPTER ~~V~~IV

CONSTRUCTION, REPAIR, AND ABANDONMENT FOR MONITORING,
INJECTION, ~~AND~~ RECOVERY AND GROUNDWATER REMEDIATION
WELLS

SECTION I REGISTRATION

(A) ~~(A)~~ —The Owner of a monitoring, injection, ~~or~~ recovery or groundwater remediation well installed prior to January 1, 2005 must register the monitoring, injection, ~~or~~ recovery or groundwater remediation well with the Department by submitting the following information on forms provided by the Department. A permit must be obtained prior to registering monitoring, injection, recovery or groundwater remediation wells:

1. Names, addresses and phone numbers of the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~Well Owner, property owner, permit contact,~~ -and/or legal agent of the property Owner.
2. Address and tax parcel number of the property for the monitoring, injection, ~~or~~ recovery or groundwater remediation well (s).
3. Number of monitoring, injection, ~~or~~ recovery or groundwater remediation wells located on the property.
4. Use of the monitoring, injection, ~~or~~ recovery or groundwater remediation well (monitoring, injection, recovery etc.).
5. Violations of the Groundwater Standard referenced in Chapter ~~V~~ III of ~~these Regulations~~ this Rule.

(B) Registration of ~~M~~ monitoring, injection, ~~and~~ recovery and groundwater remediation wells must be ~~registered~~ reviewed every 12 months. The

registration shall be submitted on forms to be supplied by the Department during the period ~~from January 1 to January 31 of each year or such time as~~ the Department designates.

- (C) A non-refundable fee as specified in the fee schedule shall be submitted with each registration if applicable.
- (D) The Owner of a monitoring, injection, ~~or~~ recovery or groundwater remediation well installed ~~or repaired~~ after January 1, 2005 must register the monitoring, injection, ~~or~~ recovery or groundwater remediation well with the Department by completing the following Application and Permit process.

SECTION II APPLICATION

- (A) On or after January 1, 2005 any entity seeking to install a monitoring, injection, ~~or~~ recovery or groundwater remediation well(s) must file an application, with the Department in order to receive a subsurface investigation permit. The permit must be obtained prior to the start of monitoring, injection, ~~or~~ recovery or groundwater remediation well installation.
- (B) Applications for monitoring, injection, ~~or~~ recovery or groundwater remediation well construction and abandonment shall be submitted on forms to be supplied by the Department.

(C) ~~A monitoring well open more than five days is a permanent m~~Monitoring, injection, recovery or groundwater remediation well(s) and must be registered with the Department within 30 days by submitting the following information on forms provided by the Department:

1. Names, addresses and phone numbers of the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~w~~Well Owner, and/or legal agent of the property ~~O~~wner and permit contact.
2. Address and tax parcel number of the site property for the monitoring, injection, ~~or~~ recovery or groundwater remediation well (s).
3. ~~Number of monitoring, injection, or recovery or groundwater remediation wells located on the property:~~
4. ~~Use of the monitoring, injection, or recovery or groundwater remediation well (monitoring, injection, recovery etc.):~~
5. ~~Violations of the Groundwater Standard referenced in Chapter III V of these Regulations:~~

~~(D) A monitoring, injection or recovery well closed within five days is a temporary monitoring, injection or recovery well. Notification of completion of the subsurface investigation, the type and number of monitoring, injection or recovery wells installed, the date of installation and the date of abandonment must be provided the Department within 30 days of monitoring, injection or recovery well abandonment.~~

SECTION III PERMITS

(A) Subsurface Investigation Permits

1. It shall be unlawful for any Person to commence any well contractor activities in Mecklenburg County without first obtaining a permit from the Director. The monitoring, injection, ~~or~~ recovery or groundwater remediation ~~w~~Well Owner or their authorized legal agent shall obtain the permit. The permit is valid for one year from date of issuance. If construction has not been commenced within one year from the date of issuance of the permit, the permit then becomes invalid. When a permit has become invalid, construction may not be commenced until a new permit is issued.
2. A copy of the permit must be on site during the construction, or abandonment of any monitoring, injection ~~or~~ recovery or groundwater remediation well.
3. A Department representative is authorized to witness any portion of the drilling or construction process, or abandonment of any monitoring, injection, ~~or~~ recovery or groundwater remediation well in Mecklenburg County as part of the inspection. Failure of the ~~Owner~~ or contractor to allow inspection of any material or observation of any drilling or construction, or abandonment of any monitoring, injection, ~~or~~ recovery or groundwater remediation well in Mecklenburg County will be grounds for the revocation of the permit.

4. Failure to comply with ~~these Regulations~~this Rule authorizes the Director to revoke any permits issued pursuant to ~~these Regulations~~this Rule.

SECTION IV ~~PERMANENT~~ MONITORING, INJECTION, ~~AND~~ RECOVERY ~~AND~~
GROUNDWATER REMEDIATION WELLS REGISTRATION

- (A) ~~Permanent m~~Monitoring, injection, ~~and~~ recovery and groundwater remediation wells are required to be registered with the Department.
 1. It shall be the responsibility of the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~w~~Well Owner or their legal agent to provide the Department with complete information on the total number of monitoring, injection, ~~or~~ recovery or groundwater remediation wells installed, their type, purpose and location.
 2. Registration information must be provided in the manner and format ~~proscribed~~ prescribed by the Department including but not limited to the site name, ~~well name~~, permit number, location, type and date of installation of the monitoring, injection, ~~or~~ recovery or groundwater remediation well, ~~Owner, name and address of the monitoring, injection, or recovery or remediation well contractor and/or the consultant.~~
 - a. Number of monitoring, injection, or recovery or groundwater remediation wells located for the site investigation. on the property.
 - b. Use of the monitoring, injection, or recovery or groundwater remediation well (monitoring, injection, recovery etc.).
 - a.c. Violations of the Groundwater Standard referenced in Chapter III ~~V~~ of ~~these~~this RegulationsRule.

~~2.3.~~ Registration information must be submitted within thirty (30) days of monitoring, injection ~~or~~ recovery, or groundwater remediation well completion.

- (B) It shall be the responsibility of the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~Well~~ Owner or their legal agent to annually update the monitoring, injection, ~~or~~ recovery or groundwater remediation well status and changes to Groundwater Quality Standards referenced in Chapter ~~V-III~~ of ~~these~~ this RegulationsRule.
- (C) It shall be the responsibility of the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~Well~~ Owner or their legal agent to provide the Department with monitoring, injection, ~~or~~ recovery or groundwater remediation well construction or abandonment records within thirty (30) days of well installation or abandonment completion.

SECTION V STANDARDS OF CONSTRUCTION

- (A) No monitoring, injection, ~~or~~ recovery or groundwater remediation well shall be located, constructed, operated, or repaired in any manner that may adversely impact the quality of groundwater.
- (B) Injection wells shall conform to the standards set forth in 15A NCAC 2C-~~0200~~
- (C) Monitoring, injection, wells and recovery and groundwater remediation wells shall be located, designed, constructed, operated and abandoned with materials and by methods, which are compatible with the chemical and physical properties of the contaminants involved, specific site conditions and specific subsurface conditions. The following general requirements will apply:
 - 1. The borehole shall not penetrate to a depth greater than the depth to be monitored or the depth from which contaminants are to be recovered.

2. The monitoring, injection, wells and recovery and groundwater remediation ~~monitoring, injection or recovery~~ well shall not hydraulically connect separate aquifers; or those portions of a single aquifer where known or suspected contamination would occur in separate and definable layers within the aquifer.
3. The monitoring, injection, wells and recovery and groundwater remediation ~~monitoring, injection or recovery~~ well construction materials shall be compatible with the depth of the monitoring, injection, ~~or~~ recovery or groundwater remediation well and the contaminants to be monitored or recovered.
4. The monitoring, injection, wells and recovery and groundwater remediation ~~monitoring, injection or recovery~~ well shall be constructed and maintained in such a manner that water or contaminants from the land surface cannot migrate along the borehole annulus into any packing material or monitoring, injection, ~~or~~ recovery or groundwater remediation well screen area.
5. Packing material placed around the screen shall extend at least one foot above the top of the screen. Unless the depth of the screen necessitates a thinner seal; a one foot thick seal, comprised of bentonite clay or other material approved by the Director, shall be emplaced directly above and in contact with the packing material.
6. Grout shall be placed in the annular space between the outermost casing and the borehole wall from the land surface to the top of the bentonite clay seal above any monitoring, injection, ~~or~~ recovery or groundwater remediation well screen or to the bottom of the casing for open end monitoring, injection, ~~or~~ recovery or groundwater remediation wells. To provide stability for the monitoring, injection, ~~or~~ recovery or groundwater remediation well casing, the uppermost three feet of grout below land surface must be a concrete or cement-type grout.
7. All monitoring, injection, ~~or~~ recovery or groundwater remediation wells shall be secured, with a locking monitoring, injection, ~~or~~ recovery or groundwater remediation well cap, to reasonably ensure against unauthorized access and use.
8. All monitoring, injection, ~~or~~ recovery or groundwater remediation ~~monitoring, injection or recovery~~ wells shall be afforded reasonable protection against damage during construction and use.

9. Any monitoring, injection, or recovery or groundwater remediation ~~monitoring, injection or recovery~~ wells that would flow under natural artesian conditions shall be valved so that the flow can be regulated.

10. The monitoring, injection, or recovery or groundwater remediation ~~monitoring, injection or recovery~~ well casing shall be terminated no less than 12 inches above land surface datum unless both of the following conditions are met:
 - ~~e.a.~~ a. site-specific conditions directly related to business activities, such as vehicle traffic, would endanger the physical integrity of the monitoring, injection, ~~or recovery~~ or groundwater remediation well; and
 - ~~f.b.~~
 - ~~g.c.~~ b. the monitoring, injection, ~~or recovery~~ or groundwater remediation well head is completed in such a manner so as to preclude surficial contaminants from entering the monitoring, injection, ~~or recovery~~ or groundwater remediation well.
 - ~~h.d.~~

11. Each well shall have securely affixed an identification plate constructed of a durable material and shall contain the following information:
 - ~~i.e.~~ a. drilling contractor, ~~or pump installation contractor,~~ name and applicable certification or registration numbers; date monitoring, injection, ~~or recovery~~ or groundwater remediation well completed; total depth of monitoring, injection, ~~or recovery~~ or groundwater remediation well;
 - ~~j.f.~~
 - ~~k.g.~~ b. a warning that the monitoring, injection, ~~or recovery~~ or groundwater remediation well is not for water supply and that the groundwater may contain hazardous materials; and
 - ~~l.h.~~
 - ~~m.i.~~ c. depth(s) to the top(s) and bottom(s) of the screen(s).
 - ~~n.j.~~

12. Each monitoring, injection, ~~or recovery~~ or groundwater remediation well shall be developed such that the level of turbidity or settleable solids does not preclude accurate chemical analyses of any fluid samples collected.

13. ~~Monitoring, injection or recovery w~~ Wells constructed for the purpose of monitoring or testing for the presence of liquids associated with tanks regulated under 15A NCAC 02N (Criteria and Standards Applicable to

Underground Storage Tanks) shall be constructed in accordance with 15A NCAC 02N-0504.

14. ~~Monitoring, injection or recovery w~~Wells constructed for the purpose of monitoring for the presence of vapors associated with tanks regulated under 15A NCAC 02N shall:
 - a. be constructed and maintained in such a manner as to prevent the entrance of surficial contaminants or water into or alongside the monitoring, injection, ~~or~~ recovery or groundwater remediation well casing; and
 - b. be provided with a lockable cap in order to reasonably ensure against unauthorized access and use.
15. ~~Non-water supply m~~Monitoring, injection, ~~or~~ recovery or groundwater remediation wells shall be constructed and abandoned in such a manner as to preclude the vertical migration of contaminants within and along the borehole channel.
16. For ~~monitoring~~, sand-or gravel packed monitoring, injection, ~~or~~ recovery or groundwater remediation wells, centering guides must be evenly distributed in the borehole.

Reference (15A NCAC 02C .0108)

SECTION VI ABANDONMENT

(A) Procedures for permanent abandonment of monitoring, injection, ~~and~~ recovery and groundwater remediation wells.

~~o.k.~~

~~p.l.~~ 1. All casing and screen materials may be removed prior to initiation of abandonment procedures if such removal will not cause or contribute to contamination of the groundwater. Any casing not grouted in accordance with 15A NCAC 2C .0107(e) shall be removed or properly grouted.

~~q.m.~~

~~r.n.~~ 2. The entire depth of the monitoring, injection, ~~and~~ recovery and groundwater remediation well shall be sounded before it is sealed to ensure freedom from obstructions that may interfere with sealing operations.

~~s.o.~~

~~t.p.~~ 3. In the case of gravel-packed monitoring, injection, ~~and~~ recovery and groundwater remediation wells in which the casing and screens have not been removed, neat-cement, or bentonite grout shall be injected into the monitoring, injection, ~~and~~ recovery and groundwater remediation well completely filling it from the bottom of the casing to the top.

~~u.q.~~

~~v.r.~~ 4. Monitoring, injection, ~~and~~ recovery and groundwater remediation wells constructed in unconsolidated formations shall be completely filled with cement grout, or bentonite grout by introducing it through a pipe extending to the bottom of the monitoring, injection, ~~and~~ recovery and groundwater remediation well which can be raised as the monitoring, injection, ~~or~~ recovery or groundwater remediation well is filled.

~~w.s.~~

~~x.t.~~ 5. Monitoring, injection, ~~and~~ recovery and groundwater remediation wells constructed in consolidated rock formations or that penetrate zones of consolidated rock shall be filled with cement grout or bentonite grout by introducing it through a pipe extending to the bottom of the monitoring, injection, ~~or~~ recovery or groundwater remediation well which can be raised as the monitoring, injection, ~~or~~ recovery or groundwater remediation well is filled. The top of the cement grout or bentonite grout shall extend up to land surface.

Reference (15A NCAC 02C .0113)

SECTION VII INSPECTION AND FEES

- ~~y.u.~~(A) The Department shall conduct random inspections of new and existing monitoring, injection, ~~and/or~~ recovery and/or groundwater remediation wells to ensure the conditions of Section V and Section VI of this Chapter are met.
- (D)
- (B) The Director shall have the right to enter any property for the purpose of identifying the location and to evaluate the condition of existing monitoring, injection, ~~and~~ recovery and groundwater remediation wells on the property.
- (C) The Department shall conduct compliance audits to identify the location and evaluate the condition of existing monitoring, injection, and recovery and groundwater remediation wells. If the Department identifies a monitoring, injection, ~~and~~ recovery and groundwater remediation well that is not registered the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~Well~~ Owner and/or property Owner shall pay the full registration fee plus a compliance inspection fee within thirty (30) days of notification.
- (D) Following the inspection, the Department shall notify the monitoring, injection, ~~or~~ recovery well Owner and/or property Owner of ~~its findings and~~ any requirements for repair. The monitoring, injection, ~~or~~ recovery or groundwater remediation well Owner and/or property Owner shall have thirty days from the date of notification to conduct any required repairs or to properly abandon the monitoring, injection, ~~or~~ recovery or groundwater remediation well(s).

(E) Monitoring, injection, ~~and~~ recovery and groundwater remediation wells in existence prior to January 1, 2005 must pay the appropriate annual registration fee. Registration fees for existing monitoring, injection, ~~or~~ recovery or groundwater remediation wells shall be waived until July 1, 2005 if the existing well(s) is registered by July 1, 2005.

~~(F)~~ Annual registration fees must be paid by the monitoring, injection, ~~or~~ recovery or groundwater remediation ~~w~~Well Owner, or their legal agent for all ~~existing active~~ monitoring, injection, ~~or~~ recovery or groundwater remediation wells. Fees must be paid between ~~September 1 and October 1~~ October 15 and November 15 of each year the monitoring, injection, ~~or~~ recovery or groundwater remediation wells exist. ~~are active.~~

(G) Permanent monitoring, injection, ~~and~~ recovery and groundwater remediation wells installed by a State or federal entity shall be exempt from registration fee requirements when

1. acting as the lead at an orphan site
2. conducting remedial activities at an orphan site, or
3. investigating a contamination incident for purposes of determining the responsible party.

~~z.v.~~

~~w.~~

~~x.~~

~~aa. SECTION VIII—PETROLEUM UNDERGROUND STORAGE TANK MONITORING, INJECTION AND RECOVERY WELL EXEMPTIONS~~

~~bb.~~

~~cc. (A) — Monitoring, injection and recovery wells installed at petroleum UST contamination sites classified as High Risk are exempt from Mecklenburg County Well Regulations so long as the site is in compliance with NCDENR requirements for well construction and maintenance. All other UST contamination sites, regardless of risk ranking or No Further Action status are required to comply with Mecklenburg County Well Regulations. For sites ranked High Risk, if the risk ranking is lowered, the site is then required to comply with Mecklenburg County Well Regulations within~~

~~sixty (60) days, including but not limited to the annual registration fee and well maintenance rules.~~

~~dd.~~

~~ee. (B) — This exemption can be repealed by the Department on a site-by-site basis if NCDENR notifies the Department in writing that a contamination site is not in compliance with NCDENR requirements for well construction and maintenance. If the exemption is repealed all applicable Mecklenburg County registration fees and maintenance requirements will be applicable.~~

~~CHAPTER VII~~

~~AREAS OF REGULATED GROUNDWATER USAGE~~

NOTE – THIS ENTIRE CHAPTER HAS BEEN MOVED TO THE NEW RULE
GOVERNING PRIVATE DRINKING WATER SUPPLY WELLS

CHAPTER VIII V

ENFORCEMENT

ff.y. _____ SECTION I PENALTIES

- (A) Any Person who violates any of the provisions of ~~these Regulationsthis Rule~~ is subject to a criminal penalty. Any Person who willfully violates any provision of ~~these Regulationsthis Rule~~, or any order issued by the Director pursuant thereto, shall be guilty of a misdemeanor punishable ~~by a fine not to exceed five hundred dollars or imprisonment not to exceed thirty (30) dayspursuant to G.S. 130A-25.~~
- (B) Any Person, who violates any of the provisions of ~~these Regulationsthis Rule~~ is subject to a civil penalty pursuant to G.S. 153A-77. A civil penalty may be assessed from the date the violation first occurs. No penalty shall be assessed until the Person alleged to be in violation has been notified of the violation. The notice of violation shall identify the nature of the violation, set forth those measures necessary to comply with ~~these this Regulations-Rule~~ and provide a specific time period for compliance. The notice may be served by mail, hand delivery or any other means determined to give actual notice. Refusal to accept the notice shall not relieve the violator of his or her obligation to comply with ~~these Regulationsthis Rule~~ or to pay such penalty.
- (C) The maximum civil penalty for each violation of ~~these Regulationsthis Rule~~ is \$10,000.00. Each day of violation shall constitute a separate violation.
- (D) In determining the amount of a civil penalty, all relevant mitigating and aggravating factors shall be considered including, but not limited to the following: the degree and extent of harm caused by the violation; the cost of rectifying the damage; whether the violator saved money through noncompliance; whether the violation was committed willfully; whether the violator reported the violation to the Department; and the prior record of the violator in complying or failing to comply with ~~these Regulationsthis Rule~~ or any other local, or State or federal pollution control ordinance or regulation. The amount of per diem penalty set in paragraph (C) of this Section may vary based on the aforementioned relevant mitigating and aggravating factors. The “Mecklenburg County Groundwater

Enforcement Guidance” document as approved by the Director will serve as the guiding document for assessment of penalties.

- (E) The Director shall determine the amount of the civil penalty assessment and shall notify the Person responsible for the violation of the amount of the penalty and the reason for assessing the penalty. The notice of assessment shall be issued in writing and sent via registered or certified mail or other means of determined to give actual notice to the Person responsible for the violation and shall direct the violator to either pay the assessment or appeal the assessment as described in Section III of this Chapter within thirty (30) days of receipt of notice. If an alleged violator does not pay a civil penalty assessed by the Director within thirty (30) days after it is due, or does not appeal a civil penalty as provided in Section III of this Chapter, the Director shall request the County Attorney to institute a civil action to recover the amount of the assessment. The civil action shall be brought in Mecklenburg County General Court of Justice or in any other court of competent jurisdiction. A civil action must be filed within three (3) years of the date the assessment was due.
- (F) Civil penalties collected pursuant to ~~these Regulations~~this Rule shall be credited to the Mecklenburg County general fund as non-tax revenue, or to such other fund as determined by the Board of County Commissioners.

SECTION II INJUNCTIVE RELIEF

- (A) Whenever the Director has reasonable cause to believe that any Person is violating or threatening to violate ~~these Regulations~~this Rule or any term, condition, or provision of an approved permit, the Director may, either before or after the institution of any other action or proceeding authorized by ~~these Regulations~~this Rule, authorize the County Attorney to institute a civil action in the name of Mecklenburg County for injunctive relief to restrain the violation or threatened violation. The action shall be brought pursuant to G.S. 130A-18 in Mecklenburg County Superior Court.
- (B) Upon determination by a court that an alleged violation is occurring or is threatened, the court shall enter such orders or judgments as are necessary to abate the violation or to prevent the threatened violation. The institution of an action for injunctive relief under this section shall not relieve any party to

such proceedings from any civil or criminal penalty prescribed for violations of ~~these Regulationsthis Rule~~.

- (C) The Director shall also have the authority to exercise those remedies listed in G.S. 130A-17, -19 and -20 as necessary to enforce ~~these Regulationsthis Rule~~ or to protect the public health.

SECTION III APPEAL

- (A) Disapproval or modification of well permits

1. The disapproval or modification of any proposed well by the Director ~~shall entitle the Person submitting the Plan ("Petitioner") to a public hearing before the Groundwater Advisory Committee ("Committee") if such Person submits written demand for a hearing to the Clerk of the Committee ("Clerk") within 30 Days after receipt of written notice of the disapproval or modification. The demand for a hearing filed with the Clerk shall be accompanied by a filing fee as established by the Groundwater Advisory Committee. The Committee may order the refund of all or any part of the filing fee if it rules in favor of the Petitioner. Failure to timely file such demand and fee shall constitute a waiver of any rights to appeal under this Chapter and the Groundwater Advisory Committee shall have no jurisdiction to hear the appeal may be appealed pursuant to the procedures set forth in G.S 130A-25.~~
2. ~~Within five (5) Days of receiving the demand for a hearing, the Clerk shall notify the Chairman of the Committee ("Chairman") of the demand for hearing. As soon as possible after the receipt of said notice, the Chairman shall set a time and place for the hearing and notify the Petitioner by mail of the date, time and place of the hearing. The time specified for the hearing shall be either at the next regularly scheduled meeting of the Committee from the submission of the notice, or as soon~~

~~thereafter as practical, or at a special meeting. The hearing shall be conducted by the Committee in accordance with the provisions of Section III (C) of this Chapter.~~

- ~~3. Any party aggrieved by the decision of the Committee with regard to the disapproval or modification of a proposed well following the public shall have thirty (30) Days from the receipt of the decision of the Committee to file a petition for review in the nature of certiorari in Superior Court with the Clerk of the Mecklenburg County Superior Court.~~

(B) Issuance of a Notice of Violation (including the Assessment of a Civil Penalty)

- ~~1. The issuance of a notice of violation with an assessment of a civil penalty by the Director shall entitle the Person responsible for the violation of the Ordinance ("Petitioner") to a public hearing before the Groundwater Advisory Committee ("Committee") if such Person submits written demand for a hearing to the Clerk of the Committee ("Clerk") within thirty (30) Days of the receipt of the notice of violation, assessment of a civil penalty or order of restoration. The demand for a hearing filed with the Clerk shall be accompanied by a filing fee as established by the Groundwater Advisory Committee. The Committee may order the refund of all or any part of the filing fee if it rules in favor of the Petitioner. Failure to timely file such demand and fee shall constitute a waiver of any rights to appeal under these Regulations and the Groundwater Advisory Committee shall have no jurisdiction to hear the appeal may be appealed pursuant to the procedures set forth in G.S. 130A-24.~~
- ~~2. Within five (5) Days of receiving the Petitioner's demand for a hearing, the Clerk shall notify the Chairman of the Committee ("Chairman") of the request for a hearing. As soon as possible after the receipt of said notice,~~

~~the Chairman shall set a time and place for the hearing and notify the Petitioner by mail of the date, time and place of the hearing. The time specified for the hearing shall be either at the next regularly scheduled meeting of the Committee from the submission of the notice, or as soon thereafter as practical, or at a special meeting. The hearing shall be conducted pursuant to the provisions of Section III (C) of this Chapter.~~

- ~~3. Any party aggrieved by the decision of the Committee with regard to the issuance of a notice of violation, assessment of civil penalties or order of restoration shall have thirty (30) Days from the receipt of the decision of the Committee to file a petition for review in the nature of certiorari in Superior Court with the Clerk of the Mecklenburg County Superior Court.~~

~~(C) — Hearing Procedure. The following provisions shall be applicable to any hearing conducted by the Committee pursuant to Section II (A) or (B) or Section IV of this Chapter.~~

- ~~1. At the hearing, Petitioner and the Director shall have the right to be present and to be heard, to be represented by counsel, and to present evidence through witnesses and competent testimony relevant to the issue(s) before the Committee.~~
- ~~2. Rules of evidence shall not apply to a hearing conducted pursuant to these Regulations and the Committee may give probative effect to competent, substantial and material evidence.~~
- ~~3. At least seven (7) Days before the hearing, the parties shall exchange a list of witnesses intended to be present at the hearing and a copy of any documentary evidence intended to be presented unless both parties otherwise agree. The parties shall submit a copy of this information to the~~

~~Clerk. Additional witnesses or documentary evidence may not be presented except upon consent of both parties or upon a majority vote of a quorum of the Committee.~~

- ~~4. Witnesses shall testify under oath or affirmation to be administered by the Court Reporter or another duly authorized official.~~
- ~~5. The procedure at the hearing shall be such as to permit and secure a full, fair and orderly hearing and to permit all relevant, competent, substantial and material evidence to be received therein. A full record shall be kept of all evidence taken or offered at such hearing. Both the representative for the Department or Director and for the Petitioner shall have the right to cross-examine witnesses.~~
- ~~6. At the conclusion of the hearing, the Committee shall render its decision on the evidence submitted at such hearing and not otherwise.~~

~~If, after considering the evidence presented at the hearing, the Committee concludes by a preponderance of the evidence that the grounds for the Director's actions (including the amount assessed as a civil penalty) with regard to either disapproving or modifying a proposed permit, issuing a notice of violation, assessing a civil penalty, ordering restoration, or granting or denying a request for a variance are true and substantiated, the Committee shall uphold the action on the part of the Director.~~

- ~~a. If, after considering the evidence presented at the hearing, the Committee concludes by a preponderance of the evidence that the grounds for the Director's actions (including the amount assessed as a civil penalty) are not true and substantiated, the Committee shall,~~

~~as it sees fit either reverse or modify any order, requirement, decision or determination of the Director, including granting a variance. If the Committee finds that the violation has occurred, but that in setting the amount of a penalty the Director has not considered or given appropriate weight to either mitigating or aggravating factors, the Committee shall either decrease or increase the per day civil penalty within the range allowed by these Regulations.~~

~~c.—Any decision of the Committee which modifies the amount of the civil penalty shall include, as part of the findings of fact and conclusions of law, findings as to which mitigating or aggravating factors exist and the appropriate weight that should have been given to such factors by the Director in setting the amount of the civil penalty levied against the Petitioner.~~

~~7.—The Committee shall keep minutes of its proceedings, showing the vote of each member upon each question and the absence or failure of any member to vote. The decision of the Committee shall be based on findings of fact and conclusions of law to support its decision.~~

~~8.—The Committee shall send a copy of its findings and decision to the Applicant/Petitioner and the Director. If either party contemplates an appeal to a court of law, the party may request and obtain, at that party's own cost, a transcript of the proceedings.~~

~~9.—The decision of the Committee shall constitute a final decision, subject to the right of the Petitioner or Director to file a petition for review as provided in Section III (B) 3 or Section IV (D) of this Chapter.~~

SECTION IV

VARIANCE

(A) The Director may grant a variance from any construction standard under ~~these this Regulations Rule~~ except those required by State law or regulations. Any variance will be in writing and may be granted upon written application to the Director by the person responsible for the construction of the well for which the variance is sought, if the Director finds facts to support the following conclusions:

1. That the use of the well will not endanger human health and welfare of the groundwater.
2. That construction in accordance with the standards was not technically feasible in such a manner as to afford a reasonable water supply at a reasonable cost.

The Director may require the variance applicant to submit such information as he deems necessary to make a decision to grant or deny the variance. The Director may impose such conditions on a variance or the use of a well for which a variance is granted as he deems necessary to protect human health and welfare and the groundwater resources. The brief findings of fact supporting any variance shall be in writing and made part of the variance.

~~(B) — A person requesting a variance to the Mecklenburg Groundwater Well Regulations may first seek the variance from the Director. In the event the Director denies a variance or an aggrieved party disputes the issuance of a variance, the person requesting the variance or the aggrieved party may appeal the Directors decision to the Groundwater Advisory Committee ("Committee") by submitting written demand for a hearing to the Clerk of the Committee ("Clerk") within 30 Days after receipt of written notice of the Director's action granting or denying the request for a variance. The demand for a hearing filed with the Clerk shall be accompanied by a filing fee as established by the Groundwater Advisory Committee. The Committee may order the refund of all or any part of the filing fee if it rules in favor of the~~

~~Petitioner. Failure to timely file such demand and fee shall constitute a waiver of any rights to appeal under these Regulations and the Groundwater Advisory Committee shall have no jurisdiction to hear the appeal.~~

~~(C) Within five (5) Days of receiving the demand for a hearing, the Clerk shall notify the Chairman of the Committee ("Chairman") of the demand for a hearing. As soon as possible after the receipt of said notice, the Chairman shall set a time and place for the hearing and notify the Petitioner by mail of the date, time and place of the hearing. The time specified for the hearing shall be either at the next regularly scheduled meeting of the Committee from the submission of the notice, or as soon thereafter as practical, or at a special meeting. The hearing shall be conducted by the Committee in accordance with the provisions of Section III (C) of this Chapter.~~

~~(D) Any party aggrieved by the decision of the Committee with regard to a decision on a variance appeal shall have thirty (30) Days from the receipt of the decision of the Committee to file a petition for review in the nature of certiorari in Superior Court with the Clerk of the Mecklenburg County Superior Court.~~

CHAPTER IX

GROUNDWATER ADVISORY COMMITTEE

NOTE – THIS ENTIRE CHAPTER HAS BEEN MOVED TO THE NEW RULE
GOVERNING PRIVATE DRINKING WATER SUPPLY WELLS

CHAPTER VI
OTHER PROVISIONS

SECTION 1 SEVERABILITY

If any provision or clause of this Rule shall be declared invalid, such declaration shall not invalidate any other provisions or clauses of this Rule.

SECTION II PRIOR RULES REPEALED

All ordinances, rules and regulations adopted by the Mecklenburg Board of County Commissioners (acting as a Board of Health) regulating wells other than drinking water wells are hereby repealed.

SECTION III EFFECTIVE DATE

This Rule shall be in full force and effect from and after March 18, 2026.