

## **DOES ENVIRONMENTAL HEALTH INSPECT NEW WELLS?**

**YES...ALL NEW DRINKING WATER WELLS CONSTRUCTED AFTER JULY 1, 2007 WILL BE REQUIRED TO BE PERMITTED, LOCATED, INSPECTED, AND SAMPLED.**

## **HOW DO I GET A WELL PERMIT?**

**APPLICATIONS FOR WELL PERMITS ARE COMPLETED AT THE FRANKLIN COUNTY DEPARTMENT OF PLANNING AND INSPECTIONS. THE APPLICATION FORM INCLUDES:**

- ☉☒ THE NAME, ADDRESS, AND PHONE NUMBER OF THE APPLICANT AND OWNER (IF DIFFERENT)**
- ☉☒ THE LOCATION AND SIZE OF THE PROPERTY**
- ☉☒ PARCEL IDENTIFICATION NUMBER/TAX RECORD NUMBER**
- ☉☒ THE PROPOSED USE (IE. RESIDENTIAL OR COMMERCIAL)**

**THE APPLICANT MUST ALSO PROVIDE A SITE PLAN SHOWING:**

- ☉☒ PROPERTY LINES**
- ☉☒ PROPOSED HOUSE (BUILDING) LOCATION**
- ☉☒ SET-BACKS FROM PROPERTY LINES**
- ☉☒ DRIVEWAY AND PARKING AREA**
- ☉☒ ANY PROPOSED EXPANSION OF HOME OR OUTBUILDINGS**
- ☉☒ ANY EXISTING WELLS ON THIS OR ADJOINING PROPERTY**
- ☉☒ ANY STREAMS, SPRINGS, PONDS**

**ONCE THE APPLICATION IS COMPLETED AND THE ZONING IS APPROVED, FEES ARE COLLECTED. THIS INFORMATION IS THEN TRANSFERRED TO ENVIRONMENTAL HEALTH. AFTER THE APPLICATION IS COMPLETED, YOU MAY CALL ENVIRONMENTAL HEALTH DURING REGULAR OFFICE HOURS AND YOU WILL BE CONNECTED TO THE ENVIRONMENTAL HEALTH SPECIALIST WHO WORKS THE AREA OF THE COUNTY WHERE YOUR PROPERTY IS LOCATED. THE SPECIALIST WILL SCHEDULE YOUR APPOINTMENT. WHEN THE SPECIALIST ARRIVES TO EVALUATE YOUR PROPERTY YOU MUST HAVE THE PROPERTY LINES CLEARLY MARKED AND THE PROPOSED HOUSE LOCATION STAKED OUT. ASSUMING THAT THE PROPERTY IS FOUND TO BE SUITABLE FOR THE ISSUANCE OF A WELL CONSTRUCTION PERMIT, THE SPECIALIST WILL COMPLETE THE PERMIT IN THE OFFICE AND FAX OR MAIL IT TO YOU, OR IT MAY BE PICKED UP AT THE OFFICE. IF THIS IS A REPLACEMENT WELL SERVING AN EXISTING HOME, THE APPLICATION PROCESS WILL BE THE SAME, EXCEPT THE SITE PLAN WOULD NOT BE NECESSARY.**

## **IS MY NEW WELL INSPECTED FOR COMPLIANCE?**

**YES...IT IS THE RESPONSIBILITY OF YOUR WELL CONTRACTOR TO ARRANGE FOR THE APPOINTMENT TO HAVE THE GROUTING AND WELL HEAD INSPECTED. THE CONTRACTOR KNOWS THE PROCEDURE FOR MAKING THE APPOINTMENT. THE WELL HEAD MUST BE LEFT OPEN FOR THE ENVIRONMENTAL HEALTH SPECIALIST. THE EHS WILL CHECK TO BE SURE THE WELL IS LOCATED AS SHOWN ON THE PERMIT AND INSTALLED ACCORDING TO THE CONSTRUCTION AUTHORIZATION. IF THE SYSTEM IS**

APPROVED THE CERTIFICATE OF COMPLETION IS ISSUED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE CERTIFICATE OF COMPLETION SIGNED BY THE SPECIALIST.

## **IS MY NEW WELL SAMPLED FOR WATER QUALITY AND QUANTITY?**

YES...THE CONTRACTOR DETERMINES THE YIELD OF THE WELL DURING DRILLING AND THE GALLONS PER MINUTE YIELD IS RECORDED ON THE DATA PLATE. THE WELL WATER WILL BE SAMPLED WITHIN 30 DAYS FROM THE DATE OF THE CERTIFICATE OF COMPLETION'S ISSUANCE. THE WELL WILL BE SAMPLED FOR BACTERIOLOGICAL QUALITY AND 17 INORGANIC PARAMETERS.

## **DOES ENVIRONMENTAL HEALTH SAMPLE DRINKING WATER OTHER THAN FOR NEW WELLS?**

YES...ENVIRONMENTAL HEALTH SAMPLES WELLS IN ORDER TO DETERMINE THE SAFETY OF YOUR DRINKING WATER. A FEE IS CHARGED ([LINK](#)). THE MOST IMPORTANT SAMPLE IS FOR BACTERIOLOGICAL QUALITY. THIS SAMPLE IS RUN IN THE ENVIRONMENTAL HEALTH LABORATORY, WITH RESULTS IN ABOUT 48 HOURS. THE WATER IS SAMPLED FOR TOTAL COLIFORM, WHICH IS A FAMILY OF ENVIRONMENTAL BACTERIA THAT IS TYPICALLY NOT HARMFUL BUT INDICATES THAT SOME CONTAMINATION HAS OCCURRED. IF THE SAMPLE IS FOUND TO BE POSITIVE FOR TOTAL COLIFORM, A SECOND STAGE OF THE TEST IS RUN IN ORDER TO DETERMINE THE PRESENCE OF E. COLI (FECAL COLIFORM). THE PRESENCE OF E. COLI INDICATES A CONTAMINATION OF BACTERIA, WHICH IS FOUND IN THE INTESTINAL TRACT OF ANY WARM BLOODED ANIMAL. THIS CONTAMINATION REQUIRES THAT THE WATER NOT BE USED WITHOUT BEING BOILED FOR FIVE MINUTES AND THE WELL SHOULD BE CHLORINATED/DISENFECTED ([LINK](#)). IT IS VERY IMPORTANT TO REMEMBER THAT THIS SAMPLE IS REPRESENTATIVE OF THE WATER QUALITY ON THAT PARTICULAR DAY AND IN NO WAY INFERS THAT THE WATER WILL REMAIN SAFE TO DRINK AT ANY TIME IN THE FUTURE. YOUR WATER SYSTEM IS A CLOSED SYSTEM AND SHOULD BE CHLORINATED AND SAMPLED ANYTIME THAT THE SYSTEM IS OPENED TO THE ENVIRONMENT WHILE REPLACING A PUMP OR PRESSURE TANK, ADDING ADDITIONAL WATER LINES, ETC.

## **WHAT SAMPLES ARE OFFERED IN ADDITION TO BACTERIOLOGICAL?**

ENVIRONMENTAL HEALTH OFFERS SEVERAL ADDITIONAL SAMPLES. THESE SAMPLES ARE SENT TO THE NORTH CAROLINA LABORATORY OF PUBLIC HEALTH FOR PROCESSING. THESE SAMPLES USUALLY REQUIRE 2-4 WEEKS FOR RESULTS. THE INORGANIC SAMPLE CHECKS FOR A NUMBER OF THINGS INCLUDING IRON, LEAD, MANGANESE, ARSENIC, CALCIUM, FLUORIDE, COPPER, ZINC, pH, ETC. ORGANIC SAMPLES INCLUDE PETROLEUM PRODUCTS, PESTICIDES, AND HERBICIDES. OTHER

SAMPLES TAKEN LESS OFTEN INCLUDE NITRATES/NITRITES, SULFUR BACTERIA, IRON BACTERIA, AND RADIOLOGICAL. ONCE THE RESULTS ARE BACK, YOU WILL BE CONTACTED AND THE RESULTS EXPLAINED. YOU WILL BE PROVIDED WITH AS MUCH INFORMATION AS POSSIBLE TO ASSIST YOU IN FINDING A REMEDY FOR ANY PROBLEMS. SOME OF THESE PARAMETERS CAN AFFECT YOUR HEALTH, WHILE OTHERS CREATE A NUISANCE.

## **WHAT TYPE OF WATER SYSTEMS CAN BE TESTED?**

ONLY DRINKING WATER SAMPLES FROM PROPERLY CONSTRUCTED AND PROTECTED SOURCES LOCATED IN FRANKLIN COUNTY WILL BE SAMPLED.

## **HOW DO I HAVE MY WATER SAMPLED?**

CALL ENVIRONMENTAL HEALTH ([LINK](#)) AND INFORMATION WILL BE TAKEN AS TO NAME, ADDRESS, AND LOCATION FOR THE SAMPLE. THIS WILL BE GIVEN TO THE SPECIALIST WORKING THAT AREA AND IT WILL BE SCHEDULED ACCORDINGLY. IF YOU HAVE QUESTIONS, YOU CAN BE CONNECTED TO THE SPECIALIST.

## **HOW DO I KNOW WHAT SAMPLES TO ASK FOR?**

YOU MAY REQUEST CERTAIN SAMPLES, OR THE SPECIALIST MAY ASK YOU A FEW QUESTIONS, WHICH WILL INDICATE CERTAIN CONDITIONS OR POTENTIAL PROBLEMS. THE SPECIALIST WILL THEN RECOMMEND THE SAMPLES THAT ARE INDICATED. THE QUESTIONS MAY RELATE TO ODOR, TASTE, DISCOLORATION, CLOUDINESS, ETC.

## **CAN I BRING IN A SAMPLE OF WATER IN A CLEAN JAR?**

NO...THE SAMPLE MUST BE COLLECTED BY THE ENVIRONMENTAL HEALTH SPECIALIST USING PROPER COLLECTION METHODS AND SAMPLE KIT. IT IS PREFERRED TO TAKE THE SAMPLE FROM THE KITCHEN SINK, WHICH IS THE NORMAL SOURCE FOR DRINKING AND COOKING. IF ACCESS IS NOT AVAILABLE, IT CAN BE TAKEN FROM AN OUTSIDE TAP.

## **WHAT IS CHLORINATION AND WHEN SHOULD I CHLORINATE MY WELL?**

CHLORINATION IS A WIDELY USED METHOD OF DISINFECTING WELLS THAT HAVE BEEN CONTAMINATED WITH COLIFORM BACTERIA. WHEN DONE PROPERLY, IT CAN KILL THESE ORGANISMS IN WELLS, PIPING, STORAGE TANKS, ETC. HOWEVER, IT DOES NOT PREVENT RE-CONTAMINATION.

SOME SOURCES OF BACTERIAL CONTAMINATION INCLUDE: WELLS CAPPED BELOW GROUND LEVEL, IMPROPERLY CONSTRUCTED AND PROTECTED WELLS, WELLS

LOCATED IN AREAS SUBJECT TO FLOODING, LEAKING WATER LINES, REMOVAL OF WELL SEAL (FOR PUMP REPAIRS, ETC.) WITHOUT DISINFECTING THE SYSTEM AFTERWARDS, OR INSTALLATION OF FILTERS OR TREATMENT SYSTEMS WITHOUT DISINFECTING AFTERWARDS. REMEMBER: A WATER SYSTEM IS A CLOSED SYSTEM; ANY TIME IT IS OPENED, CONTAMINATION IS LIKELY.

OCCASIONALLY, BACTERIAL CONTAMINATION IS EVEN FOUND IN NEW SYSTEMS. THIS IS USUALLY BECAUSE THE ENTIRE WATER SYSTEM WAS NOT DISINFECTED AFTER THE WELL WAS CONNECTED TO THE HOUSE PLUMBING. CHLORINE THAT IS ADDED TO THE WELL WHEN IT IS DRILLED DOES NOT LAST LONG ENOUGH TO DISINFECT THE PIPES AFTER BEING CONNECTED TO THE HOUSE PLUMBING; THEREFORE, DISINFECTION SHOULD BE REPEATED BEFORE THE HOUSE IS OCCUPIED. SOMETIMES, CHLORINATION DOES NOT WORK AND MUST BE REPEATED SEVERAL TIMES BEFORE A GOOD SAMPLE IS TAKEN.

ALTHOUGH CHLORINE IN GRANULAR OR TABLET FORM (HTH) CAN BE USED, LIQUID BLEACH (CLOROX, PUREX, ETC.) WORKS FINE. BLEACH CONTAINS CHLORINE, WHICH IS AN EXCELLENT DISINFECTANT. DO NOT USE BLEACH THAT IS SCENTED.

AS A RULE OF THUMB: USE ABOUT ONE QUART OF BLEACH PER 100 FOOT OF WELL DEPTH. (FOR EXAMPLE: USE 2.5 QUARTS OF BLEACH FOR A WELL THAT IS 250 FEET DEEP.)

## HOW DO I CHLORINATE MY WELL?

READ THE FOLLOWING CHLORINATION INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO CHLORINATE YOUR WELL. CALL ENVIRONMENTAL HEALTH IF YOU HAVE ANY QUESTIONS. THIS CAN BE A VERY DANGEROUS PROCEDURE.

1. POUR THE PROPER AMOUNT (SEE "RULE OF THUMB" ABOVE) OF BLEACH INTO THE WELL, ATTEMPTING TO DISTRIBUTE IT OVER THE INNER SURFACE OF THE WELL CASING AS EVENLY AS POSSIBLE. THIS CAN BE DONE BY POURING THE BLEACH INTO A FIVE-GALLON BUCKET AND MIXING WITH WATER. THEN POUR THE MIXTURE INTO THE WELL BY REMOVING THE AIR-VENT OR LOOSENING AND LIFTING THE SANITARY WELL SEAL FOR ACCESS. AFTER THIS IS COMPLETED, REPLACE THE VENT PLUG OR TIGHTEN THE SEAL.
2. CONNECT A GARDEN HOSE TO AN OUTSIDE FAUCET AND RUN THE WATER BACK INTO THE WELL UNTIL A CHLORINE ODOR IS DETECTED. IT MAY TAKE AS LONG AS AN HOUR FOR THE CHLORINE TO GET INTO A SOLUTION SO THAT YOU ARE ABLE TO SMELL IT. IT MAY BE NECESSARY TO ADD ADDITIONAL CHLORINE. REMEMBER, WHEN YOU POUR THE CHLORINE SOLUTION INTO THE WELL IT IS AT THE TOP OF THAT COLUMN OF WATER AND THE PUMP IS AT THE BOTTOM. IT MUST BE MIXED WELL.
3. NEXT, RUN EACH FAUCET, INSIDE AND OUTSIDE OF THE HOUSE, UNTIL THE CHLORINE ODOR IS DETECTED. FLUSH TOILETS ONCE, AND DO NOT FORGET TO RUN SHOWERS. THIS CHLORINE SOLUTION NEEDS TO BE THROUGHOUT THE ENTIRE PLUMBING SYSTEM AND ALL APPLIANCES, INCLUDING HOT

**WATER HEATER. BE SURE TO REMEMBER WATER LINES TO SHOPS, BARNS, DOG PENS, ETC.**

- 4. ALLOW THE CHLORINE SOLUTION TO REMAIN IN THE WELL AND THE ENTIRE WATER SYSTEM FOR A MINIMUM OF 12 HOURS, PREFERABLY 24. USING THE TOILET IS OKAY, BUT DO NOT USE THIS WATER FOR DRINKING, COOKING, OR BATHING WHILE THE CHLORINE IS IN THE SYSTEM. USE BOTTLED WATER FOR DRINKING AND COOKING.**
- 5. AFTER THE MINIMUM CONTACT TIME HAS PASSED, RUN THE WATER THROUGH THE GARDEN HOSE UNTIL NO CHLORINE ODOR IS DETECTED IN THE WATER BEING PUMPED FROM THE WELL. KEEP THE DISCHARGE WATER OUT OF THE SEPTIC TANK AND THE DRAINFIELD AREA. THIS PART OF THE RUN-OFF MAY TAKE AS MUCH AS 4 TO 6 HOURS; THEREFORE, PAY ATTENTION TO ANY DROP IN WATER PRESSURE, SO AS TO AVOID DAMAGING THE WELL PUMP IF THE WATER LEVEL DROPS TOO LOW. YOU MAY HAVE TO STOP PUMPING AND ALLOW THE WELL TO RECHARGE ITSELF IN ORDER TO CONTINUE PUMPING.**
- 6. THEN RUN EACH FAUCET, INSIDE AND OUTSIDE, UNTIL NO CHLORINE ODOR IS DETECTED. THIS FINISHES THE RUN-OFF OF THE SYSTEM.**
- 7. AFTER THE CHLORINE HAS BEEN REMOVED FROM THE WELL FOR AT LEAST 24 HOURS, CONTACT THE ENVIRONMENTAL HEALTH AT 496-8100, BETWEEN THE HOURS OF 8:00-9:00 AM FOR A RE-SAMPLE OF THE WATER. CONTINUE TO USE BOTTLED WATER UNTIL A NEGATIVE SAMPLE REPORT IS RECEIVED.**
- 8. IF YOU HAVE ANY FURTHER PROBLEMS OR QUESTIONS, FEEL FREE TO CALL THE HEALTH DEPARTMENT AT THE ABOVE STATED HOURS.**

#### **TIPS**

- YOU SHOULD HAVE YOUR WELL SAMPLED YEARLY, OR ANY TIME THAT THE SYSTEM IS OPENED TO THE ENVIRONMENT.**
- IF YOUR WELL IS CAPPED BELOW GROUND LEVEL, IT MUST BE DUG UP FOR CHLORINATION. IT IS STRONGLY RECOMMENDED THAT IT BE EXTENDED TO AT LEAST 12 INCHES ABOVE GROUND LEVEL WHILE IT IS BEING WORKED ON.**
- CHLORINE IS A STRONG REACTIVE CHEMICAL. USE ALL CHEMICALS IN ACCORDANCE WITH ITS LABEL.**
- WHEN HANDLING CHLORINE, ALWAYS WEAR RUBBER GLOVES, GOGGLES, AND A PROTECTIVE APRON. SHOULD YOU ACCIDENTALLY GET CHLORINE ON YOUR SKIN, FLUSH THE AREA IMMEDIATELY WITH WATER.**
- NEVER MIX CHLORINE SOLUTIONS WITH OTHER CLEANING AGENTS OR AMMONIA BECAUSE TOXIC GASES MAY BE PRODUCED.**
- DO NOT USE BLEACHES THAT ARE SCENTED OR HAVE FABRIC SOFTENERS.**
- CHLORINE SOLUTIONS EXPOSED TO SUNLIGHT LOSE STRENGTH.**

#### **LINKS**

(NAME: FRANKLIN CO WELL RULES)  
<http://h2o.enr.state.nc.us/>  
(NAME: NC DIVISION OF WATER QUALITY)  
<http://www.soil.ncsu.edu/assist/homeassist/water/>  
(NAME: NCSU—PROTECTING WELL WATER SUPPLY)  
<http://www.soil.ncsu.edu/assist/flooding/PurifyPosterLandscape.pdf>  
(NAME: NCSU—SAFE DRINKING WATER AFTER A FLOOD)  
<http://www.epa.gov/ogwdw/>  
(NAME: US EPA GROUND WATER AND DRINKING WATER)  
<http://www.epa.gov/safewater/hfacts.html>  
(NAME: US EPA DRINKING WATER CONTAMINANTS)  
<http://www.epa.gov/safewater/ecoli.html>  
(NAME: E. COLI IN DRINKING WATER)  
<http://www.agwt.org/gwinfo.htm>  
(NAME: AMERICAN GROUNDWATER TRUST)  
<http://www.google.com/search?q=water+treatment+equipment&btnG=Google+Search&hl=en&lr=&ie=ISO-8859-1>  
(NAME: WATER TREATMENT INFORMATION)  
<http://www.wellowner.org/>  
(NAME: WELL OWNER INFORMATION)