

IMPORTANT INFORMATION **NORRIS WATER AND WASTEWATER NEWS**

This and future columns will be addressing the Norris Water Commission's (NWC) need to communicate with the City of Norris residents on ongoing issues as well as better educating the public on our water and wastewater treatment systems. The City of Norris received a Director's Order WPC21-0149 (Order) from the Tennessee Department of Environment & Conservation (TDEC) on February 17. This TDEC Order cites wastewater plant violations of the Water Quality Control Act. There were 54 self-reported violations primarily from discharges of elevated nitrogen and phosphorus, and the main contributing factor was significant rain events. These violations occurred from May 1, 2019 to November 30, 2021. Fines were assessed by TDEC. An upfront penalty payment of \$4,692 has been paid and the remaining penalties (up to a total of \$23,460) are contingent upon timely completion of the Order's requirements. Our City Mayor, City Manager and the NWC are diligently working to assure timely completion of the Order's requirements and to avoid further penalties. The Order mandates repair work and upgrades to our wastewater treatment system. Because the NWC would like to keep the public apprised of developments and our progress, going forward we will be reporting to you in the Norris Bulletin and posted on the City's website. We apologize for the length of Communiqué #1, but we want to be sure that you are well informed.

Communiqué #1

First and foremost, we want to emphasize that Norris has a top-notch, dedicated Water Supervisor, Operators, and other staff who are 100% committed to providing our community 24/7 with clean, award-winning drinking water and a wastewater system to manage our waste. When you see these guys around town, please take time to stop and thank them for their services. Also, it must be noted that the Director's Order pertains only to Norris' wastewater treatment system and not our drinking water plant. Our drinking water continues to be top quality.

Background Information

We have had a wastewater treatment plant since the early days of Norris, and some of the present infrastructure dates to those days. The present treatment plant dates to the mid-1960s. The actual collection system has been upgraded over the years:

- Sections of the main line have been replaced with seamless plastic pipe just a few years ago with a Community Development Block Grant (CDBG).
- Several trunk lines have been lined with plastic (sliplining) in the past few years.
- Some parts of town (Hickory Trail, Butternut Drive, Dairy Pond Road, and Chestnut Drive areas) have collection systems that are considerably newer.

However, we still have a big problem with the intrusion of stormwater into the collection system – the infamous I&I (infiltration and inflow). This is the problem we now face.

An Ideal System

The perfect sanitary sewer collection system is a sealed system, so rainwater does not get into it. Ideally, we expect that the sanitary sewer collects the waste from flushed toilets, baths, kitchen sinks, and laundry water. This is the wastewater that the system is designed to handle. The theory is that the water consumed by Norris households ends up in the sanitary sewer. We meter the water you consume, but your sewage is not metered. We charge your sewage bill based on your water usage. The treatment plant in Norris is designed to handle up to 200,000 gallons of wastewater a day, and based on the water consumed by our customers, this capacity should be more than adequate.

Current System

Unfortunately, our sanitary sewage collection system is far from ideal. The usual daily flow of about 100,000 gallons grows during rainy weather, to a surprisingly large flow of over 1,000,000 gallons a day. Yes, you're right – during rainy weather, ten times as much rainwater enters our collection system as the normal wastewater flow! This enormous amount of I&I overloads the wastewater plant and necessitates a temporary bypass – a necessary operation where mostly rainwater flow from our collection system goes straight to our outfall point on Buffalo Creek. The diverted overflow is chlorinated prior to being discharged; however, it is not fully treated. This is a violation of our discharge permit, necessary to preserve the proper operation of the treatment plant in normal operation, but a flaw that the permitting agency TDEC has said we must fix.

Actions We Are Taking

We have started the necessary steps to repair our system. We have hired an engineering firm (Cannon and Cannon) to map and inspect all the sanitary sewer manholes, which are the “junction boxes” of the wastewater collection system. There are 247 of them! Engineers have installed flowmeters at three points in the system, and the heavy rain several weeks ago has generated our first data on stormwater flows from the different parts of the system. Data analysis is just starting, but it is obvious that we have leaks, and that rainwater is entering the collection system at several places. We will find and repair problems like broken pipes, leaky manholes, and submerged manholes.

You have probably noticed one thing about our problem: it must rain for the problems to show up. We cannot get the flow data we need to diagnose our leakage sources unless it rains. So, we depend on rain events to help us find our problems, and the rain events cause overloads to our wastewater treatment plant – a classic Catch-22!

The NWC is also evaluating whether there are any compensatory, immediate, and short-term actions that would prevent temporary bypasses into Buffalo Creek.

Community Involvement/Assistance

We need your help because some of the issues with I&I may be on private property. In past years, we have discovered that customers have diverted gutter runoff into their sewer connections. There are cases where storm runoff has found its way into private lift stations. We must eliminate as much of the stormwater incursion as possible. We are in the process of responding to the TDEC mandate, and it is not yet established how much

time we have for diagnostic work and try to find all the places contributing to stormwater incursion. And this brings up the second step in the mandate.

After we have done what we can to fix the stormwater incursions into our collection system, we will be left with some I&I that we cannot fix. This excess water will appear at every heavy rain and must be dealt with at the wastewater treatment plant. Bypassing the treatment plant is not an option. The established way to deal with this is to construct a container (holding tank) large enough to hold the excess water generated by rain. So, you can understand why it is very important for us to minimize our collection system I&I before we commit to the necessary holding tanks! State law mandates that expenses of fixing our wastewater system must be borne by grants or by the system usage fees. Building tanks will make the sewer fees go up.

What can you do? If you know of any water source - especially one that collects rainwater - that is now connected to the sanitary sewer, please let us know. A house gutter system must not empty into the sanitary sewer. Sewer cleanouts must have watertight caps. Sewer lines that are flooded during rains must be watertight. Lift stations and sump pumps must not pump rainwater into the sewer collection system. It is essential that we correct as much of the I&I as we possibly can. The clock is running.

Richard Dyer
NWC Member