Sanitary Sewer Manholes -- Permit Required Confined Space Entry Permit

1. Sanitary Sewer Manholes Entry Procedure and Permit
All shaded areas must be completed by the Entry Supervisor or Entrant

2. Work to be Performed and Location:	**3. Date Issued:** / / **Time Issued:** : □ **a.m.** □ **p.m.**

4. Permit Space Hazards (X = Potential Hazard or Testing Requirement)

X	Oxygen - hazardous when less than or equal to 19.5% ***OR*** greater than or equal to 23.5 %.		Mechanical Hazards (Pneumatic, Hydraulic, Electrical, Chemical, Steam, Falling Objects, Etc.)
X	Flammable Gases or Vapors - hazardous when greater than 10% of LFL / LEL.	**X**	Engulfment Potential
X	Hydrogen Sulfide - hazardous when greater than 10 PPM		Physical Hazards - (bees, insects, spiders, heat during the summer)
X	Carbon Monoxide - hazardous when greater than 50 PPM (always look for when welding or near a fuel combustion source (cars, utility carts, etc.)	**X**	Confined Space Configuration, Layout or Arrangement
	Other Toxics:		

5. Additional Permits or Forms (Please attach if required)

Hot Work Permit: ☐YES ☐NO ☐N/A **LOTO / Hazardous Energy Control Procedure:** ☐YES ☐NO ☐N/A **Other:**

6. Equipment Required for Entry & Work (Check box when complete)

☐ **PPE**	Eye protection, Tyvek suit, rubber gloves, rubber boots, and body harness.
☐ **Atmospheric Testing**	4-Gas Meter required for testing. Test atmosphere in manhole by using stratified method of checking atmosphere at different levels within the space. Continuous monitoring is required throughout the duration of the entry.
☐ **Respiratory Protection**	Not required for this space under normal atmospheric conditions. If contaminant levels are outside limits, ventilate space before entry.
☐ **Ventilation Equipment**	Check atmosphere by 4-gas meter prior to and during entry. Ventilation must be used on sanitary sewer manholes due to sewage gas. Open upstream and downstream manhole covers, if possible, to help improve the fresh air ventilation of the sewer system.
☐ **Rescue Equipment**	Set up rescue tripod with 4-way hauling system to pull out entrant in the event of an emergency. Entrant must wear harness and be connected to the 4-way hauling system.

7. Communication method used by attendants and entrants (Check all that apply)

☐	**Radio**
☐	**Voice**
☐	**Other**

8. Confined Space Rescue

☐	The assigned confined space attendant is responsible for evacuating entrants in the event of an emergency by means of vocal communication or retrieval equipment used for the entry. At no time will the attendant enter the confined space. In the event the attendant is unable to evacuate the entrant(s), the Charlotte Fire Department will be notified by UNC Charlotte Police Dispatch at 704-687-2200 to provide rescue assistance. Upon the arrival of rescue personnel, the attendant should brief the rescuers of any notable information.

9. Authorized Entrants (List by name)	**10. Authorized Attendants** (List by name)

11. Preparation for Entry (Check boxes when complete)

☐	Notify affected departments of service interruption and complete the Confined Space Entry Permit and other related permits or forms. Service on a sanitary manhole/sewer system should be completed on a day with no precipitation or chance of precipitation. Storm water coming into the sanitary sewer system can be a serious hazard during entry. If necessary, use a pump within the sanitary manhole to remove excess water.
☐	Inspect all required equipment, tools and PPE prior to entry. Barricade the area to prevent unauthorized entry or access. Setup necessary equipment for entry operations.
☐	Ensure that all hazardous energy is isolated per the specific Hazardous Energy Control Procedure. If possible, stop water discharges to the sanitary sewer manhole in question during the servicing period. De-energize any pump equipment that discharges to the sewer prior to making entry into the sewer.
☐	Sign in Authorized Entrants in Step 9 and Sign in Attendants in Step 10.
☐	Open upstream and downstream manhole covers, if possible, to help improve the fresh air ventilation of the sewer system. Take a preliminary atmospheric reading with approved 4-gas meter and record reading on Step 12. Atmosphere should be continuously tested during entry. Periodically record sample readings in Step 12. Ventilate as necessary. Test atmosphere from the bottom to the top of the manhole so that all levels are checked.
☐	Upon eliminating or controlling all hazards and the Entry Supervisor signing Step 13, proceed to make entry.

12. Atmosphere Testing Record Acceptable Conditions	Pre-Entry Results	Entry #1 Results	Entry #2 Results	Entry #3 Results	Entry #4 Results	Entry #5 Results
Time of Sampling						
CH_4 – Methane - Less than 10% of LEL / LFL						
O_2 - Oxygen Range - Minimum allowable = 19.6% to Maximum allowable = 23.4%						
H_2S - Hydrogen Sulfide - < than 10 PPM						
CO - Carbon Monoxide - < than 35 PPM						
Other Toxic:						
Tester Initials						

13. Authorization by Entry Supervisors
I certify that all required precautions have been taken and necessary equipment is provided for safe entry and work in this sanitary sewer manhole confined space.

Printed Name	**Signature**	**Date**	**Time**	☐**a.m.** ☐**p.m.**

14. Permit Cancellation (Complete at the end of job not to exceed 24 hours)	**Date**	**Time**	☐**a.m.** ☐**p.m.**

This permit must be posted at the job site -- One Copy to Department's File and One Copy to EHS Office (Fax 7-5302 or EHS Building)