Steam Manhole -- Permit Required Confined Space Entry Permit

1. Steam Manhole ENTRY PROCEDURE AND PERMIT
   **All Shaded areas must be completed by Entry Supervisor or Entrant**

2. Work to be Performed:

3. Date Issued: / / 
   Time Issued: a.m. p.m.

4. Permit Space Hazards (X = Potential Hazard or Testing Rqmt.)
   - Oxygen - hazardous when less than or equal to 19.5% OR greater than or equal to 23.5%.
   - Flammable Gases or Vapors - hazardous when greater than 10% of LFL / LEL.
   - Hydrogen Sulfide - hazardous when greater than 10 PPM.
   - Carbon Monoxide - hazardous when greater than 50 PPM.
   - 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, Body Harness, other PPE for heat if necessary (gloves, long sleeves, etc)
   - Ventilation Equipment: Full ventilation is required before and during entry unless the space is proven to be free of atmospheric hazards or no atmospheric changes will occur due to work operations or manhole conditions.
   - Respiratory Protection: Not required for this space under normal atmospheric conditions. If contaminant levels are outside limits, ventilate space before entry.
   - Atmospheric Testing: A Gas Monitor is required for testing, test atmosphere in manhole by using stratified method of checking atmosphere at different levels within the space.
   - Rescue Equipment: Set up rescue tripod with 4 way hauling system to pull out entrant in the event of emergency.

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 704-687-2000 to provide rescue assistance. Upon the arrival of rescue personal the attendant should brief the rescuers of any notable information.

9. Authorized Entrants (List by name or attach roster)
   - (List by name)

10. Authorized Attendants (List by name)
    - (List by name or attach roster)

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.
    - Inspect all required equipment, tools and PPE prior to entry. Setup necessary equipment for entry operations.
    - Ensure that all Hazardous Energy is isolated per the specific Hazardous Energy Control Procedure. All steam lines, valves and controls must be fully blocked and controlled or University steam service discontinued before entering the manhole. Allow lines to cool as much as possible before entering the manhole.
    - Sign in Authorized Entrants in Step 9 and Sign in Attendants in Step 10.
    - 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. Atmospheric Testing Record Acceptable Conditions
    - CH4 - Less than 10% of LEL / LFL
    - OXY - Oxygen Range - Minimum allowable = 19.6% to Maximum allowable = 23.4%
    - H2S - Hydrogen Sulfide - < than 10 PPM
    - CO - Carbon Monoxide - < than 35 PPM
    - Other Toxic:

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 Steam 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 Dept File and One Copy to EH&S Office (Fax 7-5302 or EHS Building)

16-Sep-10 3-Dec-14