

CONFINED SPACE PROGRAM

I. Purpose

This Confined Space Program has been developed in accordance with the Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1910.146. The purpose of this program is to ensure that proper protection is taken for all employees working in confined spaces.

II. General Program Management

A. Responsibility

It is the desire of the City to protect their employees. The City will:

- a. Evaluate the workplace to determine if any spaces are permit-required confined spaces.
- b. Inform potentially exposed employees of the permit-required confined spaces.
- c. Determine if employees will not enter permit spaces, and what effective measures will be taken to prevent employees from entering permit spaces, or
- d. Decide that its employees will enter permit spaces, a written permit space entry program must be developed and implemented.

The City is responsible for this program and has authority to make decisions to ensure the success of this program. Copies of the written program may be obtained from City Hall.

B. Program Review and Update

The Confined Space Program will be reviewed and updated under these circumstances:

- a. When the City identifies changing conditions which cause the current plan to lose its maximum protection.
- b. A review of the permit-required confined space program, (using cancelled permits retained within one (1) year after each entry) indicate revisions to the program as necessary.

III. Methods of Compliance

A. General Requirements

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Email: washcity@washingtonks.net

The City will use alternate procedures for entering a permit space under the conditions below:

Employees entering a permit space need not comply with the following parts of this program:

- Permit Required Confined Space (C)
 - Permit System (D)
 - Entry Permit (E)
 - Duties of Authorized Entrants (F)
 - Duties of Attendants (G)
 - Duties of Supervisors (H)
 - Rescue and Emergency Services (I)
 - providing that,
- a. It has been demonstrated and documented that the only hazard is actual or potentially hazardous atmosphere;
 - b. It has been determined that the forced air ventilation alone is sufficient to maintain safe entry;
 - c. The monitoring and inspection data required by
 - i. this program is being used;
 - d. If an initial entry is needed to collect the data above then it **will** be performed in compliance with parts (C) to (I) of this program.
 - e. The determinations and data required above are documented and available to employees who enter the space;

Entry under the terms above must be performed in accordance with the following requirements:

1. Any condition making it unsafe to remove an entrance cover will be eliminated before the cover is removed.
2. Before covers are removed, the entrance will be promptly guarded by a barrier that will prevent accidental fall through the opening and will protect employees in the space from foreign objects entering the space.
3. Before an employee enters the space, the internal atmosphere will be tested with a calibrated direct-reading instrument, for the following conditions in the order given:

- a. Oxygen content

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- b. Flammable gases and vapors, and
 - c. Potential toxic air contaminants.
- 4. There may be no hazardous atmosphere within the space whenever any employee is inside the space.
- 5. Continuous forced air ventilation will be used as follows:
 - a. An employee may not enter the space until forced air ventilation has eliminated a hazardous atmosphere;
 - b. Forced air ventilation will be directed to ventilate the immediate areas where an employee is or will be, and will continue until all employees have left the space.
 - c. The air supply for the ventilation will be clean and may not increase the hazard.
- 6. The atmosphere within the space will be continuously tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.
- 7. If a hazardous atmosphere is detected during entry:
 - a. Each employee will leave the space immediately;
 - b. The space will be evaluated to determine how the hazardous atmosphere developed;
 - c. Measures will be implemented to protect employees from the hazardous atmosphere before a subsequent entry.
- 8. Before each entry, the supervisor will verify that the space is safe for entry and that the measures above have been taken, with a written certification giving the date, location of the space, and signature of the person providing the certification.

B. Non-Permit Space

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A space classified as a permit-required space may be reclassified as a non-permit space:

- a. If the permit space poses no actual or potential atmospheric hazards and if all hazards are eliminated without entering the space.
- b. If it is necessary to enter the permit space to eliminate hazards, such entry will be performed under parts (C) to (I) of this program. If testing and inspection demonstrate that the hazards have been eliminated.
- c. If the supervisor has documented that the basis for determining that all hazards have been eliminated through a certification that contains the date, location of the space, and the signature of the person making the determination.
- d. If hazards arise within a permit space that has been declassified to a non-permit space these requirements each employee will exit the space. The supervisor will reevaluate the space and determine if it must be reclassified as a permit space.

OUTSIDE CONTRACTORS

In addition to complying with above-mentioned requirements, each contractor that performs permit space entry will:

- a. Obtain any available information regarding permit space hazards and entry operations from the city administrator.
- b. Coordinate entry operations with the City, when both the City employees and contractor personnel work in or near permit spaces, as required in this program.
- c. Inform the City of the permit space program that the contractor will follow and any hazards confronted or created in permit spaces

C. Permit-Required Confined Space

The following measures have implemented the following measures necessary to prevent unauthorized entry to a confined space.

1. The City will identify and evaluate the hazards of the permit spaces before employees enter them by performing atmospheric testing.
2. The City will provide the following equipment at no cost to employees, and maintain

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the equipment properly, and ensure that employees use that equipment properly:

- a. Testing and monitoring equipment needed to evaluate the permit space conditions;
 - b. Ventilating equipment needed to obtain acceptable entry conditions;
 - c. Communications equipment;
 - d. Personal protective equipment;
 - e. Lighting equipment needed to enable safe work in and exit from the space;
 - f. Barriers and shields to protect entrants from external hazards;
 - g. Equipment needed for safe ingress and egress;
 - h. Rescue and emergency equipment to comply with this program;
 - i. Any other equipment necessary for safe entry and rescue.
4. There will be at least one attendant outside the permit space for the duration of entry operations;
 5. If multiple spaces are to be monitored by a single attendant, means and procedures to enable the attendant to respond to an emergency in one or more spaces without distraction from the attendant's responsibility under this program will be provided.
 6. The City will designate the persons who are to have active roles in entry operations, their duties, and provide each with the training required by this program.
 7. The City will develop and implement a procedure for summoning rescue and emergency services, for rescuing entrants, and for preventing unauthorized personnel from attempting a rescue;
 8. The City will develop and implement procedures to coordinate entry operations when employees of more than one employer are entering a permit space so that they do not endanger each other;
 9. The City will develop and implement a system for the preparation, issuance, use, and cancellation of entry permits;

10. The City will develop and implement procedures to coordinate entry after operations are completed;

D. Permit System

1. Before entry is authorized, the supervisor will document the completion of the measures below by preparing an entry permit. The City will develop and implement the means, procedures, and practices necessary for safe entry, including:
 - a. Specifying acceptable entry conditions, including recording of gas detector readings;
 - b. Isolating the permit space;
 - c. Purging, flushing, or ventilating the permit space to eliminate or control atmospheric hazards;
 - d. Providing barriers as necessary to protect entrants from external hazards; and
 - e. Verifying conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.
2. Before entry, the supervisor will sign the permit to authorize entry.
3. The completed permit will be made available to all authorized entrants to confirm that pre-entry preparations have been completed.
4. The duration of the permit will not exceed the time required to complete the assigned task or job.
5. The supervisor will terminate entry and cancel a permit when:
 - a. Operations have been completed; or
 - b. A condition that is not allowed under the entry permit arises in or near the permit space.
6. The City retains each entry permit for at least one year to facilitate the review of the permit-required confined space program. Any problems encountered during an entry operation will be noted on the permit so that appropriate revisions to the program can be made.

E. Entry Permit

The entry permit that authorizes entry into a permit space shall identify:

1. The space to be entered;
2. The purpose of the entry;
3. The date and authorized duration of the entry;
4. The authorized entrants;
5. The personnel serving as attendants;
6. The individual serving as the entry supervisor;
7. The hazards of the permit space to be entered;
8. The measures used to isolate the space and eliminate or control hazards before entry;
9. The acceptable entry conditions;
10. The results of initial and periodic tests performed below: (accompanied by the names or initials of the testers and by an indication of when the tests were performed)
 - a. Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is larger or is part of a continuous system (such as a sewer), pre-entry testing will be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions will be continuously monitored in the areas where authorized entrants are working;
 - b. Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations, and;
 - c. When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, then for toxic gases and vapors.

11. The rescue and emergency services that can be called and how to call them;
12. The communication procedures used by entrants and attendants to maintain contact with each other;
13. Equipment, such as testing equipment, to be provided for compliance with 29 CFR 1910.146;
14. Any other information necessary to ensure employee safety; and
15. Any additional permits, such as Hot Work Permits, issued for work in the space.

F. Training

1. The City will provide training so that employees acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned.
2. Training will be provided:
 - a. Before the employee is first assigned duties under this regulation;
 - b. Before there is a change in permit space operation that presents a hazard about which an employee has not previously been trained on;
 - c. Whenever the employer has reason to believe there are inadequacies in their knowledge of these procedures.
3. The City will certify that the training required has been accomplished and the employee is proficient in the duties.

G. Duties of the Authorized Entrants

The City shall ensure that all authorized entrants:

1. Know the hazards that may be faced during entry;
2. Make Proper use of the equipment required;
3. Communicate with the attendant as necessary to enable the attendant to monitor the

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entrants and to enable the attendant to alert entrants of the need to evacuate as required.

4. Alert the attendant whenever:
 - a. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
 - b. The entrant detects a prohibited condition,
5. Exit from the permit space as quickly as possible whenever:
 - a. An order to evacuate is given by the attendant or supervisor;
 - b. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation,
 - c. The entrant detects a prohibited condition; or
 - d. An evacuation alarm is activated.

H. Duties of Attendants

The City shall ensure that each attendant:

1. Knows what hazards that may be faced during entry;
2. Is aware of possible behavioral effects of hazard exposure;
3. Continuously maintains an accurate count of entrants;
4. Remains outside the permit space during entry until relieved by another attendant;
5. Communicates with entrants as necessary to monitor their status and to alert them of the need to evacuate;
6. Monitors activities inside and outside the space to determine if it is safe and orders evacuation immediately under any of the following conditions:

- a. If the attendant detects any prohibited condition;
 - b. If the attendant detects the behavioral effects of hazard exposure in an entrant;
 - c. If the attendant detects a situation outside the space that could endanger entrants; or
 - d. If the attendant cannot effectively and safely perform all duties required.
7. Summon rescue and other emergency services as soon as it is determined that entrants may need assistance to escape;
 8. Takes action when unauthorized persons approach or enter a permit space while entry is underway:
 9. Perform non-entry rescues as specified by the City's rescue procedure; and
 10. Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

I. Duties of Entry Supervisors

The City will ensure that each entry supervisor:

1. Knows and understands the hazards that may be faced during entry;
2. Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
3. Terminates the entry and cancels the permit as required by this program.
4. Verifies that rescue services are available and that the means for summoning them are operable;
5. Remove unauthorized individuals who enter or attempt to enter the permit space during operations; and
6. Determines that entry operations remain consistent with terms of the entry permit and

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that acceptable entry conditions are maintained.

J. Rescue and Emergency Services

1. The following requirements apply to cities who have employees enter permit spaces to perform rescue services.
 - a. The City will ensure that the rescue personnel is provided with, and is trained to use, personnel protective equipment necessary for making rescues.
 - b. Each member of the rescue service will be trained to perform assigned rescue duties. They will also receive the training required of authorized entrants under this plan.
 - c. Each member of the rescue service will practice making rescues at least once every 12 months.
 - d. Each member of the rescue service will be trained in basic first-aid and CPR.
2. When a City arranges to have persons other than their employees perform rescues, the City will:
 - a. Inform the rescue service of the hazards they may confront when called on to perform a rescue, and
 - b. Provide the rescue service with access to all permit spaces from which rescue may be necessary to allow them to develop rescue plans and practice rescues.
3. To facilitate non-entry rescue, retrieval systems or methods will be used whenever an authorized entrant enters a permit space, unless this would increase risk or would not assist the rescue. Retrieval systems will meet the following:
 - a. Each authorized entrant will use a chest or full body harness with a retrieval line. Wristlets may be used in lieu of a harness if the employer can demonstrate that they are a safer, more effective alternative.
 - b. The other end of the retrieval line will be attached to a mechanical device or fixed point outside the permit space so that a rescue can begin as soon as it becomes necessary.
4. If an injured entrant is exposed to a substance for which an MSDS sheet or other similar written information is required, that sheet or written information will be made

available to the medical facility treating the exposed entrant.

Appendix A

CONFINED SPACE PRE-ENTRY CHECKLIST Sewer Entry Permit

A confined space either is entered through an opening other than a door (such as manhole or side port) or requires the use of a ladder or rungs to reach the working level and test results are satisfactory. This checklist must be filled out whenever the job site meets these criteria.

CIRCLE

- | | | | |
|----|--|-----|----|
| 1. | Did your survey of the surrounding area show the area free of hazards such as drifting vapors from tanks, piping or sewers? | YES | NO |
| 2. | Does your knowledge of industrial or other discharges indicate this area is likely to remain free of dangerous air contaminants? | YES | NO |
| 3. | Are you certified in operation of the gas monitor to be used? | YES | NO |
| 4. | Has a gas monitor functional test (Bump test) been performed this shift on the gas monitor to be used? | YES | NO |
| 5. | Did you test the atmosphere of the confined space prior to the entry? | YES | NO |
| 6. | Did the atmosphere of the confined space prior to entry? | YES | NO |

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7. Will the atmosphere be continuously monitored while the space is occupied? YES NO

Contact **911** for personnel rescue by local fire department in the event of an emergency.

NOTE: If any of the above questions are answered "no" do not enter. Contact Supervisor Immediately!

Job Location

Lead Man Signature _____ Date _____

Appendix B

**CONFINED SPACE ENTRY PERMIT
Pre-Entry/Entry Checklist**

Date Issued: _____ Time _____ AM PM
circle one

Job Site:

Equipment to be worked on:

Pre-Entry (See Safety Procedure)

1. Atmospheric Checks:

Time	_____	AM	PM
Oxygen	_____	%	
Explosives	_____	% L.F.L.	
Toxic	_____	PPM	

2. Source isolation (No Entry):

N/A	Yes	No	
Pumps or lines blinded	N/A	Yes	No
disconnected or blocked	N/A	Yes	No

3. Ventilation Modification:

N/A	Yes	No	
Mechanical	N/A	Yes	No
Natural Ventilation only	N/A	Yes	No

4. Atmospheric check after isolation and ventilation:

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Time _____ AM PM circle one
Oxygen _____ % > 19.5%
Explosives _____ % L.F.L. < 10.0%
Toxic _____ PPM < 10 PPM H2S

If conditions are in compliance with the above requirements and there is no reason to believe conditions may change adversely, then proceed to the Permit Space Pre Entry Checklist. Complete and post with this permit. If conditions are not in compliance with the above requirements or there is reason to believe that conditions may change adversely, proceed to the Entry Checklist of this Permit.

Date and Time Expires:

Work to be performed:

Entry(See Safety Procedure)

1. Entry, Standby, and back-up persons:
Successfully completed required training? Yes No
Is it current? Yes No

2. Equipment:
Direct reading gas monitor tested? N/A Yes No
Safety harness and lifelines for entry
and standby persons N/A Yes No
Hoisting equipment N/A Yes No
Powered communications N/A Yes No
SCBA's for entry and standby persons N/A Yes No
Protective Clothing N/A Yes No
All electric Equipment listed Class I,
Division I, Group D and Non-sparking
tools? N/A Yes No

3. Rescue Procedures: **CALL 911**

Signature

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be

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Adopted July 5, 2005

approved if any squares are marked in the "NO" column. This permit is not valid unless all appropriate items are completed.

Permit and Checklist Prepared By: Supervisor: _____
(Signature)

Approved By: City Administrator _____
(Signature)

This permit is to be kept at the job site. Return job site copy to City Hall following job completion. Three copies should be maintained: City Hall, Supervisor, Job Site.

ENTRY PERMIT

___ Confined Space ___ Hazardous Area

PERMIT VALID FOR EIGHT (8) HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

Site Location and Description:

Purpose of Entry:

Supervisor in Charge of Crews:

Type of Crew:

Phone #'s:

*** BOLD DENOTES MINIMUM REQUIREMENTS TO BE COMPLETED AND REVIEWED PRIOR TO ENTRY***

REQUIREMENTS COMPLETED	N/A	DATE	TIME
Lock Out/De-energize/Tag-out	_____	_____	_____
Line(s) Broken-Capped-Blanked	_____	_____	_____
Purge-Flush and Vent	_____	_____	_____
Ventilation	_____	_____	_____

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Secure Area (Post and Flag)	_____	_____	_____
Breathing Apparatus	_____	_____	_____
Resuscitator - Inhalator	_____	_____	_____
Standby Safety Personnel	_____	_____	_____
Full Body Harness with "D" Ring	_____	_____	_____
Emergency Escape Retrieval Equipment	_____	_____	_____
Lifelines	_____	_____	_____
Fire Extinguisher	_____	_____	_____
Lighting (Explosive Proof)	_____	_____	_____
Protective Clothing	_____	_____	_____
Respirator(s) (Air Purifying)	_____	_____	_____
Burning and Welding Permit	_____	_____	_____

NOTE: Items that do not apply should have N/A entered in the blank.
**** RECORD CONTINUOUS MONITORING RESULTS EVERY 2 HOURS**

CONTINUOUS MONITORING** PERMISSIBLE
 TESTS TO BE TAKEN ENTRY LEVEL

Percent of oxygen	19.5% to 23.5%
Lower flammable Limit	Under 10 %
Carbon Monoxide	+35 PPM
Aromatic Hydrocarbon	+1 PPM * 5PPM
Hydrogen Cyanide	(skin) * 4PPM
Hydrogen Sulfide	+10 PPM*15PPM
Sulfur Dioxide	+2 PPM * 5PPM
Ammonia	*35PPM

***Short-term exposure limit: Employee can work in the area up to 15 minutes.**

+8 hour Time Weighted Average: Employee can work in area 8 hours (longer with appropriate respiratory protection).

Remarks:

Gas Tester Name and Check # Instrument(s) used Model and/or Type Serial and/or

Unit #:

Adopted July 5, 2005

Safety Standby Person is Required for ALL Confined Space Work

Safety Standby Person

Supervisor authorizing entry

All Above Condition Satisfied

Department _____

Emergency Phone #: **911**

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PERMIT-REQUIRED CONFINED SPACE ENTRY
RECORD OF TRAINING

Date	Employee Name	* Training Description (# Below)	Instructor(s)

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Training Description

*Training- Lecture, Group, Hands-on, etc.

1. Hazard Recognition
2. Emergency Notification
3. Personal Protective Equipment Usage
4. Lockout and Tagging Procedures
5. Atmosphere Testing Instruments
6. Special Equipment Usage
7. Emergency and Rescue Operations

PERMIT-REQUIRED CONFINED SPACE ENTRY EXAMPLES OF TRAINING TOPICS

Hazard Recognition:

1. Is there a residual material remaining on the Permit-Required Confined Space?
2. Is the lighting adequate?
3. Are the inside surfaces slippery and wet?
4. Are the valves locked and tagged?
5. Thoroughly review the Material Safety Data Sheet for the chemicals you may encounter.

Emergency Notification:

1. In case of an accident or emergency, who is your first contact? Phone, intercom, beeper or radio number?
2. Is there an emergency siren, bell or other sounding device in the facility? IS there a particular code for different emergencies? When is the device tested?
3. Who is to call the rescue team, rescue squad or others?

Personal Protective Equipment Usage:

1. Air Fed or Cartridge Type Respirators
2. SCBA (Self Contained Breathing Apparatus) Training

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3. Protective Suits and Gloves
4. Hearing Protection
5. Eye Protection
6. Protective Footwear

Lockout and Tagging Procedures:

1. Is Production department sign off required? Daily and weekly production meeting notification? Who is contact for coordination?
2. Has the tagging system been color coded? What is tagging procedure exactly?
3. How is a lock out of a particular device initiated?

Atmospheric Testing:

1. Who performs the instrument calibration?
2. Perform training with each specific instrument.
3. Review the listing of LEL's (Lower Explosive Limits) and IDLH (Immediate Dangerous to Life or Health) concentrations on the chemicals likely to be encountered. (Refer to MSDS)

Special Equipment Usage:

1. Specialized material handling/vacuum system to remove residual material from Permit-Required Confined Space.
2. Lifting apparatus required by Section II. Permit-Required Confined Space Entry Equipment.

Emergency And Rescue Methods And Procedures:

1. Review how an employee is to remove from a Permit-Required Confined Space. What equipment is to be used, how many people (minimum) will be required.