

**VILLAGE SERVICES DEPARTMENT
PROCEDURES FOR CONFINED SPACE ENTRY**

I. INTRODUCTION:

The purpose of these procedures is to protect our employees' health and welfare from improper entry into confined spaces. Proper entry into confined spaces minimizes risk in these hazardous areas.

II. DEFINITIONS OF CONFINED SPACE

A. As defined by the Illinois Department of Labor as having any one of the following characteristics:

1. Limited openings for entry and exit.
2. Unfavorable natural ventilation.
3. Not designed for continuous worker occupancy.

B. Most common types of confined space within the Village are as follows:

1. Manholes, for access to water sanitary and storm systems, which are at a greater depth than the height of the employee who is making the entry.
2. Lift stations, both dry and wet can types.
3. Subsurface structures, such as some basements, crawl spaces, wet wells, and storage facilities.

C. By no means is this intended to be a complete list of every type of confined space but rather an indication of the most common. Remember if any area has one of the three characteristics mentioned above it should be treated as a confined space.

III. IDENTIFYING POTENTIAL HAZARDS

After an area has been determined as a confined space it is necessary to identify what potential hazards may or do exist. The different types of hazardous conditions that may be encountered are as follows:

A. Oxygen Deficient or Enriched Atmosphere: an oxygen deficient atmosphere has LESS than 19.5% available oxygen; an oxygen enriched atmosphere has GREATER than 21% available oxygen. If the oxygen levels in the confined space are not between 19.5% and 21% it is **EXTREMELY DANGEROUS** for anyone to enter without proper safety measures.

B. Flammable Atmospheres: Exist when there are oxygen enriched atmospheres,
SECTION II.C

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products stored in the confined space such as sewerage in a manhole, work being performed in the confined space such as solvent cleaning, or other chemicals that may have leached into the confined space. If the confined space has a flammable atmosphere rating GREATER than 10% L.F.L., it is **EXTREMELY DANGEROUS** for anyone to enter without proper safety measures.

- C. Toxic atmospheres:** Most substances should be considered hazardous in a confined space. Toxic substances can come from, the material stored in the confined space such as removing sewerage or sludge from a manhole can produce hydrogen sulfide; the type of work being performed such as painting, or cleaning solvents can produce toxic vapors, areas adjacent to a confined space may produce toxicities that can enter and accumulate in the confined space. If the confined space has ANY levels of toxicities it is **EXTREMELY DANGEROUS** for anyone to enter without proper safety measures. It is also important to remember that toxic gases and vapors can be lighter or heavier than air and can be at different levels within the confined space.

IV. LEVELS OF ENTRY

Entry to a confined space can be accomplished safely if proper precautions, equipment, and procedures are followed. Using section one to define an area as a confined space is the first step necessary to determine what level of entry is to be performed. The following classifies the level of entry based on conditions of the confined space and lists the minimum requirements for entry to the area.

- A. Level One:** A level one entry is a minimum entry level determination. This consists of one or more of the characteristics of confined spaces but none of the hazards exist in or around the area of the confined space. Additionally, the work to be performed upon entry will not produce a hazardous condition. Two employees are necessary for this level of entry, one employee to enter, and the second to standby on the outside of the confined space to insure the first employee's safety and be in a position to obtain help if necessary. Under no circumstances should the second employee enter the confined space.
- B. Level Two:** A level two entry consists of one or more of the characteristics of confined space and one or more of the hazards of a confined space exist. This level of entry would require three employees, one employee to enter, the second for rescue, and the third to be in a position to monitor the entry and obtain help if necessary. Under no circumstances should the employee that is standing by for rescue enter the confined space until the third employee indicates that help is on the way, and then only if he has the proper equipment on. The third employee in this level of entry must be a crew leader and under no circumstance enter the confined space.
- C. Level Three:** A level three entry consists when conditions in the confined space

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are or could rapidly change posing a life threatening situation. The number of employees would be determined by the Division Supervisor for the particular area to be entered. The Supervisor will assign the duties for each employee involved and be on the site when the entry occurs. A level three entry must be thoroughly planned and executed even in the event that the entry is being performed to repair an emergency situation, it is important that no one is rushed or hurried, and that all precautions are methodically taken.

V. ENTRY PROCEDURES

Before any confined space is entered all measures of performing the task without entering should have been exhausted, if the only means of accomplishing the task is by entering then the following procedures must be followed.

A. Pre-Entry Inspection: A non-entry inspection of the confined space is performed to determine the characteristics, hazardous conditions, and the level of entry necessary to perform the work. This inspection will be documented on a Confined Space Pre-Entry Request Form (Page 7) and given to the Division Supervisor.

B. Entry Permit: The Supervisor will determine the level, assign an entry team and issue a Confined Space Entry Permit (Page 8) for that job. The permit will have specific conditions that must be followed.

C. Level One Procedures: A level one entry consists of the following procedures:

1. Submit pre-entry request to Supervisor.
2. Obtain entry permit from Supervisor.
3. Permit will designate one employee as the enterer, the second employee as the stand by/rescuer.
4. The entry team will have all necessary confined space equipment on the site and readily available for use.
5. All necessary paperwork listed on the permit will be completed and given to the Supervisor as soon as possible but no later than the end of the employees shift.

D. Level Two Procedures: A level two entry consists of the following procedures:

1. Submit pre-entry request to Supervisor.
2. Obtain entry permit from Supervisor.
3. Permit will designate one employee as the enterer; this employee will be responsible to perform the work in the confined space. This employee must wear, a harness, retrieval system (man rated), and self contained breathing apparatus (S.C.B.A.).
4. The second designated employee will be the stand by/rescuer, this employee will be responsible to stand by the entrance to the confined space to rescue the

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enterer if that should become necessary. This employee must wear the same equipment as the enterer.

5. The third employee will be the Crew leader; this employee will be responsible for the monitoring of the confined space entry, tri-meter readings, and compliance with safety rules and procedures of confined space entry. In addition, he would be in a position to call for assistance if any problems arise.
6. The Crew leader shall notify the Supervisor when the employee enters and when the final exit occurs. All necessary paperwork listed on the permit will be completed and given to the Supervisor as soon as possible but no later than the end of the employees shift.

E. Level Three Procedures: A level three entry consists of the same procedures (A-F) as a level two entry with the following additions:

1. Upon receipt of a pre-entry inspection the Supervisor will issue a permit and prepare a plan for the entry. The plan and permit will be discussed with all employees involved with the entry. The Supervisor will also notify the Bloomingdale Fire Department and Public Works Facility Base of the time and date of the impending entry.
2. The Supervisor must be on the site during a level three entry. It is the Supervisors responsibility to insure that all the safety rules and procedures are followed and that his employees are not placed in a dangerous situation without proper precautions.
3. The Supervisor has the authority to cancel, postpone, or re-schedule the entry, if in his judgement the entry would be or becomes too hazardous for our employees, or exceeds the limits of our equipment and/or abilities. In addition, the Supervisor also would have the authority to contract the equipment and/or manpower necessary to accomplish the work.

VI. RESCUE PROCEDURES

In the event a rescue becomes, necessary the following procedures apply:

- A.** The Crew leader or the Supervisor will make the call for help. The caller should state clearly that he has a confined space emergency, and the exact location. The call should be placed by radio to Public Works Base or to the Police Department.
- B.** The base station receiving the call should immediately notify the Bloomingdale Police and Fire Departments of the emergency and then notify the entry team of the E.T.A. The next call should be to the Supervisor if he is not already on site. After that the Public Works Operations Superintendent and the Director of Village Services should be notified.
- C.** Any Public Works unit hearing the call for help that is near the site should respond to the site to lend assistance as time may be crucial. It is important that anyone responding to the call in no way interfere with emergency vehicles in route, or

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block access to the site.

- D. Upon notice that help is on the way the Crew leader can then send in the standby rescue employee if necessary, to help the injured employee. The Crew leader or Supervisor shall coordinate efforts with arriving emergency units.
- E. Rescue procedures vary depending on what type of trouble the employee is in. In most cases the employee will be able to be rescued by the retrieval system without the stand by rescue employee having to enter the confined space.

VII. GENERAL CONCERNS

There are many concerns that employees have regarding confined space entry. The following identifies some of them:

- A. **Questions and Concerns:** If an employee has any question or concern during any phase of these procedures, it should be brought to his supervisor. The supervisor should encourage this. No one on a confined space entry team should have any doubt of what is expected of him.
- B. **Communications:** Open lines of communications between employees and there supervisor are essential. No one should feel intimidated into performing a confined space entry. Employees should only have the task at hand on his mind when performing a confined space entry.
- C. **Equipment:** The Village supplies all the necessary equipment for confined space entry. If an employee has any question regarding the equipment usage or adequacy for the job, ask the supervisor.

VIII. TRAINING

The Village will provide annual training for confined space entry in accordance with federal and state regulations. The training consists of the following:

- A. Physical exams will be performed annually to determine if an employee is physically capable of wearing a respirator.
- B. Respirator training for qualified employees will be conducted annually by qualified instructors.
- C. Equipment training with factory representatives and or video tape will be conducted annually with hands on experience.
- D. Procedure training will be conducted annually with the employees, ways to improve

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procedures, equipment, and safety.

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Confined Space Pre-Entry Inspection for Permit

Location: _____ Date: _____

Photo Attached: _____ Inspected by: _____

Reason for proposed entry: _____

Describe confined space (including type of access, depth, and width): _____

Characteristics of space (ie: Sanitary or Storm Manhole, Sub Level Material stored in space etc.): _____

Tri-Meter readings at inspection:

Oxygen: _____ Time: _____

Flammables: _____ Time: _____

Toxics: _____ Time: _____

Signature: _____ Date: _____

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CONFINED SPACE ENTRY PERMIT

Permit # _____

Location: _____ Date: _____

Equipment Checklist

Usage /On Site
Required

_____	_____	Tri-Meter Constant Monitoring
_____	_____	Self Contained Breathing Apparatus
_____	_____	Harness/Life Line
_____	_____	Retrieval System/Davit Arm and/or Tri-Pod
_____	_____	Air Blower
_____	_____	Non Sparking Light (Explosion Proof)
_____	_____	Communication Equipment
_____	_____	Protective Clothing (Rubber Boots, Etc.)
_____	_____	Other _____

Special condition of permit: _____

Supervisor: _____ Date: _____

EMERGENCY NUMBERS

POLICE & FIRE: 911
PUBLIC WORKS: (630) 529-5865
VILLAGE SERVICES: (630) 893-7073

