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- F Confined Space - Entry Rescue Plan
- G Non-Entry Manhole Opening Log: Air Monitoring Results

I certify that the Confined Space Policy for the City has been reviewed and revised as necessary.

\_\_\_\_\_  
Deputy Director of Public Works Operations

\_\_\_\_\_  
Date Certified

### 1.0 PURPOSE

The purpose of this policy is to establish the procedures for correctly identifying and classifying a confined space, and to establish guidelines for evaluating and entering a confined space work area safely in order to protect confined space entrants and rescue personnel from confined space related injuries and/or illnesses.

### 2.0 SCOPE

This policy applies to all personnel who enter and work in confined spaces including permit-required confined spaces (permit spaces), and/or personnel who supervise or coordinate entry with contractors who enter any type of City confined spaces.

### 3.0 DEFINITIONS

**Acceptable Entry Conditions** means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

**Affected Employees** are those employees who are trained and authorized to perform the duties of a confined space entrant, attendant, and/or entry supervisor.

**Alternate Confined Space** is one that meets the definition of a permit-required confined space, however, the following characteristics apply:

- The only hazard posed by the permit space is an actual or potential hazardous atmosphere; and
- Continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry; and
- Documented monitoring and inspection data supports these conditions

**Attendant** means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the permit space policy.

**Authorized Entrant** means an employee who is trained and authorized by this employer to enter a permit space.

**Blanking or Blinding** means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

**Confined Space** is a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- Has limited or restricted means for entry or exit; and
- Is not designed for continuous employee occupancy.

**Confined Space Classification Checklist** means the checklist used prior to entering any type of space to ensure all hazards are controlled and the space is safe for entry.

**Decontamination** means effectively removing any hazardous substances from employees and their equipment to the extent necessary to eliminate the occurrence of foreseeable adverse health effects.

**Double Block and Bleed** means the closure of a line, duct, or pipe by closing and locking or tagging a drain or vent valve in the line between the two closed valves.

**Emergency** means an occurrence (including failure of hazard controls or monitoring equipment) or event, internal or external to the space that could endanger personnel on site.

**Engulfment** means the surrounding and effective capture of a person by a liquid or finely divided solid substance that can be aspirated to cause death by filling or plugging the respiratory system, or that can exert enough force on the body to cause death by strangulation, constriction or crushing.

**Entry** means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

**Entry Permit** means the written or printed document that is provided by this employer to allow and control entry into a permit space. The permit contains the information necessary to comply with this Policy.

**Entry Supervisor** means the person (such as the employer, supervisor, or lead) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

*NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.*

**Hazardous Atmosphere** means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury or acute illness.

**Hot Work** means any work or activity which involves an open source of ignition such as riveting, welding, cutting, burning, and heating. If hot work operations will be performed inside a confined space, personnel must prepare and post a Hot Work Permit.

**Hot Work Permit** means this employer's written authorization to perform operations capable of providing a source of ignition.

**Immediately Dangerous to Life or Health (IDLH)** means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

**Inerting** means the displacement of the atmosphere by a non-combustible gas (such as nitrogen) to such an extent that the resulting atmosphere is non-combustible.

**Isolation** means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as blanking or blinding, misaligning or removing sections of lines, pipes or ducts, a double block and bleed system, lockout and tagout of all sources of energy or blocking or disconnecting all mechanical linkages.

**Lower Explosive Limit (LEL)** means the lowest amount of vapors in the air at which point there are sufficient flammable vapors for a fire or explosion to occur if an ignition source is applied.

**Non-Permit Confined Space** means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

**Notification** means face to face contact with approval, phone or radio contact with acknowledged response, or written approval from an authorized source.

**Oxygen Deficient Atmosphere** means an atmosphere containing less than 19.5 percent oxygen by volume.

**Oxygen Enriched Atmosphere** means an atmosphere containing more than 23.5 percent oxygen by volume.

**Permit-Required Confined Space** is one that meets the definition of a confined space and has one or more of the following characteristics:

- Contains, or has the potential to contain, a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section; and/or
- Contains any other recognized serious safety or health hazards.

**Permit System** means the written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

**Pre-Entry Checklist** means the checklist used prior to entering any type of space to ensure all hazards are controlled and the space is safe for entry.

**Prohibited Condition** means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

**Rescue Service** means the personnel designated to rescue employees from permit-required confined spaces.

**Retrieval System** means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

**Self-Contained Breathing Apparatus (SCBA)** means a full-faced respirator connected via hose to a portable cylinder containing compressed breathing air, worn on the person's back.

**Supplied Air Respirator (SAR)** means a full-faced respirator with emergency escape bottle connected via a long hose to a separate air supply located outside the space.

**Testing** means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

**Upper Explosive Limit (UEL)** means the highest amount of vapor in the air at which point there are sufficient flammable vapors for a fire or explosion to occur if an ignition source is applied.

## 4.0 RESPONSIBILITIES

4.1 **Public Works Superintendent:** The Public Works Superintendent has the overall authority and responsibility for implementing the provisions of the Confined Space Policy for City. Specific responsibilities include, but are not limited to:

- Responsibility and authority for ensuring this policy is fully implemented.
- Ensuring that funding is provided to successfully implement the policy requirements.
- Ensuring that the policy and policy requirements are enforced.
- Implementing all other relevant responsibilities as identified in the Injury Illness Prevention Policy (IIPP).

4.2 **Safety Representative:** The Safety Representative is responsible for:

- Monitoring the effectiveness of the Confined Space policy by performing a policy review and completing the *Policy Review and Certification Form (Attachment A)*.
- Monitoring confined space training to ensure its effectiveness.

- Coordinating, scheduling and/or providing initial and refresher training, when required.
- Evaluating off-site rescue services (if used) to evaluate their response time and ability to perform entry rescue.
- Providing Managers and Supervisors guidance on the laws and regulations governing the Confined Space Policy and conducting the necessary research to determine those requirements and the standards that apply.
- Ensuring that annual confined space permit reviews are completed.
- Maintaining all related records: Training records, completed confined space classification checklists, completed confined space permits, completed hot work permits, and completed annual permit reviews.
- Evaluating “for hire” rescue services (if used) to evaluate their rescue capabilities for the type of City confined spaces they may be hired to perform an entry rescue.
- Contacting and coordinating on-site rescue operations with the City’s “for hire” rescue service(s), if needed.

4.3 **Public Works Inspector:** The Public Works Inspector is responsible for:

- Providing contractors with available information regarding City’s permit space hazards and confined space entry procedures.
- Ensuring that contractors hired to perform a job that involves confined space entry follow contractor policy safety requirements.

4.4 **Supervisors** are responsible for:

- Ensuring that each employee under their direct supervision understands and comply with the confined space requirements in this policy as they relate to their confined space duties and roles.
- Ensuring that confined spaces are identified through legible signs or other means that is equally effective.
- Ensuring that all affected employees are informed of the existence, location and danger posed by permit-required space(s).
- Ensuring all affected employees are trained on their respective roles(s) as confined space entrants, attendants, entry supervisor.
- Ensuring all affected employees are trained on the Agency’s Confined Space Rescue Plan and procedures.
- Providing confined space and personal protective equipment necessary to safely perform confined space entry and rescue.
- Ensuring confined space equipment and personal protective equipment is inspected routinely and/or when required.
- Ensuring that all malfunctioning equipment is immediately pulled from service, red tagged, and scheduled for repairs and maintenance.
- Ensuring affected employees who will be performing confined space entries attend the pre-job safety meetings.
- Ensuring that employees perform confined space evaluations and classifications using the *Confined Space Classification Checklist* (Attachment C) prior to entry into any confined space.
- Providing information and consultation as necessary to employees involved in confined space operations.

4.5 **Affected Employees:** Affected Employees are responsible for:

- Being aware of and comply with the requirements of this Confined Space Policy.
- Wearing appropriate personal protective equipment.
- Using the required safety equipment in accordance with their training.

- Following procedures for use, storage, maintenance and inspections of equipment as set forth in this Policy and according to manufacturer's instructions.

4.6 **Contractors:** Contractors performing confined space operations are to:

- Utilize its own confined space entry policy unless the City requires contractors to use their (the host) confined space entry policy.
- Ensure its employees and subcontractors comply with all procedures of the specified policy used.
- Obtain any and all available information regarding permit space hazards and entry operations from the City .
- Coordinate entry operations with the City when both City personnel and contractor personnel are to be working in or near permit spaces.
- Develop and implement procedures to coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of any other employer.
- Inform the City of any hazards encountered or created in permit-required spaces, either through a debriefing or during the entry operation. This information should be conveyed as often as necessary to keep the City informed of the status of the confined space entry.
- Ensure their confined space equipment is available, currently certified (where applicable) and fully functional in order to conduct a safe entry, including calibrated atmospheric monitoring equipment.
- Provide documentation of employee training and medical certifications (where required) to City if requested.

4.7 **Permit-Required Confined Space Entrant:** Prior to entry of any confined spaces, the authorized entrants shall:

- Be knowledgeable of the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Confirm the proper functioning and use of the air monitoring equipment.
- Review and understand the results of the air monitoring tests.
- Be knowledgeable of the proper use of equipment required to ensure a safe entry and perform required work.
- Establish a method of communications with the attendant so that the attendant can monitor their status and alert them of the need to evacuate the space.
- Be required to alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation; the entrant detects a prohibited condition or a condition not considered acceptable.
- Be required to exit from the space as quickly as possible whenever an order is given by the attendant or entry supervisor to exit, or if the entrant recognizes any warning sign or symptom of exposure to a danger situation, or detects a prohibited condition or condition not considered acceptable, or an evacuation alarm is activated.

4.8 **Permit-Required Confined Space Attendant:** Prior to serving as confined space entry attendant, the authorized attendants shall:

- Be knowledgeable of the hazards that may be faced during entry, including information on the mode, signs or symptoms and consequences of the exposure.
- Be knowledgeable of the possible behavioral effects of hazard exposure in authorized entrants.
- Continuously maintain an accurate count of all authorized entrants in the permit space.
- Remain outside the permit space during entry operations until relieved by another attendant. If attendant will perform entry rescue, attendant must be trained and equipped for rescue operations.

- Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space, and orders the entrants to evacuate the space immediately under any of the following conditions;
  - If attendant detects a prohibited condition;
  - If attendant detects behavioral effects of hazard exposure in the authorized entrant(s);
  - If attendant detects a situation outside the space that could endanger the entrant(s);
  - If the attendant cannot effectively and safely perform all of the duties required above.
- Initiate on-site rescue procedures, and if necessary, summon additional rescue and other emergency services as soon as it has been determined that entrants may need assistance to escape from permit space hazards.
- Takes appropriate actions when unauthorized persons approach or enter a permit space while entry is underway.
- Perform non-entry rescue or other rescue services in compliance with the rescue procedures outlined in this plan.
- Perform no other duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

4.9 **Permit-Required Confined Space Entry Supervisor:** Prior to serving as confined space entry supervisor, the authorized entry supervisor shall:

- Be knowledgeable of the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Verify, by checking, that the space has been properly evaluated, tested and classified using the "Confined Space Classification Checklist (Attachment C).
- Ensure that all required information specified by the permit has been recorded, and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
- Terminates the entry procedure and cancels the permit when:
  - The entry operations covered by the entry permit have been completed; or
  - A condition that is not allowed under the entry permit arises in or near the permit space;
  - The duration of the permit has expired
- Verify that rescue services are available prior to entry and that the means for summoning additional services are operable.
- Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.
- Whenever responsibility for entry operations have been transferred, and at intervals, Entry Supervisor shall determine and ensure that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

## 5.0 GENERAL REQUIREMENTS

5.1 Only trained and authorized personnel shall enter permit required confined spaces.

5.2 All confined spaces shall be evaluated and classified prior to entry using the Confined Space Classification Checklist (Attachment C).

5.3 All confined space procedures shall be followed as presented in this Policy.

- 5.4 No entry into any confined space shall be made without first testing the atmosphere to ensure that it is safe to enter.
- 5.5 All employees shall notify their supervisor immediately if a prohibited condition exists or arises at any time prior to, during or after any confined space entry is made.

## 6.0 PREVENTION OF UNAUTHORIZED ENTRY

- 6.1 All confined spaces shall be identified by posting a danger sign or by any other equally effective means, of the existence and location of and the danger posed by the permit space. A sign reading DANGER: CONFINED SPACE/DO NOT ENTER, or similar language, would satisfy the requirement for a sign.
- 6.2 A perimeter shall be established with tape, barriers, signs or other means so that a working zone is created where only authorized personnel are permitted.
- 6.3 During an emergency, safe zones for the rescue personnel shall be established ensuring adequate distance from the site based on the type of emergency. Unnecessary personnel shall be kept away and entry denied to unauthorized personnel.

## 7.0 CONTRACTOR SAFETY REQUIREMENTS

- 7.1 When the City arranges to have employees of another employer (contractor) perform work that involves confined space entries, the City shall:
- Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space policy.
  - Apprise the contractor of the elements, including the hazards identified, and the City's experience with the space, that make the space in question a permit-required confined space.
  - Apprise the contractor of any precautions or procedures that the City has implemented for the protection of employees in or near permit spaces where contractor personnel will be working.
  - Coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit-required confined space, so that employees of one employer do not endanger the employees of any other employer.
  - Debrief the contractor at the conclusion of the entry operations regarding the permit spaced policy followed and regarding any hazards confronted or created in permit spaces during entry operations.
- 7.2 Each contractor who is retained to perform permit-required confined space entry operations is required to:
- Meet or exceed the CalOSHA §5157 Permit-Required Confined Space requirements.
  - Obtain any available information regarding permit-required confined space hazards and entry operations from the City.
  - Coordinate entry operations with the City when both City personnel and contractor personnel are to be working in or near permit-required confined spaces.
  - Inform the City of the permit space policy that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.



- 7.3 When the City arranges to have a contractor perform permit-required confined space entry, and the Contractor has its own rescue team, the City shall:
- Provide the Contractor with access to the permit-required confined space from which rescue may be necessary, so that the Contractor can develop appropriate rescue plans.

## 8.0 IDENTIFICATION AND CLASSIFICATION OF CONFINED SPACES

- 8.1 Confined spaces at the City are listed on the Confined Space Inventory (Attachment B). If a space is not listed on Attachment B, the space is to be treated as a confined space and evaluated using the Confined Space Classification Checklist. If it is determined the space meets the definition of a confined space, it shall be added to the Confined Space Inventory (Attach. B).
- 8.2 Unless pre-designated as a Non-Permit Confined Space (NPCS), every confined space shall be evaluated prior to entry using the Confined Space Classification Checklist (Attachment C). This evaluation shall be performed by a trained confined space entrant, attendant, or entry supervisor. This checklist is used to determine if the space can be declassified to a Non-Permit Confined Space, be entered using alternate procedures, or if the space is entered using a full permit system using Attachment D.
- 8.3 If the Confined Space Classification Checklist (Attach. C) determines that the confined space is permit-required, then entry cannot be performed without completion of the Entry Permit. The confined space entry permit must be completed by the confined space entry supervisor.
- 8.4 If the Confined Space Classification Checklist (Attach. C) determines that the confined space is a permit-required confined space that can be entered using alternate procedures, a Certificate of Safe Entry (page 2 of the Confined Space Classification Checklist) shall be completed and alternate entry procedures found in Section 10.3 shall be implemented.
- 8.5 Once a confined space has been classified as a Non-Permit Confined Space (NPCS), the space may be entered without any additional precautions as long as job activities do not introduce new hazards (e.g. welding, sand blasting, painting, opening a pressurized system, etc). Historical evaluations (air testing and physical observations) shall be performed routinely, and not less than every 6 months, to document that the conditions inside the space have not changed.

## 9.0 IDENTIFICATION AND CONTROL OF HAZARDS

- 9.1 Confined space entrants may encounter conditions that present a potential for electric shock, entanglement in mechanical equipment, exposure to hazardous atmospheres, chemicals, burns and engulfment by liquids or solids. Knowing why the space is being entered and the type of work being performed will assist in determining what types of hazards will be encountered and how they can be managed.
- 9.2 The following is a list of some of the hazards to consider when performing a confined space evaluation.
- 9.2.1 ELECTRICAL HAZARDS
- 9.2.2 CONTROL OF HAZARDOUS ENERGY  
Affected employees are required to follow City's Lockout/Tagout policy requirements for proper procedures for control of hazardous energy.
- 9.2.3 STRUCTURAL HAZARDS  
Structural hazards include piping or items on the floor, overhanging equipment, protruding items, moving equipment with pinch points and loose or unfixed equipment.
- 9.2.4 ATMOSPHERIC HAZARDS

- Oxygen Deficiency: Less than 19.5% Oxygen
- Oxygen Enrichment: Greater than 23.5% oxygen
- Oxygen enriched atmospheres can permit flammable gases and vapors to ignite over a much wider range of concentrations than is possible in ordinary air, and make them faster burning once ignited. Enrichment can be caused by hydrogen peroxide, chlorine, and oxygen.
- Combustible and Flammable Gas
- Toxic Gas: Some common toxic gases include:
  - Carbon dioxide (CO<sub>2</sub>)
  - Carbon monoxide, (CO)
  - Hydrogen sulfide (H<sub>2</sub>S)

9.2.5 TEMPERATURE RELATED HAZARDS

- Heat cramps result from inadequate fluid intake.
- Heat exhaustion results from overexertion and inadequate fluid intake
- Heat stroke results from life-threatening failure of the body cooling mechanism
- Cold emergencies result from prolonged exposure to cold temperatures or cold water and will create dangerously low body temperatures

9.2.6 ENGULFMENT HAZARDS

9.2.7 HOSTILE ANIMALS

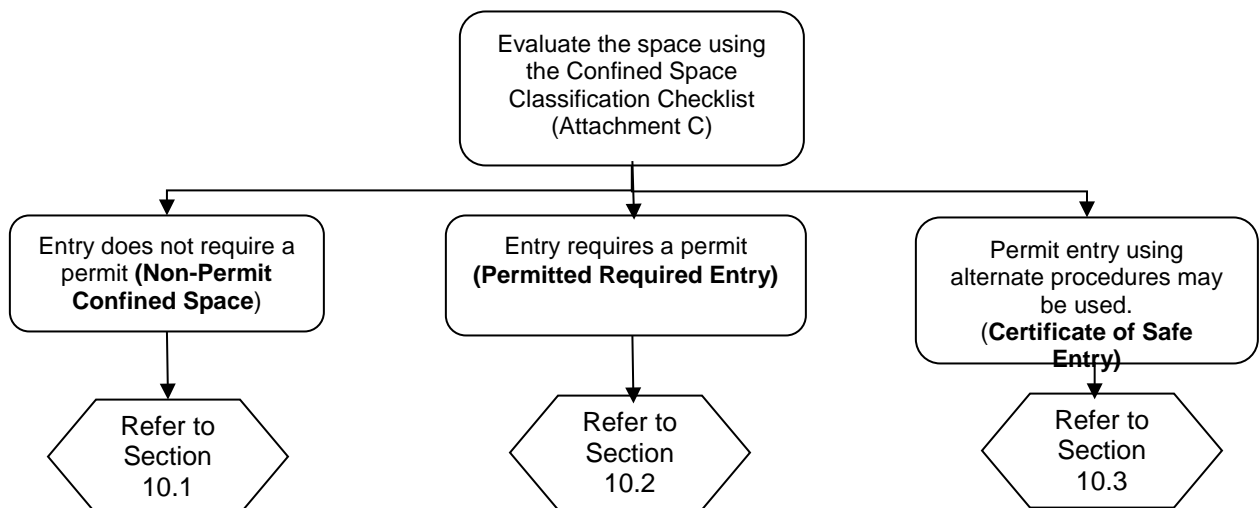
Confined spaces are great places to find spiders, snakes, rodents and other critters.

9.2.8 HAZARDS OUTSIDE THE SPACE

Be aware of hazards that might affect the entrant as well as the attendant. Traffic, loose animals, utilities, wiring, chemical spills or inclement weather will require special precautions.

**10.0 CONFINED SPACE ENTRY PROCEDURES**

This section provides specific guidelines for the evaluation, classification and entry of confined spaces. Unless pre-designated as a Non-Permit Confined Space (NPCS), all confined spaces are to be considered dangerous and shall not be opened or entered until proven safe by methods outlined in this section. The first step is to evaluate the space using the Confined Space Classification Checklist found in Attachment C. This evaluation shall be performed by a trained confined space entrant, attendant or entry supervisor.



10.1 CONFINED SPACE – NON-PERMIT: Are those confined spaces and associated activities that have been evaluated using the Confined Space Classification Checklist (Attachment C) and have been identified and designated as *No Permit Required*. These confined spaces pose no actual or potential atmospheric hazards. Entry to these spaces may occur without the need for a written permit or attendant provided that

planned work activities do not introduce new hazards that adversely impact air quality or otherwise increases the hazards to entrants.

10.1.1 Adequate safety barriers shall be provided to eliminate inadvertent entry into the space (guardrails, tape, cones, and obstacles).

10.1.2 Air quality shall be tested and recorded prior to space classification on the Confined Space Classification Checklist. The Safety Representative shall maintain completed Confined Space Classification Checklists. These records are available for review upon request.

10.1.3 When a hazardous condition is detected, all entrants shall leave the space immediately and the space shall be re-evaluated and re-classified if necessary.

10.2 CONFINED SPACE – PERMIT REQUIRED:

10.2.1 If the Confined Space Classification Checklist (Attachment C) determines that a confined space is a fully permitted confined space, an Entry Permit (Attachment D) shall be prepared to document that the space is safe to enter.

- Additional permits such as HOT WORK shall be attached, as applicable, as a supplement to the Confined Space Entry Permit.
- Any other relevant information (such as SDS information) shall also be attached as a supplement to ensure the safety of the entrants where applicable.

10.2.2 All pre-entry preparation activities specified on the permit shall be completed before entry is authorized. These preparations include, but are not limited to, the following:

- Isolating the permit space
- Depressurizing equipment under positive pressure or re-pressurizing equipment under negative pressure
- Lockout, blockout, tagout, and verification of isolation of all sources of electrical, pneumatic, mechanical, gravity, chemical, thermal, or radiation hazards
- Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards
- Providing pedestrian, vehicle, or other barriers as necessary to isolate the area and protect entrants from external hazards.

10.2.3 Once all pre-entry preparations have been made, the Entry Supervisor shall conduct a Pre-Entry Briefing with the Attendant and Entrant. The following information shall be covered:

- The hazards that may be encountered during entry procedures.
- The steps each person will take to control the hazards and identify and control any new hazards that may arise.
- The emergency procedures to be followed within the space in the event of a problem.

- The communications method between the entrant and attendant.
- The atmospheric testing results
- Each person's expected task during the entry.
- Any time limits placed upon them in reference to their time in the space and/or total mission time.

10.2.4 When entry operations are conducted, permit space conditions shall be evaluated as follows:

- Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin.
- If isolation of the space is not feasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent feasible before entry is authorized and, if entry is authorized, conditions shall be continuously monitored in the area where authorized entrants are working (i.e. in the entrants breathing zone). This requirement can be satisfied by requiring the entrant to wear a personal air monitor at all times.
- Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations.
- When testing for atmospheric hazards test for the following in the order given:
  1. Oxygen (19.5% - 23.5%)
  2. Combustible gases and vapors (Less than 10% LFL)
  3. Toxic gases and vapors
    - i. Carbon Monoxide (less than 25 ppm)
    - ii. Hydrogen Sulfide (less than 10ppm)
- At least one attendant shall be stationed outside the permit space into which entry has been authorized for the duration of entry operations.
- The completed permit shall be made available at the time of entry to all authorized entrants, or their authorized representatives, and to the attendant. This availability shall be accomplished by posting the permit at the entry portal or by any other equally effective means, so that the entrants and attendant can confirm that pre-entry preparations have been completed.

10.2.5 The permit space shall be evacuated immediately under any of the following conditions:

- The entrant or attendant detects a prohibited condition
- The entrant recognizes any warning sign or symptom of exposure to a dangerous situation
- An air monitoring instrument alarms
- The attendant detects the behavioral effects of hazard exposure in an authorized entrant
- The attendant detects a situation outside the space that could endanger the authorized entrant, or
- The attendant cannot effectively and safely perform all the required duties.

10.3 PERMIT CONFINED SPACE-PERMIT USING ALTERNATE PROCEDURES:

10.3.1 If Confined Space Classification Checklist evaluation determines that the only hazards or potential hazards of the confined space are atmospheric contaminants that can be eliminated or controlled by continuous forced air (or other equally effective means), entry into the permit-required confined space may be made using alternate confined space entry procedures.

10.3.2 Alternate procedures may be used to enter the space when:

- No other hazards exist; and
- Atmospheric hazards can be effectively removed and controlled by forced ventilation; and
- Workers can safely enter and work in the space; and
- All testing results and monitoring data are documented, retained, and made available to each employee who enters the space.

10.3.3 In order to classify confined space for entry using alternate procedures, documentation of specific data about the space must be made. This documentation and collection of data shall be recorded on the Confined Space Classification Checklist prior to and during the entry.

- The completed checklist shall be returned to the employees' supervisor at the completion of the entry for his/her review of any problems during entry and to ensure that proper entry conditions and procedures were followed.
- The supervisor shall initial, date, and forward all completed checklists to the Safety Representative for proper filing.

10.3.4 Prior to entering a confined space using alternate procedures, the following shall be performed:

- Any conditions making it unsafe to remove the cover to the space shall be eliminated.
- Signs and warnings to avoid unauthorized entry shall be posted.
- All sources of ignition shall be eliminated.
- The air around the opening to the space shall be tested and then the air inside the space shall be tested. The results of this testing shall be recorded on the Confined Space Classification Checklist.
- When testing for atmospheric hazards test for the following in the order given:
  - (1) Oxygen (19.5% - 23.5%)
  - (2) Combustible gases and vapors (Less than 10% LFL)
  - (3) Toxic gases and vapors (Carbon Monoxide <25 ppm, Hydrogen Sulfide <10ppm)
- Ventilation equipment shall be activated as necessary to maintain acceptable air quality.
- Atmospheric monitoring shall be continuously performed while inside the space. If, at any time, the gas meter signals an unsafe condition or any other condition arises that may affect employee safety, all entrants shall immediately vacate the space. Entry is not allowed again until the space has been re-evaluated for hazards and a determination has been made whether alternate entry procedures are appropriate.

10.4 HOT WORK IN CONFINED SPACE PROCEDURES:

10.4.1 Hot Work is defined as work that includes such activities as flame heating, welding, torch cutting, brazing or any other work activity that produces heat of 400-degrees Fahrenheit or greater. It also includes other ignition sources in the presence of a flammable atmosphere, such as friction, impact, non-explosion proof lighting, etc.

10.4.2 A Hot Work permit is required prior to entering a confined space where hot work is to be performed and includes the following information:

- Describe the Hot Work to be performed
- Remove any flammable or combustible materials such as rags, paper, ropes or scrap wood
- Provide a suitable fire extinguisher
- Clean the space as needed to remove flammable residues or coatings
- Ventilate as required
- Arrange for a fire watch to be present during hot work operations and for 30 minutes after hot work operations have concluded

10.4.3 The completed Hot Work permit shall be posted prior to confined space entry and shall be terminated once hot work operations have been terminated and the 30 minute post-hot work fire watch activity has concluded.

## 11.0 GENERAL EMERGENCY PROCEDURES

11.1 If an acceptable atmosphere cannot be maintained in the confined space, the entrant(s) shall immediately exit the space.

11.2 Prior to entering a fully permitted confined space, entry rescue procedures shall be developed by the confined space entry supervisor using the Rescue Plan Analysis (Attachment F-1). This Rescue Plan shall be attached to the Permit after the job is completed.

11.3 If in the course of a permit-required confined space entry, an attendant becomes aware that an entrant needs assistance in escaping from permit-required confined space hazards, the attendant:

- Summons rescue and other emergency services, and
- Directs the entrant to leave the space immediately (i.e. perform self-rescue), or
- Begins non-entry rescue procedures if necessary.

11.4 Non-Entry Retrieval/Rescue

11.4.1 All **manhole** entries shall be entered using a mechanical retrieval system so that Non-Entry Rescue in accordance with Attachment F-1 is possible.

11.4.2 If the manhole is of such size that employees could travel horizontally beyond the capabilities of a vertical lift mechanical device, or if the manhole contains obstructions that could prevent Non-Entry Rescue, an Entry Rescue Plan in accordance with Attachment F-2 or F-3 must be implemented prior to entry.

11.4.1 All initial rescue attempts made by the attendant shall be performed from outside the space, using a *non-entry retrieval device*. Non-entry rescue using a retrieval system or methods shall be used whenever an authorized entrant enters a permit-required confined space, unless the retrieval equipment increases the overall risk of entry or does not contribute to the rescue of the entrant. Pre-job planning shall include a review of whether non-entry rescue is feasible.

11.4.2 Retrieval systems meet the following requirements:

- Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the shoulders or at the center of the entrant's back near shoulder level, or above the entrant's head. Wristlets may be used in lieu of or in addition to the chest or full body harness if the Entry Supervisor can demonstrate that the use of a chest or full body harness

is not feasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.

- For non-manhole entries, the other end of the retrieval line shall be attached to a mechanical device **or** attached to a fixed point outside the permit-required confined space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical permit-required confined spaces more than 5 feet deep.

#### 11.5 Entry Rescue:

If the entrant can not exit the space on their own initiative (i.e. self-rescue), and/or the entrant can not be removed from the space using a mechanical retrieval system or life line (non-entry rescue), an Entry Rescue shall be performed in accordance with the *Permit Confined Space Entry Rescue Plan using an Onsite Rescue Service* (Attachment F-2) or the *Permit Confined Space Entry Rescue Plan using a City Rescue Team* (Attachment F-3).

11.5.1 Off-site responders who are trained and equipped for entry into IDLH confined spaces will be contracted (rescue for hire) to provide on-site confined space entry and rescue services when entering fully permitted confined spaces.

11.6 In the event of an unrelated emergency (i.e. medical emergency not related to confined space conditions) City employees who are trained in confined space entry may enter the space to assist the injured employee (e.g. provide basic first aid). However, they may do so only after the space has been re-evaluated for toxic atmospheric and other hazardous conditions using the Confined Space Classification Checklist (Attach. C) and it has been determined that the space is safe to enter.

11.6.1 The attendant may not enter the confined space to assist an injured employee unless s/he has been relieved by another trained attendant.

## 12.0 TRAINING

12.1 Affected employees shall be trained in all aspects of the purpose and use of the Confined Space Entry Procedures. The employees shall be trained in the use and purpose of all personal protective equipment.

12.2 Training Content: All employees serving as authorized entrant, attendant, or entry supervisor, whose work is regulated by the Policy, shall be trained so that they have the understanding, knowledge, and skills necessary for the safe performance of their duties. This training, at a minimum, shall include the following:

12.2.1 The operation of the permit system.

12.2.2 The specific duties of each person involved in permit-required confined space operations.

12.2.3 The hazards of confined spaces including information on the mode, signs or symptoms, and consequences of exposure.

12.2.4 The proper use of equipment required during confined space operations including:

- Testing and monitoring equipment
- Ventilating equipment
- Communication equipment
- Personal protective equipment
- Lighting equipment, barriers and shields
- Ingress/egress equipment (like ladders)

- Non-entry rescue and emergency equipment and
- Any other equipment necessary for safe entry into and rescue from confined spaces.

12.2.5 The importance of communication between entrant and attendant.

12.2.6 The conditions under which the space should be evacuated.

12.2.7 The procedures for summoning rescuers.

12.2.9 Basic first aid including cardiopulmonary resuscitation (CPR)

12.2.8 The procedures used for both entry and non-entry rescue.

12.3 The City shall ensure that offsite emergency responders (if used) have received all required, necessary and standard training including the following:

12.3.1 The proper use of any personal protective equipment or rescue equipment necessary for making rescues from permit-required spaces.

12.3.2 The specific duties required for rescue personnel.

12.3.3 Practices making permit-required space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, mannequins, or actual persons from the actual or representative permit-required confined spaces.

12.3.4 Basic first aid including cardiopulmonary resuscitation (CPR).

12.4 **Initial Training** shall be provided to affected employees:

12.4.1 Before the employee is first assigned permit-required confined space operations duty.

12.5 **Refresher Training** shall be provided to affected employees:

12.5.1 If there is a change in their assigned duties.

12.5.2 Whenever there is a change in permit-required confined space operations that presents a hazard about which an employee has not previously been trained, and

12.5.3 Whenever anyone has reason to believe either there are deviations from the permit-required confined space entry procedures or there are inadequacies in the employee's knowledge or use of these procedures.

12.6 The training shall establish employee proficiency in the duties required of authorized entrants, attendants, entry supervisors and rescue service members, and shall introduce new or revised procedures, as necessary.

12.7 Employees serving as authorized entrant, attendant, or entry supervisor shall be trained on their respective roles. All training is to be documented to include:

- Each employee's name,



- The signatures or initials of the trainers, and
- The dates of training.

12.8 The training documentation shall be available for inspection by employees, contractors and their authorized representatives.

12.9 Contractors are expected to make appropriate arrangements for training in accordance with the Policy and Title 8, Article 108.

### **13.0 SPECIAL CONSIDERATIONS**

13.1 In potentially explosive or flammable atmospheres, non-sparking tools and portable explosion-proof 12-volt electrical lighting shall be used. Smoking, open flames, and cutting or welding are prohibited.

13.2 Personal protective equipment, such as coveralls, impervious gloves, boots, face and eye protection, shall be used as required by the nature of the operation performed.

13.3 In the event of a sudden life-threatening or otherwise potentially dangerous situation requiring immediate action which involves entry into a confined space as defined in this procedure, and in the absence of time to complete testing and ventilation procedures, the atmosphere shall be considered unsafe to enter without the use of an approved self-contained breathing apparatus (SCBA) or air-supplied respirator.

13.4 In locations where active electrical wires and cables exist, special care shall be followed when installing barriers so as to avoid damage to the electrical supply and injury to the employee. These measures include, but are not limited to:

- Sharp and metallic tools and equipment shall not be used at specific locations where these conditions exist.
- Excessive use of liquids shall be avoided at locations of electrical power cable, wire and transformer locations.
- Excessive amounts of removal or penetrating encapsulants shall not be applied and are not permitted to collect at power locations.
- Employees shall not hang, support, or stand on active or inactive electrical units, transformers, cables or conduit.
- If asbestos removal is in progress, additional care shall be maintained to avoid damage to isolation barriers.

### **14.0 RECORDKEEPING**

14.1 The City shall maintain all records relating to the implementation of this policy identified below for at least three years.

- Completed Confined Space Classification Checklists
- Completed Confined Space Entry Permit
- Completed Hot Work Permits
- Training documentation
- Annual Confined Space Review Checklists

### **15.0 ANNUAL AUDIT, REVIEW AND REVISIONS**

15.1 The following procedures shall be performed annually to assure the on-going effectiveness of the Confined Space Entry Policy:

15.1.1 Annual Audit of Confined Space Entries - An annual review of the implementation and effectiveness of the Confined Space Entry Procedure shall be conducted by reviewing the confined space classification checklists and permits issued for entries during the past year using the Annual Confined Space Review Checklist (Attachment E). The review shall verify the completeness of the permit, adequacy of hazard evaluation and controls and whether any mishaps or problems were noted.

15.1.2 Review and Revisions of the Confined Space Entry Policy - If information comes to the attention of management (either as a result of the annual audit or otherwise), that confined space entry procedures are not fully effective, procedures shall be reviewed and revised immediately to ensure safety. Employees shall be retrained if changes made to procedures require instruction or if they affect the safety of future entries.

## 17.0 AUTHORITY

- Cal OSHA, Title 8, California Code of Regulations, General Industry Safety Orders, Sections 5156-5158 and Appendices.



**ATTACHMENT B**  
**Confined Space Inventory**

<b>CONFINED SPACE LOCATION</b>		<b>Permit Conf. Space Pre-Entry Checklist required</b>	<b>Permit Required Confined Space</b>	<b>Not a Confined Space</b>
<b>Streets and Sewer Division Confined Spaces</b>				
1	399 Rollins Rd Wet Well	✓	✓	
2	1740 Rollins Dry Well	✓		
3	1740 Rollins Wet Well	✓	✓	
4	1775 Gilbreth Rd (Mitten) Valve Pit	✓		
5	1775 Gilbreth Rd (Mitten) Wet Well	✓		
6	1301 Bayshore Hwy. (Hyatt) Valve Pit	✓		
7	1301 Bayshore Hwy. (Hyatt) Wet Well	✓	✓	
8	710 Airport Blvd. (Airport) Valve Pit	✓		
9	710 Airport Blvd. (Airport) Wet Well	✓	✓	
10	842 Cowan Rd. Wet Well	✓	✓	
11	842 Cowan Rd. Brush Bars	✓		
12	1392 Marsten Rd. Wet Well	✓	✓	
13	1392 Marsten Rd. Brush Bars	✓		
14	1500 Adrian Rd. Wet Well	✓	✓	
15	1500 Adrian Rd. Brush Bars	✓		
16	1740 Rollins Rd. (behind athletic club) Wet Well	✓	✓	
17	1740 Rollins Rd. (behind athletic club) Brush Bars	✓		
18	1420 California Dr. Wet Well	✓	✓	
19	1420 California Dr. Brush Bars	✓		
20	S.E. Corner Calif & Oak Grove Brush Bars	✓		
21	Between 1209 & 1217 Bernal Ave. Brush Bars	✓		
22	Between 1551 & 1555 Bernal Ave. Brush Bars	✓		
23	Sewage Manholes	✓	✓	
24	Storm Drains	✓		
<b>Water Division</b>				
25	Alcatraz Reservoir: 3025 Alcazar Dr	✓	✓	
26	Donnelly Reservoir: 2817 Rivera Dr.	✓	✓	
27	Hillside Reservoir: 2832 Hillside Dr.	✓	✓	
28	Hillside Valve Pit: 2832 Hillside Dr.	✓	✓	

CONFINED SPACE LOCATION		Permit Conf. Space Pre-Entry Checklist required	Permit Required Confined Space	Not a Confined Space
29	Mills Reservoir: Sawyer Camp Trail	✓	✓	
30	Sky View Reservoir: 1321 Skyview Dr.	✓	✓	
31	*Eastern Pump Station: Easton Dr./Vancouver Dr	✓		
32	Meter Pits < 4 ft. deep			✓
33	PRV Pits < 4 ft. deep			✓
<b>Facilities Department</b>				
Based on 2012 review by Du-All Safety, Facilities has no confined spaces				

*\* Note: This space has been evaluated and pre-designated as a Non-Permit Confined Space (NPCS) as there are no potential atmospheric hazards, or any other hazards capable of causing death or serious physical harm when performing routine, non-maintenance job activities (inspections, reading meters, etc). Ongoing hazard analyses and air monitoring is performed on these spaces to verify that that conditions inside the space have not changed.*

*If changes have occurred inside the space, or if job activities introduce hazards into the space (welding, sandblasting, painting, opening pressurized system, etc) this space must be re-evaluated using the Confined Space Classification Checklist (Attachment C).*

**Attachment C**  
**CONFINED SPACE CLASSIFICATION CHECKLIST**

<b>SPACE TO BE ENTERED:</b>	<b>SPACE ASSESSED BY:</b>
<b>PURPOSE OF ENTRY:</b>	<b>COMMUNICATION DEVICE(S) to SUMMON OFF-SITE HELP:</b> <input type="checkbox"/> Phone <input type="checkbox"/> Radio <input type="checkbox"/> Other: _____

**NOTE: This Classification Checklist is to be completed ONLY by an employee authorized to do so**

**STEP 1:** Test the Air: Ensure explosive or other hazardous conditions that make it unsafe to remove or open the cover is eliminated

ATMOSPHERIC MONITORING EQUIPMENT
<b>EQUIPMENT:</b>
<b>SERIAL #:</b>
<b>DATE CALIBRATED:</b>
<b>DATE BUMP TESTED:</b>
<b>BATTERY CHARGED?</b>

HAZARD	LIMIT/PEL	TOP 1/3 RESULTS	MID LEVEL RESULTS	LOWER 1/3 RESULTS	AIR QUALITY ACCEPTABLE?
Oxygen	19.5-23.5%				
Flammable, LFL	10% (max)				
H2S	10ppm				
CO	25ppm				

**STEP 2:** Is the air quality acceptable:  
**IF YES** - Continue to **Step 3**.

**IF NO:** Purge space until air is acceptable. If air can not be controlled through forced ventilation alone, **the space must be entered using an ENTRY PERMIT.**

**STEP 3:** Is this an active, flowing sewer manhole?  
**IF YES** – Continue to **Step 4**.      **IF NO** – Continue to **Step 6**

**STEP 4:** Will the entrant's feet or face be breaking the plane to perform this task?  
**IF NO** - Continue to **Step 5**  
**IF YES** – **STOP! The space must be entered using an ENTRY PERMIT.**

**Step 5:** Will the entrant's body part (e.g. hand) that will be breaking the plane be exposed to a hazardous condition inside the space (thermal, electrical, chemical, etc)?  
**IF NO** - Complete a **Non-Entry Manhole Opening Log** for additional non-entry manhole work.  
**IF YES** – **STOP! The space must be entered using an ENTRY PERMIT.**

**Step 6:** Check the space for physical hazards:

	CONDITION	YES	NO	N/A
1	All conditions making it unsafe to remove an entrance cover are eliminated before cover is removed. ( <i>live electrical, moving parts or other forms of energy, potential for explosions, etc</i> )			
2	Hazardous energy sources (electrical, pressure, mechanical, pneumatic, etc.) are either <b>totally contained</b> (e.g. covers & guards in place, no line-breaking activities, no leaks, etc.) or <b>properly isolated</b> (e.g. locked/blocked out, blind flanged, valved off, disconnected, blanked, etc.)			
3	Space has been purged, flushed or is otherwise clean of any hazardous materials/chemicals.			
4	Space has been cleaned of excessive/accumulated sewage or other potentially harmful materials and does not impact workspace safety conditions (e.g. atmospheric conditions remain acceptable, no other acute exposures)			
5	Hazardous material lines and pipes (gas lines, chemical lines, etc) have been properly isolated (e.g. blinded, blanked, valves locked out, disconnected, etc.)			
6	The work area is free of fire hazards and the work to be performed in the space will not create any fire hazards.			
7	Space can be entered by a ladder or other method that allows <u>self-entry</u> and <u>self-rescue</u> options (e.g. entrant is not lowered on a retrieval system, entrant can exit the space without assistance, etc)			
8	Traffic and pedestrian controls have been adequately addressed.			
9	Space is clear of particulates (Dusts, fumes, mists) greater than permissible exposure limits.			
10	Space is clear of any engulfment or entanglement hazards.			
11	If this is an excavation, all hazards have been controlled/eliminated ( <i>i.e. spoils away from edges, protective systems in place (if required), means of entry/exit available, Competent Person on site, etc</i> )			
12	No other recognized safety hazards that could cause injury/death or that could impede exiting the space exist or have the potential to exist (e.g. visual hazards, falling objects, and slip/trip hazards).			

**Step 7:** Is the space clear of physical hazards (i.e. all questions above have been answered YES or NA)?  
 IF YES – Continue to Step 8  
 IF NO - **STOP! If physical hazards cannot be eliminated, the space must be entered using an ENTRY PERMIT.**

**Step 8.** Could your work activities create physical hazards while working in the space? Conditions to consider:  
 Performing hot work inside the space  
 Bringing hazardous chemicals inside the space (solvents, paints, coatings, gas-powered motors, exposed electrical, etc)  
 Creating slip/trip hazards  
 Using electrical equipment in wet conditions without GFI protection  
 Opening up a pressurized system

**IF NO:** Go to **Step 9.**

**IF YES:** Can you eliminate those hazards? Describe how: \_\_\_\_\_  
 • If hazards can be eliminated go to **Step 9**  
 • If hazards cannot be eliminated. **STOP! The space must be entered using an ENTRY PERMIT.**

**Step 9:** Could hazardous atmospheric conditions develop due to work activities or external conditions? Conditions to consider:  
 Opening a line/system that could release atmospheric hazards (gases, chemicals, etc) into the space.  
 Performing an activity that could create an oxygen deficient or enriched condition  
 Performing an activity that could create a toxic atmospheric condition  
 External conditions (e.g. vehicular exhausts) that could migrate into the space and create hazardous atmospheric conditions.

**IF YES –** Go to **Step 10**

**IF NO –** This is a **Non-Permit Space**. This means that this confined space does not contain, or have the potential to contain, any hazard capable of causing death or serious harm. Work may proceed without any additional precautions.

**NON – PERMIT Authorization:** Person Completing this Confined Space Evaluation Signs below:

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

**Step 10:** Can air quality be maintained within acceptable limits by using continuous forced ventilation?  
**IF NO:** **The space must be entered using an ENTRY PERMIT. SCBA respiratory protection must be worn.**  
**IF YES –** This permit confined space may be entered using alternate procedures. **Complete the Certificate of Safe Entry form below.**

**CERTIFICATE  
 OF  
 SAFE ENTRY  
 USING  
 ALTERNATE  
 PROCEDURES**

**REQUIRED ENTRY CONDITIONS:**

1. Employee(s) may not enter the space until forced air ventilation has eliminated any hazardous atmosphere
2. The forced air ventilation will be used and directed as to ventilate the immediate areas where an employee is or will be present within the space and will continue until all employees have left the space
3. The air supply for the forced air ventilation will be from a clean source and may not increase the hazards in the space
4. The atmosphere within the space will be continuously tested to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere

**ADDITIONAL ENTRY CONDITIONS (check those that apply):**

Safety Watch     Other: \_\_\_\_\_

**REQUIRED PPE (check those that apply):**

Hard hat     Gloves     Safety glasses     Goggles     Chem. resistant suit     Rain boots     Other: \_\_\_\_\_

**List all Entrants who will be entering this space:**

Entrant 1 Name: \_\_\_\_\_ Entrant 2 Name: \_\_\_\_\_

Entrant 3 Name: \_\_\_\_\_ Entrant 4 Name: \_\_\_\_\_

Entrants initial here: \_\_\_\_\_

**Person Completing this Confined Space Classification Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**NOTE:** Should unexpected hazards or conditions arise, work shall stop, entrants shall evacuate and the space shall be re-evaluated.







**ATTACHMENT E**  
**Annual Confined Space Review Checklist**

**Person Performing This Review:** \_\_\_\_\_  
*Name & Title*

**Date of Review:** \_\_\_\_\_ **Permit ID:** \_\_\_\_\_ **Date of Entry:** \_\_\_\_\_

Item #	YES	NO	Item
1			The permit space entered was identified on the permit
2			The purpose of the entry was noted on the permit
3			The date & authorized duration time was noted on the permit
4			Entry did not exceed the duration of the permit
5			Entrants were listed on the permit
6			Attendants were listed on the permit
7			Entry Supervisor signed the permit
8			Hazards of the space were noted on the permit
9			Measures to isolate &/or eliminate/control hazards were noted on the permit ( <i>i.e. lockout, purge, blind flanging, ventilation, etc</i> )
10			Acceptable entry conditions were met ( <i>i.e. air monitoring results acceptable</i> )
11			Air monitoring results were noted every 15 minutes on the permit
12			Names or initials of the person conducting the air monitoring were noted
13			Times when air monitoring was conducted were noted on the permit
14			Means & number for summoning off-site rescue services noted on the permit
15			Communication procedures used by the entrant & attendant were noted
16			Equipment that was provided &/or available for entry & non-entry rescue were noted on the permit
17			Other information provided that was necessary to ensure a safe entry
18			Any additional permits ( <i>i.e. hot work</i> ) that were necessary were noted on the permit
19			Entry supervisor canceled the entry permit when work was completed or a hazardous condition developed
20			Any problems encountered during the entry were noted on the permit, if applicable

**Review Comments:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**INSTRUCTIONS:** File this form & the reviewed permit(s) in the Canceled Confined Space Permits file for the appropriate year.

**Attachment F-1  
 RESCUE PLAN ANALYSIS (RPA)**

SPACE TO BE ENTERED:	RPA PERFORMED BY: DATE:
PURPOSE OF ENTRY:	Type of Entry: <input type="checkbox"/> Full Permit (required) <input type="checkbox"/> Alternate Procedure (optional)

**STEP 1: Can non-entry rescue equipment and procedures be used?**

		YES	NO
1	A davit-type mechanical retrieval device will be used in this space?		
2	This confined space is <i>either</i> clear of obstructions that could interfere with a vertical extraction using a mechanical retrieval device, <i>or</i> engineering or administrative controls will allow the entrant to be extracted using a mechanical retrieval device. Example obstructions include: <ul style="list-style-type: none"> <li>• Fixed rungs</li> <li>• Pumps</li> <li>• Pipes</li> <li>• Wall or other barriers</li> <li>• Vertical offsets or elevation differences</li> <li>• Other protrusions</li> </ul>		
3	This confined space is clear of any prohibited conditions such as oxygen deficiency, toxic atmospheric conditions, flammable conditions (as determined by air monitoring), engulfment, entrapment, or any other conditions that are immediately dangerous to life or health.		
4	This confined space is clear of <b>any other conditions</b> that could interfere or limit non-entry rescue using a mechanical retrieval system.		

**STEP 2: Are all Questions above Answered as a “YES”**

**IF YES:** Complete Attachment F-2: “Non-Entry Rescue Plan” prior to entry.

**IF NO:** If any question above is answered “NO” ENTRY RESCUE must be provided. **Go to Step 3**

**STEP 3: Contact Supervisor for approval to hire a standby Rescue Service.**

Rescue Service will be contracted to provide on-site standby rescue services:  
 Company Name: \_\_\_\_\_ Phone #: \_\_\_\_\_

Complete Attachment F-3: “Entry Rescue Plan using an On-Site Rescue Service”

Work will be temporarily suspended or contracted to an outside vendor



