VA Hospital
Hines, IL 60141

Policy Memorandum 138S – 047 (R-1)
March 30, 2012

CONFINED SPACE PROGRAM

PURPOSE: This change is to inform all services that Hospital Policy Memorandum 138S – 047 Confined Space Program dated April 20, 1999 is being revised and updated per OSHA's recommendation:

- To reflect an updated inventory of the Hines Campus Confined Spaces found in Attachment A.
- To clarify and make concise the Confined Space Entry Initial Checklist and Confined Space Entry Permit found in Attachment B
- To include into the policy the expectations of contractors into the Confined Space program.
- To include and clarify the locations and entry procedures for Alternate Entry Permit Required Confined Space.

Related Forms:

- To reflect an updated inventory of the Hines Campus Confined Spaces found in Attachment A
- To clarify and make concise the Confined Space Entry Initial Checklist and Confined Space Entry Permit found in Attachment B
- To include into the policy the confined space survey, this lists the known hazards associated with specific confined space locations as well as the appropriate protective measures necessary for use prior to entry into that space.

- **Education/Training**: FMS staff working in the Boiler Plant, Pipe Shop, Electric Shop and FMS shop supervisors, and the Industrial Hygienist / GEMS Coordinator shall be included in the training requirements noted in the policy for confined space procedures and confined space non-entry rescue.

- **Keywords**: Confined space, man hole, rescue, entry,
  VA Hospital

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CONFINED SPACE

1. **PURPOSE:** To identify and establish guidelines and procedures for working in confined spaces and minimize health risks to employees by identifying permit-required confined spaces (PRCS) which will protect them from serious injury or death when entering confined space.

2. **POLICY:** VA Hines Hospital will maintain a confined space entry program which effectively provides for the safety of all employees involved in confined space entry procedures and will comply with Occupational Safety & Health Administration (OSHA) regulations.

3. **DEFINITIONS:**

a. Alternate Entry Permit Required Confined Space: A confined space procedure used under specific conditions when only a hazardous atmosphere exists that can be controlled by continuous forced air ventilation, atmospheric testing, and with an entrance less than 28 inches in diameter (as measured at its greatest dimension). Alternate Entry Permit Required Confined Space is denoted as Entry Classification Level 1 in Attachment A.

b. Attendant: An individual stationed outside the confined space who is trained; to monitor authorized entrants inside the confined space; to perform notification of rescue personnel, if authorized to perform non-entry rescue (retrieval); and, to summon professional rescue personnel if necessary.

c. Confined Space: Any storage tank, tank car, process vessel, vat, sewer, tunnel, bin, duct, test apparatus, open top space more than four (4) feet deep, or any other vessel-like compartment with one or more openings for entry. Confined spaces normally are large enough for a person to enter and perform work but have limited entry or egress and are not designed for continuous employee occupancy. In addition, confined space may have one or more of the following characteristics:

(1) Oxygen levels less than 19.5% or greater than 23.5%.

(2) Flammable gas, vapors, or mists present or capable of being generated in excess of 10 percent of its lower flammability limit (LFL).

(3) An airborne combustible dust at or above LFL.

(4) Toxic atmosphere present or capable of being generated which could result in worker exposure in excess of OSHA Permissible Exposure Limits (PEL's) or American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLV's). If PEL's or TLV’s are not available, other health standards or recommendations, such as National Institute of Occupational Safety and Health (NIOSH) or manufacturer's recommendations limits may be used.

(5) Any atmospheric condition recognized as immediately dangerous to life or health.

(6) Restricted entry or exit, e.g., tanks, vessels, storage bins, pits, tunnels, test apparatus.

d. Entry: Entry into a confined space occurs as soon as any part of the entrant's body breaks the plane of any opening into the space and continues until the worker exits the confined space.

e. Entry Permit: A written signed and dated form (Attachment A) authorizing entry to perform a specific operation. The permit lists pertinent information, to include purpose and date of entry, hazard analysis, atmospheric testing, and defines requirements under which entry is authorized. Permit is valid for date and time specified.

f. Limited Entry/Exit: Generally, doorways and other portals through which a person can normally walk without crouching are not considered to be limited means for entry or exit. Limited entry and egress is directed towards work areas, such as those with hatches, small openings, or extremely narrow passages, whose configurations exacerbate employee risk by slowing evacuations and rescues.

g. Entry Supervisor: A person responsible for determining acceptable entry conditions, authorizing entry and overseeing entry operations.

h. Authorized Entrant: A person specifically trained for working in a confined space. This individual must have successfully completed (certified) an approved confined space entry training program and be medically cleared, trained, and fit tested for respiratory protection, if required.

4. **RESPONSIBILITIES:**

a. Facilities Management Service (FMS) Engineering Division (ED) shall:

(1) Prepare written procedures covering specific confined space entries as described in b.(1) (d), of Procedures;

(2) review these procedures with all employees involved in confined space entry;

(3) isolate if necessary and preclude entry of hazardous materials;

(4) de-energize and lockout movable parts;

(5) assure adequate ventilation in confined space(s);

(6) train employees in proper use of personal protective equipment, life lines, etc. and confined space entry procedures;

(7) use appropriate monitoring, personal protective equipment, ventilation, and rescue equipment;

(8) Notify the Hines Police Service and the local Fire Dept. whenever a “Permit-required confined

space is to be entered.

(8) and, complete required entry permits.

b. Safety Section shall:

(1) Review written procedures for Facilities Management Service groups;

(2) check environmental levels when necessary;

(3) check periodically for oxygen levels and conduct environmental testing, when necessary;

(4) check noise levels where necessary;

(5) and, ensure appropriate training is conducted on confined space entry .

(6) monitor the Confined Space Program to ensure adherence to all requirements by all employees, and revise the program as necessary to provide adequate protection.

a. Radiation Safety Officer shall check levels of ionizing radiation, when necessary.

b. Police Service is responsible for contacting the local Fire Dept upon notification by the attendant of the confined space to respond for an emergency rescue, as needed.

c. Facilities Management Service Section Chiefs are responsible for verifying that the appropriate procedures required by the permit have been completed as specified, before endorsing the permit an allowing entry to proceed, per outlined in this policy.

(1) Ensuring that acceptable entry conditions are maintained, and that entry operations are conducted consistently with permit operations.

(2) Removing unauthorized individuals who enter or attempt to enter PRCS during entry operations.

(3) Terminating the entry operations and cancelling the entry permit as required, if entry conditions deteriorate into emergency conditions.

(4) Knowing and understanding the hazards associated with each entry.

d. Chief, Project/Planning Section or Designee is responsible for making contractors aware of the Hines policy and procedures pertaining to confined space entry.

e. Maintenance/Operations Chief or Designee is responsible for informing the contractors of the following information and coordinates any confined space entry operations. When contractors are involved in permit- space entry work, the Chief of Maintenance & Operations or his/her designee will inform the contractors of the following information and coordinate any entry operations.

(1) The location of the permit spaces at our facility, and notify them that entry into these spaces is only allowed through a Permit-Space Program, or alternate procedures or space reclassification.

(2) Noting any identified hazards and experience with the particular space.

(3) Precautions that the VA has implemented to protect the employees working in or near the space.

(4) The contractor will be debriefed at the completion of the entry operation, or during if any hazards were created during their work.

5. **PROCEDURES:** A thorough evaluation of confined spaces present in each area of operation must be made: (see Attachment B). An evaluation of confined space is available for review in the Safety Section and FMS office locations. Unnecessary entry into confined spaces shall be eliminated when possible. It is essential to know physical dimensions, characteristics, and probable atmospheres existing in various confined spaces. From this data, the confined space can be properly prepared for entry and necessary precautions identified.

a. The following hazards are typical of confined spaces and should be encountered with suitable personal protective equipment, special tools, ventilation, proper appliances, and rescue apparatus:

(1) Toxic vapors may result from known material by gradual release from sludge or scale, be introduced by leakage from interconnected systems due to failure to isolate them by blanking off and disconnecting pipelines or ducts, and/or from welding fumes or cleaning products used inside the confined space.

(2) Flammable vapors, gases, or ducts with potential of fire or explosion.

(3) Oxygen deficiency may result from chemicals absorbing or replacing oxygen in the air or from inert gas often used to exclude oxygen to reduce the possibility of explosions. Air that is confined for an extended period may become deficient in oxygen because of rusting (oxidation) of metal. Improper or inadequate ventilation during tank work may also result in oxygen deficiency due to the consumption of oxygen resulting from the performance of work inside the confined space.

(4) Gases from fermentation of organic matter such as methane, carbon dioxide, hydrogen, hydrogen sulfide, and mixtures deficient in oxygen.

(5) Electric shock from portable lights, tools or associated electrical equipment.

(6) Spark producing tools in a flammable atmosphere.

(7) Injury from mechanical equipment such as mixers, conveyors, etc. that are improperly locked out and activated inadvertently or purposely.

(8) Bodily injury from direct contact with corrosives or irritating chemicals.

(9) Physical hazards such as slipping, falling objects and egress obstructions.

(10) Burn hazards resulting from accidental opening of steam, water, or chemical valves in lines which have been isolated through blanking off and disconnecting.

b. Pre-Planning and Training:

(1) Routine Entry:

(a) Survey various confined spaces requiring entry in each work area and evaluate hazard potential(s). All concerned should agree to establish standards and procedures. Workers and supervisors alike should be fully informed on fundamental and specific confined space entry requirements. There should be appropriate follow up to ensure that the system is being followed in a proper manner. It is not sufficient merely to set up standards; follow up is necessary to ensure effectiveness. Close liaison and job planning between various groups is essential. The required completion of a confined space entry permit helps assure that proper coordination has taken place. (See Attachment A).

(b) All personnel involved with entry must be trained in general confined space entry (this procedure) and applicable procedures specific to the confined space being entered, operation of safety equipment, and emergency procedures.

(c) Equipment (special tools, personal protection, and safety equipment) needs must be anticipated and obtained in advance. All equipment used for routine and emergency entry must be brought to the area of entry, inspected, and be readily accessible to personnel involved with the entry.

(d) Each operating department or group shall have comprehensive written procedures covering confined space entries for its area of responsibility. Procedures may be included in the Standard Operating Procedures (SOPs) or take any other form as long as they meet the requirements established below and are adequately communicated to the affected personnel. The individual(s) writing these procedures should be thoroughly knowledgeable in potential hazards that may be present and operations covered by the procedures. Safety Section should review local procedures to assure that safety/health concerns have been sufficiently addressed.

As a minimum, written procedures must be specific and include the following:

1. Responsibilities of all personnel involved in confined space entry;

2. discussion of potential hazards that are present;

3. vessel preparation requirements:

a. isolation (piping),

b. ventilation,

c. lockout (mechanical, electrical, utilities),

d. environmental testing,

e. and, illumination;

4. issuance and use of the entry permit system;

5. precautions and equipment usage:

a. physical dimensions of confined space,

b. personal protective equipment,

c. safety equipment,

d. tools,

e. and, emergencies.

(2) Emergency Entry:

(a) The precautions and procedures outlined in the permit-space program are designed to ensure that entrants are safe while working in permit spaces. Prior to a planned confined space entry, a review of emergency procedures must take place with all personnel involved. It should be clear in each person's mind what they are to do in the event a rescue of entry personnel is required. Some general rules that should be incorporated into pre-planning and training sessions for addressing emergencies are:

1. Never attempt rescue alone; summon help.

2. Never send rescue personnel into a confined space unless attempts to pull the victim out with a lifeline fail; the atmosphere is re-checked for possible oxygen deficiency, toxic contaminants, etc., or self-contained breathing apparatus (SCBA)/supplied air respirator are used.

3. All rescue personnel must be thoroughly trained in use of special rescue equipment such as SCBA, hoists, resuscitation equipment, etc., which may apply to their specific rescue function. Equipment must be quickly accessible.

4. Never rely on personnel inside the confined space to participate in rescue operations.

5. Determine that everyone knows the location of rescue equipment and proper inspection procedures to make sure that the equipment is in good working condition.

6. Conduct a review of possible rescue situations; choose the best one and communicate it to all participants.

7. Anticipate possible problems associated with rescue and consider suitable solutions prior to entry; such as:

a. Will lifeline become entangled?

b. Is the manhole large enough to fit employee with SCBA?

c. Will high noise levels in area make calling for help ineffective?

d. Know and communicate method of summoning outside assistance (i.e., fire alarm pull station, telephone, ambulance, or security, etc.).

c. Preparation for Entry:

(1) General: Confined spaces may contain atmospheres that are hazardous to life and health due to presence of flammable, explosive or toxic contaminants, oxygen deficiency, or oxygen-enriched atmosphere. The atmosphere of the space where hazards may exist or develop must be tested to determine the nature and extent of the hazard(s) prior to employee entry. The environmental testing will be performed by Safety Section or trained Facilities management personnel with appropriate instrumentation. Appropriate protective equipment and procedures shall be determined.

(2) Isolation:

(a) Positive steps shall be taken to:

1. Depressurize the confined space;

2. Prevent accidental introduction of hazardous material into the confined space through interconnecting equipment such as piping, ducts, vents, drains, or other means;

3. And, de-energize and lock out machinery or other equipment containing moving parts within the confined space.

(b) Before employees are permitted to enter a confined space, the confined space shall be isolated to preclude the entry of hazardous materials by one of the following methods:

1. Removing a valve or expansion joint in piping as close as possible to the confined space and blanking or capping the open end of the piping leading to the confined space;

2. Inserting a suitable full-pressure blank in piping between the flanges nearest to the confined space. The blank or cap shall be of a material that is compatible with the liquid, vapor, or gas with which it is in contact. The material shall also have sufficient strength to withstand maximum operating pressure; including surges, which can be built up in the piping;

3. Closing and locking out at least two valves in the piping that leads to the confined space;

4. And, locking open a drain valve between two closed valves to an outside atmosphere, which shall be checked to ensure that it is not plugged.

(c) Before employees are permitted to enter any confined space, power must be locked out for mechanical equipment that is present in the confined space and has movable parts. Achieving a zero mechanical state shall eliminate the possibility of movement. Procedures for proper lockout of equipment include but are not limited to:

1. Notifying people in area\training lockout personnel;

2. Review lockout procedures with appropriate personnel;

3. Check for all power sources (electrical, mechanical, hydraulic, pneumatic, etc.);

4. Neutralize all energy by disconnecting primary electrical power, disconnecting drives, draining hydraulic lines, venting air pressure, etc.;

5. Lockout power via lock and tag (with entry personnel possessing their own individual keys) to ensure no one accidentally starts machinery;

6. Test equipment to make sure a zero mechanical state is in effect and locking devices work;

7. And, removal of locking devices shall only be done when all personnel are clear of equipment.

(d) Ventilation:

1. The confined space shall be ventilated to prevent the initial presence and accumulation of:

a. Flammables in the atmosphere above 10% of the LEL;

b. Concentration of combustible dust;

c. Toxic and other contamination in the atmosphere above their TLV;

d. And, oxygen enriched or deficient atmospheres.

2. Positive mechanical ventilation shall be used to purge confined spaces with clean air which contains sufficient oxygen to sustain life. A flow-through condition is optimum for purging contaminants from a confined space and shall be attempted if feasible. A check shall be made to ensure that contaminated air from the confined space is exhausted to a location where it presents no hazard to employees or equipment. Any hazardous concentrations shall be diluted by the use of blowers or additional ducting, as necessary.

3. When flammable contaminants are to be purged, ventilation equipment designed for use in hazardous locations shall be employed and precautions taken to eliminate all source of ignition.

4. Oxygen (sometime improperly called "air") shall not be used to ventilate confined spaces.

5. The best method of ventilation will be evaluated for each confined space. Generally, ventilation exhaust will be located near the floor for contaminants heavier than air, and near the top for contaminants equal to, or lighter than, air.

6. If, for any reason, the exhaust ventilation is cut off while excessive concentrations of contaminants remain in the space, the appropriate openings shall be checked immediately. If escape of the contaminants constitutes a hazard to employees or equipment, the opening shall be closed until the exhaust ventilation is re-established.

(e) Preliminary Precautions Before Cleaning

1. Survey the surrounding area to determine the necessary steps to avoid confined space hazards, and conduct a precleaning orientation and training session for each unusual or nontypical job to inform employees of cleaning procedures, potential hazards, sources of ignition, and methods under their control. Employees shall be trained in the proper use of personal protective and mechanical equipment to be used during the job.

2. Avoid ignition sources during cleaning where flammable contaminants might be released. The section supervisor shall ensure that all necessary precautionary measures are taken.

(f) Cleaning:

1. Where feasible, employees shall attempt to remove scale or cleaning solvent sufficiently to maintain the concentration of atmospheric contaminants below the TLV while working from outside the space. If entry is required, all employees shall wear appropriate personal protective equipment.

2. An Entry Supervisor shall ensure that sludge-laden water is disposed of in a manner that will not constitute a hazard to employees, equipment, or environment.

3. If open-type electric-powered or internal combustion engine-driven equipment is used for removal of sludge and excess water that contains flammable materials, necessary special precautions shall be taken to minimize the potential hazards.

(g) Environmental Testing: trained Safety Section or Facilities Management Service personnel will perform all environmental testing with approved instruments.

1. General Testing Requirements:

a. A periodic test for suspected atmospheric contaminants from the lowest to the highest elevations of the confined space shall be conducted to determine conditions that employees may encounter. Minimally, a check for oxygen content must be made.

b. In addition to testing for airborne contaminants, a check for suspected explosive atmospheres will be made.

c. All instrumentation shall be maintained on a preventive maintenance program, periodically calibrated according to manufacturer's recommendations, and operated by trained personnel.

2. Oxygen-Deficient Atmospheres:

a. Before employees are permitted to enter any confined space, the atmosphere shall contain at least 19.5% and no more than 23.5% oxygen by volume. The space to be entered shall be tested with a properly calibrated direct-reading oxygen indicator.

b. Various levels of the confined space shall be checked to account for oxygen displacing gases heavier or lighter than air.

c. If the tests indicate that the confined space atmosphere is less than 19.5% or more than 23.5% by volume, the space shall be ventilated until tests indicate appropriate oxygen content.

3. Flammable Atmosphere:

a. Before employees are permitted to enter any confined space that has contained flammable liquids, vapors, or gases, a qualified person shall test the atmosphere within the space with combustible gas indicator to determine the concentration of flammable vapors or gases.

b. The tests may indicate that the atmosphere in the confined space to be entered contains a concentration of flammable vapors or gas greater than 10% of the LEL. If so, the space shall be ventilated to maintain the flammable vapor or gas concentration below 10% of the LEL.

c. Concentration of flammable gas or vapor below 10% of the LEL may be in excess of established exposure guidelines. Therefore, the requirements of 3.b. shall be satisfied before employees are permitted to enter the confined space. No entry is permitted if the concentration of contaminant makes it an IDLH atmosphere except in emergency situations.

(h) Toxic Atmospheres:

1. Before employees are permitted to enter any confined space that has contained liquids, vapors, gases, or solids of toxic, corrosive, or other irritant (or if the confined space has been fumigated), an evaluation of the space for presence of atmospheric contaminants shall be made.

2. Tests may indicate that the atmosphere of the confined space to be entered contains a concentration of toxic substances that is dangerous to life or health. The confined space shall be ventilated to reduce the concentration below the TLV.

3. When the atmosphere of the confined space to be entered is found to contain contaminants and ventilation cannot reduce the concentration below the TLV, employees shall use appropriate personal protective equipment that addresses the hazard(s) that are present. However, ventilation efforts shall be continued to maintain the contaminants at as low a concentration as possible.

4. If the concentration of airborne contaminants cannot be accurately determined by field testing equipment, and if tests for flammability have shown the atmosphere to be safe, employees shall be permitted to enter the confined space only when wearing SCBA respirators. However, ventilation efforts shall be continued to maintain the contaminants at as low a concentration as possible.

(i) Combustible Dust Atmospheres: Confined spaces that contain, or have contained coal, flour, starch, or any other combustible dust shall be presumed to contain, or to have generated during cleaning, ignitable dust concentrations in the atmosphere. When entry must be made in such a confined space, the requirements of (h) 3. shall apply and all sources of ignition shall be eliminated.

(j) Noise and Radiation Exposure:

1. Employees shall be protected from harmful noise exposure.

2. Employees shall be protected from exposure to harmful concentrations of ionizing radiation.

(k) Excessive Heat or Cold: Employees shall be protected from temperature extremes in accordance with accepted methods.

(l) Illumination:

1. In confined spaces, temporary lighting shall be explosion proof (for potential flammable/explosive atmospheres) and meet the following requirements:

a. Temporary lighting shall be equipped with guards to prevent accidental contact with the bulb, except that guards are not required when the bulb is recessed deeply within the reflector.

b. Temporary lighting shall be equipped with heavy-duty flexible electric cords with connections and insulation maintained in safe condition.

c. The lighting shall not be suspended by electric cords, unless they are designed for this method of suspension.

d. Cords shall be kept clear of working spaces and walkways or other locations in which they may be exposed to damage.

e. Exposed noncurrent-carrying metal parts of temporary lighting shall be grounded electrically, either through a third wire in the cable containing the circuit conductors or through a separate wire that is grounded at the source of the current.

f. Low voltage battery (24V max.) or lighting systems with ground-fault circuit-interrupters shall be used for work in conductive or wet tanks and on the water side of boilers. Low voltage is preferred over GFCI protection.

2. In the absence of temporary lighting, employees shall not be permitted to enter dark confined

spaces without portable lamps. The use of matches and other sources of ignition shall be prohibited.

(m) Personal Protection:

1. General - Once the confined space environment is known and attempts to improve conditions fail, steps to protect personnel from inhalation, skin, head, and physiological stresses must be taken into account. Protection may include respirators, protective clothing, goggles, chemical suits, hard hats, and cooling air. The following guidelines apply when choosing personal protective equipment:

a. Employees working in vessels shall wear a full coverage of clothing at all times.

b. Flame-proof clothing should be considered by employees involved in welding or burning operations inside a vessel.

c. Self-contained breathing apparatus shall be worn by all employees working in vessels where the integrity of the atmosphere cannot be guaranteed, there is the possibly of air contamination of a harmful nature, or an oxygen deficiency exists.

d. An airline respirator with an escape bottle may be used instead of an SCBA.

e. The use of canister-type masks, which operate on the principle of chemical absorption or mechanical filtration, may not be adequate protection and shall not be used in atmospheres which are or may rapidly become hazardous from either a toxicity or oxygen deficiency standpoint.

f. Respiratory protection must bear NIOSH approval, be suited specifically to the type of exposures that are encountered, and shall protect against the worst conditions which might be encountered.

g. Unless a general ventilation rate of at least 2,000-cfm per welder/cutter can be supplied, all welders and other vessel occupants during welding\cutting operations shall be required to wear suitable respiratory protection. Additionally, if hazardous materials (i.e. cadmium, chromium, lead, fluorine, mercury, beryllium, some cleaning compounds, etc.) may be released during welding\cutting operations, local exhaust ventilation must be provided or the occupants must be required to wear airline respirators.

(n) Safety Apparatus and Equipment:

1. General: When conditions dictate, the following items may be needed to ensure the safety and health of those entering confined spaces:

a. Safety harness and life line;

b. Tripod and pulley (block and tackle);

c. Two-way radios, horn, or whistle (must be FM approved when in hazardous locations) or other communication device;

d. Portable ducted fan (XP rated when in hazardous locations);

e. Chute or opening guard;

f. And, lockout devices for electrical and mechanical equipment.

(o) Tools:

1. General:

a. Depending on the type of confined space, its location, and environment (e.g. conductive sides, in explosion hazard area, and when solvents are being used), certain special tools and precautions must be used and taken. All tools should be checked for proper function and condition prior to use. Below are basic precautions that shall be followed:

b. Hand tools shall be clean, in good condition and selected carefully according to their intended use.

c. Spark-resistant hand tools shall be used where the possibly of flammable vapors or gases exists.

d. Electric tools and equipment shall be grounded and equipped with GFCI protection if in a wet or conductive confined space. If the tank is in a "Hazardous Location" under the definitions of the National Electrical Code, it shall be of the explosion proof type.

e. Only low voltage (24V or less) lighting shall be used within the vessel. GFCI protection may be used in the absence of low voltage lighting systems.

f. Employees performing electrical welding in tanks shall be provided with and required to use rubber blankets, appropriate gloves and other personal protective equipment as may be required.

g. Welding and cutting torches must not be taken into the tank until ready to be used and must be removed from the vessel immediately after use.

h. Cylinders of oxygen or other gas shall never be taken into tanks and shall be turned off at the cylinder valve when not in use.

i. Ladders used in vessels shall be lashed at the top and, if possible, at the bottom.

j. Appropriate signs shall be posted near the vessel to help keep unnecessary people away, ensure that potentially harmful operations will not be started independently nearby, and help guide rescuers, should they be necessary.

(p) Permit System:

1. Entry into a confined space is not permitted until a confined space entry permit is properly signed and completed and all provisions on the permit are satisfied. Prior to issuing and using the confined space entry permit, all parties involved in the entry shall meet and discuss entry procedures, responsibilities, and safety precautions\equipment needed to ensure correct entry.

2. No Employee shall enter any confined space without reporting to and securing approval from his\her immediate supervisor who in turn secures entry approval from the entry supervisor to whom the confined space is assigned. The entry supervisor to whose department the confined space is assigned shall discuss the project in detail with those entering the confined space. The entry supervisor shall review the hazards of materials to which they may be exposed and shall furnish all the safety information he\she is able to provide. The entry supervisor of various personnel to be involved must review and complete the permit form jointly. Appropriate entry supervisors must be certain by personal investigation, immediately before entry and before signing the permit that the entry and its incidental work will be safe. To ensure continuation of safe conditions, if a pause of appreciable duration occurs during the carrying out of a job, the site must be re-investigated by the authorized signer before the job can be allowed to resume. Commencement of a new shift should always require re-investigation and a new permit. No permit should be valid except for the job, location, persons, and time specified.

3. The confined space entry permit is authorized and approved in writing. It serves as a method of formalizing agreed upon procedures and also as a checklist to ensure that all existing hazards are considered, evaluated, and correct protective measures taken (see Attachment A for permit and example).

(q) Precautions:

1. General:

a. Where the potential exposure in the confined space is acute, where the employee is required to wear respiratory protection, where the only means of entry or egress is from the top, or where rescue may be difficult, the employee must be provided with a body harness with life line attached. The harness or coveralls with a built in safety harness and life line shall be arranged in such a manner as to permit the safe emergency removal of employees by standby personnel without requiring entry into the confined space. If conditions in the confined space have been checked and found to be satisfactory and the lifeline itself represents a hazard, it may be detached and left hanging where it is accessible. In the case of a horizontal confined space, a safety harness is not required because it may impede entry and would not serve a useful purpose for rescue. In some cases, it is advisable to have a block-and-tackle positioned on a tripod or otherwise fastened above the manhole.

b. Manholes large enough to accommodate entry personnel and safety gear shall be provided. The minimum acceptable size is a 24" diameter manhole for confined space at atmospheric pressure. One manhole should be located near the tank bottom and another manhole on the opposite side at the top.

c. Where existing manholes are smaller than 20" in the largest dimension, wrist harness must be used.

d. The free end of the lifeline shall be secured to a fixed object.

e. An attendant shall be stationed at the confined space opening and shall keep personnel in the confined space within full view or be in constant communication.

f. Sufficient manpower (at least two additional persons) shall be available to assist in rescue operations.

g. The attendant may pass tools, but shall have no other job which will take attention away from personnel in the confined space or interfere with attempts to withdraw the victim by use of the life line or require leaving the vicinity of the confined space for any period of time. Caution should be exercised when passing tools down into confined spaces to avoid dropping them onto others below.

h. Safety attendant shall be well trained in basic first aid principles, such as cardiac pulmonary resuscitation techniques.

i. For rescue purposes, all rescue equipment\teams shall be readily available.

j. Where hazardous chemicals may be contacted in the course of work or where the possibility of fire is involved, a charged water hose line with spray nozzle shall be readily available.

k. The number of personnel in a confined space, particularly at the time of burning or welding, must be reduced to the absolute minimum necessary for the work itself.

2. Rescue and Emergency Services:

a. In case of emergency, the outside attendant must:

(1). NEVER enter the confined space until relieved;

(2). Summon aid immediately (various audible alarms, such as a whistle, may be used);

(3). Attempt to remove the victim by use of the life line;

(4). And, perform all other necessary rescue functions from OUTSIDE.

b. Unexpected situations might arise that prevent entrants from self-rescue. In response, a rescue plan has been developed to include immediate notification of the local community Fire Department. Entry attendant will call, Hines Police at ext. 22323 to contact the local community Fire Department and provide the precise location of needed rescue. Under no circumstances will rescue entry be made or attempted by employees or supervisors in attendance.

c. Permit-required confined space entry will be preceded by notification to the Hines Police Service and Hines Safety Section by the Facilities Management Service. Location and expected duration of the entry will be communicated at this time.

d. Evaluation: Each area of operation must conduct a yearly program evaluation to assure that all elements of the procedure are in place, understood, and working properly. The checklist (Attachment B) may be used as a basis for the evaluation.

e. Exceptions: Any modification, deviation, or exception to this procedure must be submitted in

writing and approved by the Chief, Safety Section.

6. **REFERENCES:**

   a. OSHA 1910.146
   b. OSHA 1926.21 (b)(6) (i) and (ii)
   c. Hospital Policy memorandum, Cutting, Welding, and Other Hot Work, 578-001-089
   d. Hospital Policy memorandum, Personal Protective Equipment, 578-001-031
   e. Hospital Policy memorandum, Respirator Program, 578-001-040
   f. Hospital Policy memorandum, Fire Safety 578-001-086

7. **RESCISSION:** Policy Memorandum 138S - 47, Confined Space, dated, April 1999.

8. **RECERTIFICATION:** This policy memorandum will be re-certified on or before April 16. 2012.

9. **FOLLOW-UP RESPONSIBILITY**: Safety 138S

/s/
James W. Rice
Acting Hospital Director

Attachments: 4

Distribution:

138
SEIU, Local 73
INA, Hines Unit

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-1	Building 5/Chlorine Room	Soft Water Tank	Vertical and Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-2	Building 5/Main Boiler Room	Condensation Surge Tank	Vertical and Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-3	Building 5/Main Boiler Room	D.A. Steam Side	Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-4	Building 5/Main Boiler Room	D.A. Storage Side	Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-5	Building 5/Main Boiler Room	Boilers (4)	Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-6	Throughout/Interior	Large Tunnel	Horizontal	Air Quality	Alternate Entry (Level 1)
HH-7	Throughout/Interior	Sump Pump and Ejector Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-8	Outside Building 5/Exterior	Water Vault Access	Vertical	Air Quality	Alternate Entry (Level 1)
HH-9	Outside Building 5 /Exterior	Top Access for Fuel Oil Tanks (7)	Vertical	None	Non-Permit Required (Level 0)
HH-10	Outside Building 5 /Exterior	Fuel Oil Tanks (7)	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-11	Exterior/Building 217	Stem Pit 1	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-12	Exterior/Building 217	Steam Pit 1A	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-13	Exterior/Building 217 East	Steam Pit 2	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-14	Exterior/Building 217 East	Steam Pit 2A	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-15	Exterior/Building 203	Steam Pit 3	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-16	Exterior/Building 203	Steam Pit 3A	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-17	Throughout/Exterior 203	Alkali Storage Chlorine Storage (Out of Service)	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-18	Exterior/East 48	Steam Pit 4	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-19	Exterior/Building N. 37	Steam Pit 5	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-20	Exterior/Building 215	Pit 215 Steam	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-21	Throughout/Interior	Walking Tunnel	Horizontal	Air Quality	Alternate Entry (Level 1)
HH-22	Throughout/Interior	Tunnel West Side	Horizontal	Air Quality	Alternate Entry (Level 1)
HH-23	Throughout/Interior/ Exterior (Building 1)	Tunnel East	Horizontal	Air Quality	Alternate Entry (Level 1)
HH-24	Building 200/Crawlspace Area	Stone Space	Horizontal	None	Non-Permit Required (Level 0)
HH-25	Building 200/C017 Mechanical Room	Condenser	Horizontal	Isolation	Non-Permit Required (Level 0)
HH-26	East Side of Complex/Exterior	Elevated Water Storage Tank (where water is stored)	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-27	Building 1/East Side of Complex	Domestic Water Reservoir	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-28	Throughout/Exterior	Water Valve Vaults	Vertical	Air Quality	Alternate Entry (Level 1)
HH-29	Throughout/Exterior	Storm Sewers and Catch Basins	Vertical	Air Quality and Engulfment	Permit-Required (Level 2)
HH-30	Throughout/Exterior	Sanitary Sewers	Vertical	Air Quality and Engulfment	Permit-Required (Level 2)
HH-31	Throughout/Exterior	Fiber Optic and	Vertical	Air Quality	Alternate Entry

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
		Electric Vaults			(Level 1)
HH-32	Bldg. 5	Boiler #1	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-33	Bldg. 5	Boiler #2	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-34	Bldg. 5	Boiler #3	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-35	Bldg. 5	Boiler #4	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-36	Bldg. 5	De-aerating Feed water Heater	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-37	Bldg. 5	Main Condensate Receiver	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-38	Bldg. 5	Soft water Storage Receiver	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-39	Outside & North of Bldg. 5	Auxiliary Domestic Water Vault	Vertical	Air Quality	Alternate Entry (Level 1)
HH-40	North of Bldg. 215	Water Tank	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-41	North of Bldg. 37	Steam Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-42	North of Bldg. 48	Steam Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-43	North of Bldg. 217	Steam Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-44	South of Bldg. 215	Steam Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-45	South of Bldg. 221	Steam Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-46	Middle of Golf	Steam Pits	Vertical	Air Quality,	Permit-Required

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
	Course			Isolation, and Engulfment	(Level 2)
HH-47	East & West Sides of Bldg. 1	Steam Tunnels	Horizontal	Air Quality	Alternate Entry (Level 1)
HH-48	North of Bldg. 220	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-49	North of Bldg. 42	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-50	Northwest of Bldg. 50	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-51	North of Bldg. 50	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-52	North of Bldg. 51	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-53	Northeast of Bldg. 51	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-54	Northeast of Bldg. 53	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-55	Southeast of Bldg. 53	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-56	South of Bldg. 53	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-57	Northeast of Electrical Substation	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-58	Northwest of Handball Court	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-59	Southeast of Handball Court	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-60	Northwest of Bldg. 228	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-61		Sanitary Sewer	Vertical	Air Quality,	Permit-Required

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
	Southwest of Bldg. 228			Isolation, and Engulfment	(Level 2)
HH-62	North of Bldg. 13	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-63	Southeast of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-64	South of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-65	Southwest of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-66	West of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-67	Northwest of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-68	North of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-69	Northeast of Bldg. 200	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-70	Northeast of Bldg. 220	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-71	East of Bldg. 220	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-72	Southeast of Bldg. 220	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-73	Northwest of Bldg. 45	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-74	South of Bldg. 13	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-75	Southeast of Bldg. 13	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-76	East of Bldg. 12	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-77	West of Bldg. 14	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-78	East of Bldg. 32	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-79	South of Bldg. 29	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-80	East of Bldg. 28	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-81	Southwest of Bldg. 27	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-82	North of Bldg. 26	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-83	South of Bldg. 25	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-84	Northwest of Bldg. 24	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-85	East of Bldg. 26	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-86	Southwest of Bldg. 18	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-87	Northwest of Bldg. 17	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-88	East of Bldg. 16	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-89	East of Bldg. 2	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-90	Northwest of Bldg. 8	Sanitary Sewer	Vertical	Air Quality, Isolation, and	Permit-Required (Level 2)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
				Engulfment	
HH-91	North of Bldg. 8	Sanitary Sewer	Vertical	Air Quality	Alternate Entry (Level 1)
HH-92	East of Bldg. 8	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-93	Southeast of Bldg. 33	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-94	East of Bldg. 5	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-95	East of Water Storage Tank	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-96	East of Bldg. 3	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-97	Southeast of Bldg. 3	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-98	Northeast of Bldg. 229	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-99	East of Bldg. 229	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-100	Southeast of Bldg. 229	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-101	Northeast of Bldg. 229	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-102	East of Bldg. 229	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-103	Southeast of Bldg. 229	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-104	East of Bldg. 203	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-105	South of Bldg. 48	Sanitary Sewer	Vertical	Air Quality,	Permit-Required

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
				Isolation, and Engulfment	(Level 2)
HH-106	Southwest of old Fire Station	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-107	Northwest of old Fire Station	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-108	Northeast of Bldg. 203	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-109	East of Bldg. 20	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-110	North of Bldg. 20	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-111	Northeast of Bldg. 39	Sanitary Sewer	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-112	West of Gas Meter House	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-113	Southwest of Bldg. 200	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-114	Northwest of Bldg. 200	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-115	North of Bldg. 200	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-116	Northeast of Bldg. 200	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-117	Northwest of Bldg. 50	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-118	Southwest of Hines Blvd	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-119	Northwest of Hines Blvd	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-120	Northeast of Bldg. 50	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-121	Northeast of Bldg. 51	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-122	Northwest of Bldg. 53	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-123	Southwest of Bldg. 53	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-124	Southwest of Bldg. 50	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-125	Northwest of Virginia parking lot	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-126	West of Virginia parking lot	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-127	East of Virginia parking lot	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-128	Southwest of Bldg. 23	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-129	Southwest of Bldg. 29	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-130	West of Bldg. 28	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-131	West of Bldg. 27	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-132	West of Bldg. 26	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-133	North of Bldg. 25	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-134	Northwest of Bldg. 24	Telephone\ Communication	Vertical	Air Quality	Alternate Entry (Level 1)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
		Manhole			
HH-135	Southwest of Bldg. 14	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-136	Southeast of Bldg. 12	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-137	Southwest of Bldg. 9	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-138	Southwest of Bldg. 8	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-139	Northwest of Bldg. 2	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-140	Southwest of Bldg. 2	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-141	North of Bldg. 18	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-142	Northeast of Bldg. 16	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-143	Southeast of Biomedical Substation	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-144	Southeast of Water Storage Tank	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-145	North of Loyola Parking (old firehouse)	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-146	South of Loyola Parking (old firehouse)	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-147	Northwest of Bldg. 215	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-148	Northeast of Bldg. 215	Telephone\ Communication Manhole	Vertical	Air Quality	Alternate Entry (Level 1)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-149	Northwest of Bldg. 220	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-150	Northeast of Bldg. 200	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-151	West of Bldg. 200	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-152	West of Bldg. 45	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-153	Southwest of Bldg. 200	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-154	Northwest of Bldg. 2	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-155	West of Bldg. 2	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-156	East of Bldg. 8	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-157	Northwest of Bldg. 8	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-158	Southwest of Bldg. 8	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-159	South of Bldg. 200	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-160	Southwest of Bldg. 12	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-161	Northwest of Bldg. 16	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-162	Northwest of Bldg. 4	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-163	Northwest of Bldg. 15	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-164	Southeast of Bldg. 15	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-165	Southwest of Bldg. 15	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-166	Northwest of Bldg. 16	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-167	West of Bldg. 16	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-168	South of Bldg. 16	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-169	Southwest of Bldg. 24	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-170	Southwest of Bldg. 25	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-171	West of Handball Court	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-172	North of Bldg. 50	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-173	Northeast of Bldg. 51	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-174	Southwest of Bldg. 53	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-175	Southeast of Bldg. 53	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-176	West of Electrical Substation	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-177	Southwest of Electrical Substation	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-178	Northwest of Bldg. 23	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-179	Northwest of Bldg. 24	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-180	East of Bldg. 28	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-181	Southeast of Bldg. 28	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-182	Southeast of Bldg. 25	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-183	Southeast of Water Storage Tank	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-184	North of Fire Station	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-185	Southeast of Fire Station	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-186	South of Bldg. 48	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-187	Southeast of Bldg. 48	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-188	Northwest of Salt Storage	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-189	Northwest of Masonry Storage	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-190	North of Bldg. 21	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-191	North of Bldg. 20	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-192	Northwest of Bldg. 221	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
HH-193	West of Bldg. 221	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-194	North of Bldg. 217	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-195	Southwest of Bldg. 229	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-196	Northwest of Bldg. 215	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-197	East of Bldg. 228	Electrical Manhole	Vertical	Air Quality	Alternate Entry (Level 1)
HH-198	Bldg 200	Stone/Crawl Space	Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-199	Bldg 1 east side	Domestic Water Reservoir	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-200	N.W corner (9^{th} & Roosevelt)	Water Valve Vault	Vertical	Air Quality	Alternate Entry (Level 1)
HH-201	C017 Mechanical Rm	Condenser	Horizontal	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-202	Bldg Mechanical Rm	Sump/Ejector Pits	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-203	Bldg 5 West Side	Fuel Oil Tanks Top Access	Vertical	Isolation	Non-Permit Required (Level 0)
HH-204	Bldg 5 West Side	Fuel Oil Tanks	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-205	Exterior 203 (out of service)	Alkali Tank	Vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-206	Exterior Bldg 48 (out of service)	Brine Tanks	Vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-207	California Lot	Storm drain	vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-208	Colorado Lot	Storm drain	vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-209	Illinois Lot	Storm drain	vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-210	Indiana Lot	Storm drain	vertical	Air Quality, Isolation, and	Permit-Required (Level 2)

SPACE NUMBER	LOCATION	DESCRIPTION	ACCESS	GENERAL HAZARD	ENTRY CLASSIFICATION
				Engulfment	
HH-207	Iowa Lot	Storm drain	vertical	Air Quality, and Engulfment	Permit-Required (Level 2)
HH-208	Kansas Lot	Storm drain	vertical	Air Quality, and Engulfment	Permit-Required (Level 2)
HH-209	Kentucky Lot	Storm drain	vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-210	Minnesota Lot	Storm drain	vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-211	Missouri Lot	Storm drain	vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-212	Nebraska Lot	Storm drain	vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-213	Oklahoma Lot	Storm drain	vertical	Air Quality, and Engulfment	Permit-Required (Level 2)
HH-214	Pennsylvania Lot	Storm drain	vertical	Air Quality, and Engulfment	Permit-Required (Level 2)
HH-215	South Dakota Lot	Storm drain	vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-216	Tennessee Lot	Storm drain	vertical	Air Quality, , and Engulfment	Permit-Required (Level 2)
HH-217	Virginia Lot	Storm drain	vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-218	Wisconsin lot	Storm drain	vertical	Air Quality, Isolation, and Engulfment	Permit-Required (Level 2)
HH-219	New York Lot	Storm drain	vertical	Air Quality, and Engulfment	Permit-Required (Level 2)

CONFINED SPACE ENTRY INITIAL CHECKLIST

A permit is required for entering any Permit Required Confined space, and may be granted in accordance with the provisions of the HINES VAH "Confined Space Procedures". This permit must be placed at or near the confined space entrance during entry. This permit is only valid for one shift. First complete the first page checklist to determine if a permit is required. If all checklist conditions are met, proceed with entry. If all conditions are not met, or if a specific confined space entry procedure requires use of a full permit, you must also complete side 2, the Confined Space Permit side of this form.

DATE:_____ SHIFT: _____ CONFINED SPACE NAME AND LOCATION:_____

PURPOSE FOR ENTRY:_____

TIME JOB STARTED:_____TIME JOB COMPLETED:_____

Before this permit can be signed, the following rules must be satisfactorily complied with. If an item is left blank, a reason must be given.

1. Ventilation equipment is grounded to reduce static discharge potential. NA _____ Yes _____ No _____
2. Space is cleaned, washed and purged: NA _____ Yes _____ No _____
3. All electrical lockout/tag outs (LOTO) made and rechecked: NA _____ Yes _____ No*_____
   LOTO includes all energy sources such as: pneumatic, hydraulic, springs, gravity, chemical, and so on.
   All required valves are closed and tagged: NA _____ Yes _____ No*_____
   Comments: _____
4. Environmental Monitoring (Test the confined space initially and record results. If this is a permit required space, also record air monitoring results at least every hour during an entry, and prior to entering the space after a break of more than 15-minutes. Test for additional chemicals as required on any specific procedure or as determined necessary by the entry supervisor. If a tested value is outside the levels considered safe in the table, the "Confined Space Permit" form must also be completed.

Meter Make, Model and Serial No.:_____ Calibration Date:_____

Test Conducted	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
Time								
Oxygen 19.5% - 23.5%								
Combustible <10% LEL								
Carbon Monoxide < 25 ppm								
Hydrogen Sulfide < 10 ppm								
Other Chemical:								
Other Info: such as Location								

5. Hot Work – (A Hot Work or cutting/welding permit is required): Yes** ____ No _____
6. There is an engulfment hazard: Yes** _____No_____
7. Explosion-proof light in Hazardous Environments or low voltage lighting required: Yes** ____ No _____
8. Lighting has ground fault circuit interrupter or is low voltage: NA _____ Yes ____ No***__
9. Entry requires use of fall protection: NA _____ Yes ____ No _____
10. Comments or additional precautionary remarks: (Attach MSDS to Permit)_____

Specific entry procedures always take precedence over the general requirements. Check Attachment E for specific procedures per space for permit requirements. If all conditions of this Initial Checklist permit have been met, entry is considered safe as long as the entrant does not create a hazard, bring a chemical hazard into the confined space, or perform hot work in the confined space. Skip to certification portion of this confined space permit on the bottom of page B-2.

* Contact the supervisor, or his designate, for special procedures.

**Confined space conditions require that Full Permit Conditions be followed. ***Entry is not permitted.

CONFINED SPACE PERMIT

This Confined Space Permit must be completed, in addition to the checklist (on side one) if: 1. a full permit is required according to a specific entry procedure see Attachment A, then reference Attachment E. When the checklist indicates that an atmospheric hazard or other serious safety hazard is present in the confined space, or 3. When a chemical, hot work or other activity in the confined space can present is a hazard.

1. Employees in the immediate area alerted to help if needed? Yes--- No*----
2. All measures in the Confined Space Survey form (Attachment E) are complied with? Yes--- No*----
3. The emergency rescue procedures for entrants and attendants have been reviewed? Yes--- No*----
4. Radio/telephone or other communications are available for emergency purposes? Yes--- No*----
5. Rescue harness is worn, as appropriate, such as: a full body harness with lifeline attached? Yes--- No*----
6. Fresh air is (circle selection) Natural, Mechanically Supplied, or Mechanically Vented:
7. Ventilation system, if used, is properly grounded? Yes--- No*----
8. Continuous testing for, at minimum, oxygen and %LEL levels during entry? Yes--- No*----
9. List Protective clothing required per Attachment E: PPE: _____

*Entry is not permitted without an acceptable alternative.

AUTHORIZED SIGNATURE AND CERTIFICATION TO PERFORM WORK:

1. **This is a Non-Permit Confined Space** **(Level 0)** _____
2. **This is a Alternate Entry Permit-Required Confined Space** **(Level 1)** _____
3. **This is a Full Permit-Required Confined Space** **(Level 2)** _____

I certify that all necessary precautions have been taken to make the confined space safe for entering and carrying on prescribed work during the shift specified. This permit is only valid until the end of the shift it was started on.
Hines VAH Employees **ARE NOT** to enter any confined space that is immediately dangerous to life or health (IDLH), such as oxygen <19.5% or other hazard that could cause an immediate or delayed threat to life or that could cause irreversible adverse health effects that would interfere with an individual's ability to escape from a permit space.

Entry Supervisor:_____/_____ Atmosphere Tester: _____/_____
(Or designee) print name initial print name initial
STANDBY ATTENDANT(S):_____
PERSON(S) AUTHORIZED TO ENTER

Print Name	Time In/Out	Print Name	Time In/Out

I have been properly instructed for safe entry into and/or for attendance of this confined space and understand my duties.

Work Completed: If work is completed: I certify that all lockout and tag out locks and tags and blank lines have been removed and such systems are properly reconnected for service. This confined space is ready for normal service. Time:_ ___ Entry Supervisor or Designate:_____-____

Work Not Completed: I certify that work on this confined space is not complete and that lockout and tagout and blank lines will remain in place until the work can be properly finished. Any future work in the permit required confined space will require that a new permit be completed. Time: _____ Entry Supervisor or Designee: _____

EMERGENCY PROCEDURES: Emergency Rescue Service Phone is 911. Call Hines Police Service at ext. 23200, Inform them to contact 911, that it is a confined space emergency.

If an emergency should occur, the attendant is to call for assistance based on the emergency rescue procedures. The designated rescue service is to be contacted. The attendant and other workers in the area can assist the entrant in evacuating the confined space. Lifelines and retrieval equipment can be used to assist in this effort based on your training. **DO NOT ENTER THE CONFINED SPACE.** If a person has collapsed for no apparent cause, you must assume that toxic gases or oxygen deficiency could exist. Other Emergency Phone Numbers: _____

RETURN ALL COMPLETED PERMITS TO THE FMS SHOP WHICH ISSUED THE CONFINED SPACE PERMIT FOR FILING

Types of Detector Tubes or Monitoring Equipment Available
Based on chemicals that may be present

COMPONENT	AIR DEVICE	ACGIH TLV	OSHA PEL	DO NOT ENTER WHEN
Oxygen Gas (Acceptable Range)	MSA Orion	NL	19.5 - 23.5%	Below 19.5% Above 23.5%
Combustible Gas	MSA Orion	NL	10% LEL	Above 10% LEL****
Carbon Monoxide	MSA Orion	25 ppm **400ppm	35 ppm *200 ppm **1500 ppm	Above 25 ppm
Hydrogen Sulfide	MSA Orion	10 ppm **15 ppm	10 ppm **15 ppm *300 ppm	Above 10 ppm

Abbreviations

TLV	=	American Conference of Governmental Industrial Hygienists Threshold Limit Value based on an eight-hour time weighted average.
C	=	Ceiling Limit (never exceed this limit)
NL	=	Not Listed
LEL	=	Lower Explosive Limit (methane)
PEL	=	OSHA Permissible Exposure Limit
*	=	STEL = Short Term Exposure Limit
**	=	IDLH = Immediately Dangerous to Life & Health
***	=	Ceiling Limit - should not be exceeded
****	=	Exit from space at 10% LEL

AIR MONITORING EQUIPMENT CALIBRATION FORM

This Calibration Form is to be used for the periodic calibration of Air Monitoring Equipment used for Confined Space Entry.

1. Each air-monitoring device is to be calibrated no more than 31-days prior to a confined space entry.
2. If there is a problem with the sensors or if the manufacture of the meter requires, more frequent calibration may be required.
3. All calibrations as mentioned above are to be logged onto this form. Pre-use equipment checks are not to be logged onto this form.

This Calibration Log is for: _____
(Make and Model of Monitor) (Manufacturer's Name) (Serial #)

1. Place the numerical results of the calibration test and an "OK" or "Fail" in the box for each chemical you are calibrating for.
2. If you are not calibrating for a listed test gas, then place a "NA" in the box for that chemical.

Date/Time	% Oxygen	Combustible (%LEL)	Carbon Monoxide	Hydrogen Sulfide	Other	Other	Calibrated By (Print Name)	Comments

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital

Date:08/08/2011

Confined Space Number: HH-1

Location: Building 5 Chlorine Room

Use: Soft Water Tank

Potential Hazards Air Quality, Isolation,

Atmospheric

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Chlorine
Yes	Yes	Yes	Yes	Yes

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	Yes	No	Yes	No	Yes	Other 2	

Details for each item marked yes:

Access is single entry

Toxic Chemical safety issue as chlorine residue is present.

Corrosive Chemical safety issue as chlorine residue is present.

Fall Protection is necessary due to ladder in use inside vessel.

Access is vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be N-95 as necessary						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments:

Ensure Tank is drained prior to hatch opening.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki, Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

ned Space Survey Form

al

Date:08/08/2011

Confined Space Number: HH-2

Location: Main Boiler Room

Use: Condensation Surge Tank

Potential Hazards: Air Quality, Isolation,

Atmospheric

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	Yes	No	No	No	Yes	Other 2	

Details for each item marked yes: Corrosive Chemicals includes sulfur based compounds.

Toxic chemicals may be present due to condensate return lines.

Access is single entry

Access Is both Vertical and Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be N-95 as necessary						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki, Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-3

Location: Building 5, Main Boiler Room

Type: D.A. Steam Side

Potential Hazards Air Quality, Isolation,

Atmospheric

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	No	No	No	Other 2	

Details for each item marked yes: Access is facilitated via platform.

Access is single entry.

Access Is both Vertical and Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be N-95 as necessary						
	Harness connected upon entry						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments: Due to depth harness is unnecessary as entry space is only 4 feet across upon opening of hatch.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki, Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form	
Facility: Edward Hines Jr. Veterans Affairs Hospital	Date:08/08/2011

Confined Space Number: HH-4

Location: Building 5, Main Boiler Room

Type: D.A. Storage Side

Potential Hazards Air Quality, Isolation,

Atmospheric

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	No	No	Yes	Other 2	

Details for each item marked yes: Access is single entry.

Toxic chemical safety issue due to sulfur compound injection quill.

Access Is both Vertical and Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	No
Specifics	Respirator would be N-95 as necessary						
	Harness connected upon entry						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki, Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-5 & HH-32 through HH-35

Location: Building 5, Main Boiler Room

Type: Boilers (4)

Potential Hazards Air Quality, Isolation,

Atmospheric Concerns:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	No	Yes	No	Other 2	

Details for each item marked yes:

Access is single entry.

Mechanical safety issue when dismantling boiler internal components.

Access: Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be N-95 as necessary						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital

Date:08/08/2011

Confined Space Number: HH-6

Location: Interior of Building 5

Type: Large Tunnel

Potential Hazards: Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
No	No	Yes	No	Yes	No	Other 2	

Details for each item marked yes:

Electrical safety involving lock out tag out, as needed.

Mechanical valves are to be isolated prior to entry.

Access: Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics							

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	**No**

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital	Date:08/08/2011

Confined Space Number: HH-7

Location: Throughout

Type: Sump Pump & Ejector Pits

Potential Hazards: Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	No	No	No	Other 2	

Details for each item marked yes:

Access issue due to single entry and small space.

Access is vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	No
Specifics							

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments: Entry is generally only large enough for upper torso of staff member.

Space constraints limit the applicability of harness.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

d Space Survey Form

Date:08/08/2011

Confined Space Number: HH-8

Location: North side of Building 5, Exterior

Type: Water Vault Access

Potential Hazards: Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
No	No	No	Yes	Yes	No	Other 2	

Details for each item marked yes:

Fall protection due to ladder greater than 4 feet.

Mechanical safety due to valve isolation upon entry.

Access is vertical.

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	No	No
Specifics	Employee may use N-95 as necessary depending on evidence of ground water in the space.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	**No**

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-9

Location: Exterior at Generators

Type: Top / Exterior Access for Fuel / Oil Tanks (7)

Potential Hazards: None

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
No	No	No	No	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
No	No	No	No	No	Yes	Other 2	

Details for each item marked yes: Toxic chemical safety concern due to waste fuel on exterior of Underground storage tank.

Access is vertical.

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	No	No	No
Specifics							

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	No	Yes

Comments: Too Shallow less than 4 ft down.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital | Date:08/08/2011

Confined Space Number: HH-10

Location: Exterior at Generators

Type: Interior Access for Fuel / Oil Tanks (7)

Potential Hazards: Air Quality, Isolation

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	Yes	No	Yes	Other 2	

Details for each item marked yes:

Access issue due to single entry.

Fall protection due to tanks being approximately 15 ft in depth from the lid.

Toxic chemical hazard due to fuel oil presence.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics							

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments: This entry is to be done only by a qualified contractor specializing in confined space Underground Storage Tanks, and never by Hines VA Staff.

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Larry Koniecki Boiler Plant Supervisor 08/09/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-11

Location: Exterior of Building 217, Outside/ North of Courtyard

Type: Steam Pit #1

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-12

Location: Building 217, in Courtyard

Type: Steam Pit #1A

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater then 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

ace Survey Form

Date:08/08/2011

Confined Space Number: HH-13

Location: Building 217 East side of structure

Type: Steam Pit #2

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital | Date:08/08/2011

Confined Space Number: HH-14

Location: Building 217 East side of structure

Type: Steam Pit #2A

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments: This site is to the west of Steam Pit #2.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-15

Location: Exterior Building 203

Type: Steam Pit #3

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments: Northwest of Building 203 / Pavilion

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-16

Location: East of Bldg 203, North of Pavilion

Type: Steam Pit 3A

Potential Hazards: Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater then 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments: This steam Pit is East of Building 203 and North of the pavilion, and west of the chlorine tanks.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-17

Location: North of Building 203

Use: Alkali Storage / Chlorine Storage (Out of Service)

Potential Hazards Air Quality, Isolation,

Atmospheric

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	Yes	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Electrical hazards require Lock out tag out.

Corrosive Chemical hazard as it contains residues of both alkali material and chlorine.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments: This confined space should not be entered by Hines Staff, but entry only by a Knowledgeable trained contractor.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital | Date:08/08/2011

Confined Space Number: HH-18

Location: East of Building 48, (parking lot)

Type: Steam Pit #4

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	**No**

Comments: This pit is located in a parking lot, North east of building 48,

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-19

Location: North Exterior of Building 37

Type: Steam Pit #5

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater then 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

ace Survey Form

Date:08/08/2011

Confined Space Number: HH-20

Location: Exterior of Building 215

Type: Steam Pit 215

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	Yes	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater then 6 ft

Electrical hazards require Lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital	Date:08/08/2011

Confined Space Number: HH-21

Location: Under Hallways of Building 1

Type: Walking Tunnel East Side

Potential Hazards: Air Quality,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	No	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	Traffic flow
No	No	Yes	No	No	No	Other 2	

Details for each item marked yes:

Traffic flow off shift preferred due to heavy traffic pattern of area

Electrical hazards may require lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	Hard hats to include bump caps.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	No

Comments:

Hazards to this space, include poor air quality.

Staff should anticipate wearing a N-95 mask, after proper ventilation is established.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital	Date:08/08/2011

Confined Space Number: HH-22

Location: Under Hallways of Building 1

Type: Tunnel West Side

Potential Hazards: Air Quality,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	No	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	Traffic flow
No	No	Yes	No	No	No	Other 2	

Details for each item marked yes:

Traffic flow off shift preferred due to heavy traffic pattern of area.

Electrical hazards above grade may require lock out tag out prior to entry.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	Hard hats to include bump caps.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	No

Comments:

Hazards to this space include poor air quality.

Staff should anticipate wearing an N-95 mask, after proper ventilation is established.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-23

Location: Building 1 Interior / Exterior

Type: Tunnel east

Potential Hazards: Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	No	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	Traffic flow
No	No	Yes	No	No	No	Other 2	

Details for each item marked yes:

Traffic flow off shift preferred due to heavy traffic pattern of area

Electrical hazards may require lock out tag out.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	Hard hats to include bump caps.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	No

Comments:

Hazards to this space include poor air quality.

Staff should anticipate wearing an N-95 mask, after proper ventilation is established.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

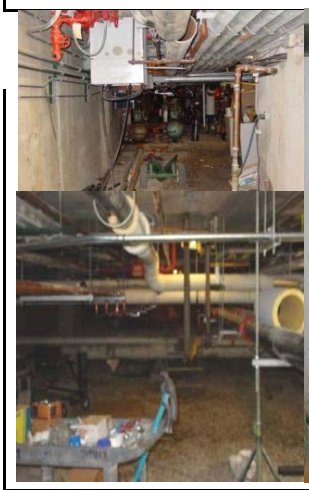
Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital	Date:08/08/2011



Confined Space Number: HH-24

Location: Building 200 Crawlspace

Type: Stone Space

Potential Hazards: None

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
No	No	No	No	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
No	No	No	No	No	No	Other 2	

Details for each item marked yes:

Access: Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Y N	No	No
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	Hard hats to include bump caps due to low clearance.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	No	**Yes**

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital	Date:08/08/2011

Confined Space Number: HH-25

Location: Building 200, CO17 Mechanical Room

Type: Condenser

Potential Hazards: No Entry

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
No	No	No	No	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
No	No	No	No	No	No	Other 2	

Details for each item marked yes:

Access: Horizontal

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	No	No	No
Specifics							

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	No	**Yes**

Comments:

This unit is too shallow to enter. This confined space should not be entered by Hines Staff, but entry only by a Knowledgeable trained contractor.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

	Date:08/08/2011
Confined Space Number: HH-26	
Location: East Side of Complex, Exterior between Hines, and Loyola	
Type: Elevated Water Storage Tank (in use)	
Potential Hazards Air Quality, Isolation,	

Atmospheric

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	No	No	No	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	Yes	Yes	No	Other 2	

Details for each item marked yes:

Access issue as 20 ft ladder necessary for access to ladder cage.

Mechanical safety hazard as lock out tag out of pumps necessary for entry.

Fall protection issue as need for utilization of tie off points for fall mitigation.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics							

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments: This confined space should not be entered by Hines Staff, but entry only by a Knowledgeable trained contractor.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital

Date:08/08/2011

Confined Space Number: HH-27

Location: Building 1, East Side, Exterior Section D

Type: Domestic Water Reservoir

Potential Hazards: Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	No	No	No	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	No	No	No	Other 2	

Details for each item marked yes:

Each tank has 2 access points, however entrant is to be in air feed diver PPE.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	No	Yes	Yes	Yes	Yes	Yes
Specifics	Harness is to facilitated via diving suit tie off system.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments: This confined space should not be entered by Hines Staff, but entry only by a Knowledgeable trained contractor.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Facility: Edward Hines Jr. Veterans Affairs Hospital | Date:08/08/2011

Confined Space Number: HH-28

Location: Throughout Exterior

Type: Water Valve Vaults

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	Yes	No	No	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	No	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	No

Comments: Contractor is to facilitate Alternate Entry Permit, with Pipe Shop.

Pipe shop to isolate all vaults prior to entry by contractor.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-29 & HH-203 through HH-219

Location: Throughout Exterior

Type: Storm Sewers and Storm Catch Basins

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	Yes	No	Yes	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater then 6 ft

Toxic hazard exists due to uncontrolled nature of weather hazard as it relates to storm water run off.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	hard hat would be a pump cap due to clearance.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments: Staff are aware and trained that storm sewers are not marked as confined space, due to grate structure variation.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-30 & HH -48 through HH-111

Location: Throughout Exterior

Type: Sanitary Sewers

Potential Hazards Air Quality, Isolation,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
Yes	Yes	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
Yes	No	No	Yes	No	Yes	Other 2	

Details for each item marked yes:

Access is single entry

Fall hazard exists as it is greater than 6 ft

Toxic hazard exists due to uncontrolled nature of sewer gas and hazard as it relates to sanitary water runoff.

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	hard hat would be a bump cap due to clearance.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	Yes	No	No

Comments:

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011

Confined Space Survey Form

Date:08/08/2011

Confined Space Number: HH-31 & HH-112 through HH-197

Location: Throughout Exterior

Type: Fiber Optic and Electric Vaults

Potential Hazards Air Quality,

Atmospheric Hazards:

Oxygen	LEL	Carbon Monoxide	Hydrogen sulfide	Other
Yes	Yes	Yes	Yes	

Engulfment	***Entrapment***	***Other***
No	No	

Safety Issues

Access Issues	Corrosive Chemical	Electrical	Fall Protection	Mechanical	Toxic Chemical	Other 1	
No	No	No	No	No	No	Other 2	

Details for each item marked yes:

Access: Vertical

PPE Required	Hard Hats	Eye Prot.	Gloves	Boots	Body	Respirator	Harness
	Yes	Yes	Yes	Yes	Y N	No	No
Specifics	Respirator would be full cartridge mask or N-95 depending on steam condition.						
	hard hat would be a bump cap due to clearance.						

Classification	**Permit Required (2)**	**Alternate Entry Permit Required (1)**	**Non- Permit Required (0)**
	No	Yes	No

Comments: Contractor is to facilitate Alternate Entry Permit, with Project Planning or Electric Shop.

Survey by/date: Michael J. Kelly, Director, START Group, 04/13/2011

Safety Dept/date: Christopher R. Beattie MPA 08/08/2011

Department Manager/date: Martin T. Muth Pipe Shop Supervisor 08/10/2011

Operations Manager/date: Michael McCrary Chief of Maintenance and Operations 08/12/2011