

Confined Space Program

Santa Clara University (SCU) 500 El Camino Real Santa Clara, CA 95053

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Program Review Record

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Original		Initial release
1		Added inventory
2	August 2013	Updated inventory
3	December 2013	Updated inventory

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Confined Space Program

1. Purpose

To prevent injury and occupational illness caused by entry into confined spaces by complying with Title 8 of the California Code of Regulations, Sections 5156 – 5158; Confined Spaces.

2. Applicability

This program covers the minimum confined space requirements for SCU employees and contractors.

3. Definitions

Confined Space - a space large enough or so configured that an employee can bodily enter and perform work, and:

- It has limited or restricted means for entry or exit (i.e. tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
- It is not designed for continuous employee occupancy.

Permit-Required Confined Space - a confined space that has one or more of the following characteristics:

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

Non-Permit Required Confined Space - fits the definition of a confined space, but does not contain or have the potential to contain any atmospheric hazard capable of causing death or serious physical harm.

Entry - The action by which a person passes through an opening into a permit-required confined space. Entry is considered to have occurred when any part of the entrant's body breaks the plane of an opening into the space.

Entry Team - includes attendants, entrants, entry supervisors and rescue personnel.

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

4. Roles / Responsibilities

The following are the SCU Roles and Responsibilities in regards to Confined Spaces:

Group	Responsibilities
EHS Department	 Maintain inventory of permit required confined spaces located at the site to include an assessment of their hazards (<u>Attachment 2</u>). Complete and document annual assessment of the effectiveness of the program. Verify warning signs are posted for permit and non-permit as required in the confined space inventory. Review entry operations whenever there is reason to believe that the measures taken under the Confined Space Program may not protect employees and revise the program to correct deficiencies found to exist before entries are authorized. Provide training to Facilities, Utilities and Planning staff to recognize permit and non-permit required confined spaces and safe entry operations. Reviews contractor qualifications for Confined Space entry and provides the contractor with the confined space inventory and hazard assessments.
Employees	 Attend confined space training and comply with the requirements of this program. Abide by posted warnings of permit and non-permit required confined spaces. Contact the EHS Department if confined spaces need to be entered.
Planning and Projects, Utilities and Facilities	 Ensure qualified personnel and equipment enter permit or non-permit required confined spaces (Note: SCU personnel will not enter permit required confined spaces). Assist the EHS Department in the identification, classification, and hazard assessment of confined spaces at SCU. Post permit and non-permit required confined spaces with warning signs as required. Ensure contractors entering confined spaces are properly equipped, personnel have proof of a confined space permit and training, and comply with the SCU program. Contact the EHS Department to verify that the contractor is qualified for confined space entry.

5. Design Requirements

- Minimize where possible the construction of confined spaces or installation of equipment that includes confined spaces.
- If confined spaces are installed or constructed at the site and after
 construction, they must be periodically entered, ensure they are constructed to
 facilitate safe entry.

6. Procedures

Confined Space Identification and Hazard Analysis:

- The EHS Department shall identify and classify all confined spaces located at SCU as to whether each space is a permit-required confined space (PRCS) or a non-permit required confined space (NPRCS). The PRCS classification shall also include a determination as to whether the space can be reclassified as a NPRCS. The flow chart in 8 CCR §5157 (Attachment 1) should be used for guidance in performing this evaluation. The inventory list, classification, hazard analyses, and labeling requirements of confined spaces are found in Attachment 2.
- The EHS Department, with the assistance of Planning and Project, Utilities and Facilities, shall evaluate new equipment to determine if it is a confined space and shall update the confined space inventory/hazard assessment list as needed.
- All PRCSs will be identified with appropriate signage, "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER"
- All NPRCS will be identified with appropriate signage "DANGER NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

Permit Required Confined Spaces

- Permit required and non-permit required confined spaces are identified in the confined space inventory (<u>Attachment 2</u>).
- Only authorized contractors are permitted to enter permit required confined spaces located at SCU and must follow the SCU contractor program as described in <u>Attachment 4</u>.
- Certain permit required confined spaces may be reclassified as a non-permit required confined space if all hazards of the space can be eliminated and the space meets the requirements in the PRCS reclassifying procedure below.
- Permit required confined spaces are not to be entered without the knowledge and approval of the EHS Department.
- No faculty, employees, or students are authorized to enter permit required confined spaces located at SCU, Only those employees who have been trained and authorized may enter non-permit required confined spaces. Qualified

employees may enter a permit required confined space if the space has been reclassified as a non-permit required space following the reclassification procedures listed below.

Permit Required Confined Space Reclassification Procedures

- Those permit required confined spaces identified on the confined space inventory
 with a "Y*" under the "PRCS?" column, may be reclassified as a non-permit
 required confined space if all hazards of the space can be eliminated.
- Qualified SCU employees or contractors must complete and sign the PRCS
 Reclassification form provided in <u>Attachment 3</u> and implement all hazard controls
 identified prior to entry. Note: A reclassification form authorizes the entry for a
 given date and time period and is valid for a maximum of one shift; therefore, a
 new form must be completed for each subsequent entry.
- If a hazard arises during an entry of a reclassified space:
 - All personnel must immediately leave the space.
 - The space must be re-evaluated and all hazards eliminated before reentry.

Non-Permit Required Confined Space Entry Procedures

- Non-permit required confined spaces are identified in the confined space inventory (Attachment 2).
- Hazard controls are specified on the confined space inventory (<u>Attachment 2</u>).
 Hazard controls may include the use of fall protection equipment, locking and tagging out of mechanical equipment, and/or requiring two or more persons being present during entry.
- Once hazard controls are in place, the space may be entered without the use of a Confined Space Entry Permit as long as no other hazards have been identified and no new hazards are being introduced into the space.
- A non-permit-required confined space shall be upgraded to a permit required confined space if the work tasks in the space cause it to meet the definition of a permit required space.
 - Examples of work tasks that could upgrade a non-permit required space to a permit required space include: painting, cleaning with solvents, and work that would require a Hot Work permit.

Contactors Entering Confined Spaces

- Contractors bidding on work involving confined space entry shall be informed of the confined space hazards and site procedures for entry of a PRCS and/or NPRCS as applicable.
- The EHS Department reviews and approves contractors prior to their conducting confined space entry.

- Planning and Projects, Utilities and/or Facilities coordinate entry procedures with the contractor and debriefs the contractor at the conclusion of entry operations.
- The contractor must comply with regulatory and site confined space entry requirements while at SCU including, but not limited to:
 - o Ensures that entry personnel are appropriately trained and qualified.
 - o Provides the equipment required to perform entry procedures safely.
 - Establishes and follows appropriate entry and emergency procedures.
 - Completes a SCU Confined Space Entry Permit (<u>Attachment 5</u>) or approved equivalent to verify that all actions and conditions necessary for safe entry into a confined space are provided and will be maintained during the course of the entry. <u>Exception</u>: Contractors performing utility work (Telecommunication, Natural Gas, or Electrical) as defined in 8 CCR 5156(b)(2) in a vault are not required to complete the SCU Confined Space Entry Permit provided they follow the requirements of 8 CCR 5158.
- When employees of more than one employer (contractor) are working simultaneously as authorized Entrants in a permit required confined space, procedures shall be developed and implemented to coordinate entry operations, so that employees of one employer (contractor) do not endanger the employees of any other employer (contractor).
- Contractors shall debrief Planning and Projects, Utilities and/or Facilities at the end of all PRCS entries.
- Once confined space entry has been terminated, a copy of the cancelled entry permit shall be returned to the EHS Department.

7. Reporting

The EHS Department annually reviews the Program and reports the results to the Assistant VP of Operations. The EHS Department completes the Annual Confined Space Program Review (Attachment 6). The annual program review shall include:

- An audit of all cancelled permits performed during the preceding 12-month period.
- Any non-permit required entry issues identified during the preceding 12-month period.
- A review of the written program, equipment inventory, employee training, rescue services and specific operating procedures, to the degree necessary to assure program compliance.

8. Training and Awareness

The EHS Department will provide training to all employees whose work requires them to enter or participate in the entry of non-permit confined spaces to ensure they have

the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this program. Training shall be provided to facility maintenance employees who work in areas where confined spaces are located and to those who supervise contractors who enter confined spaces. Supervisor training will consist of awareness level training of information contained in <u>Attachment 4</u>.

Training Must be Completed:

- Before the employee is first assigned duties concerning confined spaces.
- Whenever there is a change in assigned duties concerning confined spaces.
- Whenever there is a change in confined space entry operations that present a hazard about which an employee has not been previously trained.
- Whenever an employee has reason to believe either that there are deviations from the permit required space entry procedures required or that there are inadequacies in the employee's knowledge or use of these procedures.
- Refresher training shall be required every two years.

Confined Space Entry Awareness Training – Training qualifies employees to only enter non-permit required spaces. At a minimum, Confined Space Entry Awareness training shall include:

- Recognition of what constitutes a permit required confined space versus a nonpermit required space and the hazards that may be encountered in each.
- An understanding of the information provided in the confined space inventory in Attachment 2.
- Methods for isolating the space by mechanical or electrical means including lockout/tagout procedures.
- What permit required confined spaces may be reclassified as non-permit confined spaces and the procedures required to perform this reclassification including the use of atmospheric monitoring equipment.
- Non-permit confined space permit procedures used at the site.
- Qualification requirements for contractors entering permit required confined spaces.
- Responsibilities of SCU personnel when contractors enter permit required confined spaces.

The EHS Department shall certify training has been accomplished by creating a training record that has the name of the course, each employee's name, the signature(s) of the trainer(s), and the dates of the training.

9. Record Retention

Completed records will be maintained as follows:

Record	Location	Duration	Responsible Party
Contractor Confined Space Entry Permits	EHS Files	1 year	EHS Director
Confined Space Inventory/ Assessment	EHS Files	3 years	EHS Director
Completed Confined Space Program Reviews	EHS Files	3 years	EHS Director
Training Records of Qualified Personnel for the Confined Space Program	EHS Files	3 years	EHS Director

10. Key References and Resources

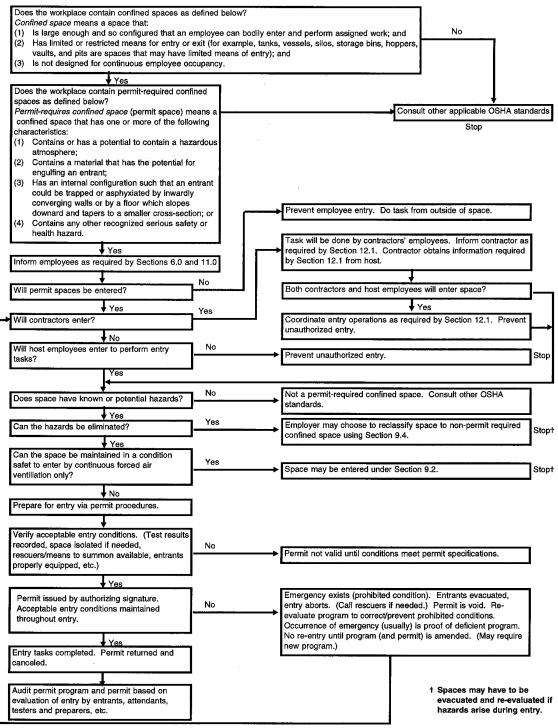
The following are referenced in this program:

- General Industry Safety Orders, Title 8 California Code of Regulations (8 CCR)
 Sections 5156 5158; Confined Spaces
- Cal/OSHA's Confined Space Guide "Is It Safe to Enter a Confined Space?"
- Title 29 of the Code of Federal Regulations, Part 1910, Section 146 (29 CFR 1910.146); Permit-required Confined Spaces

Attachment 1– PRCS Decision Flow Chart

This flow chart is copied from the Cal/OSHA website (http://www.dir.ca.gov/title8/5157a.html) and refers to the General Industrial Safety Orders, Subchapter 7, Group 16, Article 108, Section 5157).

Permit-Required Confined Space Decision Flow Chart



Attachment 2 – Confined Space Inventory/Assessment

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Electrical Vaults accessed by Facility Electricians	Various		Electrocution, falls, slips, standing water	Access by utility/electrical contractors and Facility Electricians, barricade opening	Yes	Yes	Yes
Electrical Vaults only accessed by contractors/ utility workers	Various		Electrocution, falls, slips, standing water	Access by utility/electrical contractors only, barricade opening	Yes	No	N ²
Sewer & Stormwater (manhole access)	Various		Potential atmospheric (H ₂ S, low O ₂), falls, slips, standing water	Access by utility contractors only, barricade opening	Yes	No	N ²
Elevator Pits	Various		Restricted access, mechanical, slips, falls	Access by elevator contractors (if access required by SCU personnel, must be in conjunction with elevator contractor), barricade opening	No	N/A	No
Attic	Bellarmine Hall	Above hard ceiling	Restricted and limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, provide portable lighting as needed	No	N/A	No

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

 $[{]f N}^2$ – No label required. These are permit required confined spaces, however they will only be entered by utility contractors following the "Other Confined Space Operations" standard. Site maintenance personnel are trained to recognize these as permit required spaces and therefore they do not require a label.

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Crawl Space	Heafey Law Library	Access under stairway	Restricted and limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, provide portable lighting as needed	No	N/A	No
Attic	Jesuit Residence	Above hard ceiling	Restricted and limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, provide portable lighting as needed	No	N/A	No
Sanitary Lift Station	Jesuit Residence	Basement	Engulfment, potential atmospheric, electrocution, biological hazards Note: Pumps and level sensors located external to sump and would not require entry into sump to service	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes

Key: Y* - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Sanitary Lift Station	Schott Stadium	Back irrigation enclosure	Engulfment, potential atmospheric, electrocution, biological hazards Note: Pumps and level sensors located external to sump and would not require entry into sump to service	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes
Utility Tunnel	B101 – Mission Church	Exterior south side & inside office area	Restricted and limited access, low head room, slips & falls, poor lighting, poisonous insects	Minimum of two persons for entry, bump hats, provide portable lighting as needed, barricade opening, watch for and avoid poisonous insects such as black widows (use approved insect bombs 2 to 3 days prior to entry and open space to allow space to ventilate for 1 hour prior to entry)	No	N/A	No

Key: **Y*** - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Domestic Water Cistern – Underground Storage Tank	B105 – Varsi Pump House	Pump room	Engulfment, falls, slips, potential atmospheric	Lock-out water supply valves and pumps, fall protection equipment, rescue tripod, atmospheric testing, mechanical ventilation as needed, barricade opening	Yes	No	Yes
Domestic Water Tanks – Above Ground	B105 – Varsi Pump House	Pump room	Engulfment, slips, potential atmospheric	Lock-out water supply valves and pumps, wristlets with attached lifeline, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Crawl Space	B106 – Varsi Hall	Under Building	Restricted and limited access, low head room, slips, poor lighting, poisonous insects	Minimum of two persons for entry, bump hats, lighting, barricade opening as appropriate, watch for and avoid poisonous insects such as black widows	N	N/A	N
Grease Interceptor	B108 – Adobe Lodge	West side	Potential atmospheric (H ₂ S, low O ₂), falls, slips, standing water	Access by utility contractors only, barricade opening	Yes	No	Yes
Attic	B108 – Adobe Lodge	Above hard ceiling	Restricted and limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, provide portable lighting as needed	No	N/A	No

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Grease Interceptor	B109 – Nobili Hall	West side	Potential atmospheric (H ₂ S, low O ₂), falls, slips, standing water	Access by utility contractors only, barricade opening	Yes	No	Yes
Domestic Water Valve Pit (manhole access)	B110 - Mayer Theater	East of B110 in lawn	Potential atmospheric hazards (low O ₂), restricted and limited access, falls (>6'), slips, poor lighting	Atmospheric testing, fall protection equipment, rescue tripod, mechanical ventilation as needed, lighting, barricade opening	Yes	No	Yes
Domestic Water Valve Pit (metal/plywood cover)	B110 - Mayer Theater	South of B110 in lawn	Falls (<4'), slips	Access from ground level whenever possible, barricade opening	No	N/A	No
Cooling Tower	B110 - Mayer Theater	North of B110 in mech. room	Mechanical, falls, slips	Lock-out mechanical equipment prior to entry, use appropriate fall protection equipment as needed	N ¹	N/A	Y ¹
Stage Vault	B110 - Mayer Theater		Mechanical, falls, slips	If working under stage, lock- out stage lift equipment;, requires minimum of two persons to enter; barricade opening	N ¹	N/A	Y ¹

Key: **Y*** - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Drying Rack Vault	B110 - Mayer Theater	Scene Room	Mechanical, falls, slips	If working under drying rack, lock-out drying rack equipment; minimum of two persons for entry; barricade opening	N ¹	N/A	Y ¹
Sanitary Lift Station	B201 – Walsh Admin.	Mechanic al Room	Engulfment, potential atmospheric, electrocution, biological hazards Note: Pumps and level sensors located external to sump and would not require entry into sump to service	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes
Utility Tunnel	B201 – Walsh Admin.	Basement	Restricted and limited access, low head room, slips, poor lighting, poisonous insects	Minimum of two persons for entry, bump hats, lighting, barricade opening as appropriate, watch for and avoid poisonous insects such as black widows	No	N/A	No

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re-	PRCS
						classify	Label
Crawl Space	B201 – Walsh Admin.	Under Building	Restricted and limited access, low head room, slips, poor lighting, poisonous insects	Minimum of two persons for entry, bump hats, lighting, barricade opening as appropriate, watch for and avoid poisonous insects such as black widows	No	N/A	No
Stormwater Lift Station	B202 – Heafey Law Library	Outside west side of building	Located in a valve pit with fall hazards >4', open grate, no atmospheric hazards, electrocution	Minimum of two persons for entry, use ladder to access lift station, barricade opening, lock-out electrical	No	N/A	No
Cooling Towers (2)	B202 – Heafey Law Library	On Roof	Mechanical, falls, slips	Lock-out mechanical equipment prior to entry, use appropriate fall protection equipment as needed	N ¹	N/A	Υ ¹
Air Handler – AH1	B204 – Kena Hall	Mechanic al Room	Mechanical, restrictive access	Lock-out mechanical equipment prior to entry	N ¹	N/A	Y ¹
Stormwater Lift Station	B204 – Kena Hall	Outside southeast corner	Potential atmospheric, electrocution	Lock-out electrical, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Attic	B204 – Kena Hall	Above hard ceiling	Restricted and limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, provide portable lighting as needed	No	N/A	No
Sanitary Lift Station	B301 – Benson Center	Mechanic al Room	Engulfment, potential atmospheric, electrocution, biological hazards	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes
Stormwater Lift Station	B301 – Benson Center	Mechanic al Room	Potential atmospheric, electrocution	Lock-out electrical, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Grease Interceptor	B301 – Benson Center	South side	Potential atmospheric (H2S, low O2), falls, slips, standing water	Access by utility contractors only, barricade opening	Yes	No	Yes

Key: **Y*** - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Utility Tunnel	B301 – Benson Center	East stair well to loading dock – Electrical Room	Restricted and limited access, low head room, slips, poor lighting, poisonous insects	Minimum of two persons for entry, bump hats, lighting, barricade opening as appropriate, watch for and avoid poisonous insects such as black widows	No	N/A	No
Fountain equipment vault	B301 – Benson Center	Outside, north side of building	Falls, slips, standing water, potential electrocution	Lock out electrical if working on pump motors or electrical wiring, barricade opening	No	N/A	No
Stormwater Lift Station	B302– Shapell Lounge/ Multicultur al Center	Mechanic al Room	Potential atmospheric, electrocution	Lock-out electrical, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Stormwater Lift Station	B303 – Book Store	Mechanic al Room	Potential atmospheric, electrocution	Lock-out electrical, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Sanitary Lift Station	B303 – Book Store	Mechanic al Room	Engulfment, potential atmospheric, electrocution, biological hazards	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes
Sanitary Lift Station	B307 – Swig Hall	Mechanic al Room	Engulfment, potential atmospheric, electrocution, biological hazards	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes
Hot Water Tanks (3)	B307 – Swig Hall	Mechanic al Room	Engulfment, potential atmospheric, very limited access point	Lock-out water supply valves, wristlets with attached lifeline, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes

Key: **Y*** - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

 N^2 – No label required. These are permit required confined spaces, however they will only be entered by utility contractors following the "Other Confined Space Operations" standard. Site maintenance personnel are trained to recognize these as permit required spaces and therefore they do not require a label.

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Stormwater Lift Station	B308 – Dunne Hall	Outside, north side in a deep vault	Fall hazard entering deep vault (>10'), slip hazard, potential atmospheric, electrocution	Use installed ladder to access bottom of vault, lock-out electrical, fall protection equipment attached to rescue tripod in vault, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Stormwater Lift Station	B308 – Dunne Hall	Outside, south side in a deep vault	Fall hazard entering vault, slip hazard, potential atmospheric, electrocution	Use ladder to access bottom of vault, lock-out electrical, fall protection equipment attached to rescue tripod in vault, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Grease Interceptor	B401- Library	East side at loading dock	Potential atmospheric (H ₂ S, low O ₂), falls, slips, standing water	Access by utility contractors only, barricade opening	Yes	No	Yes
Hydraulic Water Tank – Under Ground	B402 – Mechanica I Eng.	Machine shop – under floor	Engulfment, falls, slips, potential atmospheric	Lock-out water supply valves, fall protection equipment, rescue tripod, atmospheric testing, mechanical ventilation as needed, barricade opening	Yes	No	Yes

Y¹ – Space is to be labeled with the following: "DANGER – NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Hydraulic Water Tank – Above Ground	B402 – Mechanica I Eng.	Machine shop – above floor	Engulfment, falls, slips, potential atmospheric	Lock-out water supply valves, fall protection equipment, rescue wench, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Air Handlers (3)	B402 – Mechanica I Eng.	Mechanic al Room	Mechanical, restrictive access	Lock-out mechanical equipment prior to entry	N ¹	N/A	Y ¹
Scrubber (not in service)	B404 – Bannan Eng.	Mechanic al area east side of building	Potential chemical burns, toxic atmosphere, mechanical, slips, standing water	Flush and drain scrubber, mechanical ventilation, atmospheric testing, lock-out fan and pumps	Yes	No	Yes
Tank Vaults (tanks have been removed)	B404 – Bannan Eng.	Mechanic al area east side of building	Atmosphere, falls, slips, standing water	Pump out standing water, mechanical ventilation, atmospheric testing, fall protection equipment	Yes	No	Yes
Air Handlers (4)	B404 – Bannan Eng.	On Roof	Mechanical, restrictive access	Lock-out mechanical equipment prior to entry	N ¹	N/A	Y ¹

Key: **Y*** - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

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Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Insulated Domestic Hot Water Tanks (2)	B505 – Campisi	Mechanic al Room	Engulfment, potential atmospheric, very limited access point	Lock-out water supply valves, wristlets with attached lifeline, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Sanitary Lift Station	B505 – Campisi	Mechanic al Room	Engulfment, potential atmospheric, electrocution, biological hazards	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Yes
Stormwater Lift Station	B505 – Campisi	Outside at access doors to basement	Potential atmospheric, electrocution	Lock-out electrical, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes

Key: **Y*** - Space is a permit required confined space which may be reclassified as a non-permit required space as long as the identified hazards have been controlled and a reclassification form has been completed.

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

 N^2 – No label required. These are permit required confined spaces, however they will only be entered by utility contractors following the "Other Confined Space Operations" standard. Site maintenance personnel are trained to recognize these as permit required spaces and therefore they do not require a label.

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Utility Tunnel (under B505 and to B506)	B505 – Campisi & B506 – Sanfilippo	Access in B505 mech. room & B506 janitorial closet & stairwell	Restricted and limited access, low head room, slips, poor lighting, poisonous insects	Minimum of two persons for entry, bump hats, lighting, barricade opening as appropriate, watch for and avoid poisonous insects such as black widows	No	N/A	No
Attic Fan Units	B602 – Casa Italiana Residence Hall	Above hard ceiling	Restricted and limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, provide portable lighting as needed	No	N/A	No
Trash Compactor	B604 – Facilities	South side in yard	Mechanical, falls, slips	Lock-out mechanical equipment prior to entry	N ¹	N/A	Y ¹
Crawl Space	B605 – Sobrato	Storage Rm on 3 rd Floor	Restricted and limited access, low head room, mechanical hazards, poor lighting	Minimum of two persons for entry, lock-out fan unit if working on or in proximity of unit, wear bump hats, provide portable lighting as needed	No	N/A	No
Cooling Tower	B702 – Leavey Center	North side of B702	Mechanical, falls, slips	Lock-out mechanical equipment prior to entry, use appropriate fall protection equipment as needed	N ¹	N/A	Υ ¹

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 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

 N^2 – No label required. These are permit required confined spaces, however they will only be entered by utility contractors following the "Other Confined Space Operations" standard. Site maintenance personnel are trained to recognize these as permit required spaces and therefore they do not require a label.

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Sanitary Lift Station	B702 – Leavey Center	Mechanic al Room	Engulfment, potential atmospheric, electrocution, biological hazards	Lock-out electrical and shut- down water supply, close bathrooms/sinks, fall protection equipment attached to rescue tripod, atmospheric testing, chemical resistant clothing, mechanical ventilation as needed	Yes	No	Y N/A
Backwash Water Sump/Lift Station	B702 – Leavey Center	Mechanic al Room	Engulfment, potential atmospheric, electrocution	Lock-out electrical and water supply valves, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Stormwater/Ground water Lift Station	B702 – Leavey Center	Mechanic al Room	Potential atmospheric, electrocution	Lock-out electrical, fall protection equipment attached to rescue tripod, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Pool Water Filter Tanks (5)	B702 – Leavey Center	Mechanic al Room	Engulfment, potential atmospheric, very limited access point	Lock-out water supply valves, wristlets with attached lifeline, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

 N^2 – No label required. These are permit required confined spaces, however they will only be entered by utility contractors following the "Other Confined Space Operations" standard. Site maintenance personnel are trained to recognize these as permit required spaces and therefore they do not require a label.

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Heating Water Tank (1) – ET-1	B702 – Leavey Center	Mechanic al Room	Engulfment, potential atmospheric, very limited horizontal access point	Lock-out water supply valves, wristlets with attached lifeline, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Heating Water Tanks (2) – ET-2, ET-3	B702 – Leavey Center	Mechanic al Room	Engulfment, potential atmospheric, very limited vertical access point	Lock-out water supply valves, wristlets with lifeline attached to overhead rescue winch, atmospheric testing, mechanical ventilation as needed	Yes	No	Yes
Lower Air Handler Plenum	B702 – Leavey Center	South side upper level (access via fixed ladders)	Limited access, low head room, falls, poor lighting	Minimum of two persons for entry, bump hats, lighting, lock-out mechanical equipment as required	N ¹	N/A	Y¹
Lower Air Handler Plenum	B702 – Leavey Center	North side upper level (access via fixed ladders)	Limited access, low head room, falls, poor lighting, mechanical	Minimum of two persons for entry, bump hats, lighting, lock-out mechanical equipment as required	N ¹	N/A	Υ1

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

 N^2 – No label required. These are permit required confined spaces, however they will only be entered by utility contractors following the "Other Confined Space Operations" standard. Site maintenance personnel are trained to recognize these as permit required spaces and therefore they do not require a label.

Space Name	Bldg	Location	Hazards of Space	Hazard Controls	PRCS?	Re- classify	PRCS Label
Vault – Swimming pool, auto-fill	B702 – Sullivan Aquatic Center	Pool deck, northeast corner	Engulfment, drowning, slips and falls (>6')	Hatch and fixed ladder access. Remove standing water, lock-out water supply valves	Yes	No	Yes
Vault – Swimming pool, old backwash vault	B702 – Sullivan Aquatic Center	Pool deck, northeast corner	Engulfment, drowning, slips and falls (>6')	Metal cover and fixed ladder access. Remove standing water, lock-out water supply valves	Yes	No	Yes
Cooling Towers (3)	B802 – Lucas Hall	Roof	Mechanical, falls, slips	Lock-out mechanical equipment prior to entry, use appropriate fall protection equipment as needed	N ¹	N/A	Y ¹
Air Handlers (3) (small access doors)	B804 – Arts & Sciences	Roof mechanic al areas	Mechanical, limited access	Lock-out mechanical equipment prior to entry	N ¹	N/A	Y ¹
Fan Room	B804 – Arts & Sciences	Lower Roof	Mechanical, limited access	Lock-out mechanical equipment prior to entry	N ¹	N/A	Y ¹
Sodium Hypochlorite Tank	Sullivan Aquatic Center	North side equipmen t enclosure	Chemical burns, respiratory tract irritation, vertical access of > 6'	Drain and flush tank, mechanical ventilation, atmospheric testing to include chlorine, fall protection with emergency retrieval equipment	Yes	No	Yes

Y1 - Space is to be labeled with the following: "DANGER - NON-PERMIT CONFINED SPACE - AUTHORIZED PERSONNEL ONLY"

 N^1 – Space is a non-permit required space as long as the mechanical hazards have been eliminated and locked out and no atmospheric hazards (e.g. hot work, paints, cutting, grinding, etc.) are introduced into the space. If atmospheric hazards are introduced, the space must then be classified as a permit required confined space.

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Attachment 3 - Permit-Required Confined Space Reclassification Form

A permit-required space may be reclassified as a non-permit-required confined space when (a) the space poses no actual or potential atmospheric hazards, and (b) all hazards within the space are eliminated without entry into the space. This reclassification is only valid as long as the space remains hazard free. If hazards arise within a non-permit-required confined space, employees in the space must exit immediately and the space must be re-evaluated.

3. Lockout, tagout and tryout procedures implemented 4. All slip hazards eliminated 5. Space poses no actual or potential atmospheric hazards; or if there are potential atmospheric hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded	(,(ontinged Congress Identification 0 1 as					
Authorized Duration of Permit: Date: To: Time: To:		•	auon:				
Pre-Entry Hazard Elimination Measures Taken 1. Contents of the space removed 2. Exposed electrical de-energized and verified 3. Lockout, tagout and tryout procedures implemented 4. All slip hazards eliminated 5. Space poses no actual or potential atmospheric hazards; testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H,S < 10 ppm CO < <25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)		<u> </u>					
Pre-Entry Hazard Elimination Measures Taken 1. Contents of the space removed 2. Exposed electrical de-energized and verified 3. Lockout, tagout and tryout procedures implemented 4. All slip hazards eliminated 5. Space poses no actual or potential atmospheric hazards; or if there are potential atmospheric hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm 1 certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)	Αu	uthorized Duration of Permit:					
1. Contents of the space removed 2. Exposed electrical de-energized and verified 3. Lockout, tagout and tryout procedures implemented 4. All slip hazards eliminated 5. Space poses no actual or potential atmospheric hazards; or if there are potential atmospheric hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed 8. Physical barriers or barricades installed 9. Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm 1. Certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)			Time:	To:			
1. Contents of the space removed 2. Exposed electrical de-energized and verified 3. Lockout, tagout and tryout procedures implemented 4. All slip hazards eliminated 5. Space poses no actual or potential atmospheric hazards; or if there are potential atmospheric hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H₂S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)	Pr	e-Entry Hazard Elimination Mea	asures Take	en			
2. Exposed electrical de-energized and verified 3. Lockout, tagout and tryout procedures implemented 4. All slip hazards eliminated 5. Space poses no actual or potential atmospheric hazards; or if there are potential atmospheric hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed 8. Physical barriers or barricades installed 8. Physical barriers or barricades installed 9. Additional Hazard Elimination Measure Taken 9. Steps Necessary to Identify Hazards That Develop During Entry 9. Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) 9. Agent					Yes	No	NA
3. Lockout, tagout and tryout procedures implemented	1.	Contents of the space removed					
4. All slip hazards eliminated	2.	Exposed electrical de-energized ar	nd verified				
5. Space poses no actual or potential atmospheric hazards; or if there are potential atmospheric hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H₂S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)	3.	Lockout, tagout and tryout procedu	res implemen	ted			
hazards, testing (oxygen, flammable vapors/gases and toxic concentrations) has been conducted and documented 6. Passageway and access opening obstruction hazards eliminated 7. Sharp edges removed or guarded 8. Physical barriers or barricades installed Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title)	4.	All slip hazards eliminated					
7. Sharp edges removed or guarded 8. Physical barriers or barricades installed Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print name) (Print Title)	5.	hazards, testing (oxygen, flammab					
8. Physical barriers or barricades installed	6.	Passageway and access opening of	obstruction ha	zards eliminated			
Additional Hazard Elimination Measure Taken Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title)	7.	Sharp edges removed or guarded					
Steps Necessary to Identify Hazards That Develop During Entry Atmospheric Monitoring Results (If testing required for potential atmospheric hazards) Agent Limit Test Results Test Time Tester's Initials Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title)	8.	Physical barriers or barricades inst	alled				
Oxygen 19.5% - 23.5% Flammables < 10% LEL/LFL H ₂ S < 10 ppm CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print name) (Print Title)							
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CO < 25 ppm I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)	At	mospheric Monitoring Results Agent Limit	(If testing re	equired for potential atmospheric hazar		s Initia	als
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I certify that all identified hazards have been eliminated, that the confined space is safe to enter, and hereby reclassify the confined space as a non-permit-required confined space. (Print Title) (Sign name)	At Ox Fla	mospheric Monitoring Results Agent Limit kygen 19.5% - 23.5% ammables < 10% LEL/LFL	(If testing re	equired for potential atmospheric hazar		s Initia	als
	At Ox Fla	mospheric Monitoring Results Agent Limit xygen 19.5% - 23.5% ammables < 10% LEL/LFL S < 10 ppm	(If testing re	equired for potential atmospheric hazar		s Initia	als
	At Ox Flat H ₂ CCC	mospheric Monitoring Results Agent Limit sygen 19.5% - 23.5% ammables < 10% LEL/LFL S < 10 ppm < 25 ppm tertify that all identified hazards had classify the confined space as a result.	(If testing re Test R	equired for potential atmospheric hazar esults Test Time minated, that the confined space is safe to equired confined space.	Tester's		

reclassification form is to be submitted to the EHS Department once the entry has been terminated.

Attachment 4 - SCU Confined Space Entry Requirements for Contractors

Pre-Entry Meeting

Prior to starting any on-site work involving confined spaces, the contractor's representative shall meet with the SCU Supervisor or Project Manager to review the SCU requirements for confined space entry and ensure the following procedures are followed.

Non-Permit Confined Space Entry

Contractor personnel that enter non-permit required confined spaces such as air handlers with limited access shall prior to entry:

- Perform hazardous energy control procedures (LOTO) prior to entry following either equipment specific hazardous energy control procedures for the equipment to be entered or SCU's general LOTO program for equipment with a single hazardous energy source.
- Verify equipment has been properly isolated and locked/tagged out.

Reclassification of Permit Required Confined Spaces

Those permit required confined spaces identified on the confined space inventory with a "Y*" under the "PRCS?" column, may be reclassified as a non-permit required space as long as all of the hazards of the space can be eliminated. The reclassification of a permit required space must be documented and the following procedures implemented:

- The qualified contractor shall complete and sign the PRCS Reclassification form provided in Attachment 4.
- All hazards identified are to be controlled as shown on the reclassification form prior to entry.
- If a hazard arises during an entry of a reclassified space:
 - All personnel must immediately leave the space.
 - o The space must be re-evaluated and all hazards eliminated before re-entry.

Permit Required Confined Space Entry

The contractor's on-site supervisor/foreman is responsible for ensuring that, at a minimum, the following confined space entry procedures are implemented:

- The contractor's confined space entry team shall:
 - Implement measures necessary to prevent unauthorized entry.
 - o Identify and evaluate hazards of permit spaces before employees enter them.
 - Develop and implement the means, procedures and practices necessary for safe permit space entry operations, including, but not limited to, the following:
 - Specifying acceptable entry conditions.
 - Isolating the permit space.

- Purging, inerting, flushing, or ventilating the permit space, as necessary, to eliminate or control atmospheric hazards.
- Providing pedestrian, vehicle, or other barriers, as necessary, to protect entrants from external hazards.
- Verifying that conditions in the permit space are acceptable for entry throughout the duration of the authorized entry.
- Provide and maintain the following equipment, and ensure employees properly use the equipment:
 - Testing and monitoring equipment needed to ensure employee safety.
 - Ventilating equipment needed to obtain acceptable entry conditions.
 - Any necessary communication equipment to ensure proper safety measures.
 - Personal protective equipment when engineering and work practices do not adequately protect employees.
 - Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency.
 - Barriers and shields, as required, to protect entrants from external hazards.
 - Equipment, such as ladders, needed for safe ingress and egress by authorized entrants.
 - Rescue and emergency equipment needed for summoning emergency services and for non-entry rescue.
 - Any other equipment necessary for safe entry into permit spaces.
- Evaluate permit space conditions prior to entry:
 - Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin. Pre-entry testing will be performed to the extent of feasibility before entry is authorized.
 - Air and Oxygen Monitoring is required before entering any Permit Required Confined Space. Oxygen levels in a Confined Space must be between 19.5 and 23.5 percent. Levels above or below will require the use of an SCBA (Self-Contained Breathing Apparatus) or other approved air supplied respirators.
 - Additional ventilation and Oxygen Level Monitoring is required when welding is performed. The monitoring will check Oxygen Levels, Explosive Gas Levels and Carbon Monoxide Levels.
 - Entry will not be permitted if explosive gas is detected above 10% of the Lower Explosive Limit (LEL).
 - Test or monitor the permit space continuously to determine if acceptable conditions are being maintained during the course of entry operations.
 - When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.
 - Provide at least one Attendant outside the permit space into which entry is authorized for the duration of entry operations.
- o Confined Space Rescue.

- Procedures for summoning rescue and emergency services for rescuing entrants from permit spaces shall be documented on the Confined Space Entry Permit. For high hazard entries, such as vertical tank entries and/or entries requiring air supplied respirators, the contractor must arrange for a standby rescue team to be located at the space to be entered.
- Under no circumstances shall unauthorized personnel be allowed to attempt an
 entry rescue. Non-entry rescue and rescue preparations may be performed as long as
 doing so does not endanger the rescuers' health and safety.
- To facilitate non-entry rescue, retrieval systems or methods must be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems will meet the following requirements:
 - When required, each authorized entrant will use a chest or full body harness, with a retrieval line attached at the center of the entrant's back, near shoulder level, or above the entrants head. Wristlets may be required in lieu of the chest or full body harness if the use of a chest of full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.
 - ➤ The other end of the retrieval line will be attached to a mechanical device or fixed point outside their permit space in such a manner that rescue can begin as soon as the attendant becomes aware that rescue is necessary. A mechanical device will be available to retrieve personnel from vertical type permit spaces more than five feet deep.
- If an injured entrant is exposed to a hazardous substance, a copy of the Material Safety Data Sheet MSDS shall be made available to the medical facility treating the exposed entrant.
- Confined Space Entry Permit The Contractor's Entry Supervisor shall ensure a Confined Space Entry Permit (Attachment 5) or an approved equivalent is completed prior to entry.
 - The permit will identify:
 - The permit space to be entered.
 - The purpose of the entry.
 - The date and the authorized duration of the entry permit.
 - The authorized Entrants, by name, within the permit space.
 - The personnel, by name, currently serving as Attendant(s).
 - The individual, by name, currently serving as Entry Supervisor, with a space for the signature of the Entry Supervisor who originally authorized entry.
 - The hazards of the permit space to be entered.
 - The measures used to isolate the permit space and to eliminate or control permit space hazards before entry. NOTE: Those measures can include lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.
 - The acceptable entry conditions.
 - The results of initial and periodic tests performed, e.g., atmospheric testing conditions, accompanied by the names or initials of the testers and by an indication of when the

tests were performed. Atmospheric test results shall be recorded a minimum of every 30 minutes.

- The rescue and emergency services that can be summoned and means for summoning those services.
- The communication procedures used by authorized Entrants and Attendants to maintain contact during the entry.
- Equipment, such as personal protective equipment, testing equipment, communications equipment, alarms systems, and rescue equipment to be provided for compliance.
- Any other information whose inclusion is necessary, given the circumstances of the particular confined space in order to ensure employee safety.
- Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.
- Before entry begins, the Entry Supervisor, identified on the permit, will sign the entry permit to authorize entry and the permit will be reviewed by the EHS Department.
- The completed permit will be made available at the time of entry to all authorized Entrants, by posting it at the entry portal or by any other equally effective means, so that the Entrants can confirm that pre entry preparations have been completed.
- The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit. Once the confined space entry has been completed, a copy of the cancelled permit is to be provided to the EHS Department.
- Confined Space Entry Team The Confined Space Entry Team shall be established on the Confined Space Entry Permit, described below, for each permit required confined space entry, and shall consist of the following positions: Confined Space Entrant(s), Confined Space Entry Attendant, and Confined Space Entry Supervisor. The roles and responsibilities for each member of the team are summarized below:
 - Confined Space Entrant:
 - Maintains communications with the Confined Space Entry Attendant.
 - Alerts the Attendant whenever the Entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or the Entrant detects a prohibited condition.
 - Exits from the confined space as quickly as possible whenever:
 - An order to evacuate is given by the Attendant or by the Entry Supervisor
 - > The Entrant recognizes any warning sign or symptom of exposure to a dangerous situation
 - An air-monitoring instrument alarm is activated
 - An evacuation alarm is activated
 - Confined Space Entry Attendant:
 - Maintains communications with the Entrants to monitor their status and to alert them of the need to evacuate the space, if required.
 - Maintains a list of Entrants inside the confined space.
 - Remains outside the confined space during entry operations.

- Performs non-entry rescue and rescue preparations, as long as doing so does not endanger the Attendant's health and safety.
- Monitors activities inside and outside the space to determine if it is safe for Entrants to remain in the space. Orders the Entrants to evacuate the confined space immediately under any of the following conditions:
 - > The Attendant detects a prohibited condition.
 - ➤ The Attendant detects behavioral effects in the Entrant from a hazardous exposure.
 - > The Attendant detects a situation outside the space that could endanger the Entrant.
 - > The Attendant cannot effectively and safely perform the required duties.
- Summons rescue and other emergency services as soon as the Attendant determines that Entrant(s) may need assistance to escape from the confined space.
- Performs no duties that might interfere with the primary duty of monitoring and protecting the Entrant(s).
- Takes the following actions when unauthorized persons approach or enter a confined space while entry is underway:
 - Warns the unauthorized persons to stay away from the confined space.
 - Advises the unauthorized persons to exit immediately if they have entered the confined space.
 - ➤ Informs the Entrant(s) and the Entry Supervisor that unauthorized persons have entered the confined space.
- Confined Space Entry Supervisor
 - Signs the Confined Space Entry Permit once it is complete. The signature officially allows entry into the confined space and verifies that all actions and conditions necessary for safe entry are provided and will be maintained.
 - Ensures that the Confined Space Entry Permit is posted at the entry point of the confined space.
 - Ensures that rescue services are available and that the means for summoning them are operable.
 - Informs employees and contractors working in the confined space that if any use or configuration is changed within the confined space, then a re-evaluation of the space for new hazards is conducted before re-entry.
 - Cancels authorization of the Confined Space Entry Permit, or terminates the entry, whenever unacceptable conditions exist or upon completing permitted activities.
 - Upon completion of confined space entry operation, ensures that the terminated Confined Space Entry Permit is retained as per Section 9.

Attachment 5 - Confined Space Entry Permit

CONFINED SPACE ENTRY PERMIT

Instructions: This form must be completed prior to performing any confined space work on SSU campus. After work is completed the permit shall be cancelled and returned to the EHS Department, Building 604.

PERMIT MUST REMAIN POSTED AT JOB SITE AT ALL TIMES							
Confined Space (description):							
Location of Confined Space:							
Purpose of Entry:							
Authorized Duration of Permit:				To):		
	Time:			To):		
	Entry Personnel						
Entry Supervisor:							
Entry Attendant(s):							
Authorized Entrants:							
Hazards Associated with Space							
Oxygen Deficiency	Engulf				Chemical Contact		
Oxygen Enriched		ocution			Standing Water		
Flammable Atmosphere			oving machinery)		Head Room/Protruding Objects		
Toxic Atmosphere	Slip, I	rip, Fall	☐ Hot Surfaces				
Other Known Hazards:							
Note: Welding/cutting operations require a Hot Work permit. Other Permits Required: Y \(\subseteq \text{N} \subseteq \text{N} \subseteq \text{If yes, identify} \) Permit Expiration Date:							
Required Special Precautions			Required PPE				
☐ Lockout/Tagout		☐ Protective Clothing – Tyvek, Level C or B					
☐ Purge Space – Flush and Vent			Footwear - Safety Shoes, Rubber Boots				
Secure Space – Post and Barricade			Gloves – Leather, Chemical Resistant				
Continuous Mechanical Ventilation			Face/Eye Protection – Safety Glasses/Face Shield				
Harness and Lifeline (Fall Protection)		Hearing Protection					
Retrieval Device – Tripod, Rescue	Winch,		Respirator – Self Contained, Air Purifying				
☐ Non-Sparking Tools		Personal Air Monitor (Additional to Attendant's					
This balls as			Monitor)				
Lighting			Other:				
CSE Communication							
☐ Visual Hand Signals/Verbal			☐ Rope Signals				
Radios		Other:					
Res	scue P	rocedi	ures and Equip	ome	ent		
Emergency Phone Number:							
Emergency Rescue Services Provide	ded By:						
Location of Phone/Radio to Call for Emergency Services:							
Pre-entry Notification Required? Y N N If Yes, To:							
,		_	, -				

Air Monitoring Equipment Data

Test Equipme	ent:	nt: Date Calibrated:								
	Atmospheric Testing Data									
	Acceptable Conditions	Result	Result	Result	Result	Result	Result			
Time		: AM/PM	: AM/PM	: AM/PM	: AM/PM	: AM/PM	: AM/PM			
Oxygen	19.5% - 23.5%									
Flammability	< 10% LEL/LFL									
H_2S	< 10 ppm									
CO	< 25 ppm									
Other										
Other										
Tester Initials										
NOTE: Testing radditional sheets	esults shall be rec s as needed.	orded at a mir	nimum of at le	ast twice per ho	our, continuous	monitoring is r	equired. Attach			
			Permit A	uthorizatio	n					
I certify that all	Entry Authorization by Entry Supervisor I certify that all precautions and equipment specified by this permit are in place and all atmospheric testing is within allowable limits to allow entry.									
Print Name		Sig	nature		Date	Т	ime			
			Cancellati	on of Pern	nit					
The entry supe	ellation by Entrology rvisor cancels the paccurred. A copy of	permit when the	ne work autho				eptable			
Signature		Date		Time						
_										
	Immediately can specifically tra		• •		•	•	ue unless			

Attachment 6 - Annual Confined Space Program Review

1.	Was a reviewed completed of all canceled permits issued during the	Yes □	No □	NA
	past year?			
2.	Have any changes been made to the confined space program based upon the review of canceled permits? If so, detail changes in comment section below.			
3.	Were there any incidents during the past year where the control and operational measures taken did not protect employees or contractors (examples include entry without a permit, a near miss or an injury)? If so, detail incident and any corrective changes in comment section below.			
4.	Were any issues identified during non-permit required confined entries during the past year? If so, detail changes in comment section below.			
5.	Have any changes been made to the confined space program based upon issues identified during non-permit required confined entries? If so, detail changes in comment section below.			
6.	Was a review completed of the confined space inventory and hazard assements?			
7.	Have any changes been made to the confined space program based upon the review of the confined space inventory and hazard assessments? If so, detail changes in comment section below.			
8.	Did a review of the program indicate that appropriate employees were properly trained and proficient? If no, indicate concerns and corrective actions taken in comment section below.			
9.	 Did a review of the confined space entry equipment indicate that the appropriate equipment is available and is being properly maintained? If no, indicate concerns and corrective actions taken in comment section below. 			
Cc	mments:			
_				
_				
Re	view Completed by:			
/D	rint name) (Print Title)			
(12	(Fillit Hue)			
(S	gn name) (Date)			