A. Alternate Entry Procedures

1. Alternate entry procedures may be used based on the requirements in the Confined Space Evaluation Section of this document.

2. An Entry Supervisor, Entry Attendant, and Entrant shall be designated to participate when alternate entry procedures are used to enter a confined space. The Entry Supervisor does not need to be present during the entire confined space operation.

3. Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.

4. When the entrance cover is removed, the opening shall be promptly guarded using a railing, temporary cover, or other temporary barrier that will prevent a fall into the space and protect employees working in the space from objects entering the space.

5. If applicable to the site, traffic control shall be in place during entry procedures.

6. The air shall be tested for hazardous contaminants since the only hazard posed by the space is an actual or potential hazardous atmosphere. Before an employee enters the space, the internal atmosphere shall be tested with a calibrated direct reading instrument. Pre-entry gas test results must be entered into the Confined Space Pre-Entry Checklist Atmospheric Check Section of the Confined Space Entry Permit (Section IV, 1). The following conditions must be tested in the order given:
   - Oxygen content,
   - Flammable gases and vapors,
   - Potential toxic air contaminants.

7. There must be no hazardous atmosphere within the space whenever any employee is inside the space. The gas detector and alarm must be on throughout the entire entry procedure to test for the following contaminants: Oxygen content, lower flammable limit, carbon monoxide, and hydrogen sulfide. Readings must be recorded every hour.

8. The Entry Supervisor must verify that the space is safe for entry and that the pre-entry measures have been taken prior to employees entering the space. Written documentation is required and the following sections on the Entry Permit must be completed: I, II, III, IV (1, 5-7), V, VI, and VII.

9. Continuous forced air ventilation shall be used, as follows:
   - An employee may not enter the space until the hazardous atmosphere is eliminated and acceptable gas detector readings are documented.
The forced air ventilation shall be directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space.

The supply air shall be taken from a clean source and may not increase the hazards in the space.

The ventilation shall be allowed to operate for at least 5 minutes prior to entering the space.

The atmosphere within the space shall be tested and readings shall be documented to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

10. If the ventilation does not operate or if a hazardous atmosphere is detected during entry:
   - All Entrants must leave the space immediately.
   - The space shall be evaluated to determine how the hazardous atmosphere developed.
   - Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

11. If the Entrant becomes aware of a previously unrecognized hazard, they must immediately evacuate the space and the space must be reevaluated prior to reentry.

12. An effective means of communication shall be available for the Entrants to use at all times. Entrants must be trained in the appropriate use of powered communication equipment and the system shall be tested to confirm its effective operation. If the powered communication equipment malfunctions, the Entrants must evacuate the confined space immediately and not reenter until a functional method of communication is available.

13. Employees entering the confined space must have the opportunity to observe pre-entry testing and review the Confined Space Entry Permit containing pre-entry test results.

14. When work in the confined space is completed, the Entry Permit shall be kept on file for a minimum of 1 year.

B. Permit Required Confined Space Entry Procedures

1. Entry into a permit required confined space requires an entry permit issued by the Entry Supervisor.

2. An Entry Supervisor, Entry Attendant, and Entrant shall be designated to participate in each Permit Required Confined Space Entry. In addition to the Entry Attendant, at least one other person needs to be available within sight or call in the event that the Entry Attendant requires assistance. The Entry Supervisor does not need to be present during the entire confined space operation.
3. All of the required safety equipment, based on the permit, must be on site and available. Equipment can include, but is not limited to, blowers, full body harness, retrieval line, rescue tripod, and traffic control systems.

4. Hazardous sources of energy that impact the work to be performed in a confined space must be identified and disconnected, tagged or locked out of operation. Please refer to the SDSU Lock Out/Tag Out Program.

5. When the entrance cover is removed, the opening must be promptly guarded using a railing, temporary cover, or other temporary barrier that will prevent a fall into the space and protect employees working in the space from objects entering the space.

6. If applicable to the site, traffic control must be in place during entry procedures.

7. A survey of the air in the confined space is required prior to entry. An atmospheric survey instrument shall be used to monitor the confined space for Oxygen content, lower flammable limit of any combustible gases that may be present, Carbon Monoxide, and Hydrogen Sulfide. If any other hazardous substances are potentially present, monitoring and appropriate personal protection must be implemented. Entrance into the confined space is not permitted under any circumstances until this has been addressed.

8. The pre-entry gas test results must be entered into the Confined Space Pre-Entry Checklist, Atmospheric Check Section of the Confined Space Entry Permit (Section IV, 1). The air must be continuously sampled and the results recorded in the Periodic Atmospheric Test Section of the Confined Space Entry Permit (Section VI) throughout the entire entry procedure. Refer to the Monitoring for Toxic Atmospheres and Oxygen Deficiency section of this document.

9. The Entry Supervisor shall complete and sign the Confined Space Entry Permit prior to Entrants going into the space. The following topics must be reviewed with the Attendant and Entrant prior to entry: permit conditions, entry precautions, and rescue procedures.

10. The Attendant shall verify that entry conditions are acceptable prior to entry, continuously monitor the portable gas detector, and record the readings every hour.

11. The Entrant must wear retrieval equipment during the entire entry operation. Retrieval systems shall 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. If a harness and retrieval line are not used because they will increase the overall risk of entry, then the reason for not using the retrieval system must be approved by the Supervisor and documented on the permit. Retrieval systems shall meet the requirements specified in Section VI, C, 4 of this document.

12. If the safety equipment fails or if the space becomes immediately hazardous, an immediate evacuation of the space shall be ordered.

13. An effective means of communication between the Attendant and Entrants shall be used at all times. Powered communication devices are required when Entrants are using respiratory protection equipment or whenever employees inside of the confined space are out of sight of the Attendant or unable to
communicate verbally with the Attendant. Employees must be trained in the appropriate use of the powered communication equipment and the system shall be tested to confirm its effective operation. If the powered communication equipment malfunctions, the Entrants must evacuate the confined space immediately and not reenter until a functional method of communication is available.

14. After the job is complete, the Entry Supervisor shall cancel the permit and keep the completed permit on file for a minimum of one year.

15. In the event that a non-entry rescue is carried out, the Attendant must contact Work Control as soon as possible to report the situation.

C. Non-Permit Required Confined Space Entry Procedures

1. Entry into a Non-Permit required confined space is allowable if certain criteria are met that determine no actual or potential atmospheric hazards exist and if all hazards within the space are eliminated without entry into the space (Refer to Section V,D of this document). A Confined Space Pre-Entry Checklist (Attachment D) shall be completed. If it is necessary to enter the permit space to eliminate hazards, the entry must be carried out according to permit required confined space entry procedures. If testing and inspection during that entry demonstrate that the hazards in the space have been eliminated, the permit space may be reclassified as a non-permit space for as long as the hazards remain eliminated. Following are the criteria that authorize entry into a non-permit confined space:

   - The confined space shall be maintained in a safe condition for entry.
   - A pre-entry hazard evaluation has determined that no atmospheric hazard or oxygen deficient environment exists and that there is no other hazard associated with the space.
   - Documentation shall be available reclassifying it as a non-permit required confined space.
   - An effective means of powered communication shall be available for Entrants to use at all times. Entrants shall be trained in the appropriate use of the powered communication equipment and the system shall be tested to confirm its effective operation. If the powered communication equipment malfunctions, the Entrants shall evacuate the confined space immediately and not reenter until a functional method of communication is available.
   - Since an Entry Supervisor and Entry Attendant are not required, approved procedures shall be in place for maintaining communication with the Entrant to ensure the Entrant completes the work and exits the space safely. When working in manholes, crawl spaces, or any other confined spaces at least two employees must be present at the job site.
When the entrance cover is removed, the opening shall be promptly guarded using a railing, temporary cover, or other temporary barrier that will prevent a fall into the space and protect employees working in the space from objects entering the space.

If applicable to the site, traffic control shall be in place during entry procedures.

If any hazard is identified, the confined space shall become a permitted space and the employees shall immediately exit the space. The space shall be reevaluated prior to entry.

It is important to realize that a non-permit required confined space might require reclassification based on the type of work to be performed. For example, an underground vault may be classified as non-permit required, however, if an employee will be applying a solvent within this space, it could be reclassified to a permit required confined space.

All questions concerning this procedure or requests for further information should be directed to the Department of Environmental Health and Safety at 619-594-6778.