

CONFINED SPACE POLICY

Author: Brian Taylor/Steve Wickstrum Date: 02/03/2009

Stored at: Google Drive/Shared Drives/District Wide/SAFETY/Adopted Policies
www.CMWDstaff.com/policies

Staff Review:

Management/Supervisor: Robert Monnier Date: 4/23/09

Safety Committee: Todd Evans Date: 4/23/09

General Manager: Steve Wickstrum Date: 4/23/09

REVISIONS

Date		Section(s) Revised		Author	
07/09/19		Overall Revision		Greg Romey	
Staff Review:					
Management/Supervisors:		Michael Shields		Date:	7/16/19
Safety Committee:		Stuart Birdsay		Date:	7/17/19
General Manager:		Michael Flood		Date:	7/17/19
Date		Section(s) Revised		Author	
08/21/20		5.1.3.2, 5.3.5, 6.2.4.3, 6.2.5.3, Appendix C		Greg Romey	
Staff Review:					
Management/Supervisors:		Michael Shields		Date:	11-18-20
Safety Committee:		Marti Ortiz		Date:	11-01-20
General Manager:		Michael Flood		Date:	11/18/20
Date		Section(s) Revised		Author	
03/21/22		6.2.2.2.(1-4)		G Romey	
Staff Review:					
Management/Supervisors:				Date:	
Safety Committee:				Date:	
General Manager:				Date:	
Date		Section(s) Revised		Author	
10/17/23		replaced SiteDocs w/ Clappia. 7.2.1, 8.5.1, 9.4.1, 11.2, 18.1 - changes to document titles		G Romey	
Staff Review:					
Management/Supervisors:				Date:	
Safety Committee:				Date:	
General Manager:				Date:	
Date		Section(s) Revised		Author	
Staff Review:					
Management/Supervisors:				Date:	
Safety Committee:				Date:	
General Manager:				Date:	

TABLE OF CONTENTS

1. PURPOSE 1

2. APPLICABILITY 1

3. APPLICABLE REGULATIONS 1

4. DEFINITIONS..... 1

5. RESPONSIBILITIES 3

6. GENERAL PROCEDURES 7

7. PERMIT-REQUIRED CONFINED SPACE ENTRY PROCEDURES 10

8. ALTERNATIVE CONFINED SPACE ENTRY PROCEDURES..... 11

9. RECLASSIFIED CONFINED SPACE ENTRY PROCEDURES..... 13

10. HOT WORK IN CONFINED SPACES 13

11. UNAUTHORIZED ENTRY 14

12. CONTRACTOR REQUIREMENTS..... 14

13. EMPLOYEE INFORMATION AND TRAINING..... 14

14. HAZARDOUS NON-ROUTINE TASKS 15

15. CONFINED SPACE LOCATION/ASSESSMENT 16

16. COMPLIANCE..... 16

17. AUTHORITY 16

18. RECORDKEEPING..... 16

APPENDIX A: CMWD Confined Spaces List 17

APPENDIX B: Confined Space Entry Decision Flow Chart 20

APPENDIX C: Confined Space Rescue Vendors 21

1. PURPOSE

- 1.1. To ensure that all individuals entering a confined space adhere to established safety practices and utilize required confined space entry equipment.
- 1.2. To provide a Program in which Casitas Municipal Water District (Casitas) will identify, document, evaluate, and properly label applicable confined spaces at Casitas, and allow only trained and authorized personnel to enter such spaces. This program also provides guidelines for all entries into confined spaces on Casitas grounds and facilities to be accomplished in a safe and healthful manner. Coupled with the required training and skills, this program provides employees with the understanding, knowledge and skills necessary to perform permit required confined space entries.

2. APPLICABILITY

- 2.1. Casitas facilities have a variety of workspaces that are confined spaces. Limited groups of Casitas employees will encounter work that requires entry into a confined space. All employees that participate or have duties in Confined Spaces will receive training to ensure that each individual has the understanding, knowledge and skills necessary to safely perform all confined space operations.

3. APPLICABLE REGULATIONS

- 3.1. Code of Federal Regulations, Title 29 (29 CFR), Standard 1910.146, Permit Required Confined Space
- 3.2. Title 8, California Code of Regulations (8 CCR), Section 5157, Permit Required Confined Spaces.

4. DEFINITIONS

- 4.1. **Acceptable entry conditions:** Environmental conditions inside a permit required confined space where there are no atmospheric component(s) potentially hazardous to health or safety.
- 4.2. **Alternate Entry Procedures:** A permit space entry where the employer can demonstrate that forced air ventilation alone will control all hazards in the space based on the requirements of section 5157(c)(5)
- 4.3. **Attendant:** A person designated to remain outside the permit-required confined space and monitor conditions for any health or safety impacts and perform the attendant's duties as described on the entry permit.
- 4.4. **Authorized entrant:** A person who has been determined to be medically and physically capable to perform work in a confined space and has

- completed the appropriate training and certification for that entry. An authorized entrant training occurs during the initial assignment to the job, and periodically, when there is a change in personnel or process.
- 4.5. **Engulfment:** The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.
 - 4.6. **Entry:** Entry into a confined space occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.
 - 4.7. **Entry Permit:** The written permit that defines the conditions under which the permit space may be entered.
 - 4.8. **Entry Supervisor:** Person (such as employer, foreman, crew chief) responsible to determine if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry or overseeing entry operations, and for terminating entry as required by this section.
NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this Program for each role he or she fills. Also, the duties of the entry supervisor may be passed from one individual to another during the course of the entry operation.
 - 4.9. **Hazardous atmosphere:** Atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes:
 - 4.9.1. A flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL)
 - 4.9.2. An atmospheric oxygen concentration below 19.5% or above 23.5%
 - 4.9.3. A combustible dust environment.
 - 4.9.4. An atmospheric concentration of any substance for which an employee exposure would exceed the permissible exposure limit (PEL).
 - 4.9.5. Any atmospheric condition recognized as immediately dangerous to life or health.
 - 4.10. **Hot Work:** Defined as any grinding, cutting, welding, cutting, burning, that is capable of providing a source of ignition. Any time that hot work is planned for a confined space, it is required to complete both a Confined Space Permit and Hot Work Permit.
 - 4.11. **Immediately Dangerous to Life or Health (IDLH):** Condition which poses an immediate threat of loss of life or may result in irreversible or immediate severe health effects or other conditions which could impair escape from the permit space.
 - 4.12. **Inerting:** the displacement of the atmosphere in a confined space by a noncombustible gas (i.e. nitrogen) to such an extent that the resulting atmosphere is noncombustible. This action can also produce an IDLH oxygen-deficient atmosphere.

- 4.13. **Permissible Exposure Limits (PEL):** Airborne chemical exposure limit established by CALOSHA which cannot be exceeded without proper respiratory protection and the implementation of feasible engineering controls.
- 4.14. **Space Classifications:** Classification of confined spaces are based on the following OSHA required terms and assessment procedures. The following listing shows the general type of confined spaces found at CMWD:
- 4.15. **Confined Space:** A space defined by the concurrence of all of the following conditions:
 - 4.15.1. Large enough and so configured that an employee can bodily enter and perform assigned work;
 - 4.15.2. Has limited or restricted means for entry or exit;
 - 4.15.3. Is not designated for continuous employee occupancy.
 - 4.15.4. Examples of Confined Spaces are tanks, pipelines, vaults without existing general ventilation, motor control cabinets, and dropped ceilings.
- 4.16. **Non-Permit Confined Space:** A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm, where there is an extremely low likelihood that an IDLH or engulfment hazard could be present, and where all other serious hazards have been controlled..
- 4.17. **Permit-Required Confined Space:** A confined space that has one or more of the following characteristics:
 - 4.17.1. Contains or has the potential to contain a hazardous atmosphere.
 - 4.17.2. Contains a material that has the potential for engulfing an entrant.
 - 4.17.3. Ready removal of a sudden disabled employee is difficult due to the location and/or size of the access openings.
 - 4.17.4. Contains any other recognized serious safety or health hazard. A hazard is considered serious if it prevents self-rescue.
- 4.18. **Reclassified Entry:** An entry into a permit-required confined space that has been reclassified as a non-permit confined space by following the procedures in section 5157(c)(7) to eliminate all hazards within the space prior to entry.

5. RESPONSIBILITIES

- 5.1. **Managers/Supervisors.**
 - 5.1.1. Managers/Supervisors are responsible to ensure that proper procedures are carried out in all phases of confined space entry operations.
 - 5.1.2. Assure that necessary education and training will take place prior to the employee being assigned to work in a confined space.

- 5.1.3. Maintain copies of all Confined Space Entry Permits, including all air testing results for a minimum of three (3) years.
 - 5.1.3.1. Completing a permit in Clappia meets this requirement
 - 5.1.3.2. Data from hardcopy permits must be entered into Clappia within 24 hours and the hardcopy stored in a readily accessible location
- 5.1.4. Provide necessary operations equipment and resources, including confined space attendants.
- 5.1.5. Identify locations and potential hazards of each confined space, or type of space, that may require entry by employees.
- 5.1.6. Including contractor agreements the requirements for contractor entry into Casitas' confined spaces, including but not limited to ensuring that contractors provide an adequate level of protection to their employees while working in Casitas' confined spaces.
- 5.1.7. Provide assessment of new facilities for confined spaces.
- 5.1.8. Provide an annual review of this program.
- 5.2. **Employees**
 - 5.2.1. Responsible for attending training sessions and reading source material provided to them.
 - 5.2.2. Responsible for the participation and adherence to the safety requirements of this program.
 - 5.2.3. Responsible to report any previously unidentified hazards associated with confined spaces.
- 5.3. **Entry Supervisors.**
 - 5.3.1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
 - 5.3.2. Verify, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
 - 5.3.3. Terminates the entry and cancels the permit;
 - 5.3.4. Follows steps to qualify for alternative or reclassified entries have been followed and meet the specific requirements;
 - 5.3.5. Verifies that rescue services are available and that the means for summoning additional services are operable, when entering a permit require confined space;
 - 5.3.6. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
 - 5.3.7. Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.
 - 5.3.8. Determine if acceptable entry conditions are present at a permit space where entry is planned. Know the hazards that may be

- faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- 5.3.9. Oversee entry operations for the duration of assigned work and terminate entry when conditions are determined to be unsafe.
 - 5.3.10. Perform air monitoring as required.
 - 5.3.11. Complete all sections of the Confined Space Entry Permit.
 - 5.3.12. Verify that qualified personnel are onsite and properly trained for the prompt and safe rescue of the entrant(s) from the confined space. It is the responsibility of the entry supervisor to ensure that safe and prompt rescue from the confined space is in place prior to the entry. This could be our own employees using tripod or a professional rescue team, depending on the potential hazards identified during the job assessment or noted on the entry permit.
 - 5.3.13. Control access to the confined space, prohibiting entry of unauthorized individuals.
- 5.4. **Entrants**
- 5.4.1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
 - 5.4.2. Properly use equipment;
 - 5.4.3. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space;
 - 5.4.4. Alert the attendant whenever:
 - 5.4.4.1. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
 - 5.4.4.2. The entrant detects a prohibited condition; and
 - 5.4.5. Exit from the permit space as quickly as possible whenever:
 - 5.4.5.1. An order to evacuate is given by the attendant or the entry supervisor,
 - 5.4.5.2. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation,
 - 5.4.5.3. The entrant detects a prohibited condition, or
 - 5.4.5.4. An evacuation or monitor alarm is activated.
 - 5.4.6. Required to use extreme caution, know the hazards that may be faced during entry and occupation of the space, including information on the mode, signs or symptoms, and consequences of the exposure.
 - 5.4.7. Responsible for reading and complying with procedures and guidelines and using equipment provided by their supervisors.
 - 5.4.8. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space if the attendant:
 - 5.4.8.1. detects a prohibited condition
 - 5.4.8.2. detects the behavioral effects of hazards exposure in an authorized entrant,
 - 5.4.8.3. detects a situation outside the space that could endanger the authorized entrants

- 5.4.8.4. cannot effectively and safely perform assigned duties.
- 5.4.9. Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or the entrant detects a prohibited condition.
- 5.4.10. Ensure that confined space entry permit document is up to date.
- 5.5. **Attendants**
 - 5.5.1. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
 - 5.5.2. Is aware of possible behavioral effects of hazard exposure in authorized entrants;
 - 5.5.3. Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants under subsection (f)(4) accurately identifies who is in the permit space;
 - 5.5.4. Remains outside the permit space during entry operations until relieved by another attendant;
 - 5.5.5. Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space
 - 5.5.6. Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions;
 - 5.5.6.1. If the attendant detects a prohibited condition;
 - 5.5.6.2. If the attendant detects the behavioral effects of hazards exposure in an authorized entrant;
 - 5.5.6.3. If the attendant detects a situation outside the space that could endanger the authorized entrants; or
 - 5.5.6.4. If the attendant cannot effectively and safely perform all the duties required
 - 5.5.7. Initiate on-site rescue procedures and, if necessary, summon additional rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
 - 5.5.8. Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - 5.5.8.1. Warn the unauthorized persons that they must stay away from the permit space;
 - 5.5.8.2. Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and
 - 5.5.8.3. Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;
 - 5.5.9. Performs non-entry rescues or other rescue services as part of the employer's on-site rescue procedure; and
 - 5.5.10. Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

- 5.5.11. Primary responsibility is to monitor and protect the authorized entrants.
- 5.5.12. Assist entry supervisor and entrants as directed by the entry supervisor.
- 5.5.13. Warn unauthorized persons that they must stay away from the permit space. Immediately inform the entry supervisor if an unauthorized person(s) have entered the permit space.

6. GENERAL PROCEDURES

- 6.1. Casitas has created a list of confined spaces within the District, see Appendix A.
- 6.2. **Entry Types**
 - 6.2.1. Review Appendix B for determining confined space entry type
 - 6.2.2. Non-Permitted Entry
 - 6.2.2.1. No atmospheric or other hazards within the confined space
 - 6.2.2.2. Prior to entry, air sampling **MUST** be performed with a 4-Gas monitor
 - 6.2.2.2.1. Air monitor must be bump tested on a schedule recommended by the manufacturer
 - 6.2.2.2.2. Air monitor must be calibrated a minimum of every 180 days or following an exposure where sensor alarm sounded
 - 6.2.2.2.3. Air monitor should be lowered slowly to the bottom of the vault. If unable to reach the bottom from the entrance, it should be lowered in states where at no point would the body of the entrant be lower than the air monitor
 - 6.2.2.2.4. The air monitor should remain turned on and clipped onto the entrant but below the head at all times
 - 6.2.2.3. Results of atmosphere measurement shall be recorded in the Clappia form "**Confined Space - Non-Permitted**"
 - 6.2.2.4. Any abnormal results of monitoring or presence of an engulfment hazard should result in contacting supervisor prior to entry
 - 6.2.2.5. Any introduction of ventilation to correct a hazardous atmosphere per 4.9 means entry must follow either Permit Required or Alternative entry procedures
 - 6.2.2.6. Any introduction of a serious safety hazard (welding, chemicals, etc.) changes the entry from non-permitted and must follow either Permit Required or Alternative entry procedures
 - 6.2.3. Permit Required Entry
 - 6.2.3.1. A confined space that meets the definition of 3.16 where the hazards cannot be removed prior to entry
 - 6.2.3.2. Any non-permitted confined spaces where hazards are introduced based on work type (i.e. welding, painting)
 - 6.2.3.3. The form in Clappia titled "**Confined Space - Permit**" must be completed and signed prior to entry
 - 6.2.3.4. Procedures described in section 7 must be followed

- 6.2.4. Alternative Entry
 - 6.2.4.1. Entry into a permit required confined space that only has an atmospheric hazard
 - 6.2.4.2. The hazard can be mitigated by powered ventilation - prior to entry into confined space
 - 6.2.4.3. The form in Clappia titled "**Confined Space - Permit**" must be completed and signed prior to entry
 - 6.2.4.4. Procedures described in section 8 must be followed
- 6.2.5. Reclassified Entry
 - 6.2.5.1. Entry into a permit required confined space where the hazards causing it to be a permitted space can be mitigated PRIOR to entry
 - 6.2.5.2. Powered ventilation is not considered mitigating a hazard
 - 6.2.5.3. The form in Clappia titled "**Confined Space - Permit**" must be completed and signed prior to entry
 - 6.2.5.4. Procedures described in section 9 must be followed
- 6.3. Where practical for spaces that are determined to be a permit required confined space, signs shall be posted on or near permit required spaces to notify employees what hazards may be present and that only authorized workers may enter those spaces. Signs are not practical nor feasible for the street type manholes or vaults with locks, thus all those areas are automatically considered confined spaces and only authorized employees will have access.
- 6.4. Casitas does not have a trained emergency response team so any entries into permitted confined spaces that have not been altered will require an approved emergency response vendor (see Appendix C)
- 6.5. **General Guidelines**
 - 6.5.1. A Confined Space - Permit, in Clappia must be completed prior to any permitted confined space entry. The permit will be properly filled out and followed. Specific Permit instructions must be included in the permit. The Entry Supervisor will provide a means of accessing the form at the job site during the duration of the work. Permits may be granted for the duration of the project requiring confined space entry. The permit is only valid as long as the physical conditions set out in the permit are met.
 - 6.5.2. Testing of the air within confined spaces shall be performed prior to entry to determine oxygen content, toxic gas potential and flammable or explosive atmospheres. Entry into a confined space is prohibited until initial testing of the atmosphere has been done from outside the space. The tests performed shall include those for oxygen content, carbon monoxide, flammable/combustible gases, and hydrogen sulfide. (Note: this is not required if permanent air ventilation is installed and operating)
 - 6.5.2.1. Monitor must be current on calibration and bump tested prior to use
 - 6.5.2.2. Results of air monitoring shall be recorded in Clappia

- 6.5.3. Air monitor must be worn on a minimum of one employees person at all times unless confined space has permanent powered ventilation that is operating.
- 6.5.4. Additional tests may be required by the entry supervisor depending on the entry circumstances.
- 6.5.5. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and protect each employee working in the space from foreign objects entering the space. (Note: this is not required if there is an attendant)
- 6.5.6. Entry into any CMWD confined space is allowed for CMWD personnel ONLY If the space meets the following air quality standards:
 - 6.5.6.1. Oxygen level between 19.5% - 23.5%
 - 6.5.6.2. Flammable vapors = 0
 - 6.5.6.3. Hydrogen sulfide = 0
 - 6.5.6.4. Carbon Monoxide = 0
 - 6.5.6.5. Any readings outside the ranges will require an investigation to determine the cause of the non-standard monitor results. Any entries into a confined space outside these parameters will be approved on a case by case basis by the supervisor and safety officer.

NOTE: If unusual odors are present, entry shall NOT be made until it is determined what the source of the odor is and the potential hazard. The presence of odors is not always related to the degree of hazard just as the lack of odor does not mean that it is safe; however, odors could be the result of illegal chemical dumping or an accidental spill which could affect your health and safety. The space needs further evaluation prior to entry.

- 6.5.7. No Casitas employees shall enter a confined space if there are hazardous air contaminants that are in excess of the permissible exposure limits and where a confined space cannot be purged and ventilated to provide and maintain a safe atmosphere.
- 6.5.8. The Safety Data Sheets (SDS) of all products and materials used in a confined space must be reviewed before entry unless the products have already been covered with the employees in the routine hazard communication training. The SDS must be available with the permit at the permit-required confined space entry area.
- 6.5.9. Mechanical and electrical equipment installed in the confined space must be disconnected from its power source and locked out. The lock-out/tag out program must be followed (See: Lockout/Tagout Program in Google Shared Drive > District Wide > SAFETY > Adopted Policies for further details). Only double insulated electric tools or tools on a ground fault circuit interrupter system are used in confined spaces. All portable lights and tools shall be explosion

proof when working in a confined space where there is a potential flammable or explosive atmosphere.

7. PERMIT-REQUIRED CONFINED SPACE ENTRY PROCEDURES

- 7.1. Personnel - a minimum two person crew is required, with an additional on-site rescuer present. If the space and entry are difficult more employees may be needed because of the complexity of work and potential problems encountered when performing maintenance and repair. This includes extended entry times in manholes and vaults, chemical product usage, extensive equipment to use and handle, and often difficult traffic routing and control issues.
- 7.2. **Procedures**
 - 7.2.1. Step 1 - Permit - The entry supervisor fills out the the "**Confined Space – Permit**" in Clappia - noting the specific requirements to be followed.
 - 7.2.2. Step 2 - Testing - Monitor the space atmosphere with the gas detector. Record the levels on the permit and continually monitor while the space is open. If the monitoring indicates an unacceptable atmosphere after either ventilating or waiting for a short time period the entry supervisor needs to be notified. An acceptable atmosphere is defined on the permit. If the atmosphere is not acceptable then employees are *not permitted to enter the space and the permit would not be valid*.
 - 7.2.3. Step 3 – Ventilate – Ventilate with power ventilator of at least 750 CFM capacity or more. Ventilate until atmosphere is safe to enter and continue to ventilate while the manhole is open.
 - 7.2.4. Step 4 – Rescue Device and Access – For manholes and vaults with vertical entrance of more than 5 feet a personnel lift needs to be set up. Examine and inspect all the lines to ensure that they are functioning properly. For horizontal entrances, have the employee in safety harness and life line. If the space requires portable ladders or other entrance devices those will be made available and be in proper working condition.
 - 7.2.5. Step 5 – Communication – the employees discuss and determine communication methods prior to manhole or vault/tank entry. Emergency rescue procedures need to be determined and communicated with the entrant(s) and attendants.
 - 7.2.6. Step 6 – Respirator – if necessary*, set up the breathing air supply system components to ensure proper function. Place the system in an area readily available to the work space. Airline supply system is defined as: full face mask, 5-minute hip pack for emergency escape,

and the remote air supply cylinder and hose line or a self-contained breathing apparatus (SCBA). *NOTE: In most cases entries are only permitted if the space atmosphere is acceptable. There are conditions, however, where the work will involve the use of paints, other chemicals, and welding that would require proper respiratory protection. This must be determined and stated on the permit based on the hazard

- 7.2.7. Step 7 – PPE – The employee entering puts on the safety harness, gloves, and is secured to the personnel lift. Don the respiratory protection, if needed. The employee will generally wear the gas monitor, if not, the attendant will monitor the atmosphere with a remove probe in the area where the entrant is working.
 - 7.2.8. Step 8 – Attendant Duties – When the attendant topside is prepared, check gas monitor and personnel-lift. After all the equipment is checked then the employee can enter into the space. The topside employee will continuously check the gas monitor if the employee is not wearing the monitor or other personnel air monitors.
 - 7.2.9. Step 9 – Attendant Duties – While the employee is in the confined space, the attendant will remain alert to his/her activity. Mobile radio source must be within 50 feet of the manhole work. If gas monitor alarm activates, employee will signal the entrant and the entrant is to leave the space.
 - 7.2.10. Step 10 - Exiting - When the work is completed the Entrant will signal topside observer(s) who will operate man-lift and life lines to ensure none become entangled with obstructions.
- 7.3. When any hot work involving sources of ignition, including welding and burning is done in a confined space, then all fire hazards and flammable atmospheres must be controlled. All combustible material shall be protected. Complete the “**Hot Work Permit**” section of the “**Confined Space – Permit**” in Clappia.

8. ALTERNATIVE CONFINED SPACE ENTRY PROCEDURES

- 8.1. Employees entering a permit space can be done without all of the permitted entry requirements if all of the following conditions are met:
 - 8.1.1. It has been demonstrated and documented that the only hazard is an actual or potentially hazardous atmosphere.
 - 8.1.2. It has been determined that the forced air ventilation alone is sufficient to maintain safe entry.
 - 8.1.3. The monitoring and inspection data required to support the hazardous atmosphere and forced ventilation determination are used.
 - 8.1.4. Test data collection that requires an initial entry must be performed in compliance with the permit space and entry supervisor requirements.

- 8.1.5. The determinations and data required are documented and available to employees who enter the space.
- 8.2. Types of space where alternative procedures may apply include:
 - 8.2.1. Vaults containing; water control valves, meter boxes, pump stations.
 - 8.2.2. Pits/Sumps; containing sump pumps, other equipment.
 - 8.2.3. Tanks and Reservoirs; truck mounted tanks, water treatment plant pressure vessels.
- 8.3. Personnel - If a space is classified as a permit space allowing alternative procedures then an on-site emergency response team will not be required.
- 8.4. If the space cannot be made safe or there are more hazards than atmosphere only, the space must be classified as permit requiring with at least two employees involved. If the space and entry are difficult more employees may be needed because of the complexity of work and potential problems encountered when performing maintenance and repair
- 8.5. **Procedures:**
 - 8.5.1. Step 1 - the Entry Supervisor fills out the the “**Confined Space – Permit**” in Clappia. If alternative procedures can safely be used, Cal/OSHA does not require a full permit, attendant, or emergency rescue procedures to be implemented but Casitas will exceed requirements by completing a confined space permit and maintain an attendant. The space must be maintained in safe condition and if test data shows a change that could be hazardous then the employee must immediately leave the space.
 - 8.5.2. Step 2 - cover removal; remove the hatch or manhole covers safely and install a portable barrier if a second person is not stationed outside the confined space.
 - 8.5.3. Step 3 - ventilate with power ventilator of at least 750 cubic feet per minute (CFM) capacity or more. Ventilate until the atmosphere is safe to enter and continue to ventilate while the manhole is open. Continuous forced air ventilation shall be used. The air must be from a clean source.
 - 8.5.4. Step 4 - testing; monitor the confined space atmosphere with the gas detector. Record the levels on the Clappia form. If the monitoring indicates an unacceptable atmosphere after either ventilating or waiting for a short time, the supervisor needs to be notified. If the atmosphere is not acceptable, then employees are NOT ALLOWED TO ENTER THE SPACE AND A PERMIT WOULD NEED TO BE ISSUED.
 - 8.5.5. Step 5 - PPE; the employees entering puts on required safety equipment. At least one employee must wear the gas monitor at all times.

- 8.5.6. Step 6 - if a hazardous atmosphere is detected then the entrant will immediately leave the space and re-entry would only be made with an entry permit if changes in the space cannot render it fully safe.

9. RECLASSIFIED CONFINED SPACE ENTRY PROCEDURES

- 9.1. A permitted confined space can be reclassified if ALL hazards that make the space permitted are eliminated PRIOR to entry
- 9.2. Example of mitigating hazards are
 - 9.2.1. LockOut/Tagout (LOTO) of electrical panels that provide energy to interior of space (ex. Mixing blades, pressurized air)
 - 9.2.2. LOTO of valves that release water into the space
 - 9.2.3. Powered Ventilation DOES NOT constitute mitigating a hazard. If powered ventilation is required, refer to Alternative Confined Space Entry or Permit Required Confined Space Entry Procedures)
- 9.3. Atmosphere must fall within standards described in 6.5.6
- 9.4. The “**Confined Space – Permit**” form must be completed in Clappia
 - 9.4.1.
- 9.5. Steps associated with the Permitted entry will be followed EXCEPT
 - 9.5.1. Presence of emergency response team
 - 9.5.2. Powered ventilation (unless needed to improve conditions in space, not eliminate a serious atmospheric hazard)
 - 9.5.3. Respiratory protection
- 9.6. Should any of the steps described in 9.5 be required, the entry **DOES NOT** qualify for reclassification and should be treated as a permitted or alternative entry, depending on the circumstances.
- 9.7. LOTO procedures can be found in the “Lockout Tagout Program” located in Google Shared Drive > District Wide > SAFETY > Adopted Policies folder

10. HOT WORK IN CONFINED SPACES

- 10.1. All combustible material shall be protected.
- 10.2. These procedures are in addition to the general confined space entry requirements.
 - 10.2.1. Many other occupational safety regulations relate directly or indirectly to conditions found in confined spaces.
- 10.3. Instructions on Hot Work requirements can be found in the **Google Shared Drive > District Wide > SAFETY > FORMS > Hot Work** folder
- 10.4. Hot Work Permits in confined spaces need to be completed in the “**Hot Work Permit**” section of the “**Confined Space – Permit**” form in Clappia

11. UNAUTHORIZED ENTRY

- 11.1. Only those employees trained in confined space entry may enter confined spaces. No other employee or other person may enter without proper training, with the exception of 3rd party rescue services that are trained and equipped for the rescue.
 - 11.1.1. Credentials section of Target Solutions
 - 11.1.1.1. Confined Space – Entrant/Attendant
 - 11.1.1.2. Confined Space – Entry Supervisor
- 11.2. At the entry point of identified permit-required confined spaces, where practical, Casitas shall prevent unauthorized entry by posting signs reading, "PERMIT CONFINED SPACE", or using other similar language that would satisfy this requirement and lock access. The accesses that this may not be practical include, but are not limited to, street manhole covers and pressure tank manways.
- 11.3. Any employee entering a confined space without authorization and proper training shall be subject to disciplinary action.
- 11.4. Any Entry Supervisor overseeing/allowing entry of a permit required confined space, which allows entry by an unauthorized or untrained individual shall be subject to disciplinary action

12. CONTRACTOR REQUIREMENTS

- 12.1. In the event more than one employer has employees entering any confined space, Casitas shall coordinate such entry by jointly meeting with appropriate personnel. This meeting shall define what constitutes the Casitas Confined Space Program as defined by regulatory requirements and specific requirements of Casitas' Policies and Procedures.
- 12.2. Any contractor and/or his/her employees contracted to work within confined spaces may not enter without the Casitas manager first authorizing such entry. To obtain permission for such entry, the contractor must be briefed concerning potential hazards.
- 12.3. Following the briefing, both the Casitas manager and the contractor representative must sign the Confined Space - Contractor Notification form located in Clappia. The contractor shall receive a copy of the signed form.

13. EMPLOYEE INFORMATION AND TRAINING

- 13.1. Employees who are required to work in a confined space, or in support of those working in a confined space, shall be trained in the following:
 - 13.1.1. Understand the hazards associated with confined spaces.
 - 13.1.2. General hazards and the specific hazards for each confined space that will be entered.

- 13.1.3. Recognition of the signs and symptoms of exposure to a hazard and the consequences of the exposure.
- 13.1.4. How the communications will be maintained between the attendant and the workers in the confined space.
- 13.1.5. Emergency entry and exit procedures.
- 13.1.6. First aid and CPR.
- 13.1.7. Lock-out/Tag-out and isolation procedures.
- 13.1.8. Safety equipment use.
- 13.1.9. Permit System
- 13.1.10. Work practices required under the permit.
- 13.1.11. Supervisor Training - The individual in charge or authorizing the entry shall have additional training on how to evaluate the confined space, ensuring that the permit calls for adequate safeguards. This individual needs to know how to use the testing and monitoring equipment and all other aspects of the entry program. This additional training will be arranged by management, including arrangements with equipment manufacturer's training programs.
- 13.2. Training Frequency -
 - 13.2.1. Before the employee is first assigned duties involving confined space and every three years.
 - 13.2.2. Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained.
 - 13.2.3. Whenever there are deficiencies in the program and/or employee performance relating to the safety of the confined space entry.
- 13.3. Employees will receive refresher training and additional training when a new confined space is introduced into the workplace or whenever employees might be exposed to confined space at another employer's work site.
- 13.4. Training Records - All training will be documented in individual training records in Target Solutions.

14. HAZARDOUS NON-ROUTINE TASKS

- 14.1. Periodically, our employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, affected employees will be given information by their supervisor/manager on hazards to which they may be exposed during such an activity. This information will cover:
 - 14.1.1. Specific hazards
 - 14.1.2. Measures Casitas has taken to reduce the risk of these hazards, such as providing ventilation, ensuring the presence of another employee, providing a respiratory protection program, and establishing emergency procedures.
 - 14.1.3. Required protective/safety measures
- 14.2. Examples of non-routine tasks performed by employees of this company:
 - 14.2.1. Sample non-routine task - cleaning sewage tank

- 14.2.2. Hazardous substance - sodium hydroxide
- 14.2.3. Pipe inspections – hollow jet valve

15. CONFINED SPACE LOCATION/ASSESSMENT

- 15.1. There are several types of common spaces that Casitas' employees may enter, these include; vaults containing water control valves, meter boxes, pump stations, backflow valves, tanks, vessels, tunnels, trenches/ditches, pipes, and electrical vaults accessed through manholes or hatch coverings.
- 15.2. This does not list every possible confined space at Casitas, but defined the types of space. The entry supervisor is trained in making the final space assessment. These spaces, depending on work tasks, can be permit spaces, but the “alternative procedures” may be applied due to the type of hazard and the controls in place.
- 15.3. A list of confined spaces can be found in Appendix A.

16. COMPLIANCE

- 16.1. Employees failing to follow the requirements of the Casitas confined space program are subject to disciplinary action in accordance with the Casitas' Injury and Illness Prevention Program
- 16.2. If anyone has questions about this plan, please immediately contact your supervisor, manager or the Safety Officer

17. AUTHORITY

- 17.1. Code of Federal Regulations, Title 29 (29 CFR), Standard 1910.146, Permit Required Confined Space
- 17.2. Title 8, California Code of Regulations (8 CCR), Section 5157, Permit Required Confined Spaces.

18. RECORDKEEPING

- 18.1. All air monitor readings in non-permitted confined spaces will be recorded and stored in the “Confined Space – Non-Permitted” form in Clappia
- 18.2. All alternative, reclassified or permit required entries will be recorded and stored in the “Confined Space – Permit” form located in Clappia.
- 18.3. All confined space training records will be recorded and stored in Target Solutions
- 18.4. The most current version of this policy can be found in the Google Shared Drive > District Wide > SAFETY > Adopted Policies folder.

APPENDIX A: CMWD Confined Spaces List

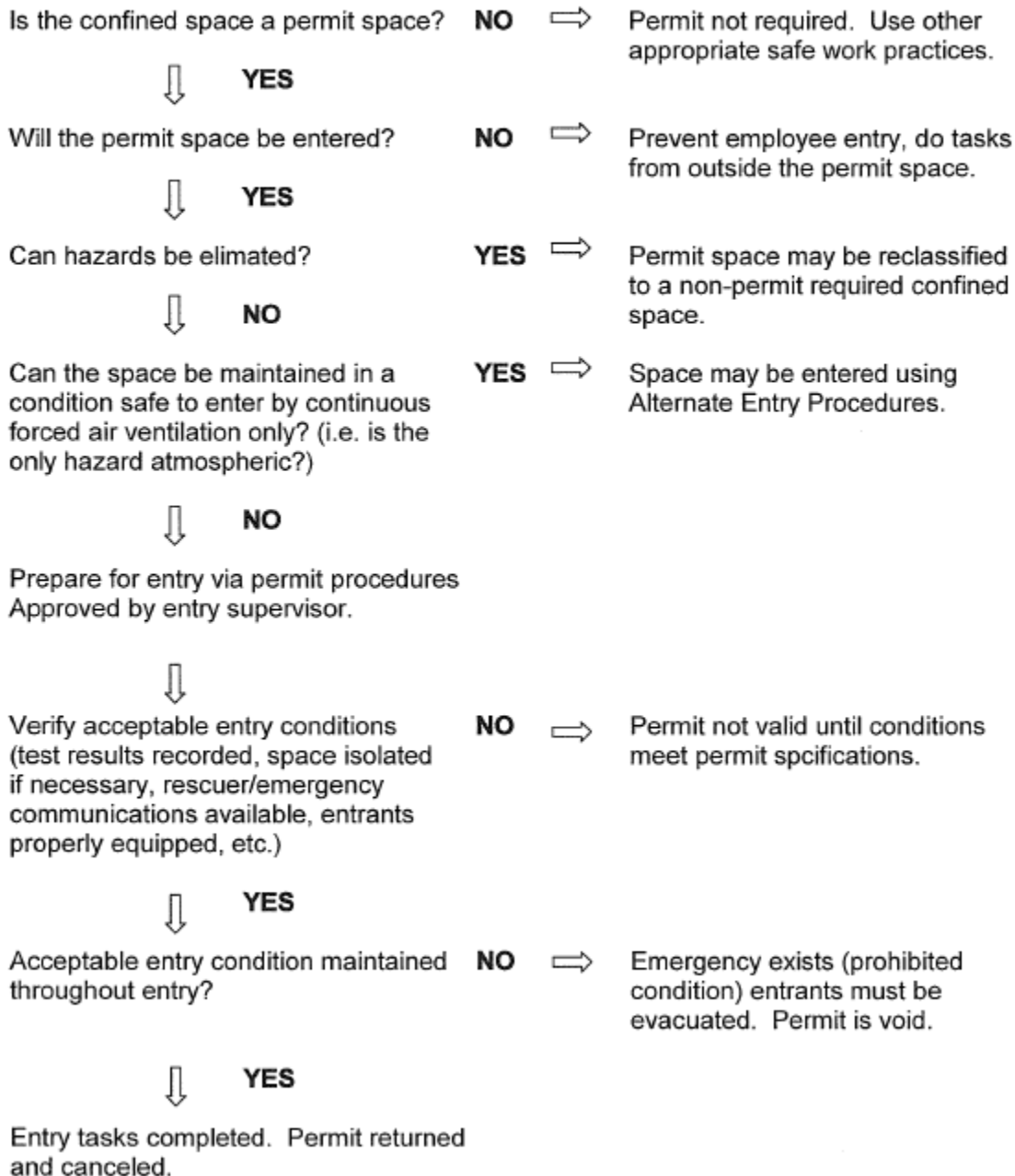
Location	Specific Location	Zone	Assessed Status	Special Conditions
Casitas #1 Chlorine Station	Valve Pit	1	Non-permit	Restricted Access
Casitas Dam	Hoist House/Upper Tunnel	1		Alternate Procedure
Casitas Dam	Valve House/Lower Tunnel	1		Alternate Procedure
Casitas Dam	Intlet/Outlet Works	1	Permit Required	
Matilija Dam	Metering Pit	1		
Pipeline - Canada Larga Main		1	Permit Required	
Pipeline - Casitas Gravity Lateral		1	Permit Required	
Pipeline - Casitas Gravity Main		1	Permit Required	
Pipeline - Ventura 1M Main		1	Permit Required	
Treatment Plant	Filter 1	1	Permit Required	
Treatment Plant	Filter 2	1	Permit Required	
Treatment Plant	Filter 3	1	Permit Required	
Treatment Plant	Filter 4	1	Permit Required	
Treatment Plant	Filter 5	1	Permit Required	
Treatment Plant	Filter 6	1	Permit Required	
Treatment Plant	Filter 7	1	Permit Required	
Treatment Plant	Filter 8	1	Permit Required	
Treatment Plant	Ferric Tank #1	1	Permit Required	
Treatment Plant	Ferric Tank #2	1	Permit Required	
Treatment Plant	Polymer Tank	1	Permit Required	
Treatment Plant	Backwash Surge Tank 1A	1	Permit Required	
Treatment Plant	Backwash Surge Tank 1B	1	Permit Required	
Treatment Plant	Lamella A	1	Permit Required	
Treatment Plant	Lamella B	1	Permit Required	
Treatment Plant	Reclaim - Tank 2	1	Permit Required	
Treatment Plant	Reclaim - Filter A	1	Permit Required	
Treatment Plant	Reclaim - Filter B	1	Permit Required	
Treatment Plant	Reclaim Filter Sump Vault	1	Permit Required	
Treatment Plant	Solar Drying Beds - Reclaim Sump Vault	1	Permit Required	
Treatment Plant	Ammonia Tank A	1	Permit Required	
Treatment Plant	Ammonia Tank B	1	Permit Required	
Treatment Plant	Access Vault - Manway to Gravity Main	1	Permit Required	
Treatment Plant	Access Vault - two 6" nozzels on Main	1	Permit Required	
Avenue One Pump Plant	Meter Vault	2	Permit Required	
District Office	Attic	2		
Gardens Reservoir		2	Permit Required	
Oak View Reservoir		2	Permit Required	
Pipeline - Live Oak Acres Main		2	Permit Required	

Location	Specific Location	Zone	Assessed Status	Special Conditions
Pipeline - Lower San Antonio Ck Lateral		2	Permit Required	
Pipeline - Lower San Antonio Creek Main		2	Permit Required	
Pipeline - Oak View Main		2	Permit Required	
Pipeline - Rice Road Lateral		2	Permit Required	
Pipeline - San Antonio Creek 1M Main		2	Permit Required	
Pipeline - San Antonio Creek Lateral		2	Permit Required	
Avenue Two Pump Plant	La Luna-Tico Regulator Pit	3	Permit Required	
Pipeline - La Luna - Tico Main		3	Permit Required	
Pipeline - Villanova Main		3	Permit Required	
Pipeline - Villanova Reservoir Main		3	Permit Required	
Villanova Reservoir		3	Permit Required	
Arbolada Reservoir		4	Permit Required	
Fairview Reservoir		4	Permit Required	
Heidelberg Reservoir		4	Permit Required	
Montana/Cuyama Vault		4	Permit Required	
Pipeline - Maricopa Hwy Main		4	Permit Required	
Pipeline - Matilija Conduit		4	Permit Required	
Robles Dam and Canal	Inverted Siphon	4	Permit Required	
Running Ridge Reservoir		4	Permit Required	
Ojai East Reservoir		5	Permit Required	
Pipeline - Carne Road Main		5	Permit Required	
Pipeline - Ojai Valley 4M Main		5	Permit Required	
Upper Ojai Reservoir		6	Permit Required	
3M Pump Plant	Meter Pit	7	Permit Required	
3M Reservoir		7	Permit Required	
Pipeline - Lion Creek Lateral		7	Permit Required	
Pipeline - Naomi Drive Lateral		7	Permit Required	
Pipeline - Upper Ojai 3M		7	Permit Required	
4M Pump Plant	Meter Pit	8	Permit Required	
4M Reservoir		8	Permit Required	
Pipeline - Carne Road Main - South		8	Permit Required	
Pipeline - Boardman Road Lateral		8	Permit Required	
Pipeline - East Ojai Valley Main		8	Permit Required	
Pipeline - Matilija Conduit		8	Permit Required	
San Antonio Plant	Filter	8	Permit Required	
Signal Reservoir		8	Permit Required	
Fortress Reservoir		9	Permit Required	

Location	Specific Location	Zone	Assessed Status	Special Conditions
Pipeline - Carpinteria County Water Dist.		9	Permit Required	
Pipeline - Lower Rincon Lateral		9	Permit Required	
Pipeline - Lower Rincon Main		9	Permit Required	
Pipeline - Rincon 2M Main		9	Permit Required	
Pipeline - Rincon Main		9	Permit Required	
Rincon Balancing Reservoir		9	Permit Required	
Rincon Chlorine Station	Sample Vault	9	Permit Required	
Rincon Chlorine Station	Injection Vault	9	Permit Required	
Rincon Control Tank		9	Permit Required	
Rincon Pump Plant	Meter Pit	9	Permit Required	
Rincon Pump Plant	Surge Protection Vessel	9	Permit Required	

APPENDIX B: Confined Space Entry Decision Flow Chart

Confined Space Entry Decision Flow Chart



APPENDIX C: Confined Space Rescue Vendors

Safety Tek

4350 Transport St #109
Ventura, CA 93003
805.339.9464

NRC Environmental Services Inc.

3284 N Ventura Ave
Ventura, CA 93001
OP: 805.667.8424

United Pumping Service, Inc.

1400 E. Valley Blvd.
City of Industry, CA 91746
626.961.9326

PARC Environmental

2864 E. Dorothy Ave
Fresno, CA 93706
559.233.7156