



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER EL PASO

Operating Policy and Procedure

HSCEP OP: 75.35, Confined Space Entry Program

PURPOSE: The purpose of this Texas Tech University Health Sciences Center El Paso (TTUHSC El Paso) Operating Policy/Procedure (HSCEP OP) is to provide guidance to ensure the safety of personnel, as well as Contractors who perform work onsite and are required to enter and conduct work in confined spaces. The program describes procedures for defining and working in confined spaces that meets the requirements of **OSHA 29 CFR 1910.146**.

REVIEW:

This HSCEP OP will be reviewed on January of each odd-numbered year (ONY) by the senior director of safety services and the managing director of physical plant and support services, with recommendations for revisions forwarded to the chief operating officer by February 1.

POLICY/PROCEDURE

Entering and working in confined spaces has been and will continue to be an integral part of daily activity by TTUHSC El Paso employees. This document has been developed to ensure the safety of personnel required to enter and conduct work in confined spaces. The program contained herein describes reasonable and necessary policies and procedures for any and all facilities, departments, and individuals who are associated with confined space entry operations. **This program and all parts of 29 CFR 1910.146 shall apply to all confined space entry operations conducted at TTUHSC El Paso facilities.**

I. Definitions

- A. **Attendant** - A person designated by the department head in charge of entry to remain outside the confined space and to be in constant communication with the personnel working inside the confined space.
- B. **Authorized Entrant** - A person who is approved or assigned by the department head in charge of the entry to perform a specific type of duty or duties or to be at a specific location at the job site.
- C. **Confined Space** – OSHA 1910.146 defines this as a space large enough for a person to enter fully and perform assigned work. The area is not designed for continuous occupancy by a person and has limited or restricted means of entry or exit. These spaces may include underground vaults, tanks, storage bins, pits and diked areas, vessels, silos, and other similar areas.
- D. **Permit-Required Confined Space** – OSHA 1910.146 defines this as an area having one or more of these characteristics:
 - Contains or has the potential to contain a hazardous atmosphere.
 - Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by floor slopes downward and tapers to a smaller cross section, or;
 - Contains any other recognized serious safety or health hazards:

- Fall hazards
 - Unguarded machinery
 - Extreme heat or cold
 - Steam pipes or chemical lines
 - Hazardous noise levels
 - Electrical hazards
 - Presence of asbestos
 - Potentially hazardous levels of dust
- E. **Entry** - The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.
- F. **Entry Permit** - The written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in this program.
- G. **Entry Supervisor** – The department head or the designated representative (such as the foreman or crew lead) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this program.

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 entry supervisor may be passed from one individual to another during the course of entry operation.

- H. **Hazardous Atmosphere** - An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
- Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL)
 - Airborne combustible dust at a concentration that meets or exceeds its (LFL) NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.
 - Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent
 - Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of 29 CFR 1910 and that could result in employee exposure in excess of its dose or permissible exposure limit. (SEE NOTE BELOW)

NOTE: An atmospheric concentration of any substance that is not capable of

causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

- Any other atmospheric condition that is immediately dangerous to life or health

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

- I. **Non Permit-Required Confined Space** - is a confined space that does not contain, nor has the potential to contain, any hazard capable of causing death or serious physical harm (with respect to atmospheric hazards).

II. Responsibilities

- A. TTUHSC El Paso Department of Safety Services (DSS) shall:

1. Review and update the Confined Space Entry Program to conform to current standards;
2. Maintain confined space atmospheric testing and monitoring equipment;
3. Issue Confined Space Entry Permits;
4. Conduct atmospheric monitoring to determine entry requirements;
5. Ensure compliance with standards set forth in the program by periodic inspection of entry sites and canceling permits where unsafe conditions are present; and
6. Assist supervisors with:
 - a) Providing training as set forth in the program;
 - b) Identification of confined spaces;
 - c) Identifying spaces that require a permit for entry; and
 - d) Labeling permit-required confined spaces

- B. TTUHSC El Paso Facilities Operations and Maintenance Supervisors/Leads shall:

1. Identify confined spaces within facilities or areas under their control;
2. Identify hazards within a confined space under their control;
3. Document that all requirements for a specific confined space entry have been met by performing and signing the confined space entry planning worksheet and providing it to DSS for review. This worksheet can be found in Attachment B.
4. Ensure that the required atmospheric tests are performed at the confined space and the results recorded on the permit prior to entry authorization;
5. Obtain and maintain all equipment necessary to complete the confined-space entry project.

6. Terminate the entry and cancel the permit when:
 - a) Entry operations covered by the entry permit have been completed; and
 - b) A condition that is not allowed under the entry permit arises in or near the permit space.
7. Determine, 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 ensure that acceptable entry conditions are maintained.

C. Authorized Entrants

The person(s) authorized to enter a confined space shall be responsible for and receive training in the following:

1. The knowledge of hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure;
2. Proper use of equipment, which includes:
 - a) Atmospheric testing and monitoring equipment;
 - b) Ventilating equipment needed to obtain acceptable entry conditions;
 - c) Communication equipment necessary to maintain contact with the attendant;
 - d) Personal protective equipment as needed;
 - e) Lighting equipment as needed;
 - f) Barriers and shields as needed;
 - g) Equipment, such as ladders, needed for safe ingress and egress;
 - h) Rescue and emergency equipment as needed; and
 - i) Any other equipment necessary for safe entry into and rescue from permit spaces.
3. Communication 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 required;
4. Alert the attendant (standby person) whenever:
 - a) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation; or
 - b) The entrant detects a prohibited condition.
5. Exiting the permit space as quickly as possible whenever:

- a) An order to evacuate has been given by the attendant or the entry supervisor;
- b) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;
- c) The entrant detects a prohibited condition; or
- d) An evacuation alarm is activated.

D. Attendants

Persons authorized to perform duties as attendant shall be responsible for and receive training in the following:

- 1. Knowing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure;
- 2. Awareness of possible behavioral effects of hazard exposure in authorized entrants;
- 3. Continuously maintaining an accurate count of authorized entrants in the permit space and ensuring that the means used to identify authorized entrants accurately identifies who is in the permit space;
- 4. Remaining outside the permit space during entry operations until relieved by another attendant;
- 5. Attempting **non-entry** rescue if proper equipment is in place and the rescue attempt will not present further hazards to the entrant or attendant;
- 6. Communicating with authorized entrants, as necessary, to monitor entrant status and to alert entrants of the need to evacuate the space when conditions warrant;
- 7. Monitoring activities inside and outside the space to determine if it is safe for entrants to remain in the space and ordering the authorized entrants to evacuate the permit space immediately under any of the following conditions:
 - a) If the attendant detects a prohibited condition;
 - b) If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;
 - c) If the attendant detects a situation outside the space that could endanger the authorized entrants; or
 - d) If the attendant cannot perform all the duties required by this program effectively and safely;
- 8. Summoning rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
- 9. Taking the following actions when unauthorized persons approach or enter a permit space while entry is underway:

- a) Warning the unauthorized persons that they must stay away from the permit space;
 - b) Advising the unauthorized persons that they must exit immediately if they have entered the permit space; and
 - c) Informing the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
10. Performing no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

E. Contractors:

When outside contractors are requested to conduct work on campus in any of the identified confined spaces, they shall:

- 1. Notify Safety Services of their location and scope of work.
- 2. Request atmospheric monitoring, if applicable
- 3. If an identified permit required entry will be conducted to complete the work, they shall comply with all requirements found in this policy.

III. Permit Required Confined Space Entry

- A. When a permit-required confined space must be entered, supervisors must perform and document the pre-entry planning and training with the authorized entrant, standby person, and attendant. When the planning and training have been completed, contact the Department of Safety Services.
- B. Department of Safety Services will provide pre-entry atmospheric testing and personal monitoring equipment to the onsite attendant and issue confined space entry permit after the site review.
- C. When work is completed or a situation that violates the terms of the permit arises, then the permit is terminated and Department of Safety Services needs to be notified.
- D. A permit is authorized **only** for the duration of the job. If there is an extended break during the job, the atmosphere must be tested before re-entry.
- E. All permit-required spaces must be labeled with a permanent sign that states, **"DANGER" PERMIT REQUIRED CONFINED SPACE.**



IV. Non-Permit Required Confined Space Entry

- A. When work is to be completed in a confined space that has been determine to not require the authorized employee shall notify their supervisor that they will be conducting work which requires entry into an identified confined space.

- B. The Department of Safety Services shall be notified to provide atmospheric monitoring to ensure that no changes to the atmosphere have occurred since the initial assessment of that space.
- C. Provided there are not additional hazards identified in the space, work will be allowed to continue provided that an attendant be assigned to conduct applicable duties as listed in 2 (b) of this procedure.

TTUHSC El Paso Confined Space Identification Assessment

The Department of Safety Services assessed the campus buildings and identified the following locations as meeting the definition of a Non-Permit Required Confined Space.

Even though these spaces do not meet the permit required confined space definition, TTUHSC El Paso Employee **are not to enter** these locations without first contacting the Safety Services Department. The Department will monitor the space atmospheric pressures before you enter; Oxygen, Carbon Monoxide, Ammonia, and PID (volatile organic compounds and other gasses in concentration). You will see a sign like this on the access door.



I. **Medical Science Building (MSB1)**

- A. Elevator Pits; 1st Floor East and 1st Floor West.
- B. Cold Room compressor plenum areas. (See maps for door access locations)
 - 1) 2214
 - 2) 2204
 - 3) 3214
 - 4) 3206A
 - 5) 3015A
 - 6) 4214A
 - 7) 4204
 - 8) 4015A
- C. Basement HVAC Duct where condensation valves are located; room B001
- D. Basement HVAC return air duct; room B001
- E. Basement tunnel door; east stairwell
- F. MSB1 grounds; West Acid Pit and East Acid Pit

II. **Medical Science Building Annex (MSB1 Annex)**

- A. Utility floor access doors: two doors

III. **Medical Science Building (MSB) / Medical Education Building (MEB) Grounds**

- A. El Paso Drive entrance; Purple Water Manhole
- B. Communications Manhole; West of MEB front entrance – sidewalk corner of Alberta and Concepcion

IV. **Medical Education Building (MEB)**

- A. Elevator pit

V. **Gayle Grieve Hunt School of Nursing (GGHSON)**

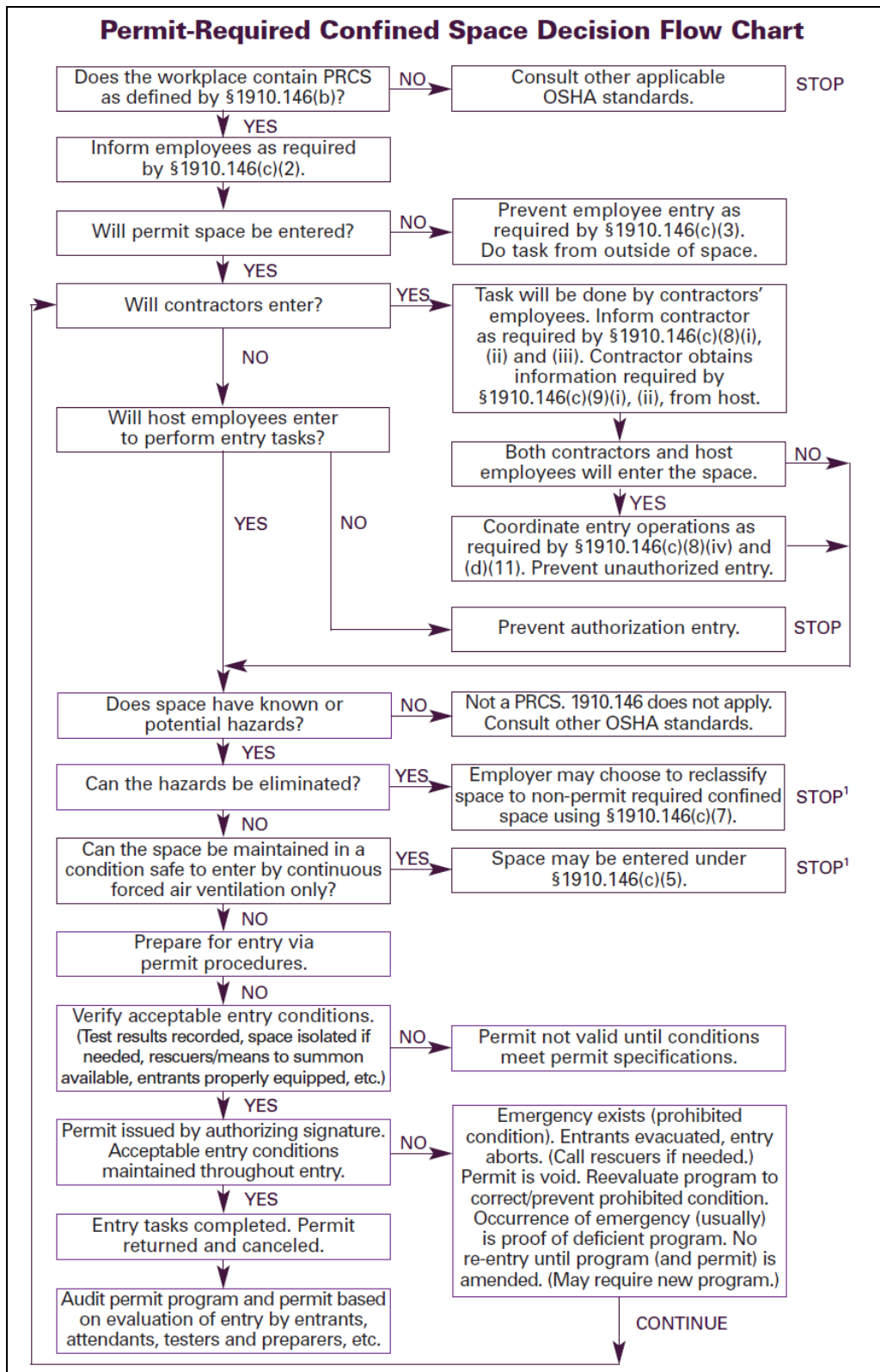
- A. Elevator pit

VI. **Academic Education Center (AEC)**

- A. Freight Elevator Pit

VII. **Clinic Science Building (CSB)**

- A. Elevator pits. Elevators; 1, 2, and 3



¹ Spaces may have to be evacuated and reevaluated if hazards arise during entry.

Source: 29 CFR 1910.146 Appendix A.

**TTUHSC EL PASO
OP 75.35
CONFINED SPACE ENTRY PERMIT
DEPARTMENT OF SAFETY SERVICES**

Permit Number _____ Date _____

Location & Description of Confined Space:

Purpose of Entry:

Scheduled Start _____ a.m. / _____ p.m. Day / Date / Time	a.m. p.m.	Scheduled Finish _____ a.m. / _____ p.m. Day / Date / Time	a.m. p.m.
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Employee(s) in charge of entry: _____

Entrants:

Attendants:

Pre-Entry Authorization: _____

{Check those items below which are applicable to your confined space permit.}

TYPES OF HAZARDS

- | | | |
|--|---|---|
| <input type="checkbox"/> Oxygen-Deficient Atmosphere | <input type="checkbox"/> Engulfment | <input type="checkbox"/> Energized Electrical Equipment |
| <input type="checkbox"/> Oxygen-Enriched Atmosphere | <input type="checkbox"/> Toxic Atmosphere | <input type="checkbox"/> Entrapment |
| <input type="checkbox"/> Welding/Cutting | <input type="checkbox"/> Flammable Atmosphere | <input type="checkbox"/> Hazardous Chemical |

SAFETY PRECAUTIONS

- | | | |
|---|---|---|
| <input type="checkbox"/> Self-Contained Breathing Apparatus | <input type="checkbox"/> Protective Gloves | <input type="checkbox"/> Barricade Job Area |
| <input type="checkbox"/> Air-Line Respirator | <input type="checkbox"/> Lifelines | <input type="checkbox"/> Signs Posted |
| <input type="checkbox"/> Fire-Retardant Clothing | <input type="checkbox"/> Respirators | <input type="checkbox"/> Clearances Secured |
| <input type="checkbox"/> Ventilation | <input type="checkbox"/> Lockout/Tagout | <input type="checkbox"/> Lighting |
| <input type="checkbox"/> Remarks | <input type="checkbox"/> Fire Extinguishers | <input type="checkbox"/> Ground Fault Circuit Interrupter |

ENVIRONMENTAL CONDITIONS

<u>TESTS TO BE TAKEN</u>	<u>DATE / TIME</u>	<u>RE-TESTING</u>	<u>DATE / TIME</u>
Oxygen: _____ %	_____ a/p	Oxygen: _____ %	_____ a/p
Lower Explosive Limit: _____ %	_____ a/p	Lower Explosive Limit: _____ %	_____ a/p
Toxic Atmosphere: _____		Toxic Atmosphere: _____	
Instruments Used: _____		Instruments Used: _____	

Employee Conducting Safety Checks **SIGNATURE:** _____

Remark on the overall condition of the confined space.

<p align="center">ENTRY AUTHORIZATION</p> <p>All actions and/or conditions for safe entry have been performed.</p> <p>Person in Charge of Entry _____</p> <p align="center">PLEASE PRINT</p>	<p align="center">ENTRY CANCELLATION</p> <p>Entry has been completed and all entrants have exited permit space.</p> <p>Person in Charge of Entry _____</p> <p align="center">PLEASE PRINT</p>
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In case of an Emergency call: 911

TTUHSC EL PASO
Confined Space Entry
Planning Worksheet

What is the type of the confined space? _____

Where is the confined space located? _____

Reason for entering the confined space: _____

Contents of the confined space: _____

List oxygen level _____

Describe the procedures used to test oxygen and the testing equipment used: _____

List flammable gas level _____

Describe the procedures used to test flammable gas level and the testing equipment used: _____

List toxic gas levels _____

Describe the procedures used to test toxic gas levels and the testing equipment used: _____

List all mechanical and physical hazards: _____

Describe the procedures for isolating all mechanical and physical hazards: _____

What type of ventilation will be used? Mechanical Natural

Describe procedures: _____

Will the confined space be purged? _____

If yes, list the procedures: _____

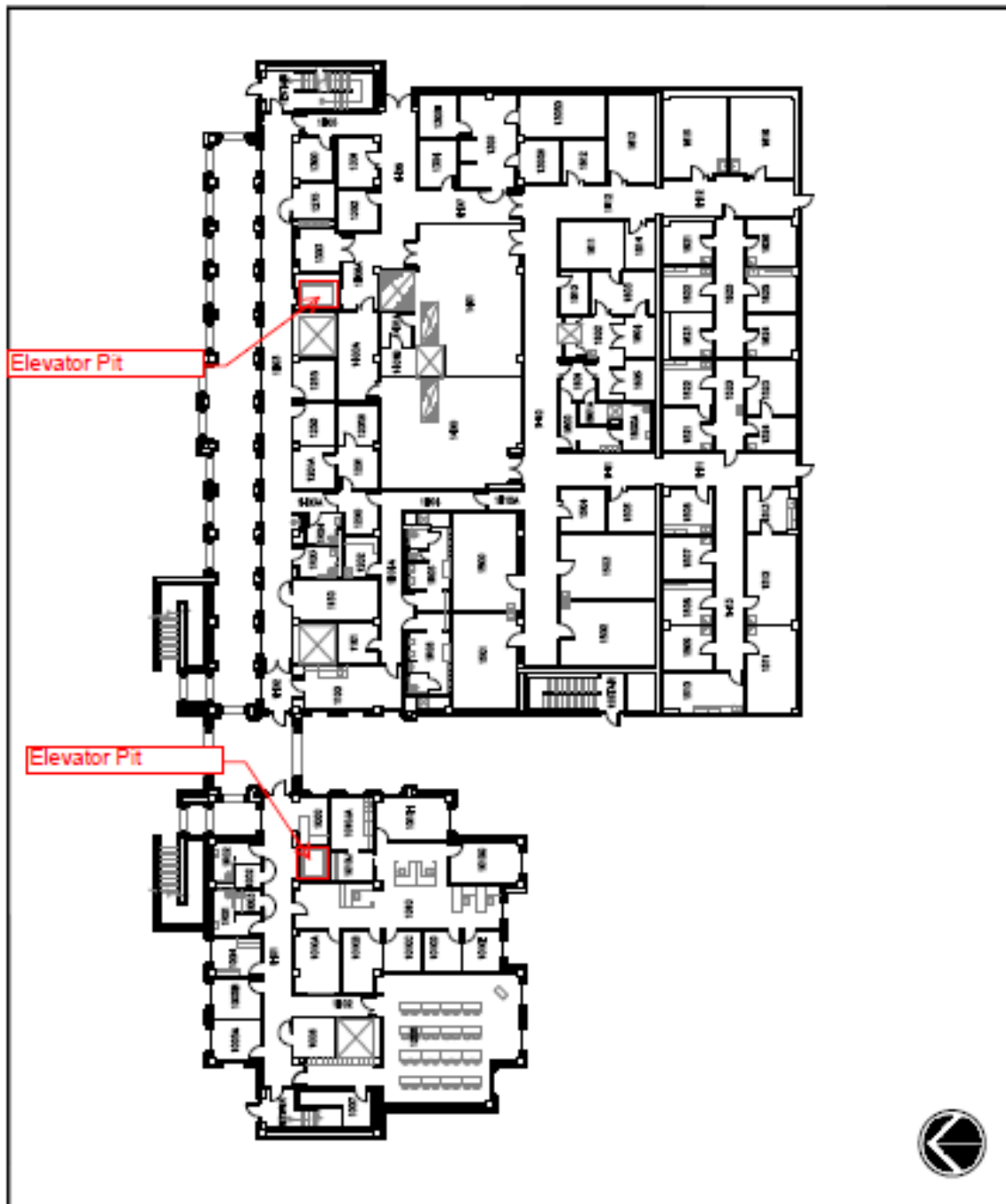
Will confined space be cleaned? _____


If yes, list procedures: _____

List all chemicals that will be used: _____

Will warning signs or barriers be needed? _____

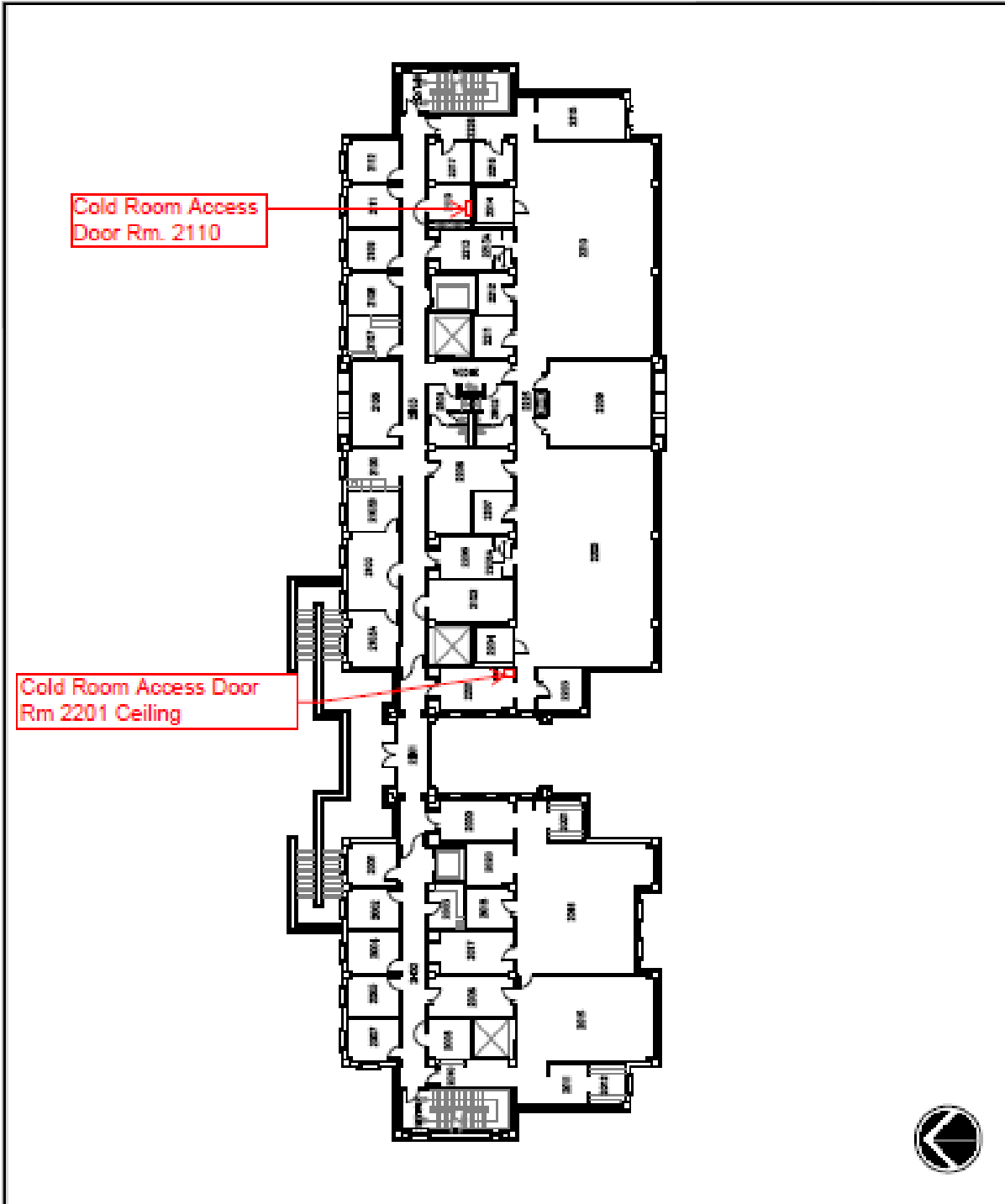
If yes, describe what type and where they must be placed: _____



 TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER, EL PASO Physical Plant and Support Services Department of Engineering Services	1st Floor Plan Bldg 3005 - Medical Science Building 5001 El Paso Drive, El Paso, Texas		
	Drawing Name: 180305-4001 - 1st Floor Project Number: Drawing Scale: 1/32" = 1'-0"	Drawn By: TMA Checked By: NF Last Updated: NF	Date: 10/06/2016 Date: 05/02/16 Date: 05/02/16

222 N. Greenlee St.
El Paso, TX 79902

Phone: (915) 315-4241
Fax: (915) 225-8812



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HEALTH SCIENCES CENTER,
EL PASO**

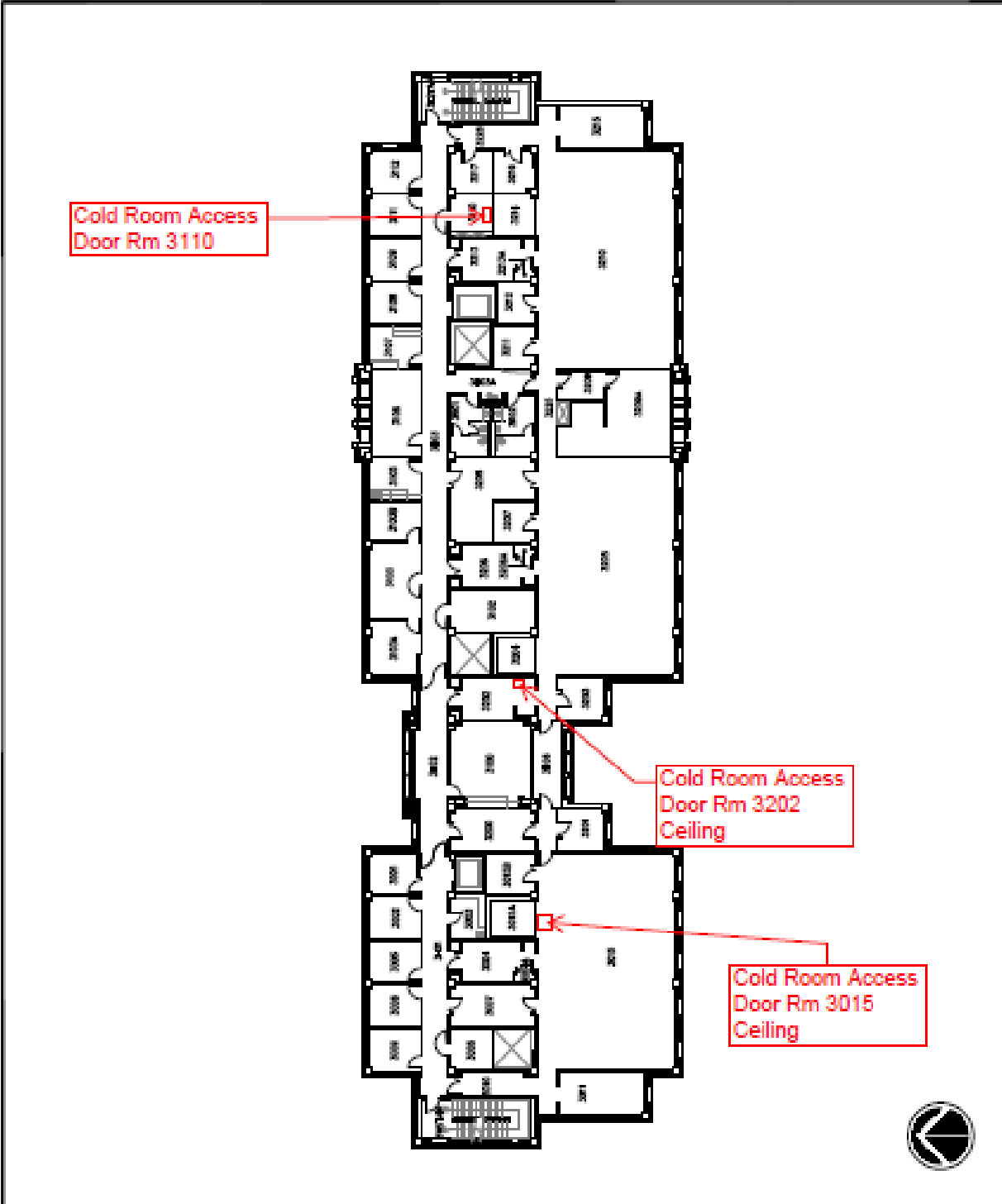
*Physical Plant and Support Services
Department of Engineering Services*


232 N. Campbell St.
El Paso, TX 79906

Phone: (915) 215-4181
Fax: (915) 215-8812

**2nd Floor Plan
Bldg 3005 - Medical Science Building
5001 El Paso Drive, El Paso, Texas**

Drawing Name: 8LD00005-Craft/Service	Drawn By: TBA	Date: 10/09/2016
Project Number:	Checked By: NF	Date: 06/08/2018
Drawing Scale: 1/32"=1'-0"	Last Updated: NF	Date: 06/08/2018

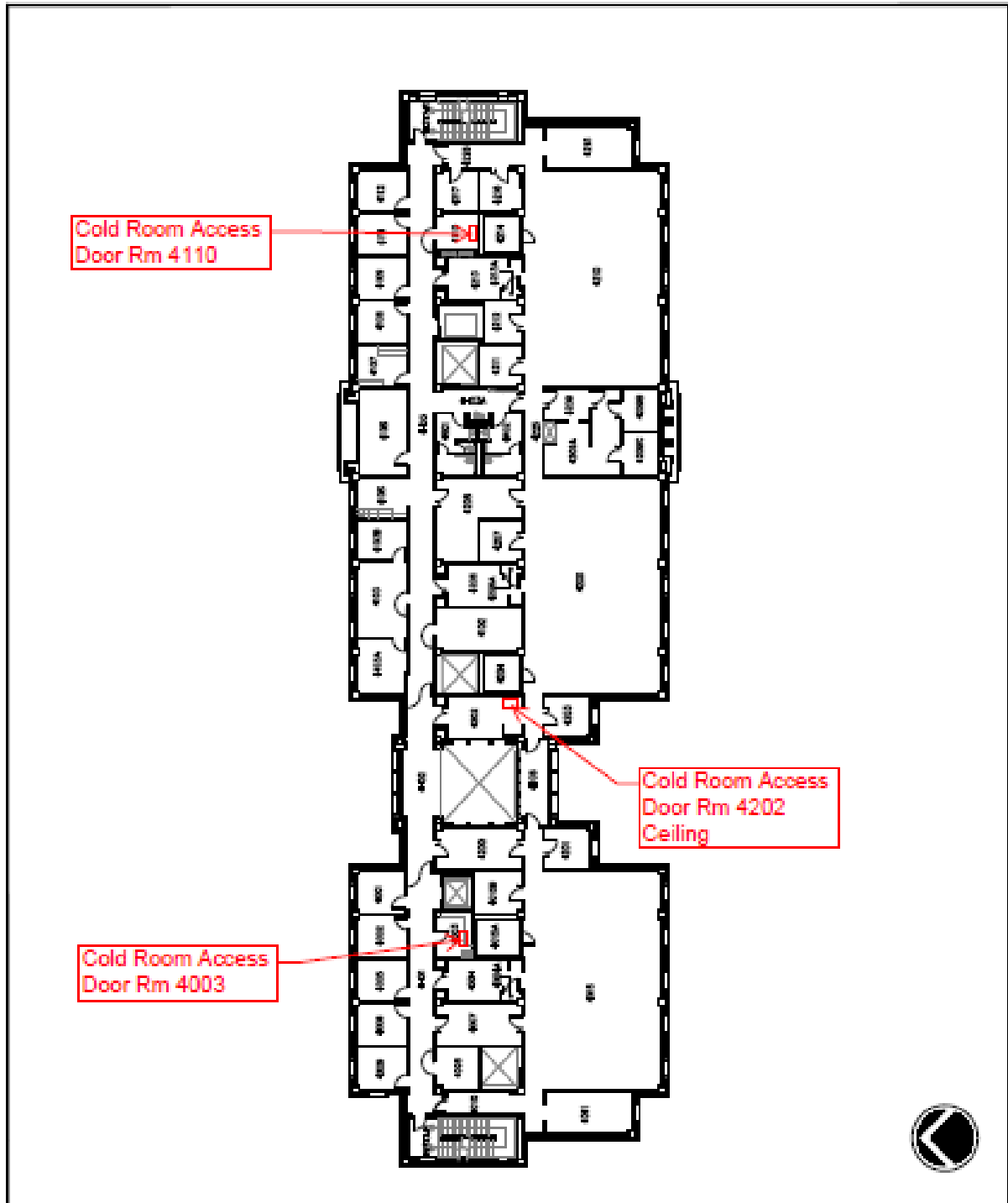



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EL PASO
 Physical Plant and Support Services
 Department of Engineering Services

122 N. Greenup St.
 El Paso, TX 79903

Phone: (915) 215-4191
 Fax: (915) 215-8812

3rd Floor Plan Bldg 3005 - Medical Science Building 5001 El Paso Drive, El Paso, Texas		
Drawing Name: BLDG3005 3rd Floor.dwg	Drawn By: TMA	Date: 10/09/2008
Project Number:	Checked By: NF	Date: 06/08/2016
Drawing Scale: 1/32"=1'-0"	Last Updated: NF	Date: 06/08/2016



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HEALTH SCIENCES CENTER
EL PASO**

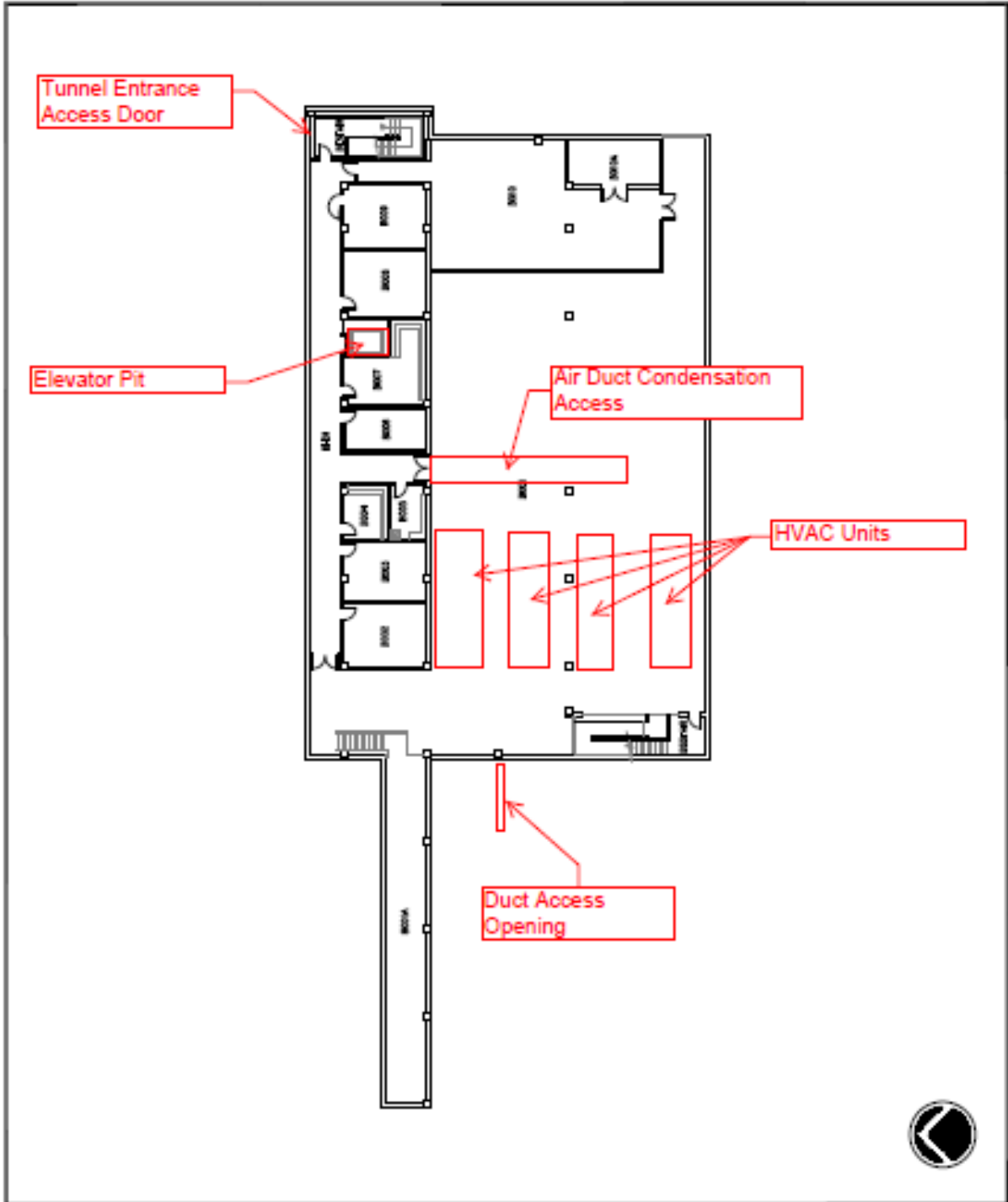
*Physical Plant and Support Services
Department of Engineering Services*

322 N. Garrettsville St.
El Paso, TX 79969

Phone: (915) 233-6191
Fax: (915) 734-8811

**4th Floor Plan
Bldg 3005 - Medical Science Building
5001 El Paso Drive, El Paso, Texas**

Drawing Name: 8L003005-400/rev01.dwg	Drawn By: TMA	Date: 10/08/2008
Project Number:	Checked By: HF	Date: 08/08/2018
Drawing Scale: 1/8"=1'-0"	Last Updated: HF	Date: 08/08/2018

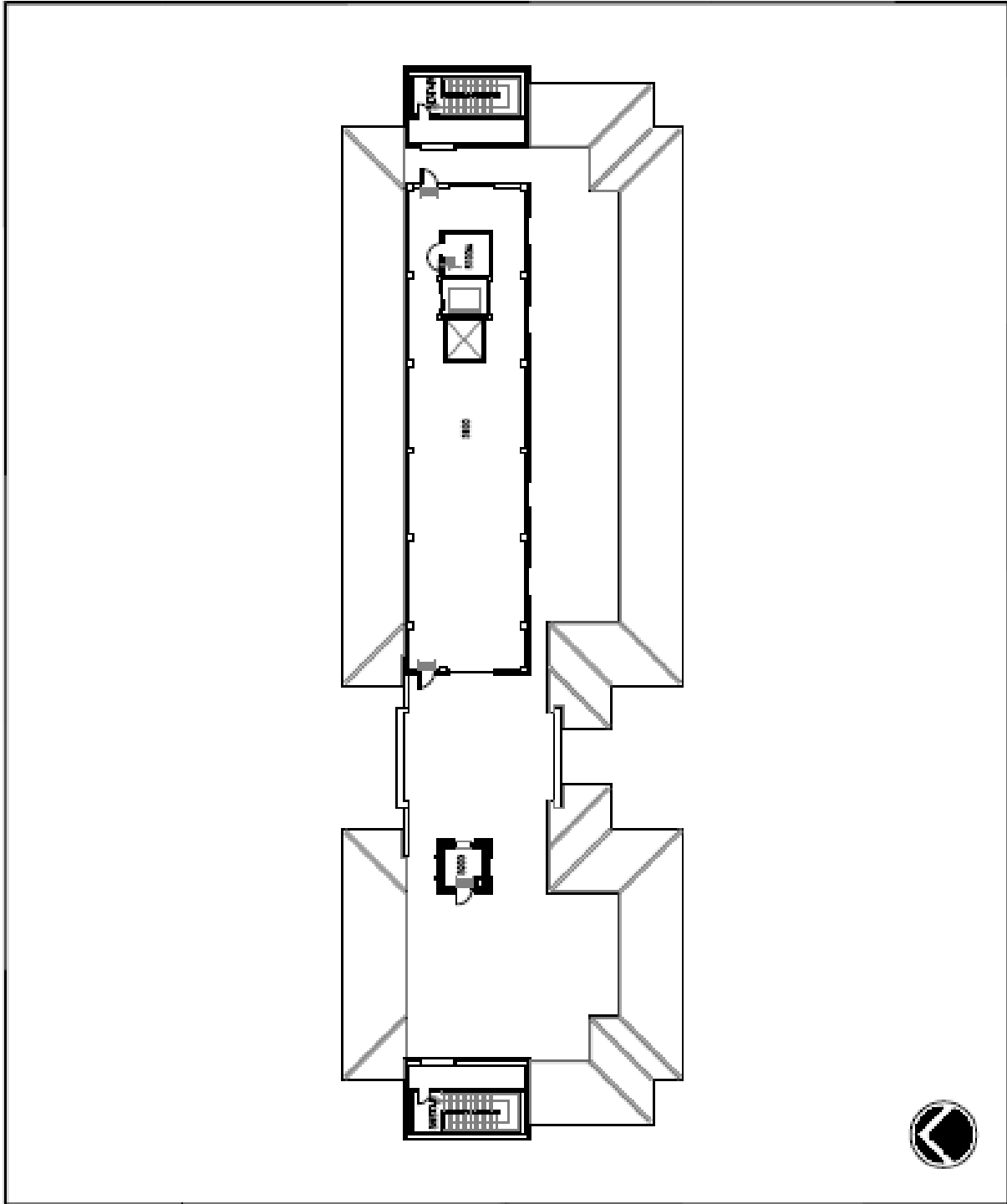



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HEALTH SCIENCES CENTER
EL PASO
 Physical Plant and Support Services
 Department of Engineering Services

222 N. Convention St.
 El Paso, TX 79968

Phone: (915) 215-4151
 Fax: (915) 215-8812

Basement Floor Plan			
Bldg 3005 - Medical Science Building			
5001 El Paso Drive, El Paso, Texas			
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Project Number:		Checked By:	MP
Drawing Scale:	1/32"=1'-0"	Last Updated:	MP
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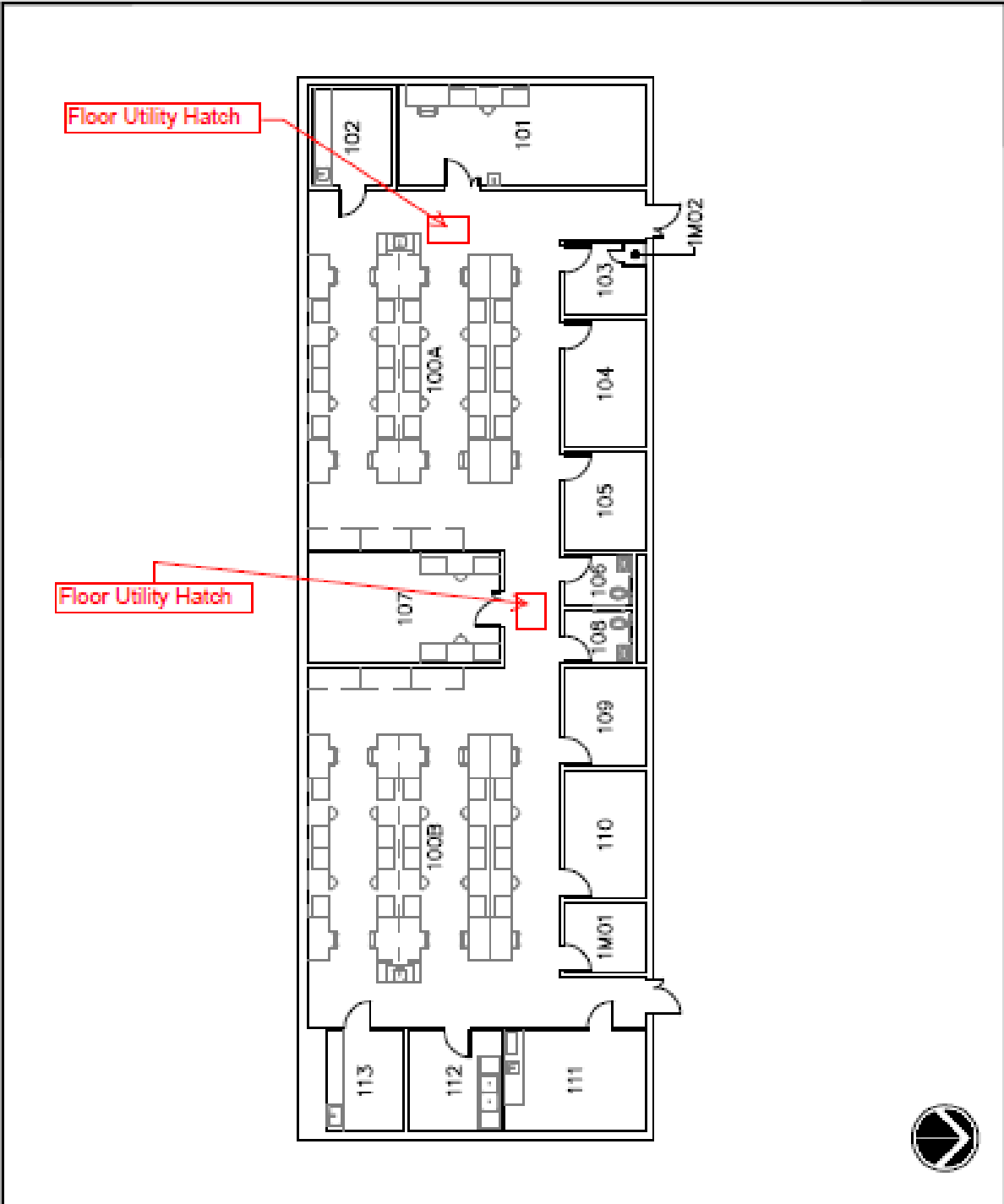



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HEALTH SCIENCES CENTER
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 Physical Plant and Support Services
 Department of Engineering Services

312 N. Greenbriar St.
 El Paso, TX 79903

Phone: (915) 215-4191
 Fax: (915) 215-8812

5th Floor Plan Bldg 3005 - Medical Science Building 5001 El Paso Drive, El Paso, Texas			
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Project Number:		Checked By:	NP
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		Date:	10/08/2016
		Date:	06/08/2016
		Date:	06/08/2016

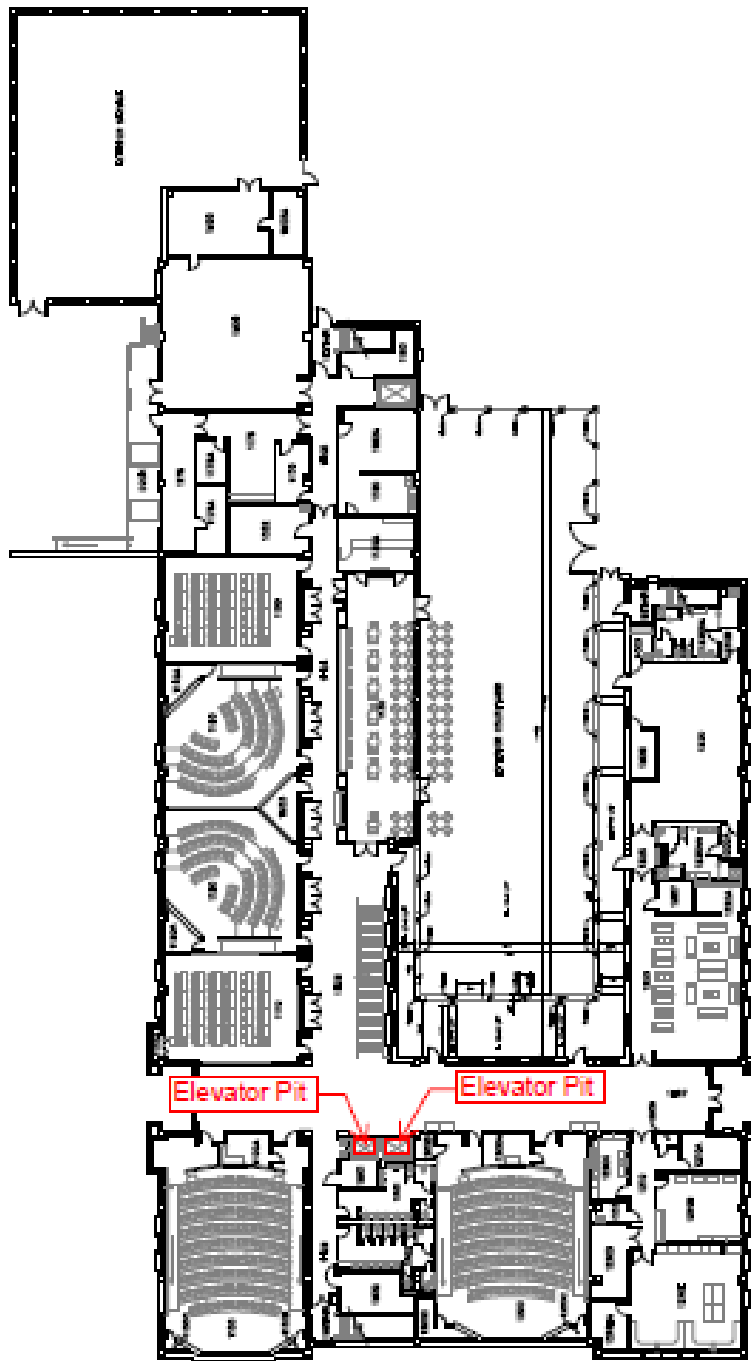



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HEALTH SCIENCES CENTER,
EL PASO
 Physical Plant and Support Services
 Department of Engineering Services

222 El Compadre St.
 El Paso, TX 79928

Phone (915) 215-4191
 Fax (915) 215-8812

1st Floor Plan Bldg 3007 - Research Annex 5001 El Paso Drive, El Paso, Texas		
Drawing Name: 11/10/2016	Drawn By: SAJ	Date: 11/10/2016
Project Number:	Checked By: MP	Date: 08/02/2016
Drawing Scale: NTS	Last Updated: MP	Date: 08/10/2016



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HEALTH SCIENCES CENTER
EL PASO

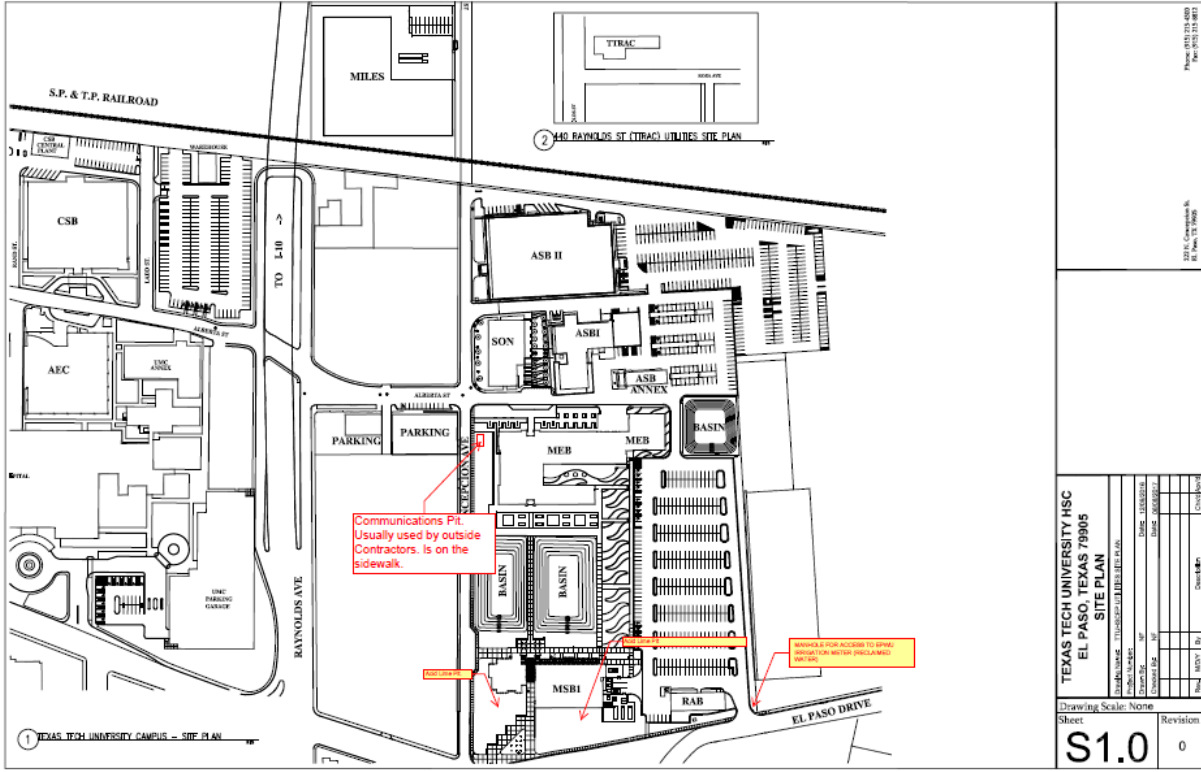
Physical Plant and Support Services
Department of Engineering Services

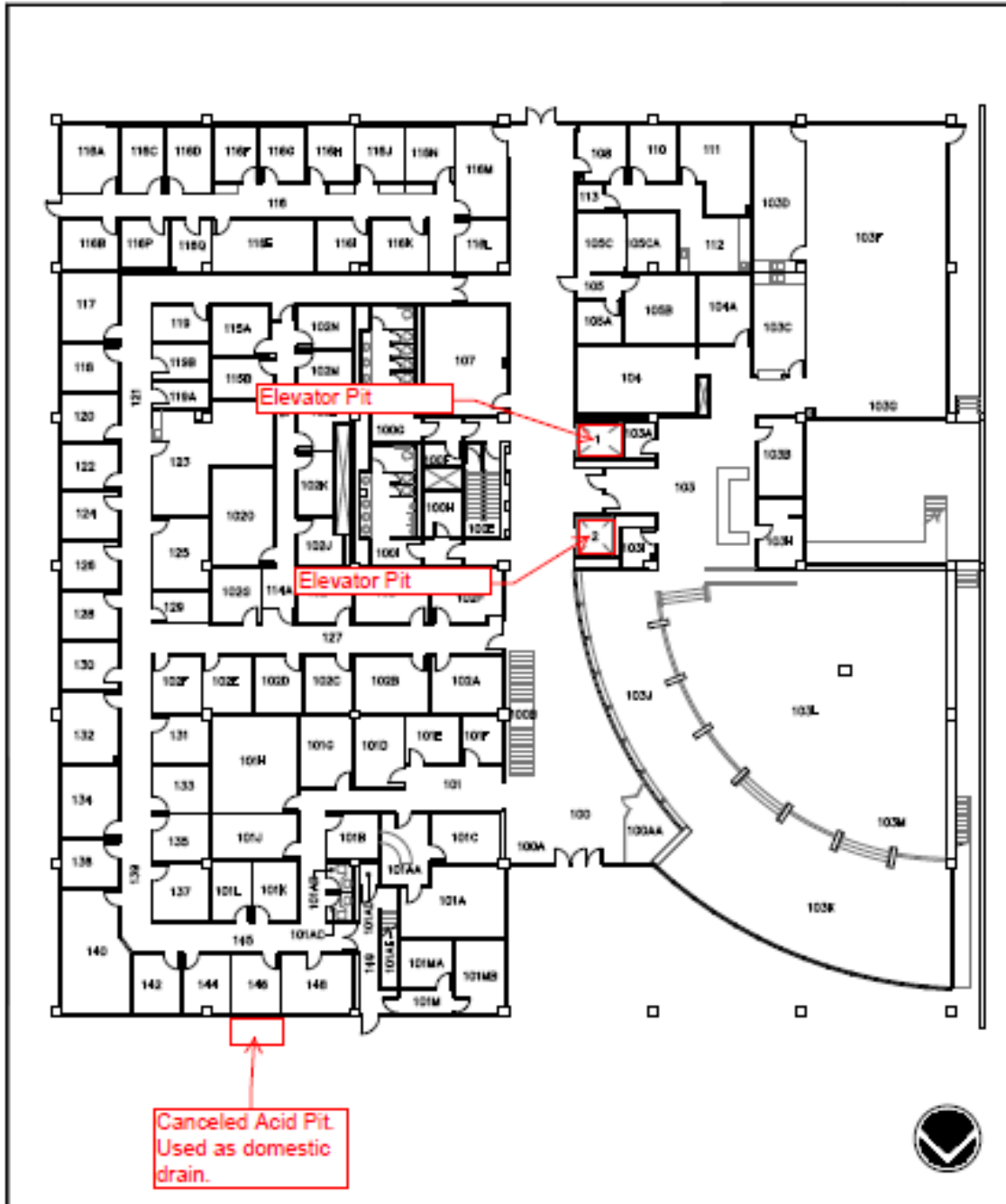
327 N. Campbell St.
 El Paso, TX 79969

Phone: (915) 215-4381
 Fax: (915) 215-4813

1st Floor Plan
Bldg 3006 - Medical Education Building
5001 El Paso Drive, El Paso, Texas

Drawing Name: #16106-001_Jan/2016	Drawn By: BAJ	Date: 4/24/2016
Project Number:	Checked By: NF	Date: 08/04/2016
Drawing Code: HTS	Last Updated: NF	Date: 08/10/2016





 TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER. EL PASO Physical Plant and Support Services Department of Engineering Services	1st Floor Plan Bldg 3000 - Academic and Education Center 4800 Alberta Avenue, El Paso, Texas		
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222 N. Campbell St. El Paso, TX 79965 Phone: (915) 215-4500 Fax: (915) 215-8813			