Document No. 9171

ORDINANCE NO. 11359

AN ORDINANCE AMENDING CHAPTER 14, "FIRE PROTECTION", OF THE CODE OF THE CITY OF LIBERTY, CLAY COUNTY, MISSOURI

BE IT ORDAINED by the City Council of the City of Liberty, Clay County, Missouri, as follows:

SECTION I

Chapter 14, "Fire Protection", of the Code of the City of Liberty, Clay County, Missouri, shall be and the same is hereby amended as follows:

Article I through Article IV of Chapter 14, "Fire Protection", of the Code of the City of Liberty, Clay County, Missouri are hereby repealed in their entirety. A new Article I through Article III of Chapter 14, "Fire Protection", of the Code of the City of Liberty, Clay County, Missouri is hereby established as follows:

ARTICLE I. INTERNATIONAL FIRE CODE

Sec. 14-1. Adopted.

The provisions of the International Fire Code, 2018 edition, including appendices by reference, are for all intents and purposes incorporated in this chapter as though more fully set out herein, except as stated below, and is hereby adopted as the official fire code of the city, and all provisions thereof shall be in full force and effect in this city in the form of that particular and specific printed volume to be permanently retained as a part of the official records of this city on file in the office of the deputy city clerk and to be construed, applied and enforced, as modified and supplemented as follows:

(a) As modified by other provisions of Chapter 14, Article I of the Liberty City Code.
(b) All portions of said International Fire Code identified as exclusions below are not so included herein by reference.

Sec. 14-2 Revisions.

The following shall be included as revisions to the fire code adopted in Section 14-1:

(a) **101.1 Title. These regulations shall be known as "The Fire Code of the City of Liberty", hereinafter referred to as "this code."**

(b) **101.2.1 Appendices.** Provisions in the appendices shall apply and are hereby adopted by reference and made a part of this Chapter, Article, and code, save and except such parts or portions thereof as are specifically omitted, amended, or added to as outlined in sub-section 101.2.1.2.

(c) **101.2.1.2 Appendices omissions, amendments, and additions.** The Appendices contained herein are hereby omitted, amended, and added to this code as follows; Appendices A, G, & J shall be omitted in their entirety and Appendices B, C, and D as amended and Appendices E, F, H, I, K, L, M, & N are hereby adopted by reference and made a part of this Chapter, Article, and code, save and except such parts or portions thereof as are specifically omitted, amended, or added to.

(d) **105.1.7 Contractor Licensing.** Contractors and their employees shall be trained, experienced and knowledgeable in performing any work related to fire and life safety detection and protection systems such as the installation, alteration, maintenance service,

testing, repair, inspection, and removal of such systems. Fire detection and suppression system contractors conducting business in the City of Liberty shall hold one or more valid contractor's licenses from either Johnson County, Kansas or from the City of Kansas City, Missouri and one or more valid Occupational/Craftsman/Business licenses from the City of Liberty. Any contractor or employee who does not possess a valid contractor's license and/or whose employer does not possess a valid business license is in violation of this code. A stop work order will be issued at the discretion of the fire code official in accordance with the International Fire Code Section 112 "Stop Work Order." The fire code official, at their discretion may issue a citation for each violation. Any contractor found guilty of violating this section shall be guilty of a misdemeanor and shall be assessed a penalty of a fine of not more than five hundred dollars ($500.00), or imprisonment for not to exceed ninety (90) days, or both such fine and imprisonment for each violation.

(e) **105.1.7.1 Licenses:**

1. Electrical Contractor Class III: A contractor possessing a valid Electrical Contractor Class III license may install, alter, repair, or remove communication, fire alarm, burglar alarm, and remote control equipment, as well as low-voltage power, signal, sound, recording, and similar equipment.

2. Fire Protection Contractor Class I: A contractor possessing a Fire Protection Contractor Class I license may install, alter, modernize, maintain, service, repair, test, and inspect automatic sprinkler systems and standpipe systems for any and all types of occupancies, inclusive of all related underground fire lines and fire services and inclusive of, but not limited to, all appurtenances such as fire pumps; water storage tanks; fire control systems; automatic and manual water-spray and deluge systems; special extinguishing systems using carbon dioxide, foam, dry chemicals or inert gas; and other such systems used for the control or extinguishment of fire. Backflow prevention devices are permitted to be installed, but they must be tested in accordance with the City of Liberty Utilities Department and State of Missouri regulations.

3. Fire Protection Contractor Class II: A contractor possessing a Fire Protection Contractor Class II license may install, maintain, test, or repair only dry, wet, or combination standpipe systems and install fire hydrant lines.

4. Fire Protection Contractor Class III: A contractor possessing a Fire Protection Contractor Class III license may install, maintain, test, or repair only special systems using carbon dioxide, foam, dry chemicals, or inert gas for the control or extinguishment of fire.

(f) **105.1.7.2 A copy of all contractor licenses** must be provided when submitting an application for a building permit. If work is being conducted by a contractor or employee not listed on the contractor's license or without a valid license, a stop work order will be issued in accordance with the International Fire Code Section 112 "Stop Work Order." At the discretion of the fire code official a citation may be issued for each violation of this code.

(g) **108.3 Recordkeeping.** A record of periodic inspections, tests, servicing and other operations and maintenance shall be maintained on the premises or other approved location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the fire code official, and a copy of the records shall be provided to the fire code official on request. The fire code official is authorized to enter into an agreement with a third party record management vendor. The fire code official is authorized to require that certain required records be filed with the fire code official. All contractors who provide fire detection and

suppression system maintenance, inspection, and testing records for fire protection systems shall file the required records with the third-party records management vendor selected by the fire code official.

Any contractor, who refuses to comply with this section by failing to provide installation, inspection, maintenance, and test records for any fire detection and/or fire suppression system to the third party records management vendor selected by the fire code official, shall be guilty of a MISDEMEANOR, punishable by a fine of not more than $500.00 dollars or by imprisonment not exceeding 90 days, or both such fine and imprisonment except as to those offenses in which the ordinance providing for and defining the same specifically limiting the penalty to one less than the maximum available at the time of its enactment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

The fire code official is authorized to suspend the contractor's city business license for the City of Liberty until such time as compliance with this section is obtained or a court order to comply is issued. If after adjudication the contractor still refuses to comply, the fire code official is authorized to summarily revoke the contractor's city business license and pursue further enforcement action.

(h) **109.1 Board of appeals.** In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be a board of appeals. The board of appeals is appointed by the Mayor and approved by the city council and shall hold office at their pleasure. In order to determine the suitability of alternate materials and type of construction and to provide for reasonable interpretations of the provisions of the codes herein, appeals may be taken to the board of appeals established under Chapter 6, Article VIII, section 6-38, of the Liberty City Code. The fire code and building officials shall be ex officio members of said board, but shall not have a vote on any matter before the board. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code and/or building officials.

(i) **110.4 Violation penalties.** Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a MISDEMEANOR, punishable by a fine of not more than $500.00 dollars or by imprisonment not exceeding 90 days, or both such fine and imprisonment except as to those offenses in which the ordinance providing for and defining the same specifically limiting the penalty to one less than the maximum available at the time of its enactment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

(j) **112.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a MISDEMEANOR, punishable by a fine of no more than $500 dollars or by imprisonment not exceeding 90 days, or both such fine and imprisonment except as to those offenses in which the ordinance providing for and defining the same specifically limits the penalty to one less than the maximum available at the time of its enactment. Each day that a violation continues after due notice has been served shall be deemed a separate offense. If the work is not permitted, the fire code official, at their discretion; is authorized to administratively increase the permitting fees by twice the dollar amount of the regular permitting fees as outlined in the City of Liberty's Fee Schedule.

307.1 General. A person shall not kindle or maintain or authorize to be kindled or

maintained any open burning unless conducted and approved in accordance with Sections 307.1.1 through 307.5.

Exceptions:

1. The opening burning of trade wastes and vegetation may be permitted only upon prior application to and approval by the fire department or if applicable the executive secretary of the state air conservation commission, as required and provided by state law and valid regulations thereunder.

2. The open burning of tree trunks, tree limbs, vegetation or untreated waste lumber shall be permitted when such burning takes place at the site of a disposal area licensed for that purpose under the provision of RSMo 64.470, or at any other site approved by the fire department or if applicable the executive secretary of the state air conservation commission.

3. Burning by fires set in connection with agricultural operations relating to the growing or harvesting of crops, and for this purpose only. Botanical nursery operations shall not be considered agricultural operations.

4. The burning of gaseous trade wastes, refinery or industrial chemical safety flares and full smokeless-tip combustion, steam addition or other flare smoke control methods approved by the executive secretary of the state air conservation commission, such approval having been first obtained and used, and the emissions to be not of a shade or density in violation of applicable state law and valid regulations.

5. Fires used for recreational purposes, or fires used for non-commercial preparation of food such as by barbecuing.

6. Fires set for the purpose of instruction and training fire-fighters in methods of fighting fires shall be permitted.

(k) **307.1.1 Prohibited open burning.** The Fire Chief may prohibit any or all bonfires and outdoor burning when atmospheric conditions or local circumstances make such fires hazardous.

Exception:

1. Prescribed burning for the purpose of reducing the impact of wildland fire when authorized by the fire code official.

(l) **307.3 Extinguishment authority.** Where open burning creates or adds to a hazardous situation such as, the smoke from any open burning, including but not limited to, recreational fires, or if a required permit for open burning has not been obtained or has been suspended or revoked, the fire code official is authorized to order the extinguishment of the open burning operation.

(m) **307.4 Location.** The location for open burning shall be not less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure.

Exceptions:

1. Fires in approved containers that are not less than 15 feet (4572 mm) from a

structure.

2. The minimum required distance from a structure shall be 25 feet (7620 mm) where the pile size is 3 feet (914 mm) or less in diameter and 3 feet (914mm) or less in height.

(n) **308.1.4 Open-flame cooking devices.** Charcoal burning and other open-flame cooking devices shall not be operated, located, or otherwise stored on balconies and decks, or within 10 feet (3048 mm) of a structure or combustible construction.

Exceptions:

1. One- and two-family dwellings.

(o) **503.3 Marking.** Where required by the fire code official, approved signs and/or painted curb, or pavement if a curb is absent, that include the words “NO PARKING—FIRE LANE” shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and is replaced or repaired when necessary to provide adequate visibility. The curb or pavement if a curb is absent, shall be painted red with white 3” letters indicating “NO PARKING FIRE LANE.” Lettering shall occur every 25 feet of the fire lane. Signs used to indicate fire lanes shall meet the requirements of section D103.6 of the 2018 International Fire Code.

(p) **503.6 Security gates.** The installation of security gates across a fire apparatus access road shall be approved by the fire code official. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

Where security gates are installed an approved means of emergency operation shall be provided. The security gates and the emergency operation shall be maintained operational and shall comply with the following:

1. All gates shall be of the sliding, hinged, or counter-balanced type, and where electrically controlled, shall be capable of being operated to the full open position by emergency responders during loss of power to the gate’s operating mechanism.

2. Electrical or mechanical operated gates shall be capable of being unlocked or opened with an approved fire department master keyed cylinder installed at an accessible location on the entry side of the gate. The key-operated switch shall bypass the release mechanism to allow the gate to be operated by emergency response personnel.

3. In lieu of an approved key cylinder operation device, gates may be equipped with audible release, set to operate with an emergency response yelp tone.

4. Keypads and other entry devices installed on gates shall not interfere with the operation of either the approved key access cylinder or emergency response audible release.

5. The gates shall have the ability to allow first responders to lock the gate in the open position to allow for hose lays and to prevent damage to fire hose and fire

apparatus by the gate automatically closing on them.

(q) **506.1 Where required.** Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box or key boxes to be installed in an approved location or locations. The key box shall be of an approved type listed in accordance with UL 1037, and shall contain keys to gain necessary access as required by the fire code official.

(r) **507.5.1 Where required.** Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official. Privately owned fire hydrants shall be painted red in color. All City owned fire hydrants shall be painted Sherwin-Williams Industrial Yellow #B54-Y37 in color. The City reserves the right to paint all hydrants or a portion thereof according to NFPA guidelines at any time.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet.

2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet.

(s) **507.5.1.1 Hydrant for fire sprinkler systems and fire standpipe systems.** Buildings equipped with a an automatic fire sprinkler system installed in accordance with NFPA 13 or NFPA 13R and/or a fire standpipe system installed in accordance with Section 905 shall have a fire hydrant within 100 feet (30,480mm) of the fire department connection(s).

Exception: The distance shall be permitted to exceed 100 feet (30 480 mm) where approved by the fire code official.

511 Exterior emergency electrical power disconnect

(t) **511.1 Exterior emergency electrical disconnect switch or shunt.** Whenever the construction and design of new buildings, structures or facilities and existing structures or facilities causes the relocation or installation of a new electrical service to the structure or an upgraded main electrical distribution panel in the building or structure; a means of disconnecting the supply of electrical power to the building or structure shall be provided on the exterior of the building or structure in an approved location.

(u) **511.2** Any switch, shunt, breaker, cabinet, or other appurtenances shall be listed, installed, and maintained in accordance with the adopted electrical code and other applicable codes and standards.

(v) **511.2.1** Any switch, shunt, breaker, cabinet, lock, or other appurtenances proposed to be installed shall be protected against tampering, unauthorized use, and shall be approved by the fire code official.

(w) **901.4.6.4 Lighting.** Permanently installed artificial illumination and emergency lighting shall be provided in automatic sprinkler system riser rooms and fire pump rooms.

(x) **901.2 Construction documents**. The fire code official shall have the authority to require

construction documents and calculations for all fire protection systems and to require permits be issued for the installation, rehabilitation or modification of any fire protection system. Construction documents for fire detection and protection systems shall be drawn according to the requirements of this code, the applicable NFPA Standards, and then submitted for review and approval for construction prior to system installation.

(y) **903.4.2 Alarms.** An approved audible and visual notification device, located on the exterior of the building above the fire department connection, shall be connected to each automatic sprinkler system. Such sprinkler water flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system and shall be listed for exterior use. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

(z) **905.3.1 Height.** Class III standpipe systems shall be installed throughout buildings where any of the following conditions exist:

1. The building's height is three or more stories above or below grade plane.
2. The floor level of the highest story is located greater than 20 ft. above the lowest level of the fire department vehicle access.
3. The floor level of the lowest story is located greater than 20 ft. below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I standpipes are allowed in Group B and E occupancies.
3. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.
4. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
5. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.
6. Class I standpipes are allowed in buildings where occupant-use hose lines will not be utilized by trained personnel or the fire department.
7. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:
    7.1. Recessed loading docks for four vehicles or less.
    7.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

(aa) **905.3.9 Commercial/industrial buildings.** Class I standpipes shall be installed in commercial and industrial buildings where the building height is 30 ft. or greater, and/or if the building/tenant space exceeds 50,000 sq. ft., and/or if combustible high-piled storage is present as determined by the fire code official. Standpipe connections shall be located at access doors and/or where the travel distance from a connection is greater than 150 ft. in non-sprinkled buildings and 200 ft. in sprinkled buildings. Standpipes shall be installed at support columns within the structure and/or in a manor determined by the fire code official.

(bb) **906.1 Where required.** Portable fire extinguishers shall be installed in all of the following locations:

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

Exceptions:

1. In Group E occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each classroom is provided with a portable fire extinguisher having a minimum rating of 2-A:20-B:C.

2. Within 30 feet (9144 mm) distance of travel from commercial cooking equipment and from domestic cooking equipment in Group I-1; I-2, Condition 1; and R-2 college dormitory occupancies.

3. In areas where flammable or combustible liquids are stored, used or dispensed.

4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1.

5. Where required by the sections indicated in Table 906.1.

6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.

7. Group R-2 occupancies of new construction, portable fire extinguishers shall be required on each floor in the common areas having a minimum rating of 2-A:10-B:C. The same travel distance rules shall apply when ascertaining the number of extinguishers necessary for proper coverage of each floor.

(cc) **906.2.1 Certification of service personnel for portable fire extinguishers.** Service personnel providing or conducting maintenance on portable fire extinguishers shall possess a valid certificate issued by an approved governmental agency, or other approved organization for the type of work performed and shall submit a copy of said certification to the fire code official as outlined in Section 104.1.1.

(dd) **906.3 Size and distribution.** The size and distribution of portable fire extinguishers shall be in accordance with Sections 906.3.1 through 906.3.4. The minimum size and type of fire extinguisher required shall be a 2-A:10-B:C ABC fire extinguisher.

Exception:

1. In Group R-2 occupancies, the minimum size and type for each dwelling unit shall be a 1-A:10-B:C ABC fire extinguisher.

(ee) **912.2 Location.** With respect to hydrants, driveways, buildings and landscaping, all fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of all fire department connections shall be located within 100 ft. of a fire hydrant and approved by the fire code official.

(ff) **912.5 FDC Signs.** Fire department connections shall have a sign in a location approved by the fire code official. The sign shall have a white background, have the letters "FDC" in red, not less than 6” inches (152mm) high with a ¾” stroke width, and words or letters not less than 2 inches (51 mm) high with a ½” stroke width and/or an arrow to indicate the location, unless alternative signage is approved by the fire code official. A metal sign with raised letters not less than 1 inch (25 mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION

or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served and the minimum system demand pressure for each fire protection system.

(gg) **912.5.1 Total system demand pressure sign.** All fire sprinkler, fire standpipe, and combination fire sprinkler/standpipe system fire department connections shall have a sign indicating the pressure required to obtain the total system demand of the system(s). The sign shall be constructed of durable materials and the characters on the sign shall be permanent and resistant to the elements.

(hh) **1103.5.5 Automatic Fire Sprinkler Systems in Existing Structures.** Existing structures that undergo a major renovation or addition, are damaged by fire, or damaged by weather where the structure's affected square footage is equal to or greater than 50% of the structure's total square footage shall have an automatic fire sprinkler and/or standpipe system provided throughout provided a fire sprinkler and/or standpipe system is required by the provisions of construction requirements of the 2018 International Building and Fire Codes.

Exception: Group R-3 Single and two family homes

(ii) **1204.5 Rapid disconnect switch for photovoltaic systems.** Buildings with solar photovoltaic systems shall have a rapid shut down switch installed and shall have permanent labels in accordance with Sections 1204.5.1 through 1204.5.3.

(jj) **5607.1 General.** Blasting operations shall be conducted only by approved, competent operators familiar with the required safety precautions and the hazards involved and in accordance with the provisions of NFPA 495. The fire chief, fire code official, or any authorized representative of the City of Liberty shall be given access to the blasting site by the blaster upon request and is authorized to observe blasting operations from a safe location designated by the blaster. The fire chief, fire code official, or any authorized representative of the City of Liberty shall be given access to and allowed to examine all records of blasting operations required to be maintained by RSMo. 319.309 and 319.315.

(kk) **D103.5 Fire apparatus access road gates.** Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. Where a single gate is provided, the gate width shall be not less than 20 feet (6096 mm). Where a fire apparatus road consists of a divided roadway, the gate width shall be not less than 12 feet (3658 mm).

2. Gates shall be of the swinging, sliding, hinged, or counter-balanced type.

3. Construction of gates shall be of materials that allow manual operation by one person.

4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.

5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. All gates shall be capable of being unlocked or opened with an approved fire department keyed cylinder installed at an accessible location on the entry side of the gate. The key-operated switch shall bypass the release mechanism to allow the gate to be operated by emergency response personnel. In lieu of an approved key cylinder operation device, gates may be equipped with audible release, set to operate with an emergency response siren yelp tone. Emergency opening devices shall be approved by the fire code official.

6. Methods of locking shall be submitted for approval by the fire code official. Keypads and other entry devices installed on gates shall not interfere with the operation of either the approved key access cylinder or emergency response audible release.

7. Electric gate operators, where provided, shall be listed in accordance with UL 325.

8. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

(ll) **I101.3.1 Noncompliant conditions requiring fire alarm control panel repair or replacement.**

The following shall be deemed noncompliant conditions and shall cause the related component(s) to be repaired or replaced to comply with the provisions of this code:

1. When the fire alarm system is out of service due to a failure of a fire alarm control unit that cannot be repaired. A fire watch is required for the time the system is out of service.

2. If the system is out of service due to a fire alarm control unit failure, and the new fire alarm control unit is not listed to be compatible with the existing devices, the existing fire alarm system no longer functions as originally designed and installed. A code compliant fire alarm system shall be installed.

3. When expansion of the existing fire alarm system is required as a result of a tenant improvement, elevator upgrade, etc., and the existing fire alarm system is not capable of supporting the required expansion, a code compliant fire alarm system shall be installed.

4. If the existing devices are not listed to be compatible with the new fire alarm control unit, the fire alarm system must be brought up to current code and shall meet the requirements of the 2016 Edition of NFPA 72 and Section 907 of this code.

5. If the new fire alarm control unit is listed to be compatible with all existing initiation, notification, and control devices, no further upgrade is required.

Sec. 14-3 Exclusions.

The following shall be excluded from the fire code adopted in Section 14-1:

a. Sub-Section 1103.9 Carbon Monoxide Detectors
b. Sub-Section 1104.25 Egress Path Markings
c. Appendices A,G, and J

Sec. 14-4. - Penalties.

It is a misdemeanor for any person, firm, corporation, public utility, or government agency to violate, omit, neglect, or refuse to comply with, or resist enforcement of, any provisions of the fire code or chapter 14 of the Liberty City Code. Any such person, firm, corporation, public utility, or government agency found in violation of the fire code of chapter 14 of the Liberty City Code shall be guilty of a misdemeanor, and upon conviction thereof shall be punished as prescribed in section 22-70 of the Liberty City Code for each violation. Each day in which such violation shall continue shall be deemed a separate offense.

Sec. 14-5. - Obstruction of fire hydrants.

It shall be unlawful to place or park or allow to be placed or parked any vehicle within an area of five (5) feet on each side of a fire hydrant or any other fire protection system control valve.

Sec. 14-6. - Crossing or driving over fire hose.

It shall be unlawful to drive or allow to be driven any vehicle over any unprotected hose of any fire department when laid down on any street, alley, or private way to be used at any fire, or alarm of fire, or other emergency, without the consent of the fire department official in charge.

ARTICLE II. - PUBLIC ACCESS DEFIBRILLATOR PROGRAM

Sec. 14-12. - Title.
This article shall be known and may be cited as the "Public Access Defibrillator Program Code."

Sec. 14-13. - Purpose.
It is the purpose of this code to create the public access defibrillator program and establish guidelines for use, training, and data collection, as well as requirements and procedures for implementing and using automated external defibrillators (AED's) within this program.

(Sec. 14-14. - Definitions.
(a) Authorized user means any person who has met the training standards of this code, and is authorized to use the Automated External Defibrillators (AED's) by the medical director and program manager. (b) Automated external defibrillator or AED means an external defibrillator capable of cardiac rhythm analysis that will charge and, with or without further operator action, deliver a shock after electronically detecting that a "shockable rhythm" is present. (c) Director means the EMS director of the Liberty Fire Department or persons to whom the director has delegated duties imposed by this code. (d) Health care facility means a hospital, nursing home, physician's office or other fixed location at which medical and health care services are performed. (e) Medical director means a physician authorized by the State of Missouri to permit individuals to operate an AED and who develops, implements and maintains the medical control provisions of this code and the regulations promulgated pursuant to this code. (f) Program manager means a person who works with the medical director to oversee the administration of the Public Access Defibrillation (PAD) program at specific sites within Liberty. (g) Public access defibrillation or PAD means the utilization of AEDs by rescuers to treat victims of cardiac arrest in public or private places, including first aid providers at public events not associated with the pre-hospital emergency medical services provider for the city, staff of nursing homes not otherwise exempt by this code, and similar activities. (h) PAD site means the agency, business, organization, or other entity that sponsors a PAD program and allows placement of an AED on its premises.

Sec. 14-15. - Exceptions.
The following entities or persons are exempt from the provisions of this code:

(1) Hospitals. Hospitals licensed by the State of Missouri. (2) Physicians. Persons licensed by the state of Missouri as a physician pursuant to Chapter 334, RSMo. (3) Nurses. Persons licensed by the state of Missouri as a nurse pursuant to Chapter 335, RSMo. (4) Mutual aid providers. Persons working for ambulance services, fire departments or other EMS agencies that are called into the city to provide mutual aid to the city's pre-hospital emergency medical services.

Sec. 14-16. - Use of AEDs.
No entity or person shall begin a public access defibrillator program after October 31, 2002, unless the EMS director certifies the program. Public access defibrillator programs operating on October 31, 2002, may operate for one year from that date without being certified by the director. Thereafter, the director shall certify all public access defibrillator programs.

Sec. 14-17. - EMS Director duties.
(a) Adopt regulations. The Director shall adopt regulations necessary to implement a public access defibrillator program within the authorization of this code, Missouri law and regulations, and current medical standards for the use of AEDs and prompt treatment of people suffering cardiac arrest. (b) Authorized programs. The Director shall maintain a list of authorized programs

reflecting their intent to operate a PAD program pursuant to this code. (c) Public access defibrillation programs. The Director shall maintain a list of PAD program sites. (d) Audit. The Director shall have the right to audit any use of an AED. The Director may review maintenance and repair records, training records, medical director agreements, reports of cardiopulmonary resuscitation or AED use, and any other records necessary to determine compliance with the terms of the PAD program. An audit, or quality assurance review, may include gathering clinical data and information from the person who used the AED, and from the AED itself. (e) Delegation. The Director may delegate duties to appropriate personnel, including the medical director of the pre-hospital emergency medical services system working through the Director's Office, the emergency physicians advisory board, or other persons or entities determined by the Director to be qualified to oversee the operations of PAD programs.

Sec. 14-18. - PAD program duties.
(a) Training. Any person, business or institution acquiring an AED will authorize the use of the AED only by persons who have received training by the American Heart Association or American Red Cross, or an equivalent nationally recognized course approved by the Director including the identification of cardiac arrest, administration of cardiopulmonary resuscitation, and the use of AEDs. (b) Maintenance and testing. Any person, business or institution acquiring an AED will maintain and test the unit according to the manufacturer's operational guidelines. Records of maintenance and testing will be made available to the director upon request. (c) Notification of use of the AED. Any person, business or institution that renders emergency care or treatment on a person by using an AED must notify the EMS system through proper use of the 9-1-1 system or other means to seek pre-hospital emergency medical services. (d) Medical control. Any person, business or institution acquiring an AED for use outside a health care facility shall have an authorized physician provide the medical protocol for the use of the device. Protocols will be made available to the director upon request. (e) Cooperation with the Director. A person, business or institution acquiring an AED and the user of an AED will fully cooperate with the Director in any audit or other quality assurance review, including the retrieval of clinical data from the device itself by the Director. (f) List of authorized users. A PAD program will maintain a list of the persons participating in the program reflecting the persons' training and qualifications. This list will subject to audit by the Director.

Sec. 14-19. - Certification of participants in a PAD program.
(a) EMS Director duties. The Director shall establish criteria for the certification of AED programs. (b) Periodic certification. The Director is authorized to require recertification of the program at intervals established by regulation.

Sec. 14-20. - Violations.

It is unlawful to:

(1) Fail to cooperate with the director in the investigation, audit or other review of the use of an AED; or
(2) Fail to make the AED available to the Director for the recovery of data; or
(3) Fail to properly maintain and test an AED made available for use; or
(4) Fail to relinquish control of patient care to appropriately licensed members of the City of Liberty pre-hospital emergency medical services system upon their arrival.

Sec. 14-21. - Severability.
Should any portion of this code [article] be held invalid or unenforceable, the remaining provisions of this code shall remain in effect.

ARTICLE III. - SUBTERRANEAN SPACE BUILDING AND FIRE CODE

Sec. 14-22. - Title and purpose.

This article shall be known as the City of Liberty's Subterranean Space Building and Fire Code and may be cited as such.

These regulations shall apply only to subterranean spaces developed by the extraction of subsurface-located material from underground spaces. Except for related mine entrances or portals, ventilation shafts and surface utility easements, it is not the purpose of this article to provide direct regulation of surface uses which are separately regulated by the applicable above ground building and zoning codes. The further purposes of these regulations are:

To ensure that subterranean space uses are appropriate and reasonably safe (restricted storage/use of hazard materials and substances);

To provide efficient streamlined regulations for the circumstances of mixed subterranean space uses, including the need for planning flexibility with regard to potential future tenant occupancies; and

To protect the health, life, safety, public welfare and property both for those persons who use the subterranean spaces and of those who use the surface above and adjacent to them.

To provide a reasonable degree of safety for emergency response personnel.

Sec. 14-23 - Building and fire codes.

Building Code: The provisions of this article are in addition to the Building Code, as adopted and amended by the City of Liberty.

Fire Code: The provisions of this article are in addition to the Fire Code as adopted and amended by the City of Liberty.

Mechanical Code: The provisions of this article are in addition to the Mechanical Code as adopted and amended by the City of Liberty.

Plumbing Code: The provisions of this article are in addition to the Plumbing Code as adopted and amended by the City of Liberty.

Zoning codes: All subterranean spaces shall comply with all provisions concerning planning and zoning of the City, including site plans which shall include proposed development of the subterranean space, the existing zoning and use of the surface above the subterranean space, and any existing zoning and existing and proposed use of adjacent lands within the development.

Sec. 14-24 - Permit and occupancy requirements.

14-24.1 Application for permit and/or certificate: The subterranean space as well as all tenant buildings inside the subterranean space shall be classified as Group US Occupancies. The subterranean space and all interior buildings shall make application for a building permit and/or certificate of occupancy as required for surface occupancies. Approval shall be subject to compliance with all applicable sections of this article as well as the Building, Fire, Electrical, Mechanical, and Plumbing codes. Areas outside tenant spaces which are accessory to the use of a particular building including such areas as parking, loading docks, trash containers, public ways and streets are determined to be under the control of the owner of the subterranean space for the purposes of this Code. The building or structure shall not be occupied prior to the *fire code official* conducting associated inspections indicating the applicable provisions of this code have been met.

14-24.1.1 Conflicting provisions: Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where this code is in conflict with other adopted code provisions, the most restrictive shall govern.

14-24.1.2 Subterranean master evacuation plan: A master evacuation plan is required to be submitted to the Building Official and Fire Code Official for review and approval. The plan shall define public ways, streets and paths intended to provide evacuation routes to the exterior. The plan shall indicate reflectors required by section 14-26.13 of this article. The subterranean master

evacuation plan shall be updated and resubmitted for approval when public ways, streets and other evacuation routes are altered.

14-24.1.3 Subterranean master ventilation plan: A master ventilation plan is required to be submitted to the Building Official and Fire Code Official for review and approval. The plan shall describe the intended approach to maintain air qualities described in Section 14-26.8.2 of this article. The plan shall show the location and size (in cfm) of all exhaust fans, ventilation fans and controls. The subterranean master ventilation plan shall be updated and resubmitted for approval when major systems are altered.

14-24.2 Geo-technical engineering studies: Note that these studies shall only be required for the subterranean space occupancy. A registered engineer with competence in the field, and selected by the owner, shall prepare a report reviewing the structural integrity of the subterranean space. The owner shall select the engineer with approval from the Public Works Director, provided that adequate information is submitted concerning:

1. The engineer's previous experience with mine stability investigations;
2. The engineer's geological, geological engineering, geo-technical engineering, rock or mining engineering expertise; and
3. Client contact listing of similar projects. Once selected, the engineer shall submit the following information in the form of a geo-technical report to the Public Works Director for review;

14-24.3 Surveys.

14-24.3.1 Surface survey: The owner of the subterranean space shall provide a boundary survey of the surface of the proposed subterranean space at a scale of one inch = one hundred (100) feet (unless otherwise approved), tied to existing section corners, with USGS Sea Level datum contours at two foot intervals.

14-24.3.2 Subterranean survey: The owner of the subterranean space shall provide a mine survey tying surface coordinate grid to subterranean space using section corners. This survey shall show locations, size, pattern and spacing of pillars, an existing and proposed portal entrances with a horizontal accuracy of plus or minus one foot. This survey shall also illustrate those areas of other mines directly adjacent (within one hundred (100) yards) to the subject tract as well as those portions of other mines being utilized for ventilation or access purposes to the subject subterranean development. Floor and ceiling spot elevations shall be made throughout the subterranean space as is necessary for drainage purposes.

14-24.4 Geological information: The data requested below may be obtained through interpolation of the preliminary plan data if the engineer believes the information is sufficient. (Note: The following information is required to be provided for the subject tract and for those portions of adjacent mines being utilized for ventilation or access purposes.)

14-24.4.1 Borings: A sufficient number of borings as needed for licensed registered engineer to determine geological profile and evaluate structural integrity of the roof beam.

14-24.4.2 Profile section cuts: Vertical profile of rock and overburden from the roof of mined area to ground surface labeling and the depth of each successive geological layer. Show the elevation of the ground surface, mine floor, and roof at each profile location. These vertical profiles shall be provided with a minimum of one longitudinal and one transverse section to give a clear picture of the entire area proposed for development. The vertical profile locations shall be shown on a plan of the total area and labeled for reference. On the same map, location and reference distance to outcrop shall be shown.

14-24.4.3 Roof beam thickness: Provide an isopach map illustrating roof beam thickness.

14-24.4.4 Overburden thickness: Provide an isopach map illustrating overburden thickness.

14-24.4.5 Floor material: In a short narrative format indicate floor material and composition thickness.

14-24.5 Geo-technical evaluations:

14-24.5.1 Structural calculations: Submittal of all necessary structural calculations including: Determination of original compressive stress loading of the rock layer prior to the mining operation; the projected loading to the support pillars; and a complete analysis of the loading patterns and support capability of the pillars, roof beam and floor of the mined area with the ultimate above ground/below ground development proposed.

14-24.5.2 Subterranean structural inspection: An overall visual inspection of the subterranean space is required prior to development. An inspection report shall be prepared and be submitted to the Building Official. This report shall indicate major structural flaws and include a statement concerning the overall safety of the subterranean space.

Prior to construction in those areas where a building is proposed, and in all common spaces, a detailed room by room inspection of the subterranean space proposed before occupancy shall be undertaken. This inspection shall indicate such items as; the surface condition of the roof beam, pillars and floor with detailed descriptions of any observed cracking, sloughing, chipping or other deterioration. Show and describe any evidence of water infiltration.

14-24-5.3 Recommended structural modifications: Submittal of all proposed structural modifications, including any needed blasting for final room/corridor trim work or loading dock creation.

14-24-5.4 Engineer's certification of structural adequacy: The following certification shall be provided by the owner's geo-technical engineer:

I have personally observed the subterranean space described as: _____ . I have personally supervised and reviewed the computations of data and supportive information; the required on-site room by room inspections were completed. I have also completed the calculations, analysis, recommendations and conclusions as set forth in the "Geo-Technical Engineering Studies" of this Section. As a professional engineer, I hereby certify, to the best of my professional judgment, that there is no visible evidence of structural integrity problems; and/or appropriate remedial corrective measures addressing structural integrity have been completed and/or the area is suitable for occupancy subject to completion of the remedial measures as recommended in the attached survey report in the areas outlined in the attached survey for final occupancy.

Name: _____ Registration No: _____

Signature: _____ Date: _____

14-24.6 Annual certifications and reviews:

14-24.6.1 Smoke management: The owner of the subterranean space shall provide the City with an annual exhaust fan test showing results of air flow and clearing rates and conformance with the approved subterranean master ventilation plan. This exercise shall include operation of all fans, dampers, controls and testing of required smoke detectors in air handling systems.

14-24.6.2 Geo-technical engineering inspections: A visual inspection of all portions of the subterranean development having final occupancy approvals shall be undertaken during the year [by] a person with competence in the field. This inspection shall indicate such items as; the surface condition of the roof beam, pillars and floor with detailed descriptions of any observed cracking, sloughing, chipping or other deterioration. Any water infiltration problems shall be described in detail. Additional inspection techniques, common to the industry shall be performed as needed. The consulting engineer shall review all inspection data, field verify potential problem areas, make recommendations, if needed and complete the following certification annually:

I have personally observed the subterranean space described as: _____ . I have personally supervised and reviewed the monitoring data and supportive information. I completed on-site inspections of occupied areas where deemed necessary; and I have completed the analysis, recommendations and conclusions as set forth in the "Geo-Technical Engineering

Studies" of this Section. I certify that I am currently a professional Engineer.

Name: _____ Registration No: _____

Signature: _____ Date: _____

14-24.6.3 Air quality: A certified industrial hygienist or registered engineer shall annually certify that the air quality in the occupied areas of the subterranean development complies with the standards set forth for carbon monoxide in this article. The annual report, including required air quality readings (taken in those areas most likely to have high carbon monoxide readings) shall be submitted to the Building Official for review. The owner shall take carbon monoxide readings at a frequency of every two (2) months or more frequently as determined by the Building Official. These readings shall be recorded and available for review by the Building Official.

14-24.6.4 Emergency evacuation drill: The owner shall conduct an annual emergency evacuation drill in conjunction with the Liberty Fire Department officials and modify subterranean master evacuation plan, as needed.

14-24.6.5 Fire sprinkler maintenance: The owner shall maintain the sprinkler system in conformance with the Fire Code as amended.

14-24.6.6 Light, ventilation and sanitation: All portions of Group US Occupancies customarily used by human beings shall be provided with artificial light, air and sanitary facilities as required in this article for the individual occupancy of the developed areas in accordance with surface building codes. Toilet facilities shall be located either in the developed occupancies or conveniently nearby in the subterranean space.

14-24.7 Emergency response station: At intervals of approximately six hundred (600) feet along all roadways shall be an emergency response station that shall include an approved two and one-half (2.5) inch Fire Department standpipe hose connection, a complex map showing evacuation routes, and a manual pull station. The manual pull station shall be accessible to the public and shall be connected to the subterranean space fire alarm system. These stations shall be marked by a luminescent sign and be provided with emergency powered illumination providing a minimum of one foot-candle at the station. The stations will be numbered consistent with the address and column grid system in the subterranean space.

14-24.8 Fire protection systems: Fire protection systems shall be provided as required by this article and the Building Code, as amended. Such systems shall be continuously maintained in reliable operating condition at all times, and such periodic inspections and tests shall be made as are necessary to ensure proper maintenance. When an automatic sprinkler system is out of service for more than twelve (12) hours within a 24-hour period, the building shall be evacuated.

14-24.9 Special hazards:
No hazardous occupancies as defined in the Building Code as Group H occupancies will be allowed in any subterranean space. No hazardous materials, liquids or chemicals shall be stored in Group US occupancies except as permitted in Table No. 307.1(1) of the building code for a single one-hour fire resistive control room.

All tenants occupying any space and the owner of the common spaces shall be required to adhere to Chapter 50, which is the Hazardous Materials section of the City of Liberty Fire Code as allowed and providing that any requirements allowed under Chapter 50 are not specifically prohibited or limited by this code.

No liquefied petroleum gas or natural gas shall be piped, stored, utilized, or transported within any portion of an underground space.

No explosives of any type or class; or fireworks of any type or class shall be manufactured, stored, utilized, or transported into any underground space. The exceptions to this provision are areas where active mining operations are underway and blasting permit has been issued by the City. No explosives shall be stored for mining operations except for those that are present for immediate utilization. Any magazines or other storage facilities shall be on the exterior of the underground space and shall be in accordance with an explosive storage permit issued by the

Fire Department.

There shall be no utilization of the common spaces outside of any building except for vehicle parking and trash dumpsters. Vehicle parking shall be limited to a maximum of seventy-two (72) hours in length for any one vehicle.

Exception: Owners vehicles used exclusively for the maintenance and operation of the subterranean space may be parked for longer than seventy-two (72) hours.

14-24.10 Address, emergency, and exit sign requirements:

14-24.10.1 Street signs: All streets and roadways within the subterranean space shall be identified for emergency purposes by readily visible signs. Lettering shall be not less than four (4) inches high and not less than a one-half-inch wide stroke and shall be of luminescent finish. The signs shall not be higher than four (4) feet above the road surface.

14-24.10.2 Street names and building addresses shall be approved by the Department of Planning and Development.

14-24.10.3 Pillar identification requirements: Each pillar on each side of a street or roadway shall be identified by name, letter or number; and below each street sign shall be a large directional arrow with the word "EXIT" in letters not less than six (6) inches high or less than a three-quarter-inch wide stroke. All signs and letters shall be of reflective or luminescent paint. The exit arrow shall point in the direction of the nearest exit or portal.

14-24.10.4 Owner's responsibility to provide maps: All street identification and exit routing shall be shown on color coded maps of the subterranean space shall be available to all personnel using the subterranean space entrances and exits and shall be given to the Police and Fire Departments having jurisdiction in the subterranean space. The maps shall be brought up-to-date annually or as required to be current.

14-24.10.5 Emergency evacuation route identification: All emergency evacuation routes shall be marked with roadway-mounted reflectors placed approximately twenty (20) feet apart and as approved by the Fire Department or by another evacuation route marking system as approved by the Fire Department.

14-24.10.6 Fire department access roads and security: All common spaces and roadways shall be open at all times without security fences and/or gates provided. Portal and other perimeter exits from the subterranean space may be secured from unauthorized entry, however, any such portal or perimeter exits shall provide for emergency exiting. The undeveloped area of the subterranean space may be secured from non-authorized entry. The Fire Department shall have reasonable authority to require security by fences or other security measures to isolate specific conditions or equipment deemed hazardous by the Fire Department.

14-24.11 Fire control room:

14-24.11.1 Required: A Group US occupancy shall contain a fire control room immediately adjacent to an entrance portal of the subterranean space. The Fire Department shall have direct access to the fire control room via a Knox box system. The room shall contain an annunciator panel which has an electrically-operated visual signaling device for each remote alarm initiating (automatic) device, such as fire detectors, smoke detectors, water flow switches, and for each manual alarm initiating device, such as a manual pull station or manually-operated switch.

14-24.11.2 Site plan: At or near the annunciator panel shall be a current large site plan indicating in reasonable detail the entire subterranean space, identifying by letter, name and/or number each pillar, each building, and each tenant space. The location of each manual or automatic detection device and exhaust fan shall be identified with coded letter and/or number to match the visual signal on the annunciator panel. The site plan shall be clear and concise so that the person in charge or firefighters may immediately locate an emergency.

14-24.11.3 Fire alarm: Any one of the remote manual or automatic alarm indicating devices shall activate an alarm through audible and visual notification appliances. These shall be capable of being operated from the fire control room on a building by building basis and/or as a general

alarm throughout the entire subterranean space as specified for the voice communication system, as well as transmitting an alarm automatically to the local Fire Department.

14-24.11.4 Ventilation Controls: Manual controls (on-off switches) shall be provided for exhaust fans and any other fans moving air in the common spaces.

14-24.11.4.1 Smoke Spread Control: The movement of smoke between buildings and between buildings and common spaces shall be minimized.

14-24.11.4.1.1 Exterior wall building construction: Exterior building walls shall be continuous from exterior wall to exterior wall and from floor to roof, including continuity through all concealed spaces, and shall provide an approved means of control of smoke spread.

14-24.11.4.2 Pillars: Where pillars are used, the pillar shall be considered part of the exterior wall.

14-24.11.4.3 Interior smoke barriers: Interior smoke barriers required for specific occupancies shall be provided in accordance with the International Building Code and International Fire Code.

14-24.11.4.4 Exterior doors: Doors in exterior building walls shall be in accordance with NFPA 80 and shall be without undercuts, louvers, or grills.

14-24.11.4.5 Fire & smoke dampers: Dampers and air-transfer openings penetrating exterior building walls shall close upon activation by an approved heat detection system, a fusible link, or an approved smoke detection system within the ducts.

14-24.11.5 Exhaust fans: Exhaust fans moving air to or from the surface are required to have individual on/off switches. Fans in common spaces used for general circulation may be grouped together for control by the Fire Department on one or more manual control switches.

14-24.11.6 Fire department communication system: A radio system shall be installed in the fire control room with the specific frequencies as required by the Fire Department. This radio system shall be capable of communicating with the communication repeaters that shall be located throughout the underground space and shall be able to communicate with the Fire Department's communication center.

14-24.11.7 Subterranean communication repeaters: The owner shall provide a constant and unobstructed communication network for the Fire and Police Departments via repeaters or other such device throughout the developed areas of the subterranean space. The system shall be designed to provide communications from the developed spaces to the fire control room. The Fire and Police Departments shall be able to communicate from the fire control room to the Fire and Police Department's Communication Center. The system shall have an emergency backup power source capable of operating this system for a minimum of four (4) hours. Multiple frequencies are required if security, maintenance or other personnel use the same system. The design of the radio system is required to be approved by the Fire and Police Departments.

14-24.12 Streets: Streets shall be provided with hard surfaces designed and maintained to support the imposed loads and shall be provided with a surface so as to provide all weather driving capabilities.

Sec. 14-25. - Definitions.
For the purpose of this article, certain terms are defined as follows:

Area gross: Area of a building including pillars but excluding exterior walls.

Area net usable: Area of the subterranean space not including pillars and exterior building walls.

Building: Is an enclosed tenant space separated from public ways, roadways and other tenants.

Building code: Refers to the code adopted as the Building Code for the City of Liberty, Missouri.

Common spaces: All Subterranean spaces open and not separated used as public ways, streets or exits for the general public.

Emergency response station: A station that will include a Fire Department two and one-half (2.5)

inch standpipe hose connection, manual pull station and facility map showing emergency evacuation routes.

Evacuation: The term evacuation in this Code is used to describe the means of egress within the common space of the subterranean space to the exterior.

i The term exiting in this Code is used to describe means of egress within tenant buildings to the exterior of the tenant building (which is the common space of the subterranean space).

Exterior building walls: Walls separating interior tenant spaces from common spaces including public ways and streets.

Owner: The developer, landlord, and/or the party or entity responsible for all common spaces is referred to by this title throughout this Code.
Portal: A large opening created by mining operations, which provide access to the underground space. These openings are usually large enough for the passage of vehicles.

Public way: Is any parcel of land (space) unobstructed by development not less than sixteen (16) feet in width and with a clear height not less than seven (7) feet dedicated to the free passage of the public.

Street: Is a type of public way used as a vehicle roadway within the subterranean space, not less than sixteen (20) feet in width providing a clear height of thirteen (13) feet six (6) inches in height which has been dedicated for public use.

Subterranean master evacuation plan: A written plan illustrating evacuation routes, exits, portals and buildings within the subterranean space.

Subterranean master ventilation plan: A written plan illustrating the location and size (in cfm) of all exhaust fans, ventilation fans and controls.

Subterranean (space) structure: Is the cavern resulting from the extraction of subsurface-located material from underground areas in such a manner that the surface area of the property is not disturbed except in the vicinity of the entrances and exhaust discharges.

Tenant: Any person, company, or entity occupying any of the buildings within the underground space shall be identified in this Code by this title.

Undeveloped spaces: All areas of the subterranean space, which are neither tenant spaces nor common spaces.

Sec. 14-26. - Application.

14-26.1 General. Group US occupancies shall be a subterranean space constructed out of a horizontal layer(s) of solid limestone and shale by an approved excavation method of mining, developed for use as manufacturing, office, warehousing and storage only. No other occupancies are permitted except for accessory uses as approved by the Building Official and the Fire Chief. Because the structure of the subterranean space is formed of solid limestone or solid limestone and shale, it shall be considered Type I construction as defined in the Building Code as amended. All exit facilities such as passageways or enclosed stairs within the common subterranean space shall be consistent with Type I construction. Each individual building within the subterranean space shall be classified and developed as Type I construction as modified herein.

14-26.2 Fire resistance rating of structural elements. All construction on or within the subterranean space shall be of Type I construction as defined in the Building Code with the following modifications.

14-26.2.1 Mezzanine floors: Zero-hour fire resistance including supporting columns.

14-26.2.2 Exterior building walls: Exterior walls of buildings within subterranean spaces shall be at least two-hour fire resistive construction.

14-26.2.3 Openings and penetrations: All openings and penetrations in exterior building walls shall conform to the fire resistance requirements of the Building Code and shall be protected by a

rated fire assembly having at least a one and one-half-hour fire protection rating.

Exception: Glazed openings not exceeding twenty-five (25) percent of the length of the exterior wall of the tenant or building space near entrances may utilize tempered or laminated glass protected with sprinklers spaced approximately at six (6) feet apart designed to wet the entire surface of the glass on both sides. Glazing shall be held in gasketed frames to allow expansion before the sprinkler activities. Curtains or other fixtures shall not obstruct the discharge of water.

14-26.2.4 Interior walls and permanent partitions: All interior walls and permanent partitions shall be of non-combustible materials. Except where used as backing, fire retardant treated wood shall not be allowed within these assemblies.

14-26.2.5 Fire resistant rating of tenant demising walls: Tenant demising walls shall be of at least two-hour fire resistive construction. Except where used as backing, fire retardant treated wood shall not be allowed within these assemblies.

14-26.2.6 Openings and penetrations in tenant demising walls: All openings between tenant spaces are required to be provided with one and one-half-hour automatic or self-closing doors.

Exception: Noncombustible penetrations for conduit and pipes if protected with approved fire stops.

14-26.2.7 Area separation walls: Area separation walls used to subdivide spaces as required by Subsection 26.4. of this article shall be separated by two-hour fire resistive, non-combustible walls. Openings shall be one and one-half-hour fire resistive and be limited to twenty-five (25) percent of the length of the wall.

14-26.3 Fire resistive occupancy and use requirements: Fuel fired equipment is prohibited except as allowed by a hazardous materials permit. Buildings and tenant spaces storing hazardous materials shall be limited to a single one-hour fire resistive control area for materials listed in Table No. 307.1(1) as allowed by Section 6-105 of the City of Liberty Code of Ordinances.

14-26.4 Allowable floor areas—One story areas.
No building of any occupancy classification shall be permitted to have unlimited area. The maximum net usable area for each building including mezzanines shall be limited to three hundred sixty thousand (360,000) square feet of gross area. Combinations of spaces which are greater than three hundred sixty thousand (360,000) gross square feet due to area separation walls shall be provided with exterior access and standpipes as required by the Fire Chief.

14-26.5 Interior building exiting: Except as specifically modified herein, every building or portion thereof shall be provided with exits as required by the requirements of Chapter 10 of the Building Code.

14-26.5.1 Exit through adjoining areas*:*
Exits from a room may open into a single adjoining room or area if such adjoining room or area provides a direct means of egress to an exit corridor, exit stairway, public way, street, horizontal exit or exit passageway. Foyers, lobbies and reception rooms shall not be construed as adjoining rooms when provided obvious and unobstructed means to an exit.

14-26.5.2 Definition of exit: Occupants reaching a street or public way may be considered exited from tenant building spaces when they reach a common space and adequate evacuation facilities from the subterranean space are provided in accordance with Subsection 14-26.6 of this article.

14-26.6 Subterranean evacuation facilities.

14-26.6.1 Evacuation facilities: Common spaces including streets and roadways throughout the subterranean space shall be considered to be horizontal, continuous and unobstructed means of egress to an exterior door, portal, horizontal exit, enclosed exit passageway or enclosed stair. Any street less than twenty (20) feet in width shall be designated for one-way traffic only.

14-26.6.2 Occupant load determination: The occupant load used to determine the required exit capacity from the subterranean space shall be not less than one-fifth of the total occupant load of all interior building spaces considered simultaneously occupied.

14-26.6.3 Number of evacuation routes:

1. Every subterranean space shall have not less than two (2) vehicle entrances or portals.
2. Every subterranean space having an occupant load of five hundred (500) to nine-hundred-ninety-nine (999) shall have not less than three separate evacuation routes.
3. Every subterranean space having an occupant load of over one thousand (1,000) persons shall have not less than four separate evacuation routes.

14-26.6.4 Width of evacuation routes: The total width of evacuation routes in feet shall not be less than the total occupant load divided by sixty (60) people per foot. Such width shall be divided approximately equally among the separate evacuation routes or portals provided.

14-26.6.5 Arrangement of evacuation routes: Evacuation routes shall be arranged a reasonable distance apart so that if one becomes blocked, the other route or routes will be available. The minimum distance between the vehicle portals shall be a minimum of one-fourth of the maximum diagonal of the subterranean space but need not exceed three hundred (300) feet measured along the subterranean interior perimeter.

14-26.6.6 Travel distance: The maximum distance from the discharge point of a tenant space or building to an exterior door, portal, horizontal exit, enclosed exit passageway or enclosed stair shall be limited to two thousand six hundred forty (2,640) feet.

14-26.6.7 Entrance prohibition*:* Upon the sounding of a general fire alarm, red flashing lights shall activate at each portal. These lights shall be located adjacent to a sign which indicates "Do not enter when light flashing, Fire in the subterranean space." The sign shall be subject to the approval of the Fire Department.

14-26.7 Fire protection systems.

14-26.7.1 General: Fire protection systems shall be provided as set forth in Chapter 9 of the Building and Fire Code except when modified in this article.

14-26.7.2 Sprinkler system required: All occupied areas of the subterranean space including all streets, public ways, parking lots, loading docks, and any other developed areas, shall be protected by an automatic fire sprinkler system.

14-26.7.3 Wet standpipes: A 2½" wet standpipe connection shall be installed inside the building at each exterior door of every building and at any door of any interior exit corridor. A 2½" wet standpipe hose connection shall also be provided at each emergency response station. In addition, a 2½" wet standpipe hose station shall be installed in all roadway areas at distances of approximately three hundred (300) feet apart, including those that are installed at the emergency response stations. All standpipe piping and valves shall be painted Day-Glo yellow as approved by the Fire Department. The system shall be operable at all times.

14-26.7.4 Standby power: Standby power shall be provided for emergency exit illumination, fire alarm, fire pump, and lighting and controls in the fire control room.

14-26.7.5 Emergency response vehicle: The owner shall provide a one-time payment for an emergency response vehicle that will be owned and operated by the Liberty Fire Department. The emergency response vehicle shall be a heavy-duty, vehicle and shall include the following minimum equipment:

1. On-board 4,500 psi air system with a supply of sixty (60) minutes for four (4) fire fighters with four fixed air supply ports (cascade system).

2. Eight (8) one-hour four thousand five hundred (4,500) psi SCBA OSHA approved bottles.
3. Six hundred (600) feet of 1¾" fire hose.
4. Four hundred (400) feet of 2½" fire hose
4. Two (2) 1¾" fire nozzles, two (2) 2½" to 2 x 1½" gated wyes, and two (2) 2½" to 1½" reducers.
5. Sixteen (16) channel UHF, 800 MHz five (5) watt mobile radio with multiple frequencies.
6. Twenty thousand (20,000) cfm positive pressure ventilation fan.
7. Two (2) minimum low mounted fog lights.
8. The owner shall provide a secure parking location near the fire control room.

14-26.7.6 Fire hydrants.

14-26.7.6.1 Where required: A minimum of one fire hydrant shall be located at each outside parking lot and each portal unless otherwise approved by the fire code official. Fire hydrants near portals may be fed from the subterranean space standpipe water supply system.

14-26.7.6.2 Hydrant requirements: All fire hydrants installed on the exterior of the subterranean space shall be in accordance with the City of Liberty Fire Code, NFPA 24 and the Design Criteria and Technical Specifications Manual of the City of Liberty.

14-26.8 Building mechanical systems.

14-26.8.1 General: When heating, cooling, ventilation, and smoke control systems are provided in buildings and tenant spaces of Group US Occupancies, such systems shall be installed in accordance with the City of Liberty Fire Code, the International Mechanical Code, and the International Fuel-Gas Code.

14-26.8.2 Air quality: The quality of air in Group US Occupancies shall be certified annually as established in Section 24-6.3 of this article. Ventilation within buildings and tenant spaces shall be designed to limit the concentration of harmful gases gauged by carbon monoxide levels as follows:

1. Thirty-five (35) ppm over a one-hour period.
2. Nine (9) ppm over an eight-hour period.

14-26.9 Subterranean space ventilation.

14-26.9.1 General: The quality of air in Group US Occupancies shall be certified annually as established in this article.

14-26.9.2 Air quality: Ventilation within the subterranean space to be designed to limit the concentration of harmful gases gauged by carbon monoxide levels. Carbon monoxide levels to be limited to an average fifty (50) ppm in streets or public ways over any one-hour period. Carbon monoxide levels exceeding this amount shall be rectified.

14-26.10 Plumbing systems: Plumbing systems installed in Group US Occupancies, including developed areas therein, shall comply with the applicable requirements of the Building Code and the Plumbing Code, except as modified by this article.

14-26.10.1 Vent termination: Each vent pipe or stack serving a plumbing system in a building in a subterranean space shall terminate vertically through the roof or horizontally through the wall of such building to a street or yard. When terminated through a well, the vent terminal shall be as high above the floor as possible and shall be at least twenty-five (25) feet from any door, window or ventilation intake opening in the building wall. The open end of such vent terminal shall be

covered with a protective screen.

14-26.10.2 Subterranean sewer structure trap: Whenever a building sewer serving a subterranean space conveys sanitary sewage to a public sewer, a trap shall be installed on the main sewer line outside the subterranean space. The purpose of the trap is to prevent odors or gases and/or pests from entering the subterranean space plumbing system from the public sewer. It is not to be used as a ventilating duct for the public sewer. A fresh-air inlet shall be connected on the upstream side of this trap so as not to interfere with the cleanouts therein. The upper end of the fresh-air inlet shall terminate in a protected area at least twenty (20) feet from a portal or other opening into the subterranean space. The upper end of the inlet shall be turned down and shall be provided with a substantial protected, screened cover. The air inlet shall be sized properly and shall remain open in order to maintain fixture trap seals in the plumbing system.

14-26.11 Electrical systems: Electrical systems installed in Group US occupancies, including developed areas therein, shall comply with the applicable requirements of the City of Liberty Building and Fire Codes and the Electrical Code, except as modified by this article.

14-26.12 Undeveloped areas: Undeveloped areas in Group US occupancies which are not protected by an automatic fire extinguishing system shall not be used for any purpose, including vehicle parking, truck or trailer parking, or material storage. The owner shall be responsible for providing and maintaining an effective system that shall prevent the unauthorized use of non-sprinklered undeveloped areas.

> **Exception:** Non-sprinklered undeveloped spaces may be used for mining operations and storage of loose rock and sand.

14-26.13 Reflectors: A system of roadway-mounted reflectors shall be utilized for exiting and to indicate the location of Fire Department hose connection locations.

> Green reflectors shall show a path indicating the direction of travel to the closest roadway exit or portal.
>
> Yellow reflectors shall indicate the direction for a secondary egress point, whether from an exit or portal.
>
> A red reflector shall indicate the travel direction toward a dead end where no egress can be accomplished from the underground space.

The reflectors shall be placed in accordance with the approval of the Fire Department but shall be placed approximately twenty (20) feet apart, unless another exiting system is proposed by the owner and approved by the Fire Department.

14-26.14 Penalty: It shall be unlawful for any person to violate any section of this Code, or to fail to comply with mandatory requirements of this Code. The violation of any such provision or provisions shall be punishable as set out in Section 22-70 of the City of Liberty Code of Ordinances.

SECTION II

This Ordinance shall be full force and effect from and after its passage by the City Council and approval by the Mayor.

PASSED by the City Council this 22 day of February, 2021.

_____
Mayor

Attest:

_____
Deputy City Clerk

Approved by the Mayor this 22 of February, 2021.

_____
Mayor