

## AGENDA REQUEST

ORDINANCE     RESOLUTION

2P

NO: 2025-082

**CAPTION:** AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF PASADENA, TEXAS AT CHAPTER 9, BUILDINGS AND GENERAL BUILDING REGULATIONS TO ADD A NEW ARTICLE XII, ENERGY STORAGE SYSTEMS; PROVIDING A PENALTY CLAUSE, PROVIDING A REPEALING CLAUSE, PROVIDING A SAVINGS CLAUSE AND PROVIDING FOR SEVERABILITY.

**RECOMMENDATIONS & JUSTIFICATION:** AMENDING CHAPTER 9 TO ADD A NEW ARTICLE XII, ENERGY STORAGE SYSTEMS, AS A LAND USE CODE TO REDUCE THE POTENTIAL HAZARDS TO THE PUBLIC AND PROPERTY.

(IF ADDITIONAL SPACE IS REQUIRED, PLEASE ATTACH SECOND PAGE)

BUDGETED:

COUNCIL DISTRICT(S) AFFECTED: ALL

REQUIRES APPROPRIATION:

See attached Certification

	COUNCIL ACTION	
<p><i>R</i></p> <p>ROBIN S GREEN, JR      DATE: <u>3/7/25</u>                      REQUESTING PARTY (TYPED)</p>	<p>FIRST READING:</p> <p style="font-size: 1.5em; color: blue;"><u>Valerio</u></p> <p>MOTION</p>	<p>FINAL READING:</p> <p style="font-size: 1.5em; color: blue;"><u>Ybarra</u></p> <p>MOTION</p>
<p>BUDGET DEPARTMENT</p>	<p style="font-size: 1.5em; color: blue;"><u>Villarreal</u></p> <p>SECOND</p>	<p style="font-size: 1.5em; color: blue;"><u>Valerio</u></p> <p>SECOND</p>
<p>PURCHASING DEPARTMENT</p>		
<p>APPROVED:</p> <p style="font-size: 1.5em; color: blue;"><i>[Signature]</i></p> <p>CITY ATTORNEY</p>	<p style="font-size: 1.5em; color: blue;"><u>03-18-25</u></p> <p>DATE</p>	<p style="font-size: 1.5em; color: blue;"><u>04-01-25</u></p> <p>DATE</p>
<p style="font-size: 1.5em; color: blue;"><i>[Signature]</i></p> <p>MAYOR</p>	<p>DEFERRED: _____</p>	

ORDINANCE NO. 2025 - 082

**An Ordinance amending the Code of Ordinances of the City of Pasadena, Texas at Chapter 9, Buildings and General Building Regulations, by adding a new Article XII, Energy Storage Systems; providing a penalty; providing a repealing clause; providing a savings clause; and providing for severability.**

WHEREAS, amending Chapter 9 of the Code of Ordinances include a new Article XII, Energy Storage Systems, as a Land Use Code to reduce the potential hazards to the public and property;  
NOW, THEREFORE

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PASADENA:

SECTION 1. That the City Council hereby finds and adopts the preamble to this resolution.

SECTION 2. That Chapter 9, Buildings and General Building Regulations, of the Code of Ordinances of the City of Pasadena, Texas is hereby amended by adding a new Article XII, Energy Storage Systems, to hereafter read as shown on the attached Exhibit "A".

SECTION 3. That all ordinances in force when this Ordinance becomes effective which are inconsistent with, or in conflict with this Ordinance are hereby expressly repealed insofar as said ordinances are inconsistent with or are in conflict with this Ordinance.

SECTION 4. That all rights and remedies which have accrued in favor of the City under this Chapter and amendments thereto shall be and are preserved for the benefit of the City.

SECTION 5. That the City Council of the City of Pasadena, Texas does hereby declare that if any Section, subsection, paragraph, sentence, clause, phrase, word or portion of this Ordinance is declared invalid or unconstitutional by a court of competent jurisdiction, the City Council would have passed and ordained any and all remaining portions of this Ordinance without the inclusion of that portion or portions which may be so found to be unconstitutional or invalid, and declares that its intent is to make no portion of this Ordinance dependent upon the validity of any other portion thereof, and that all said remaining portions shall continue in full force and effect.

SECTION 6. That it shall be unlawful and a misdemeanor to violate any provision or requirement hereof and any person convicted of violating any provision, restriction, requirement, or prohibition of this Chapter shall be fined in a sum of not more than Five Hundred Dollars (\$500.00) for each violation. A separate offense shall be deemed committed on each day during or on which a violation occurs or continues.

SECTION 7. That the City Council officially determines that a sufficient written notice of the date, hour, place and subject of this meeting of the City Council was posted at a place convenient to the public at the City Hall of the City for the time required by law preceding this meeting, as required by the Open Meetings Law, Chapter 551, Texas Government Code; and that this meeting has been

open to the public as required by law at all times during which this ordinance and the subject matter thereof has been discussed, considered and formally acted upon. The City Council further confirms such written notice and the contents and posting thereof.

(SIGNATURE AND APPROVAL - NEXT PAGE)

PASSED ON FIRST READING by the City Council of the City of Pasadena, Texas in regular meeting in the City Hall this the 18<sup>th</sup> day of March, A.D., 2025.

APPROVED this the 18<sup>th</sup> day of March, A.D., 2025.

Jeff Wagner  
JEFF WAGNER, MAYOR  
OF THE CITY OF PASADENA, TEXAS

ATTEST:

Amanda F. Mueller  
AMANDA F. MUELLER  
CITY SECRETARY  
CITY OF PASADENA, TEXAS

APPROVED:

Jay W. Dale  
JAY W. DALE  
CITY ATTORNEY  
CITY OF PASADENA, TEXAS

PASSED ON SECOND AND FINAL READING by the City Council of the City of Pasadena, Texas in regular meeting in the City Hall this the 1<sup>st</sup> day of April, A.D., 2025.

APPROVED this the 1<sup>st</sup> day of April, A.D., 2025.

Jeff Wagner  
JEFF WAGNER, MAYOR  
OF THE CITY OF PASADENA, TEXAS

ATTEST:

Amanda F. Mueller  
AMANDA F. MUELLER  
CITY SECRETARY  
CITY OF PASADENA, TEXAS

APPROVED:

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CITY ATTORNEY  
CITY OF PASADENA, TEXAS

## **ARTICLE XII. – ENERGY STORAGE SYSTEMS**

### **Sec. 9-219. Purpose.**

The following Energy Storage Systems codes are adopted to advance and protect the public health, safety, and welfare of the City of Pasadena by creating regulations for the installation and use of energy storage systems, with the following objectives:

- (a) To provide a regulatory scheme for the designation of properties suitable for the location, construction, and operation of a battery energy storage systems;
- (b) To protect the health, welfare, safety, and quality of life for the general public;
- (c) To mitigate the impacts of Energy Storage Systems on City resources, public services, and nearby properties;
- (d) To ensure compatible land uses in the vicinity of the areas affected by battery energy storage systems.

### **Sec. 9–220. Applicability.**

- (a) The requirements of this article shall apply to all Energy Storage Systems permitted, installed, modified, expanded, improved, and/or replaced in the City of Pasadena after the effective date of this article, excluding general maintenance and repair.
- (b) Energy Storage Systems constructed or installed prior to the effective date of this article shall not be required to meet the requirements of this article.
- (c) Modifications to, retrofits, or replacements of an existing Energy Storage System that increase the total battery energy storage system design, discharge, duration, or power rating shall be subject to this article.

### **Sec. 9-221. Classification**

Energy Storage facilities shall be classified as a “Private Utility” and a High Hazard Operation.

### **Sec. 9-222. Definitions.**

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

*ANSI*: American National Standards Institute.

*BATTERY(IES)*: A single cell or a group of cells connected together electrically in series, in parallel, or a combination of both, which can charge, discharge, and store energy electrochemically. For the purposes of this law, batteries utilized in consumer products are excluded from these requirements. For the purposes of this code, certain types are defined as follows:

- (a) Flow battery. A type of storage battery that includes chemical components dissolved in two different liquids. Ion exchange, which provides the flow of electrical current, occurs through the membrane while both liquids circulate in their respective spaces.
- (b) Lead-acid battery. A battery that is comprised of lead electrodes immersed in a solution of water and sulfuric acid electrolyte. These batteries may be flooded, vented, sealed, or may come in other configurations. They may produce hazardous gases during normal operations.
- (c) Lithium metal polymer battery. A storage battery that is similar to the lithium-ion battery except that it has a lithium metal anode in the place of the traditional carbon or graphite anode.
- (d) Lithium-ion battery. A storage battery with lithium ions serving as the charge carriers of the battery. The electrolyte is a polymer mixture of carbonates with an inorganic salt and can be in a liquid or a gelled polymer form. Lithiated metal oxide is typically a cathode and forms of carbon or graphite typically form the anode.
- (e) Nickel-cadmium (Ni-Cd) battery. A rechargeable battery in which the positive active material is nickel oxide and the negative active material contains cadmium (referred to as a Nickel-cadmium or Ni-Cd battery), and the electrolyte is potassium hydroxide.
- (f) Nickel-metal hydride (Ni-MH). An alkaline storage battery in which the positive active material is nickel oxide, the negative electrode is an intermetallic compound and the electrolyte is usually potassium hydroxide.
- (g) Stationary storage battery. A group of electrochemical cells interconnected to supply a nominal voltage of DC power to a suitably connected electrical load, designed for service in a permanent location.

***BATTERY ENERGY STORAGE MANAGEMENT SYSTEM:*** An electronic system that protects batteries from operating outside their safe operating parameters and generates an alarm and trouble signal for off normal conditions.

***BATTERY ENERGY STORAGE SYSTEM:*** A rechargeable energy storage system consisting of batteries, battery chargers, controls, power conditioning systems and associated electrical equipment. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing, smoothing and dispatching of intermittent renewable energy sources, or similar capabilities. A battery energy storage system is classified as a Tier 1 or Tier 2, battery energy storage system as follows:

- (a) Tier 1 battery energy storage systems include all of the following:
  - (1) An aggregate energy capacity less than or equal to 600 kWh, and
  - (2) Consist of only a single energy storage system technology in a room or enclosed area.

(b) Tier 2 battery energy storage systems include the following:

- (1) An aggregate energy capacity greater than 600 kWh, or
- (2) Are comprised of more than one storage battery technology in a room or enclosed area.

**CELL:** The basic electrochemical unit, characterized by an anode and a cathode, used to receive, store, and deliver electrical energy.

**CAPACITOR ENERGY STORAGE SYSTEM:** A stationary, rechargeable energy storage system consisting of capacitors, chargers, controls and associated electrical equipment designed to provide electrical power to a building or facility. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

**CRITICAL CIRCUIT:** A circuit that requires continuous operation to ensure safety of the structure and occupants.

**CRITICAL FACILITY:** a building, structure, or infrastructure that provides services and functions essential to a community and require special consideration; including hospitals and health care facilities, nursing homes, assisted living facilities, standalone emergency rooms, schools, day care centers, police stations, fire stations, emergency operation centers, critical vehicle and equipment storage facilities, government facilities, and other public or private utility facilities, that are vital to supporting essential functions in the community; and structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials.

**DEDICATED-USE BUILDING:** A building that is built for the primary intention of housing battery energy storage system equipment, is classified as Group F-1 occupancy as defined in the International Building Code, and complies with the following:

- (a) The building's only permitted use is battery energy storage, energy generation, and other electrical grid-related operations.
- (b) No other occupancy types are permitted in the building.
- (c) Occupants in the rooms and areas containing battery energy storage systems are limited to personnel that operate, maintain, service, test, and repair the battery energy storage system and other energy systems.
- (d) Administrative and support personnel are permitted in areas within the buildings that do not contain battery energy storage system, provided the following:
  - (1) The areas do not occupy more than 10 percent of the building area of the story in which they are located.

- (2) A means of egress is provided from the administrative and support use areas to the public way that does not require occupants to traverse through areas containing battery energy storage systems or other energy system equipment.

***EMERGENCY POWER SYSTEM:*** A source of automatic electric power of a required capacity and duration to operate required life safety, fire alarm, detection and ventilation systems in the event of a failure of the primary power. Emergency power systems are required for electrical loads where interruption of the primary power could result in loss of human life or serious injuries.

***ENERGY STORAGE MANAGEMENT SYSTEM:*** An electronic system that protects energy storage systems from operating outside their safe operating parameters and disconnects electrical power to the ESS or places it in a safe condition if potentially hazardous temperatures or other conditions are detected.

***ENERGY STORAGE SYSTEM (ESS).*** One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time, not to include a stand-alone 12-volt car battery or an electric motor vehicle.

***ENERGY STORAGE SYSTEM, ELECTROCHEMICAL:*** An energy storage system that stores energy and produces electricity using chemical reactions. It includes, among others, battery ESS and capacitor ESS.

***ENERGY STORAGE SYSTEM, MOBILE:*** An energy storage system capable of being moved and utilized for temporary energy storage applications, and not installed as fixed or stationary electrical equipment. The system can include integral wheels for transportation or be loaded on a trailer and unloaded for charging, storage and deployment.

***ENERGY STORAGE SYSTEM, WALK-IN UNIT:*** A prefabricated building that contains energy storage systems. It includes doors that provide walk-in access for personnel to maintain, test and service the equipment, and is typically used in outdoor and mobile ESS applications.

***ENERGY STORAGE SYSTEM CABINET:*** A cabinet containing components of the energy storage system that is included in the UL 9540 listing for the system. Personnel are not able to enter the enclosure other than reaching in to access components for maintenance purposes.

***ENERGY STORAGE SYSTEM COMMISSIONING:*** A systematic process that provides documented confirmation that an energy storage system functions according to the intended design criteria and complies with applicable code requirements.

***ENERGY STORAGE SYSTEM DECOMMISSIONING:*** A systematic process that provides documentation and procedures that allow an energy storage system to be safely de-energized, disassembled, readied for shipment or storage, and removed from the premises in accordance with applicable code requirements.

**FUEL CELL POWER SYSTEM, STATIONARY:** A stationary energy generation system that converts the chemical energy of a fuel and oxidant to electric energy (DC or AC electricity) by an electrochemical process. Assembly of a stationary system is as follows:

- (a) Field-fabricated fuel cell power system. A *stationary fuel cell power system* that is assembled at the job site and is not a pre-engineered or prepackaged factory-assembled fuel cell power system.
- (b) Pre-engineered fuel cell power system. A *stationary fuel cell power system* consisting of components and modules that are produced in a factory, and shipped to the job site for assembly.
- (c) Prepackaged fuel cell power system. A *stationary fuel cell power system* that is factory assembled as a single, complete unit and shipped as a complete unit for installation at the job site.

**NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL):** A U.S. Department of Labor designation recognizing a private sector organization to perform certification for certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards.

**NON-DEDICATED-USE BUILDING:** All buildings that contain a battery energy storage system and do not comply with the dedicated-use building requirements, including all other occupancy types such as, but not limited to, commercial, industrial, offices, and multifamily housing.

**NON-PARTICIPATING PROPERTY:** Any property that is not a participating property.

**OCCUPIED COMMUNITY BUILDING:** Any building in Occupancy Group A, B, E, I, R, as defined in the International Building Code, including but not limited to schools, colleges, daycare facilities, hospitals, correctional facilities, public libraries, theaters, stadiums, apartments, hotels, and houses of worship.

**PARTICIPATING PROPERTY:** A battery energy storage system host property or any real property that is the subject of an agreement that provides for the payment of monetary compensation to the landowner from the battery energy storage system owner (or affiliate) regardless of whether any part of a battery energy storage system is constructed on the property.

**SPECIAL FLOOD HAZARD AREA:** The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on NFIP maps. The SFHA is the area where the National Flood Insurance Program's (NFIP's) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

**STANDBY POWER SYSTEM:** A source of automatic electric power of a required capacity and duration to operate required building, hazardous materials or ventilation systems in the event of a failure of the primary power. Standby power systems are required for electrical loads where

interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

### **Sec. 9-223. General Requirements.**

The following standards and requirements shall apply to all battery energy storage systems:

- (a) All BESS systems, all dedicated-use buildings, and all other buildings or structures that contain or are otherwise associated with a BESS system will be required to complete a Land Use Request before applying for a Floodplain Development, Site Plan, and Commercial Building Permit to ensure conformance with the provisions of this article.
- (b) All BESS systems, all dedicated-use buildings, and all other buildings or structures that contain or are otherwise associated with a BESS system and are subject to the International Building Code, Uniform Code and/or the Energy Code shall be designed, erected, and installed in accordance with all applicable provisions of the International Building Code, Uniform Code, Energy Code, and all applicable provisions of the codes, regulations, and industry standards as referenced in the Uniform Code, the Energy Code, and City of Pasadena Code of Ordinances.
- (c) Energy Storage Systems shall be designed and approved by a licensed Electrical Engineer and Fire Protection Engineer prior to submission for plan review and permitting.
- (d) Onsite detention and internal storm water collection are required.

### **Sec. 9-224. Permitting Requirements.**

All permit applications and plan reviews for energy storage systems shall be submitted directly to the City Permit department and the Fire Marshal's Office of the City of Pasadena, Texas for code compliance review and approval.

- (a) A completed application for a Floodplain Development Permit shall be submitted to the City Permit Department and must include the following:
  - (1) Two complete sets of Engineer sealed plans drawn to scale with a legend, north arrow and vicinity map.
  - (2) Existing topography survey and proposed site grading plan; including any areas of fill placement, areas of excavation, finished floor elevations, and slab elevations. Provide centerline elevations of all adjacent streets.
  - (3) Site Plan showing all easements, rights of way, lot dimensions, setback dimensions, all proposed structures, fencing, gates, equipment, and poles.
  - (4) Paving Plan showing all paved areas with pavement elevations, driveways, and sidewalks.

(5) Utility and drainage plan, including detention and mitigation ponds with cross-sections and Engineer sealed calculations. Storm Water Pollution Prevention Plan and current City of Pasadena Standard Details.

(b) Application for a Site Plan Permit shall be submitted to the City Permit Department. and must include the following:

- (1) A completed application with all of the information and fees required;
- (2) Site Plan permit fees are five hundred (\$500) per lot;
- (3) Scaled plans with north arrow, and describe the property lines of all tracts and/or lots related to the development;
- (4) Locations and dimensions of all existing and proposed structures;
- (5) A survey sealed and certified by a Texas registered professional land surveyor showing the location of each existing building, structure or improvement; each easement and right-of-way within or abutting the boundary of the surveyed property; and the dimensions of each sidewalk, alley, driveway, or other part of the site development dedicated to the public;
- (6) Bearings, dimensions and locations of existing property lines, easements and building setback lines;
- (7) Surrounding land uses, adjoining streets, alleys, and other public improvements;
- (8) Locations of existing trees, including identifying those trees to be preserved, as well as existing landscape to be preserved;
- (9) Site Plan with all proposed landscaping, parking, fencing, paving, structures, equipment and poles and their setbacks from all property lines;
- (10) Locations, dimensions, design, materials, location of driveways, parking spaces, drive aisles, landscaping islands, curbs, wheel stops and other physical features related to layout of parking and loading facilities;
- (11) Location and materials of sidewalks, patios, and other improvements;
- (12) Proposed trees, shrubs, parking lot landscaping, lawn areas, groundcovers and buffer yards with plant list including type, size, variety, and number of plants;
- (13) Landscape irrigation plan;
- (14) Proposed fence and/or wall information, including materials, height, and, if needed, certification by a registered engineer;

- (15) Locations of above-ground existing and proposed physical features such as utility poles, fire hydrants, trash receptacles, dumpsters, dumpster enclosures, bollards and other features;
  - (16) Covenants and restrictions recorded in the real property records affecting the tracts and/or lots included in the site plan;
  - (17) Licenses, permits, and other documentation required by federal, state, and other governments for the operation of the use;
  - (18) Existing and proposed signs, and similar features; and
  - (19) Any additional information/materials (such as plans, maps, exhibits, information about proposed uses, etc.) as deemed necessary by the Planning Director in order to ensure that the application is understood.
  - (20) Site Plan approval does not indicate compliance with any other ordinances or requirements of the City of Pasadena, or compliance with regulations, standards or requirements of other relevant jurisdictions.
- (c) A Commercial Development Permit shall be presented to the Building Official on forms furnished by the Permit department and must include the approved Floodplain Development permit, Site Plan permit and approved plans.
- (1) Commercial permit fees of one hundred (\$100) for each battery energy enclosure, cabinet, or structure not covered in this chapter.
- (d) Special Use Permit application shall be submitted and include the following information:
- (1) Site Plan indicating the distance between battery containers and distance from all adjacent property lines and structures.
  - (2) Elevations and renderings/illustrations.
  - (3) Hazard Mitigation Analysis
  - (4) Fire Management Plan
  - (5) Plume Study
  - (6) Such other information as the City deems reasonably necessary to administer this article.
- (e) An electrical permit shall be required and plans must be signed and sealed by a Licensed Electrical Engineer.
- (f) Environmental reviews and approvals shall be required and include the following:

- (1) Initial site Environmental Assessment.
  - (2) Full Environmental Impact Analysis.
  - (3) Documentation of compliance with Historical Properties Survey.
  - (4) Compliance with any Wetlands Permitting through the US Army Corps of Engineers.
  - (5) Such other information as the City deems reasonably necessary to administer this article.
- (g) **Plume Modeling.** A plume analysis shall be required to determine the potential toxic risk to those in proximity to the Energy Storage System, including responding firefighters. The plume analysis shall utilize appropriate modeling to evaluate worst-case scenarios with varying weather conditions and toxic gas release rates. The plume study shall address toxicity hazards based on toxic gases expected to be released, based on gas composition measurements from the cell, and module level testing pursuant to UL9540A or other testing. The plume analysis shall include battery failures with both flaming and non-flaming scenarios. These scenarios should be based on results from relevant tests such as UL 9540A tests and include modeling of a full propagation event involving an entire Energy Storage System enclosure. The modeling of multiple Energy Storage System enclosure failures shall not be required except where testing or analysis indicates that this is to be reasonably expected. Model assumptions, techniques, results, and a summary document shall be provided in a report. The plume study shall be conducted by a qualified firm with experience in plume modeling for battery energy storage systems.
- (h) Energy Storage System sites must be registered with all Federal, State and Local Regulatory Agencies.
- (i) Centerpoint Energy review and approval of the proposed Energy Storage System is required before a City permit will be issued.

### **Sec. 9-225. Specific Standards.**

The following standards shall apply to all Energy Storage Systems, Dedicated Use Buildings, and any other buildings or structures that contain or are otherwise associated with a BESS system.

- (a) BESS sites shall be no larger than five (5) acres in size, measured property line to property line; excluding setbacks areas as described in (d) and (f).
- (b) BESS sites shall be no closer than fifteen-hundred (1,500) feet from another BESS site measured from nearest property line.

- (c) BESS sites must be located within one hundred fifty (150) feet of a Centerpoint Energy transfer station or Centerpoint Energy owned property or fee strip.
- (d) BESS sites shall be no closer than a minimum five hundred (500) feet, measured from the nearest property line, from the following:
  - (1) Residential property, platted residential property or platted residential subdivision.
  - (2) Multifamily developments or manufactured home parks.
- (e) BESS sites shall be no closer than one thousand (1,000) feet from all critical facilities; excluding other BESS sites and Centerpoint Energy facilities, measured from the nearest property line.
- (f) All structures, buildings, and equipment shall be setback a minimum of fifty (50) feet from the right of way and a minimum of one-hundred fifty (150) feet from rear and side property lines adjacent to commercial property. All setbacks shall be sodded or seeded and comply with all current City landscaping codes.
- (g) BESS sites shall not be located in a special flood hazard area.
- (h) All BESS sites must have frontage along and take direct access from a public right of way.
- (i) All BESS systems, dedicated-use buildings, and other buildings, structures and equipment installed, modified, expanded, improved, and/or replaced must be elevated to the following:
  - (1) For curb and gutter streets, a minimum of one (1) foot above the centerline of all adjacent streets at the midpoint of the lot, or meet the 500-year flood elevation as determined from the effective FIS using City of Pasadena bench marks and correcting for latest NAVD leveling, whichever is higher. (Contact city for latest NAVD leveling.)
  - (2) Open ditch street one (1) foot above the centerline of the street at the midpoint of the lot, or meet the 500-year flood elevation as determined from the effective FIS, whichever is higher.
  - (3) For structures within two hundred (200) feet of the floodway a minimum elevation of two (2) feet above the 500-year flood elevation as determined from the effective FIS, whichever is higher.
- (j) Civil Site Requirements. All structures, buildings, equipment, drive aisles, and parking areas must be on an improved surface of asphalt or concrete with an internal drainage system draining away from all property lines. The following requirements shall apply:

- (1) Concrete paving must be five and one-half (5½) inches of 2500 PSI concrete reinforced with No. 3 rebar at eighteen (18) inches O.C.E.W. poured on a subbase compacted to ninety-five (95) percent density; or
  - (2) One and one-half (1½) inches of hot mix asphalt laid on a six (6) inch compacted limestone or crushed concrete base on a subbase compacted to ninety-five (95) percent density.
  - (3) Driveways and approaches must comply with current City of Pasadena standard details. A maximum driveway width of thirty-five (35) feet with a minimum radius of ten (10) feet will be allowed.
  - (4) Certain streets, roads or highways may require Driveway/Approach permits with Harris County, TxDOT and/or the Harris County Toll Road Authority.
  - (5) Internal drainage calculations using Atlas 14 must be provided with an Engineer's seal.
  - (6) Onsite detention is required at the current City of Pasadena detention rate, if outfalling into a City maintained system. If outfalling to Harris County, Harris County Flood Control, TxDOT or any other drainage system, the detention rate of the accepting jurisdiction will apply.
  - (7) All domestic, fire and irrigation lines shall have their own connection to the City water main and they must have their own water meter and backflow preventer.
- (k) Utility Lines and Electrical Circuitry. All on-site utility lines shall be placed underground with the exception of the main service connection at the utility company right-of-way and any new interconnection equipment, including without limitation any approved poles in the right-of-way.
- (l) Buildings must be protected from vehicle impact, including but not limited to protection provided by bollards.
- (m) Screening and Visibility Requirements. BESS sites shall have views minimized from adjacent properties and from the road right of way. The following requirements shall apply:
- (1) A minimum seven (7) foot high opaque wall or fence shall be erected with a self-locking gate at all openings to prevent unauthorized access to the facility.
  - (2) The perimeter fence shall be set back a minimum of ten (10) feet from the public right-of-way.
  - (3) Approved materials for perimeter screening walls and fences:
    - (a) Ribbed metal. Ribbed metal or R-panel fencing shall be suitably finished and shall be erected on a structurally sound metal frame set in concrete.

- (b) Concrete or masonry. Screening walls shall consist of either decorative concrete masonry block or decorative concrete tilt-up walls. Decorative masonry block means neutral colored slump stone block, split-face block, or precision block with a stucco, plaster, or cultured stone finish. Decorative concrete tilt-up wall means concrete with a combination of paint and raised patterns, reveals, and/or trim lines.
- (4) Maintenance. Screening walls and fences must be maintained in their original design, placement, and structural integrity.
- (n) Landscaping. A landscape buffer shall be provided between the perimeter fence and the public right-of-way that is no less than ten (10) feet in width. The landscape area shall be planted with one (1) evergreen tree no less than six (6) inches in caliper for every fifty (50) feet of frontage to screen the development from view of the public right-of-way. Facility owner is responsible for maintaining any required landscaping.
- (o) Irrigation. The landscape area shall be provided with an irrigation system. No planting or irrigation will be permitted within the public right-of-way.
- (p) No person, firm or corporation may operate a BESS system without first obtaining a permit to do so from the City of Pasadena, Texas. The permit shall be renewed on an annual basis and the city shall conduct an annual site inspection prior to permit renewal.

#### **Sec. 9-226. Special Use Performance Standards.**

- (a) Availability and adequacy of public service. Public services including but not limited to sewer, water, gas, police, and fire protection must be available as evidenced by letters of availability from the department of Public Works and Engineering at an adequate level and capable to service the proposed land use. The Public Works Director, Fire Marshal and/or the city council may impose any necessary conditions and restrictions to insure that an overloading of the city system does not occur and that inordinate demand on public services does not jeopardize or limit existing and protected services demands.
- (b) Required licenses obtained. All necessary government permits and licenses shall be secured with evidence of such placed on record with the city. Any person, firm or corporation seeking to exercise, carry on or engage in the business or operation of a battery energy storage system shall make application with the Fire Marshal's office and the City of Pasadena Permit Department.
- (c) Transfer of Ownership. The Applicant shall provide written notification to the Fire Marshal's Office and Planning Department at least thirty (30) days prior to any change in ownership of a BESS. A change in ownership includes any kind of assignment, sale, lease, transfer, or other conveyance of ownership or operating control of the applicant, the BESS, or any portion thereof. The Applicant or successors-in-interest or assignees of the Special

Use Permit, as applicable, shall remain liable for compliance with all conditions, restrictions and obligations contained in the Special Use Permit, the provisions of this Ordinance, and applicable City, state, and federal laws.

### **Sec. 9-227. Operational Performance Standards.**

Energy Storage Systems or any combination thereof shall each meet the following minimum performance standards. No person, firm, corporation, partnership or other entity shall operate or permit to be operated a Energy Storage System in violation of any of the following performance standards contained in this section. All applications for permits and subsequent annual renewal applications shall include a certification from a licensed engineer that verifies compliance with these performance standards. Where applicable, land uses shall meet and be in compliance with the appropriate federal, state and local regulations. Compliance with the following operational standards must be met.

- (a) Lighting and glare. Any lighting used shall be arranged so as to deflect light away from any adjoining residential use or from public streets. Direct or sky-reflected glare, where from floodlights or from high temperature processes such as combustion or welding, shall not be directed onto any adjoining property. The source of lights shall be hooded or controlled in some manner so as not to light adjacent property. Bare incandescent light bulbs shall not be permitted in view of adjacent property or public right-of-way. Any light or combination of lights which cast light on a public street shall not exceed one (1) foot-candle (meter reading) as measured from the centerline of such street. Any light or combination of lights which casts light on residential property shall not exceed 0.4 foot-candles (meter reading) as measured from such property.
- (b) Radiation and electrical emissions. No activities shall be permitted that emit dangerous radioactivity beyond enclosed areas. There shall be no electrical disturbance adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance.
- (c) Smoke. The emission of smoke by any use shall be in compliance with and regulated by the appropriate federal, state, or local agency.
- (d) Dust or other particulate matter. The emission of dust, fly ash or other particulate matter by any use shall be in compliance with and regulated by the appropriate federal, state, or local agency.
- (e) Odors. The emission of odor by any use shall be in compliance with and regulated by the appropriate federal, state, or local agency.
- (f) Fire and explosive hazards. Hazardous materials/explosives shall meet all current federal, state, and local codes and regulations.

- (g) **Vibration.** All uses shall be operated so that ground vibration is not perceptible outside the lot lines of the site on which the use is located.
- (h) **Noise.** All noise shall be muffled so as not to be objectionable due to intermittence, beat frequency or shrillness and as measured at any property line, shall not exceed the requirements and standards set forth in section 20-1 of the Code of Ordinances of the City of Pasadena, Texas.
- (i) **On site containment of materials and waste.** No material or waste shall be deposited on a property in such a form or manner that it may be transferred off the property by natural causes or forces such as wind or rain.
- (j) **Remote Monitoring.** All Energy Storage sites shall have a redundant 24/7 site monitoring system to detect and prevent thermal runaway. The system shall be subject to the following requirements:
  - (1) The system shall have detectors for temperature, gases, and smoke installed.
  - (2) System alerts and detection warnings of a potential thermal runaway, smoke detector activation, or gas detector activation shall be sent to local emergency services (Fire and Police Departments), site and remote operators, and owners.
  - (3) Alerts and detections of a potential thermal runaway, smoke detector activation, or gas detector activation shall trigger BESS unit shutdown and exhaust fan initiation at a minimum.
  - (4) All critical safety systems and remote monitoring systems shall have a secondary source of power in the event of a power failure.
  - (5) A plan shall be provided showing the capability of providing battery backup power for as long as it takes for a permanent (generator) power source to be put in place. The company shall send its backup power plan to the Fire Marshal's office at time of permitting for review. The plan shall explain how they will sustain emergency backup power until normal power is restored, especially during a natural disaster.
  - (6) For additional safety and redundancy of a commercial energy storage system (ESS) installation, a Battery Analytics software system shall be required to monitor the data produced by the Battery Management System (BMS). Indications of a potential failure shall be immediately transmitted to the energy storage system operator and to the fire department.
- (k) **Supervision of Site.** A stationary energy storage system shall be operated and maintained under the general supervision of a technical expert held to the following standards:

- (1) Be trained and knowledgeable in the installation, maintenance, and operation of the battery system, such as a person engaged in the design or installation of such systems;
  - (2) Possess the manufacturer's installation and operating specifications for each battery system and any associated fire protection systems;
  - (3) Immediately report any emergency condition affecting a battery system to the Fire Department; and
  - (4) Provide technical assistance about the stationary energy storage system installation to the Department and, in coordination with the energy storage management system monitoring facility, identify a subject matter expert (such as a representative of the manufacturer) who can provide technical assistance about the battery's design and performance in the event of an emergency condition affecting the battery system.
- (l) Event Response. If City employees respond to an incident at the site, the operator of the Energy Storage System site shall adhere to the following requirements:
- (1) A technical expert must be on-site within one hour of any remote monitoring alert.
  - (2) All City costs associated with the incident must be reimbursed at a rate specified by the City.
  - (3) Any third-party response requested by the City or Pasadena Fire Department will be at the cost of the property owner.
- (m) Insurance. The operator of the BESS site shall provide and maintain, as current, a certificate of liability insurance with the City named as an Additional Insured.
- (n) On-site Signage. The operator of the BESS site shall post in a conspicuous location at the entrance to the facility a sign subject to the following regulations:
- (1) The sign shall be reflective and weatherproof and shall be placed at all entrance gates to the facility, as well as on the entrance to any buildings that may house any components of the BESS.
  - (2) Lettering shall be a minimum letter height of 3/8" permanently affixed.
  - (3) The sign shall display the following information:
    - i. 24/7 Contact Information.
    - ii. Types of technology associated with the BESS.
    - iii. Any special hazards associated with the BESS.

- iv. Type of suppression system installed.
  - v. Disconnect and other emergency shutoff information.
  - vi. Command Center location.
- (4) The sign shall be inspected annually to ensure its structural integrity and to determine if any additional information is required.

### **Sec. 9-228. Revocation of Permit.**

- (a) Upon verified written complaint filed by any person with the City Fire Marshal's Office or any other City department setting out facts alleging that any permittee under this article has violated the provisions of this article, or any other applicable ordinance of the city, state or federal law; the City Fire Marshal, the City Planning Director, and/or the City Building Official, or their designated representative shall investigate the allegations.
- (b) Based on this investigation, the City Fire Marshal, City Planning Director, or City Building Official shall determine whether just cause exists for revocation.
- (c) If just cause exists for revocation of a permit herein, the City Fire Marshal, City Planning Director, or City Building Official shall notify the permittee in writing by certified mail, return receipt requested, that their permit is being revoked. A copy of the verified complaint shall be included, notifying the permittee of the allegations against them.
- (f) In the event that the permittee's permit is revoked, such permittee may appeal the revocation to the city council by notifying the city secretary in writing within fourteen (14) days after the revocation. A hearing before the city council shall be set as soon as practical. Failure to appeal within fourteen (14) days shall render the revocation of the permit decision final.
- (g) At the hearing conducted by the city council, all parties shall have the right to be represented by a licensed attorney and shall have the right to ask questions of opposing witnesses. After hearing the evidence presented by both sides, the city council shall, render its decision, notifying applicant by certified mail, return receipt requested, as soon after the conclusion of the hearing as practical, but in no event more than thirty (30) days following the date of the hearing. Failure of the city council to act within thirty (30) days shall be deemed the City Council's upholding of the decision by the City Fire Marshal, Planning Director or Building Official, to revoke the permit. This will conclude the permittee's administrative remedies and the city council's action or inaction shall be final.

**Sec. 9-229. Penalty for violation.**

It shall be unlawful and a misdemeanor to violate any provision or requirement hereof and any person convicted of violating any provision, restriction, requirement, or prohibition of this chapter for which no specific penalty is provided shall be fined in a sum of not less than two hundred dollars (\$200.00) nor more than two thousand dollars (\$2,000.00). A separate offense shall be deemed committed on each day during or on which a violation occurs or continues. Each offense is independent and may be prosecuted separately.