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Prepared By: Amelia Schoeneman, Story County Planning and Development, 900 6th Street, Nevada, IA 50201 (515) 382-7245

Please return to:  
Planning & Development

**STORY COUNTY IOWA**  
**ORDINANCE NO. 306**  
**AN ORDINANCE AMENDING CHAPTER 85, GENERAL PROVISIONS AND DEFINITIONS,**  
**AND CHAPTER 86, DISTRICT REQUIREMENTS OF THE STORY COUNTY LAND**  
**DEVELOPMENT REGULATIONS, OF THE STORY COUNTY CODE OF ORDINANCES.**

BE IT ENACTED by the Board of Supervisors of Story County, Iowa:

Section 1. Purpose. An Ordinance amending Chapter 85, General Provisions and Definitions, and Chapter 86, District Requirements, of the Story County Code of Ordinances – Land Development Regulations to establish setback requirements for hazardous materials pipelines.

Section 2. Proposed Amendments. The amendments are as shown in Attachment A of this ordinance and are summarized below.

Chapter 85.07: Exemptions. Clarifying that the utilities exempt provision applies to public utilities.

Chapter 85.08: Definitions: Adding definitions of hazardous materials, immediately dangerous to life or health, pipeline, and public utility. Amendment definitions of critical natural resource area and transmission line.

Chapter 86.04(2)(F), A-1 Agricultural District; 86.05(2), A-2 Agribusiness District; 86.10(2), C-LI Commercial/Light Industrial District; and 86.11(2), HI Heavy Industrial District. Adding Hazardous Materials Pipelines, meeting the supplemental standards in 86.16, as a Principal Permitted Use.

Chapter 86.16 Principal Permitted Uses. Creating a new section, Supplemental Standards for Certain Principal and Accessory Uses, and adding setbacks for hazardous materials pipelines.

Section 3. Repealer. All ordinances or parts, of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 4. Saving Clause. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

Section 5. Effective Date. This ordinance shall be effective after its final passage, approval and publication of the ordinance or a summary thereof, as provided by law.

**Action upon FIRST Consideration:** Approved  
**DATE:** October 18, 2022

Moved by: Heddens  
Seconded by: Murken  
Voting Aye: Heddens, Murken, Faisal  
Voting Nay: None  
Not Voting: None  
Absent: None

**Action upon SECOND Consideration:** Approved  
**DATE:** October 25, 2022

Moved by: Heddens  
Seconded by: Murken  
Voting Aye: Heddens, Murken, Faisal  
Voting Nay: None  
Not Voting: None  
Absent: None

**Action upon THIRD Consideration:** Waived  
**DATE:** November 1, 2022

Moved by: \_\_\_\_\_  
Seconded by: \_\_\_\_\_  
Voting Aye: \_\_\_\_\_  
Voting Nay: \_\_\_\_\_  
Not Voting: \_\_\_\_\_  
Absent: \_\_\_\_\_

ADOPTED THIS 25th day of October, 2022.

  
Chairperson, Board of Supervisors

Attest:   
County Auditor

ROLL CALL	Latifah Faisal	Yea <input checked="" type="checkbox"/>	Nay <input type="checkbox"/>	Absent <input type="checkbox"/>
FOR ALLOWANCE	Lisa Heddens	Yea <input checked="" type="checkbox"/>	Nay <input type="checkbox"/>	Absent <input type="checkbox"/>
	Linda Murken	Yea <input checked="" type="checkbox"/>	Nay <input type="checkbox"/>	Absent <input type="checkbox"/>

ALLOWED BY VOTE  
OF BOARD

Yea 3 Nay 0 Absent 0

  
CHAIRPERSON

Above tabulation made by 



## **Attachment A**

### **CHAPTER 85**

#### **LAND DEVELOPMENT REGULATIONS: GENERAL PROVISIONS AND DEFINITIONS**

##### **85.07 EXEMPTIONS.**

The following exemptions may apply to certain types of development located in unincorporated Story County; however, such uses shall not be exempt from the standards set forth in Chapter 87 – Land Division Requirements, or exempt from adopted Floodplain Management Ordinance (codified in Chapter 80 of this Code of Ordinances).

3. Public Utilities Exempt. No requirement, restriction, or regulation contained in the Ordinance shall be construed to control the type or location of any poles, towers, wires, gas mains, cables, or any other similar distributing ~~or operating~~ equipment of a public utility ~~regulated by the Iowa Utilities Board.~~

##### **85.08 DEFINITIONS.**

“Critical natural resource area” means areas including wetlands, lakes, reservoirs, streams, steep slopes, archaeological resources, native prairie, native savanna, significant trees, and other areas deemed sensitive by the Story County Conservation Board and/or the Countywide Watershed Assessment. These areas may be mapped as Natural Resource Areas on the C2C Future Land Use Map or as Environmentally Sensitive Areas on the Ames Urban Fringe Plan Land Use Framework Map, and other areas as identified on the Restoration and Protection maps available on the Story County website under watershed planning.

“Hazardous Materials” means those materials listed on the Hazardous Materials Table in 49 Code of Federal Regulations (CFR) § 172.101.

“Immediately Dangerous to Life or Health” means an atmospheric concentration of any toxic, corrosive, or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere, as determined by the National Institute for Occupational Safety and Health or other professionally accepted source.

“Pipeline” means all parts of those physical facilities through which a gas or liquid moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

“Professionally accepted level of concern threshold” means those levels of a hazardous material that federal regulatory agencies, such as the Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), or industry professionals have recognized as the threshold for being immediately dangerous to life or health.

If industry professionals or federal regulatory agencies differ on a recognized threshold, whichever threshold is stricter shall apply.

“Public Utility” means a public utility as defined in the Iowa Code Chapter 476.1 and municipally owned waterworks, waterworks having less than two thousand customers, joint water utilities established pursuant to Iowa Code Chapter 389, rural water districts incorporated and organized pursuant to Iowa Code Chapters 357A and 504, cooperative water associations incorporated and organized pursuant to Iowa Code Chapter 499, districts organized pursuant to Iowa Code Chapter 468, or a person furnishing electricity to five or fewer customers either by secondary line or from an alternate energy production facility or small hydro facility, from electricity that is produced primarily for the person’s own use.

271. “Transmission line, electric” means those electrical power lines that carry voltages of at least 69,000 volts (69 KV) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.

## CHAPTER 86

### LAND DEVELOPMENT REGULATIONS: DISTRICT REQUIREMENTS

Adding the following Principal Permitted Use to 86.04(2), A-1 Agricultural District; 86.05(2), A-2 Agribusiness District; 86.10(2), C-LI Commercial/Light Industrial District; and 86.11(2) HI Heavy Industrial District:

Hazardous Materials Pipelines, meeting the supplemental standards in 86.16.

Adding a new section, as follows:

86.16 Supplemental Standards for Certain Principal and Accessory Uses.

1. Hazardous Materials Pipelines. Proposed hazardous materials pipelines shall meet the following standards. These standards do not apply to pipelines operated by public utilities or existing pipelines.

- A. Setbacks Required. The setbacks listed in Table 86-11 shall apply to all new hazardous materials pipelines. When an emergency plan is submitted meeting the following requirements, the minimum setback may be reduced to the point at which no occupied structure is located within a risk area. A risk area is the area where a professionally accepted level of concern threshold (where the concentration or other effect of a material is immediately dangerous to life or health) may be exceeded. The Story County Emergency Management Coordinator shall review the emergency plan with local emergency personnel, as applicable, to ensure standards are met. An emergency plan shall include the following:

- (1) A copy of all emergency plans required by 49 CFR § 195 and/or 49 CFR § 192.

- (2) Identification of Emergency Events. The plan shall outline the types of potential emergency events, the operator's ability to respond, and when local emergency response may be needed.
- (3) Immediate Actions Identification. The Plan shall identify immediate actions to be taken by the operator in emergency events, including immediate shut down or pressure reduction.
- (4) Notification. The plan shall identify how the operator will promptly and effectively notify local emergency responders. The plan shall also establish a liaison and emergency contact for the pipeline operator in case local authorities need to notify the operator of an emergency or other issue.
- (5) Local Emergency Response. In the case that local emergency response is needed, the plan shall identify:
  - i. Unique risks or hazards associated with a leak of a hazardous material transported by the pipeline that may affect the local emergency response or require additional precautions.
  - ii. Specialized equipment that may be needed to assist in response and potential evacuations, including, but not limited to, breathing apparatus, personal protective equipment, harnesses, instruments, detectors, or other specialized tools. It is strongly recommended that the pipeline operator provide any specialized equipment to local emergency responders.
  - iii. Drills and training, including their frequency, to be provided to local emergency responders by the pipeline operator.
- (6) Modeling. The plan shall contain model(s) of plume dispersion, leaks, vapor cloud, or overpressure for the potential range of loss-of-containment events. The model(s) shall be based on prevailing weather conditions. The model(s) shall also account for any unique topographic or other local conditions that may influence the area impacted. The model(s) shall include professionally-accepted level of concern thresholds and the radius or other distance from the center of the loss-of-containment event where they are predicted to be found. Thresholds should be based on levels of a given hazard (thermal, radiological, asphyxiation, chemical, etiological, mechanical, etc.) that are immediately dangerous to life or health.
- (7) Evacuation. The plan shall provide a list of dwellings and places of public assembly, as defined by Table 86-11, within one (1) mile of the pipeline to be used by local emergency responders in case an evacuation is needed. The pipeline operator shall also mail notice to the identified dwellings and places of public assembly at the



time of the permit application, including information on risks, precautions, and what to do in case of loss-of-containment. Annual notifications are recommended.

- (8) Results of Consultation with Cities. When a hazardous materials pipeline is proposed within an Urban Expansion Area on the Story County C2C Comprehensive Plan Future Land Use Map or an Urban Growth or Urban Reserve Area on the Ames Urban Fringe Plan Land Use Framework Map, the pipeline operator shall consult with the applicable city about their future growth plans in these areas and consider the plans in its routing. The emergency plan shall outline this consultation process and any changes in route or other outcomes from the consultation.

Table 86-11 Setback Requirements for Hazardous Materials Pipelines

<u>Hazardous Materials Pipeline Type and Use Type</u>	<u>Setback*</u>
<u>Gas</u>	
<u>Residential Developments and Places of Public Assembly**</u>	<u>For natural gas, the circle formed around the center point of a pipeline, the radius of which is <math>r = .69 \times (\sqrt{p \times d^2})</math> where <math>r</math> is the radius in feet, <math>p</math> is the maximum operating pressure, and <math>d</math> is the nominal diameter of the pipeline in inches. For other gases, the factor used in the equation (.69) shall instead be the factor in section 3.2 of ASME/ANSI B31.8S. For example, a 24 inch, 1,200 psi natural gas pipeline would require a setback of 574 feet.</u>
<u>Dwellings and Other Development</u>	<u>For natural gas, the circle formed around the center point of a pipeline, the radius of which is <math>r = .69 \times (\sqrt{p \times d^2})</math> where <math>r</math> is the radius in feet, <math>p</math> is the maximum operating pressure, and <math>d</math> is the nominal diameter of the pipeline in inches when using the aforementioned formula and the computed radius is over 660 feet. For other gases, the factor used in the equation (.69) shall instead be the factor in section 3.2 of ASME/ANSI B31.8S.</u>
<u>Liquid</u>	
<u>Residential Developments and Places of Public Assembly**</u>	<u>As established in 49 CFR § 195, no pipeline may be located within 50 feet (15 meters) of any private dwelling, or any industrial building or place of public assembly in which persons work, congregate, or assemble, unless it is provided with at least 12 inches (305</u>

	<u>millimeters) of cover in addition to that prescribed in 49 CFR § 195.248.</u>
<u>Dwellings and Other Development</u>	<u>As established in 49 CFR § 195, no pipeline may be located within 50 feet (15 meters) of any private dwelling, or any industrial building or place of public assembly in which persons work, congregate, or assemble, unless it is provided with at least 12 inches (305 millimeters) of cover in addition to that prescribed in 49 CFR § 195.248</u>
<u>Carbon Dioxide, Dense or Supercritical Phase***</u>	
<u>Residential Developments and Places of Public Assembly**</u>	<u>The circle formed around the center point of a pipeline, the radius of which is <math>r = (155.80 \times d) + 738.19</math> where <math>r</math> is the radius in feet, and <math>d</math> is the nominal diameter of the pipeline in inches. For example, a six inch pipeline would require a setback of 1,673 feet.</u>
<u>Dwellings and Other Development</u>	<u>The circle formed around the center point of a pipeline, the radius of which is <math>r = (107.65 \times d) + 328.08</math> where <math>r</math> is the radius in feet, and <math>d</math> is the nominal diameter of the pipeline in inches. For example, a six inch pipeline would require a setback of 974 feet.</u>

\* The setback shall be the distance identified under the setback column in Table 86-11 measured from the pipeline to the closest point of the building or property line, depending on the identified use type.

\*\* As referenced in Table 86-11, Residential Developments and Places of Public Assembly are areas zoned A-R Agricultural Residential, R-1 Transitional Residential, R-2 Urban Residential, or RMH Residential Manufactured Housing District; areas where there are more than four dwellings per quarter quarter section; places of public assembly where evacuation of occupants may present difficulties, including, but not limited to, retirement and nursing homes, family homes, schools, childcare homes and centers, group homes, hospitals, detention facilities, or human service facilities; outdoor places of public assembly, including, but not limited to, campgrounds, day camps, cemeteries, stables, amphitheaters, shooting ranges, golf courses, stadiums, and parks that may be occupied by 20 or more persons at least 50 days per year; and indoor places of public assembly including, but not limited to stores, workplaces, houses of worship, and auditoriums that may be occupied by 20 or more persons five days per week.

\*\*\*Supercritical or dense phase carbon dioxide is that which is held above its critical pressure and temperature in a fluid state.

- B. Minimum Cover Required. Minimum cover requirements, as established by 49 CFR § 192.327 and § 195.248 shall be met. Where federal law does not define a minimum depth of cover and land is in agricultural production, a minimum depth of 36 inches or greater shall be maintained. A greater depth shall be required when determined necessary to withstand external loads anticipated from deep tillage of 18 inches, as required by Iowa Administrative Code Chapter 9.5(6), Restoration of Agricultural Lands During and After Pipeline Construction.
- C. Critical Natural Resource Area Protections Required. An undisturbed buffer meeting the requirements of Chapter 88.05 Environmental and Natural Resource Standards shall be maintained from a Critical Natural Resource Area. An application for a pipeline shall demonstrate why rerouting around a Critical Natural Resource Area is unavoidable, if proposed. When unavoidable, and if permitted by Chapter 88.05 Environmental and Natural Resource Standards, only trenchless construction methods shall be permitted. When trenchless construction is permitted, trenchless methods are also required to be used in the undisturbed buffer areas established in Chapter 88.05 Environmental and Natural Resource Standards.
- D. New Development Consultation Required. When a rezoning, minor or major subdivision, or other permit for a place of public assembly, as defined by Table 86-11 is proposed within the required setback for new pipelines, consultation with the pipeline operator on the potential risks shall be required.