



Community Development Department

DATE: May 3, 2022
FROM: Ben Ehreth, AICP, Community Development Director
ITEM: Data Centers – Zoning Ordinance Text Amendment

REQUEST:

The Community Development Department is requesting approval of zoning ordinance text amendment to allow data centers as a special use in the MA – Industrial zoning district and an administrative special use in the MB – Industrial district. The ordinance establishes a set of standards that would apply in both zoning districts.

Please place this item on the May 10, 2022, and May 24, 2022 City Commission meeting agendas.

BACKGROUND INFORMATION:

The Planning & Zoning Commission held a public hearing on this request on April 27, 2022.

No residents spoke at the public hearing or submitted written comments.

At the conclusion of public hearing, and based on the findings contained in the staff report, the Planning & Zoning Commission unanimously recommended approval of the zoning ordinance text amendment relating to data centers.

RECOMMENDED CITY COMMISSION ACTION:

May 10th meeting of the Board of City Commissioners – consider the zoning ordinance text amendment as outlined in Ordinance 6505 and call for a public hearing on this item for the May 24th meeting.

May 24th meeting of the Board of City Commissioners – hold a public hearing on the zoning ordinance text amendment as outlined in Ordinance 6505 and take final action on the request.

STAFF CONTACT INFORMATION:

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ORDINANCE NO. 6505

<i>First Reading</i>	_____
<i>Second Reading</i>	_____
<i>Final Passage and Adoption</i>	_____
<i>Publication Date</i>	_____

AN ORDINANCE TO AMEND CHAPTERS 14-02-03, 14-03-08, 14-04-14, AND 14-04-15 OF THE CODE OF ORDINANCES OF THE CITY OF BISMARCK, NORTH DAKOTA, AS AMENDED, RELATING TO DATA CENTERS.

BE IT ORDAINED BY THE BOARD OF CITY COMMISSIONERS OF THE CITY OF BISMARCK, NORTH DAKOTA:

Section 1. Amend. Chapter of the Code of Ordinances of the City of Bismarck, North Dakota, relating to Definitions, is hereby amended to read as follows:

Section 14-02-03 Definitions. The following definitions represent the meanings of terms as they are used in these regulations:

...

Comprehensive plan: A statement in documented text setting forth explicit goals, objectives, policies and standards of the jurisdiction to guide public and private development.

Data Center: Any facility that primarily contains electronic equipment used to process, store, and transmit digital information. Uses that include data processing as ancillary to the principal use on the property shall not be considered a Data Center.

Density: The number of families residing on, or dwelling units developed on, an acre of land.

...

14-03-08. Special Uses. In order to carry out the purposes of this title, the board of city commissioners finds it necessary to require that certain uses, because of unusual size, safety hazards, infrequent occurrence,

effect on surrounding area, or other reasons, be reviewed by the city planning and zoning commission and by the Zoning Administrator (where allowed) prior to the granting of a building permit or certificate of occupancy and that the city planning and zoning commission and the Zoning Administrator (where allowed) are hereby given limited discretionary powers relating to the granting of such permit or certificate.

...

- z) Data Center. A data center may be permitted in any MA district as a special use or any MB district as an administrative special use provided:
- i. All data processing and storage is contained within a building constructed in compliance with the International Building Code and International Fire Code.
 - ii. Written verification is submitted from the utility provider that sufficient capacity will be available to meet anticipated needs for electrical power.
 - iii. Facilities are equipped with environmental controls to maintain the proper conditions for the operation of electronic equipment.
 - iv. The applicant verifies at the time of application that all requirements of Chapter 8-10 (Noises) of the Bismarck Code of Ordinances will be met during operations, as measured from the property line of the subject parcel. Verification may be in the form of a noise study, manufacturer specifications, data from comparable facilities, or any combination thereof.

14-04-14. MA Industrial District: In any MA industrial district the following regulations shall apply:

...

2. Use permitted. The following uses are permitted.

...

The following uses are allowed as special uses pursuant to Section 14-03-08 hereof:

- a. Temporary Christmas tree sales.
- b. Temporary religious meetings.
- c. Temporary circus/fair/carnival.
- d. Temporary farm and garden produce sales.
- e. Temporary fireworks sales.
- f. Seasonal nursery and bedding stock sales.
- g. Solid waste disposal facility.
- h. Airport.
- i. Recreational vehicle park.
- j. Filling station.
- k. Drive-in retail or service establishment.
- l. Motor vehicle parts salvage yard.
- m. Small animal veterinary clinic.
- n. Animal hospital or kennel.
- o. Golf driving range.
- p. Junkyard.
- q. Retail liquor sales.
- r. Racetracks.
- s. Child care center.
- t. Asphalt production facilities, both permanent and temporary.
- u. Data center.

...

14-04-15. MB Industrial District. In any MB industrial district the following regulations shall apply:

...

2. Use permitted. The following uses are permitted.

...

The following uses are allowed as special uses pursuant to Section 14 03 08 hereof:

- a. Temporary Christmas tree sales.
- b. Temporary circus/fair/carnival.
- c. Temporary religious meeting.
- d. Seasonal nursery and bedding stock sales.
- e. Temporary fireworks sales.
- f. Temporary farm and garden produce sales.
- g. Airport.
- h. Solid waste disposal facility.
- i. Motor vehicle parts salvage yard.
- j. Small animal veterinary clinic.
- k. Animal hospital or kennel.
- l. Junkyard.
- m. Adult entertainment center.
- n. Auto laundry car wash.
- o. Vehicular racetrack.
- p. Hazardous material bulk storage plant.
- m. Data Center (administrative).

Section 2. Repeal. All ordinances or parts of ordinances in conflict with this ordinance area hereby repealed.

Section 3 Taking Effect. This ordinance shall take effect upon final passage, adoption and publication.

STAFF REPORT

Application for: **Zoning Change**

Project ID: **ZC2022-001**

Project Summary

<i>Title:</i>	Data Center Zoning Ordinance
<i>Status:</i>	Planning & Zoning Commission – Public Hearing
<i>Project Contact:</i>	Daniel Nairn, AICP, Senior Planner
<i>Section(s) Amended:</i>	Chapters 14-02-03, 14-03-08, 14-04-14, and 14-04-15
<i>Request:</i>	Amend zoning ordinance to allow data centers as a special use

Staff Analysis

The Community Development Department is requesting approval of a zoning ordinance text amendment to allow data centers as a special use in the MA – Industrial zoning district and an administrative special use in the MB – Industrial zoning district. The ordinance establishes a set of standards that would apply in both zoning districts.

The Planning and Zoning Commission considered this request at their meeting of March 23, 2022 and called for a public hearing on this amendment to the zoning ordinance.

The public has been duly notified of this request. A notice was published in the Bismarck Tribune on April 15th and 22nd.

A data center would be defined as:

“Any facility that primarily contains electronic equipment used to process, store, and transmit digital information. Uses that include data processing as ancillary to the principal use on the property shall not be considered a Data Center.”

For example, a building or site that has computer servers, even with very high capacity, would not

be considered a data center if the computing supports a principal commercial or office use on the site. Private residences that use computers for a home occupation would, likewise, not be considered a data center. Data centers are uses in which the principal function of site is the computing function itself, or when the computing use has no functional connection to the principal use on the site.

Background on Data Centers

Data center is a broad term that can apply to the physical facilities for a range of computing operations, such as, but not limited to:

- Big data, machine learning, cloud computing, and artificial intelligence
- High-volume e-commerce transactions
- Powering online gaming communities
- Cryptocurrency mining operations

Traditional data centers are often very large facilities typically sited in industrial or rural areas. However, there has been considerable recent interest in smaller-scale and more portable operations. This is especially driven by demand for cryptocurrency mining, which is very power

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intensive but requires less network connectivity. These small-scale data centers tend to be unstaffed, housed in prefabricated structures, and implemented with lower costs and limited climate controls.

Because all data centers tend to consume high amounts of energy, they will typically be in proximity to transmission lines or substations. Traditional data centers also require significant water resources for cooling, and often have back-up power generation facilities to avoid interruptions. Portable operations are often willing to accept interrupted power.

Impact of Data Centers

In terms of land use and zoning, the primary impacts of data centers are noise and fire. The computer processing, especially fans necessary for cooling, can emit a steady high-frequency noise, characterized in a recent Wall Street Journal article as a “giant dentist drill.”

The City of Bismarck already has a noise ordinance. The following is a summary of City Code of Ordinances Section 8-10-04:

	Zoning		
	Residential	Commercial	Industrial
Daytime (decibels)	55	65	80
Nighttime (decibels)	50	60	75

The proposed data center ordinance would not alter required noise levels but would require upfront verification that the noise levels will be met during all times of operation. Furthermore, data centers must be housed within a structure, which creates a noise barrier.

The other concern typically raised for data centers is fire protection. Fires can be caused by faulty

wiring, overheating of computing equipment, or short circuit from overloading the electrical network. Traditional data centers are typically equipped with fire suppression systems, although smaller-scale and more portable operations often employ limited protection. A stand-alone data center in one of our peer communities in North Dakota actually started on fire and was destroyed.

Primarily for this reason, the proposed ordinance requires data centers to be within code-compliant buildings, use proper environmental controls for cooling, and verify sufficient electrical capacity from the grid. These requirements together will effectively prohibit portable data centers within the City of Bismarck and its extraterritorial areas, while providing a clear pathway for approval of traditional data centers.

Required Findings of Fact (relating to land use)

1. The proposed text amendment would not adversely affect the public health, safety or general welfare;
2. The proposed text amendment is justified by a change in conditions since the zoning ordinance was originally adopted or clarifies a provision that is confusing, in error or otherwise inconsistent with the general intent and purpose of the zoning ordinance;
3. The proposed text amendment is consistent with the general intent and purpose of the zoning ordinance; and
4. The proposed text amendment is consistent with the master plan, other adopted plans, policies and accepted planning practice.

Staff Recommendation

Based on the above findings, staff recommends approval of a zoning ordinance text amendment for Chapters 14-02-03, 14-03-08, 14-04-14, and 14-04-15 of the City Code of Ordinances, as

presented in the draft ordinance attached to the staff report.

Attachments

1. Draft zoning ordinance amendment

Staff report prepared by: Daniel Nairn, AICP, Senior Planner
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