

#### 2.9.14 Data Processing Facility.

- (A) **Purpose.** The purpose of this section is to minimize conflicts with adjacent land uses and to ensure the effect of any such enterprise is minimized. Potential effects include, but are not necessarily limited to, very high energy usage, noise pollution, and the disposal of electronic waste. The high energy consumption of data processing operations runs counter to the City of Northfield and State of Minnesota objectives to reduce contributions to climate change. Equipment at these facilities has the potential to create noise pollution that negatively impacts nearby residents, businesses, and wildlife. In addition, electronic waste contains heavy metals and known carcinogens that have the potential to damage human health, and air and water quality if not handled correctly
- (B) **General Standards.**
- (1) **Noise.** Noise testing shall be required prior to issuance of a Certificate of Occupancy to ensure compliance with the Noise Ordinance.
  - (2) **Height.** Buildings shall be a minimum of 25 feet in height. The maximum height limitation if all setbacks are increased by one foot for each two feet of height in excess of 50 feet is 65 feet.
  - (3) **Linkages.** Convenient functional linkages shall be achieved by providing vehicular, bicycle, and pedestrian connections to promote the circulation and flow of vehicles, bicycles, and pedestrians between the development and existing uses.
  - (4) **Electric grid connectivity and use.** No grid-connected data processing system shall receive a certificate of occupancy until evidence has been provided by the operator that installation of the system has been approved by the electrical utility provider. Systems demonstrating use of as close to 100 percent renewable energy as possible shall be exempt from this requirement.
  - (5) **Renewable energy.** Facilities shall develop or purchase sufficient new renewable energy to offset as much of the electricity consumed as possible. Facilities that demonstrate a commitment to onsite renewable electricity generation or other means to increase use and production of local renewable energy are preferred.
  - (6) **Site design.**
    - (a) In addition to the standards in Section 3.2.5. principal buildings shall meet the following:
      - (i) A minimum floor area ratio of .5.
      - (ii) A maximum single front elevation of 300 feet in length unless special architectural landscaping, or topographic treatment, such as a change of material, texture, depression, berm, or other similar change, is employed.
    - (b) Data processing facilities shall be located on land with a minimum acreage of 25 acres in size, at least ~~3,950~~ 200 feet from an existing or planned park, trail, or other recreation feature, and the use shall be within a structure that is at least 200 feet from any residential dwelling.
    - (c) The use of cargo containers, railroad cars, semi-truck trailers and other similar storage containers for any permanent component of the operation is strictly prohibited.
    - (d) All fencing along roadways shall be decorative. If security fencing is proposed, vegetative screening must be placed between the fence and the public view. Fencing must be made of high-quality materials and is subject to planner approval. Chain-link and similar woven metal or plastic fencing shall not be used.
    - (e) To minimize visibility from adjacent roads and adjacent properties, ground level and roof top mechanical equipment and loading areas shall be screened. Roof top screening shall be provided by principal building parapet. Ground level equipment shall be screened by a visually solid screen wall constructed of materials compatible with those used in exterior

construction of the principal building. Mechanical equipment located in a manner found to have no adverse impact on adjacent roads and adjacent property, as determined by the planner shall not be required to be screened.

- (f) No building housing data processing equipment shall be located within 60 feet of a collector or local roadway. Site line studies shall be provided to confirm screening of equipment from adjacent roads and properties.
- (g) A 20-foot heavy planted landscape buffer shall be required along public roadways and adjacent or abutting non-industrial uses. Use of natural topography and preservation of existing vegetation, supplemented by new vegetation, if needed, may be substituted for the above requirements when found by the city planner to provide screening at the appropriate density, depth and height. Landscape shall be maintained for the life of the project. Photographic documentation shall be provided for city record prior to issuance of certificate of occupancy.

(C) **Performance Standards.** These standards are intended to mitigate potential detrimental effects on adjacent properties. All applications for site plan approval must be accompanied by a registered engineer's certification that the use complies with all the performance standards. If, after occupancy of the structures, continuous or frequent (even if intermittent) violations of the performance standards occur, and after notice is given, bona fide and immediate corrective work is not performed which successfully prevents the violation(s) from reoccurring, the planner or building official may suspend or revoke the certificate of occupancy and require the operations and occupancy to immediately cease. The certificate of occupancy will be reinstated after the property owner demonstrates to the city's satisfaction, that operation of the facilities is able to conform to these requirements.

- (1) **Air Quality.** Air emissions shall meet applicable state and federal regulations. Where emissions could be released as a result of accident or equipment malfunction, standard safeguards for safe operation of the industry involved shall be taken and documented.
- (2) **Odors.** Any use producing odors shall implement best available practices and use best available technology so that offensive or obnoxious odor shall not be perceptible to a person of normal sensitivity at or beyond the property line.
- (3) **Heat and Humidity.**
  - (a) Any use or activity producing heat or humidity in the form of steam or moist air shall be demonstrated to be designed in a manner that the heat or humidity will not be perceptible at or beyond the property line.
  - (b) Any data processing operation shall ensure that no more than 20 percent of the heat dissipated by the activity shall be released directly to the outside when the average daily temperature is less than 40 degrees Fahrenheit.
- (4) **Energy use.** Any data processing operation shall document and certify that the buildings are designed to an average power usage effectiveness (PUE) of 1.4 or better.
- (5) **Water use.** Any data processing operation shall document a water usage effectiveness ratio upon start-up.
  - (a) Data processing centers using free cooling, direct liquid, rack, or room cooling technologies may be permitted without a conditional use permit.
  - (b) A conditional use permit is required for data processing centers proposing to use water for cooling. Water use must meet at least two of the following conditions:
    - (i) Recycled and non-potable water makes up at least 60 percent of water withdrawals.

- (ii) The data processing operation shall be operated at or near the ASHRAE-recommended upper limit for temperature.
  - (iii) The data processing operation shall ensure the humidity control system is optimized. and the data center is running at the low end of the ASHRAE-recommended guidelines for humidity (5.5°C dew point).
  - (iv) Demonstrate and document implementation of all appropriate best practice airflow management strategies to improve cooling efficiency.
- (6) **Glare.** Any activity producing glare shall be carried on in such a manner that the glare is not perceptible at or beyond the property line. Artificial lighting shall be hooded or shaded so that direct light of high intensity lamps will not result in glare when viewed from public streets or neighboring properties.
- (7) **Vibrations.** Every use shall be so operated that any air or ground vibration recurrently generated from equipment other than vehicles is not perceptible without instruments at any point on or beyond the property line; nor may any vibration produce a particle velocity of two inches per second measured at or beyond the property line. This provision does not apply between adjoining data processing facilities.
- (8) **Hazardous Materials.** The manufacture, use, processing or storage of hazardous materials shall be permitted in accordance with the regulations of the State Building Code, State Fire Code, the National Fire Protection Association standards, the Minnesota Department of Natural Resources, Pollution Control Agency, Department of Health, and/or any other state or nationally recognized standards that may apply to the particular use, building, or process.
- (9) **Industrial and Electronic Wastes.** The storage, processing, or disposal of potentially hazardous waste, including electronic waste, shall be subject to the regulations of State Building Code, State Fire Code, the National Fire Protection Association standards, the Minnesota Department of Natural Resources, Pollution Control Agency, Department of Health, and/or any other state or nationally recognized standards that may apply to the particular use, building, or process. Verification that all hazardous and electronic waste will be handled by a qualified electronic waste recycling firm is required.
- (10) **Electromagnetic Interference.** Electric fields and magnetic fields shall not be created that adversely affect the public health, safety, and welfare, including but not limited to interference with the normal operation of equipment or instruments or normal radio, telephone, or television reception from off the premises where the activity is conducted.
  - (a) This section does not apply to telecommunication facilities which are regulated by the FCC under the Federal Telecommunications Act of 1996 or its successor.
- (11) **Noise.** Noise emanating from a use or activity within an industrial zone which exceeds the maximum permissible noise levels set forth in this chapter and shown in Table 3.3-3: maximum decibels by district shall not be permitted.