



Bill No. 25-05
Concerning: Design and Specific Use Regulations
for Critical Digital Infrastructure Facilities and
Electric Substations
Introduced March 4, 2025
Revised: May 6, 2025 Draft No. _____
Enacted: _____
Effective: _____
Expires: June 2, 2025
Frederick County Code, Chapter 1-19
Section(s) 6.100, 8.402, 8.403

COUNTY COUNCIL FOR FREDERICK COUNTY, MARYLAND

By: Council Member Renee Knapp and President Brad Young

AN ACT to: Update Design Requirements for Critical Digital Infrastructure Facilities and update Specific Use Regulations for Critical Digital Infrastructure Facilities and Critical Digital Infrastructure Electric Substations.

Date Council Approved: _____ Date Transmitted to Executive: _____

Executive: _____ Date Received: _____

Approved: _____ Date: _____

Vetoed: _____ Date: _____

Date returned to Council by County Executive with no action: _____

By amending:

Frederick County Code, 1-19 Section(s) 6.100, 8.402, 8.403

Other: _____

Boldface

Underlining

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* * *

Heading or defined term.

Added to existing law.

Deleted from existing law.

Existing law unaffected by bill.

1
2 Bill No. 25-05

3 The County Council of Frederick County, Maryland, finds it necessary and appropriate to
4 amend the Frederick County Code §§ 1-19-6.100, 1-19-8.402, and 1-19-8.403 to update Design
5 Requirements for Critical Digital Infrastructure Facilities and update Specific Use Regulations
6 for Critical Digital Infrastructure Facilities and Critical Digital Infrastructure Electric
7 Substations.

8
9 NOW, THEREFORE, BE IT ENACTED BY THE COUNTY COUNCIL OF
10 FREDERICK COUNTY, MARYLAND, that the Frederick County Code be, and it is hereby,
11 amended as shown on the attached Exhibit 1.

12 AND BE IT FURTHER ENACTED BY THE COUNTY COUNCIL OF FREDERICK
13 COUNTY that the following transitional provisions shall apply:

- 14 1. Critical Digital Infrastructure Facilities that ~~[[have received site plan approval or~~
15 ~~conditional site plan approval from]]~~ have submitted a site plan to the Division
16 of Planning and Permitting ~~[[Planning Commission]]~~ as of the effective date of
17 this bill are exempt from the changes in this bill.
- 18 2. Critical Digital Infrastructure Electrical Substations that ~~[[have received site plan~~
19 ~~approval or conditional site plan approval from]]~~ have submitted a site plan to
20 the Division of Planning and Permitting ~~[[Planning Commission]]~~ as of the
21 effective date of this bill are exempt from the changes in this bill.

22
23
24 _____
25 Brad W. Young, President
26 County Council of Frederick County,
27 Maryland

§ 1-19-6.100. DESIGN REQUIREMENTS FOR SPECIFIC DISTRICTS.

<i>Use Classification</i>	<i>Minimum Lot Area</i>	<i>Minimum Lot Area per Unit</i>	<i>Lot Width</i>	<i>Front Yard</i>	<i>Side Yard</i>	<i>Rear Yard</i>	<i>Height</i>
Limited Industrial District LI							
<i>Use Classification</i>	<i>Minimum Lot Area</i>	<i>Minimum Lot Area per Unit</i>	<i>Lot Width</i>	<i>Front Yard</i>	<i>Side Yard</i>	<i>Rear Yard</i>	<i>Height</i>
Limited Industrial District LI							
Natural resources	5 acres	-	300	40	50	50	30'
Industrial	20,000	-	100	25	*	20	60'
Automobile services	20,000	-	100	25	*	20	60'
Wholesaling/processing	20,000	-	100	25	**	20	60'
Open space uses	No minimum	-	-	-	-	-	-
Governmental and public utility	20,000	-	200	40	40	40	30'
Nongovernmental utility, nongovernmental electric substation	20,000	-	200	50	50	50	30'
Self-storage units	20,000	-	100	25	10 ****	25 *****	60' ****
Solar facility, commercial	20,000 sq. ft.		200	50	50	50	30'
Critical digital infrastructure facility	80,000		[200] <u>300</u>	[50 ²] <u>100⁴</u> *****	[50 ²] <u>100⁴</u> *****	[50 ²] <u>100⁴</u> *****	[60] <u>75'</u>
Critical digital infrastructure electric substation	20,000		[200] <u>300</u>	[50] <u>100</u>	[50] <u>100</u>	[50] <u>100</u>	30

<i>Use Classification</i>	<i>Minimum Lot Area</i>	<i>Minimum Lot Area per Unit</i>	<i>Lot Width</i>	<i>Front Yard</i>	<i>Side Yard</i>	<i>Rear Yard</i>	<i>Height</i>
General Industrial District GI							

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AMENDED Bill No. 25-05

<i>Use Classification</i>	<i>Minimum Lot Area</i>	<i>Minimum Lot Area per Unit</i>	<i>Lot Width</i>	<i>Front Yard</i>	<i>Side Yard</i>	<i>Rear Yard</i>	<i>Height</i>
General Industrial District GI							
All permitted uses	1 acre	-	150	25	15	40	60'
Open space uses	No minimum	-	-	-	-	-	-
Governmental and public utility	1 acre	-	200	40	40	40	30'
Nongovernmental utility, nongovernmental electric substation	1 acre	-	200	50	50	50	30'
Self-storage units	20,000	-	100	25	10 ****	25 *****	60' ****
Solar facility, commercial	1 acre		200	50	50	50	30'
Critical digital infrastructure facility	80,000		[200] <u>300</u>	[50 ²] <u>100⁴</u> *****	[50 ²] <u>100⁴</u> *****	[50 ²] <u>100⁴</u> *****	[60] <u>75'</u>
Critical digital infrastructure electric substation	20,000		[200] <u>300</u>	[50] <u>100</u>	[50] <u>100</u>	[50] <u>100</u>	30

1 * Equal to the height of structure.

2 ** Minimum 10' green area no parking within area

3 *** For development within the Village Center Zoning District see also §§ 1-19-7.500(B)(2)
4 and (3)

5 **** Or as determined under §§ 1-19-7.500(B)(3), whichever is greater

6 ***** Except as provided in § 1-19-8.450(B)(2) and § 1-19-8.450(D)(1).

7 ***** **Except as provided in 1-19-8.402(E)**

8 1 Any proposed addition would have to meet setbacks required for new structures. Parking
9 requirements of §§ 1-19-6.200 through 1-19-6.240.

10 2 As shown or equal to height of structure, whichever is greater.

11 3 Development within the VC zoning district may not exceed the density as specified within
12 §§ 1-19-7.500(B)(1).

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AMENDED Bill No. 25-05

1 4 Or twice the height of the structure, whichever is greater.

2
3
4 ***

5 **§ 1-19-8.402. CRITICAL DIGITAL INFRASTRUCTURE FACILITIES [IN THE LI AND**
6 **GI DISTRICTS.]**

7 The following provisions apply to critical digital infrastructure [facility in the LI and GI
8 Districts] facilities.

9 (A) Purpose and intent.

10 (1) The Critical Digital Infrastructure use is established to provide a location for facilities
11 consisting of one or more buildings used primarily for the storage, management,
12 processing, and transmission of digital data, which houses computer and/or network
13 equipment, systems, servers, appliances, and other associated components related to
14 digital data operations. The siting of these facilities is dependent upon several factors,
15 including proximity to sufficient electrical power and data conveyance infrastructure.

16 (B) Size and location.

17 (1) Critical Digital Infrastructure use may be established only where:

18
19 (a) The tract of land where the Critical Digital Infrastructure use is proposed has a
20 zoning designation of Limited Industrial (LI) or General Industrial (GI);

21
22 (b) The tract of land where the Critical Digital Infrastructure use is proposed is within
23 a Community Growth Area, as designated on the Comprehensive Plan Land Use map;

24
25 (c) The tract of land where the Critical Digital Infrastructure use is proposed is located
26 within 2 miles of existing 69 KV or greater high-voltage electrical transmission
27 lines[.] :

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AMENDED Bill No. 25-05

1 (d) The tract of land where the Critical Digital Infrastructure use is proposed may not
2 abut land that is zoned residential or is designated residential on the Comprehensive
3 Plan Land Use map[.]; and

4
5 (e) Notwithstanding subsection (d), Critical Digital Infrastructure may be
6 established on a tract of land that abuts land that is zoned Residential or is
7 designated Residential on the Comprehensive Plan Land Use map so long as the
8 front, side, and rear yard setbacks set forth in section 1-19-6-100 for a Critical
9 Digital Infrastructure facility are increased to 200 feet from any property line
10 abutting such Residentially zoned or Designated Land.

11
12 (2) The tract of land proposed to be utilized for a Critical Digital Infrastructure use may
13 not be located within a Priority Preservation Area (PPA), a Rural Legacy Area (RLA),
14 or a Treasured Landscape Management Area.

15
16 (3) The tract of land proposed to be utilized for a Critical Digital Infrastructure use may
17 not have a designation of No Planned Service (NPS) in the Water and Sewerage Plan.

18
19 (4) Additional size and location criteria- Applicants must demonstrate the following:

20
21 (a) The applicant must demonstrate that the visual impact of the project on the
22 viewshed, surrounding properties, public roadways, including roadways with
23 rustic, scenic, or historic designation, and historic sites will be avoided or
24 minimized to the maximum extent practicable.

25
26 (b) The applicant must demonstrate that schools, college and universities, daycare
27 centers, health care facilities, houses of worship, residences, and other non-
28 industrial uses in the vicinity have been identified and negative impacts to these
29 uses will be avoided or minimized to the maximum extent practicable.

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(c) The applicant must demonstrate that fragile ecosystems and watersheds in the vicinity have been identified, and negative impacts will be avoided or minimized to the maximum extent practicable.

(d) The applicant must demonstrate that negative impacts to local, state, and federal recreational amenities and private parks, as defined in §1-19.11.100, will be avoided or minimized to the maximum extent practicable.

(e) The applicant must demonstrate that the siting of the proposed use(s) will not disproportionately negatively impact overburdened communities or underserved communities as those terms are defined in Md. Code Ann., Environmental Article, § 1-701.

([A] C) *Bulk regulations.*

(1) The Planning Commission may approve a reduction to, but not elimination of, the required yard setbacks in § 1-19-6.100 between adjoining critical digital infrastructure facilities [in the LI and GI Districts] during the site plan review process, if the Planning Commission finds that reducing the setbacks:

(a) Increases the size and usability of open space areas;

(b) Increases the landscape buffer areas along other adjacent property lines with different land uses;

(c) Provides additional buffer areas for environmentally sensitive areas or resources; or

(d) Facilitates compliance with the design criteria listed under § 1-19-8.402(B).

(2) Notwithstanding any reduction approved by the Planning Commission, the distance between structures must comply with applicable building code requirements.

([B] D) *Design requirements.*

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AMENDED Bill No. 25-05

(1) Buildings must be predominantly designed and constructed to include finishes and materials of consistent quality and design on all sides. All building facades that are in public view must avoid the use of undifferentiated facades and long, plain wall sections by including a combination of the following design elements: change in building height, building step-backs or recesses, windows, doors, changes in building material, patterns, textures, colors, or use of accent materials. Architectural renderings or plans must be submitted as part of the site development plan application for approval by staff and the Planning Commission to assure that the appearance, type of building materials, or other aspects of the building are consistent with the purposes and intent of the critical digital infrastructure design requirements.

(2) Visual impacts of the critical digital infrastructure on designated preservation areas, such as rural legacy areas, agricultural preservation areas, critical farms, Monocacy scenic river, designated heritage areas, historic sites, and sites eligible for historic designation, must be avoided or minimized to the maximum extent practicable. A viewshed analysis must be submitted as part of the site development plan application for approval by staff and the Planning Commission to assure that visual impacts are avoided or minimized to the maximum extent practicable through such means as building placement, building materials, landscaping, and screening.

(2) 3 Building entrances must be designed and oriented in terms of their relationship to the human scale and must reflect this relationship through the inclusion of human-scaled architectural elements.

(3) 4 Refuse and recycling dumpsters, service doors, and mechanical equipment must face away from roadways, pedestrian routes, and public areas.

(4) 5 In order to minimize visibility from adjacent roads and adjacent properties, ground level and roof top mechanical and electrical equipment, power generators, water cooling and storage facilities, utility substations, and other associated utility infrastructure to support sustained operations of the infrastructure must be screened. This screening may be provided by a principal building. Mechanical and electrical equipment not screened by a principal building must be screened by a visually opaque fence, screen wall or panel, parapet wall, or other visually opaque screen that must be constructed of materials compatible with those used in the exterior architectural finishes of the principal building.

(5) 6 Staff shall refer site plans to the Architectural Review Committee, if the committee exists in good standing, for review prior to the site plan being scheduled for Planning Commission. The recommendations of the Architectural Review Committee may be considered by the Planning Commission.

(6) 7 In addition to meeting the requirements of § 1-19.6.400, the following landscaping, screening, and buffering requirements must be met.

(a) Front yard(s) abutting a roadway must include a landscaped buffer.

(b) Except where adjoining a critical digital infrastructure use, side and rear yards must include a landscaped buffer.

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AMENDED Bill No. 25-05

1 (c) A landscaped buffer must include a four-season visual screen resulting in multi-
2 layered, staggered rows of overstory and understory trees and shrubs that are a mix of evergreen
3 and deciduous vegetation, with an emphasis on species that are native to Frederick County.

4 (d) The minimum height of overstory trees within a landscape screen or buffer at planting
5 must be a minimum of 6 feet with a minimum caliper of 2 inches. The minimum height of
6 understory trees and shrubs at the time of planting must be 3 gallon or larger. Trees and shrubs
7 larger than the minimum sizes listed above will be required where the minimum planting sizes
8 will not provide adequate screening or buffering within 2 years. Vegetation used to establish a
9 visual screen shall not be trimmed so as to stunt upward and outward growth or to otherwise
10 limit the effectiveness of the visual screen.

11 (e) A berm, wall, or fence may be used in combination with vegetation to satisfy the
12 screening requirement where deemed appropriate by County Staff and the Planning Commission.
13 Walls and fences must be made of quality materials and enhance rather than detract from the
14 beautification of the site. Walls and fences that are in public view must avoid long,
15 undifferentiated facades and long, plain sections by including a combination of the following
16 design elements: variations in height, step-backs or recesses, changes in material, patterns,
17 textures, colors, or use of accent materials.

18 (f) If security fencing is proposed, vegetative screening must be placed between the fence
19 and the public view. Fencing must be made of high quality materials. Chain-link and similar
20 woven metal or plastic fencing shall not be used.

21 (g) If forest or hedgerows exist where screening or buffering is required, it must be
22 preserved to the maximum extent practicable and supplemented with new plantings where
23 necessary to provide the desired screening or buffering.

24 (h) All landscaping, screening, and buffering must be maintained in living condition.

25 (i) Applicant must submit a landscape, buffering, and screening plan as part of the site
26 plan application addressing the requirements and timing of plantings. Screening and buffering
27 must be installed as early in the development process as possible. Occupancy shall not be granted
28 if screening and buffering requirements are not installed in accordance with the approved site
29 plan.

30 (j) The Planning Commission may approve a modification to the landscaping, buffering,
31 and screening standards where an alternate landscaping, buffering, and screening plan is
32 provided that meets the purpose and intent of these design requirements.

33 ([7] 8) Parking, loading, and signage must be provided in accordance with § 1-19-
34 6.200 through § 1-19-6.340.

35 ([8] 9) [Lighting must comply with § 1-19-6.500, but light poles must not exceed a height of
36 18 feet. The Planning Commission may require more restrictive lighting heights where deemed
37 appropriate by the Planning Commission.] In addition to meeting the requirements of § 1-19-
38 6.500, the following lighting requirements must be met:

39 (a) Pole mounted and building mounted lights must not exceed a height of 18 feet.

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AMENDED Bill No. 25-05

1 (b) Lighting shall include elements that reduce negative impacts to wildlife migration,
2 nocturnal habits, and circadian rhythms, such as the utilization of lights with amber or yellow
3 tints instead of blue or white light and the use of timers, motion detectors, and light-sensitive
4 switches to actively regulate the emission of light from light fixtures.

5 (c) The Planning Commission may require more restrictive lighting standards where
6 deemed appropriate by the Planning Commission.

7 ([9] 10) Bicycle rack requirements shall be in accordance with industrial parks in table § 1-
8 19-6.220 (H)(1).

9 ([10] 11) Critical digital infrastructure facilities must meet all criteria found in §§ 1-19-
10 7.600 and 1-19-7.610.

11 ([C] E) *Subdivision and street frontage.*

12 (1) Subdivision of lot(s) for critical digital infrastructure uses shall comply with Chapter 1-
13 16 of the County Code.

14 (2) Where two or more lots are proposed for critical digital infrastructure uses, the lot
15 frontage requirement of § 1-19-4.520 may be met by construction of a private street subject to
16 Planning Commission approval and the following:

17 (a) The lot or parcel from which the new lot is being created has fee-simple frontage on a
18 public street.

19 (b) The private street connects directly to a public road.

20 (c) The private street will not serve any uses that would be frequented by the general
21 public.

22 (d) For the purposes of establishing bulk regulations (setbacks, lot width, etc.), the
23 measurements along the portion of the lot(s) fronting a private street must be the same as
24 established for public streets.

25 (e) The design of the private street must comply with Chapter 1-16 of the County Code.

26 (f) Private streets may not create long, dead-end street networks and must serve a limited
27 number of lots and sites, as determined by the Planning Commission.

28 (g) Private streets must be maintained by a property owner association or similar
29 organization.

30 (h) Easements, maintenance agreements, and covenants must be provided to the County
31 for review with the submission of a final plat, and must be recorded by the applicant prior to lot
32 recordation and the recording reference noted on the final plat.

33 ([D] F) *Performance standards.* These performance standards for critical digital infrastructure
34 facilities are intended to mitigate potential detrimental effects on adjacent properties and the
35 neighborhood. All applications for site plan approval must be accompanied by a registered
36 engineer's certification that the use complies with all of the performance standards. If, after
37 occupancy of the structures, continuous or frequent (even if intermittent) violations of the

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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 Zoning Administrator may suspend or revoke the Zoning Certificate and the Certificate of Occupancy and require the operations and occupancy to immediately cease. The Zoning Certificate and Certificate of Occupancy will be reinstated after the property owner demonstrates to the Zoning Administrator's satisfaction, that operation of the facilities is able to conform to these requirements.

(1) *Noise.*

(a) Noise must be measured with a sound level meter.

(b) The maximum sound pressure levels permitted from any source, including but not limited to **electrical equipment**, air handlers, generators, and other mechanical devices, measured within an adjacent property line, are set forth below:

<i>Sound Measured To</i>	<i>Decibels Continuous Slow Meter Responses</i>
Industrial uses	70
Commercial uses	64
Residential uses in any zoning district	55
Institutional uses	55
All other uses	55

(c) All applications for site plan approval must include a sound study that is prepared by a qualified engineer with experience in environmental acoustics. The purpose of the detailed study is to assess the impact of all noise sources and determine the appropriate layout, design, and control measures. The study must include:

1. Details of assessment methodology.

2. List of all air handlers, generators, and other mechanical devices that are included in the sound evaluation, including manufactures specifications.

3. Predicted sound levels for three scenarios:

a. All mechanical and electrical equipment required for normal operation at 100% load.

b. Generator testing and maintenance.

c. Emergency scenario with all generators, mechanical equipment, and electrical equipment operating at 100%.

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AMENDED Bill No. 25-05

1 4. When multiple buildings are proposed on the site plan application, the study must
2 include sound levels for each phase of building construction to ensure that the sound
3 levels listed in the table in (F)(1)(b) above are met during all phases of buildout.

4 5. Summary of the results and recommended control measures.

5 (d) Within 6 months of the date of occupancy of any completed CDI building, and **biennially**
6 **[[bi-annually]]** thereafter, actual sound levels for scenarios a and b listed under (F)(1)(c)(3).
7 above must be measured by a qualified engineer with experience in environmental acoustics and
8 a final sound level report must be submitted to the County for review and approval. If actual
9 sound levels exceed the maximum sound pressure levels listed in (F)(1)(b) above, corrective
10 actions must be executed as soon as reasonably possible, but no later than 180 days from the date
11 of the submission of the report.

12
13 ([c] e) The provisions of this section do not apply to:

- 14 1. Transportation vehicles not under the control of the use.
15 2. Occasionally used safety signals, warning devices, and emergency pressure relief
16 valves.
17 3. Temporary construction activity between 7:00 a.m. and 7:00 p.m.
18 4. Emergency and o[O]ther exemptions identified in § 1-11-6(F).

19 [(d) Air handlers, generators, and other mechanical devices must comply with subsection
20 (1)(b) above.]

21 (2) *Vibration.*

22 (a) No vibration may be produced which is transmitted through the ground and is
23 discernible without the aid of instruments at any point beyond the property line; nor may any
24 vibration produce a particle velocity of 2 inches per second measured at or beyond the property
25 line. This provision does not apply between adjoining critical digital infrastructure facilities uses.

26 (b) All applications for site plan approval must include a vibration impact study that is
27 prepared by a qualified individual with experience in vibration analysis.

28 (c) Within 6 months of the date of occupancy of any completed CDI building, and
29 **biennially** **[[bi-annually]]** thereafter actual vibration levels must be measured by a qualified
30 individual and a vibration report must be submitted to the County for review and approval. If
31 vibration levels exceed the maximum listed in (F)(2)(a) above, corrective action must be taken as
32 soon as reasonably possible but no later than 180 days from the date of the submission of the
33 report.

34
35 (3) *Generators.*

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1 (a) Generators must meet or exceed Tier 4 or equivalent emission standards as defined
2 by the United States Environmental Protection Agency.

3 (b) Generator testing shall be limited to Monday thru Friday, 8am to 5pm. Only one
4 generator per building, or the minimum number necessary to meet operational standards, may be
5 tested at a time and for a period not to exceed 60 minutes, unless Federal or State law, rule or
6 regulation, or utility company restrictions prevent testing during such time.

7 (c) Generators must be installed at ground level.

8 (d) Stand-alone Fuel Storage Tanks

9 1. For the purposes of this section, fuel storage includes the storage of all
10 petroleum bases fuels, natural gas liquids, biofuels, and liquids derived from other hydrocarbon
11 sources.

12 2. The storage tank shall be placed above ground with a capacity not to exceed
13 20,000 gallons.

14 3. Only one storage tank is permitted per critical digital infrastructure building.

15 4. The storage tank shall be located a minimum of 100 feet from a well or as
16 provided in § 1-6-50 of the County Code (Wellhead Protection Ordinance), whichever is greater.

17 5. The storage tank shall be governed by the International Fuel Gas Code
18 concerning storage tanks, and the National Fire Protection Association 30 standards.

19 6. Storage tanks shall have 100% catchment basin, or double-walled containment,
20 and a spill protection overfill alarm.

21 7. Shall comply with § 1-6-50 of the County Code (Wellhead Protection
22 Ordinance).

23 8. The storage tank must have a minimum setback of 100 feet from all property
24 lines.

25 9. Storage tanks must meet all applicable State and Federal regulations for above
26 ground storage tanks.

27 (e) Fuel storage tanks attached to stationary equipment:

28 1. For the purposes of this section, fuel storage includes the storage of all
29 petroleum bases fuels, natural gas liquids, biofuels, and liquids derived from other
30 hydrocarbon sources.

31 2. Shall not have a capacity greater than 10,000 Gallons per attached storage tank.

32 3. The storage tank and stationary equipment shall be located a minimum of 100
33 feet from a well or as provided in § 1-6-50 of the County Code (Wellhead Protection
34 Ordinance), whichever is greater.

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1 (3) The tract of land proposed to be utilized for a Critical Digital Infrastructure Electric
2 Substation use may not have a designation of No Planned Service (NPS) in the Water
3 and Sewerage Plan.

4
5 (4) Additional size and location criteria- Applicants must demonstrate the following:

- 6
7 (a) The applicant must demonstrate that the visual impact of the project on the
8 viewshed, surrounding properties, public roadways, including roadways with
9 Rustic, scenic, or historic designation, and historic sites will be avoided or
10 minimized to the maximum extent practicable.
11 (b) The applicant must demonstrate that schools, **colleges and universities**, daycare
12 centers, health care facilities, houses of worship, residences, and other non-
13 industrial uses in the vicinity have been identified and negative impacts to these
14 uses will be avoided or minimized to the maximum extent practicable.
15 (c) The applicant must demonstrate that fragile ecosystems and watersheds in the
16 vicinity have been identified, and negative impacts will be avoided or minimized
17 to the maximum extent practicable.
18 (d) The applicant must demonstrate that negative impacts to local, state, and federal
19 recreational amenities and private parks, as defined in §1-19.11.100, will be
20 avoided or minimized to the maximum extent practicable.
21 (e) The applicant must demonstrate that the siting of the proposed use(s) will not
22 disproportionately negatively impact overburdened communities or underserved
23 communities as those terms are defined in Md. Code Ann., Environmental
24 Article, § 1-701.

25
26 ([A] B) A critical digital infrastructure electric substation may only be constructed for the
27 purpose of providing power to critical digital infrastructure facilities, and when a critical digital
28 infrastructure facility has received site plan approval from the Planning Commission. An
29 application for a critical digital infrastructure electric substation may be processed concurrently
30 with an application for a critical digital infrastructure facility.

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1 ([B] C) A critical digital infrastructure electric substation may be connected to another
2 electrical system within the region. Any expansion of a critical digital infrastructure electric
3 substation for the purpose of supporting other uses or users must follow the rules, regulations,
4 and procedures applicable to nongovernmental electric substation use.

5 ([C] D) An application for a critical digital infrastructure electric substation must include the
6 following:

7 (1) Information indicating the general conditions of use and existing improvements on
8 adjoining properties within a 1,000-foot radius surrounding the subject property.

9 (2) A description of the potential environmental and ecological (including water, air,
10 wildlife, and vegetation) effects of the proposed critical digital infrastructure electric substation
11 on properties in the vicinity of the proposed development.

12 (3) An assessment of the impact on nearby properties from electromagnetic fields to be
13 generated by the critical digital infrastructure electric substation.

14 (4) An assessment of safety and reliability, including provisions for emergency operations
15 and shutdowns.

16 (5) Information as to how the applicant proposes to address the visual impact of the critical
17 digital infrastructure electric substation on designated preservation areas, such as rural legacy
18 areas, agricultural preservation areas, critical farms, Monocacy scenic river, designated heritage
19 areas, historic sites and sites eligible for historic designation.

20 (6) A description of methods to be utilized to mitigate any waste disposal, air quality, visual
21 or noise impacts associated with the development or operation of the critical digital infrastructure
22 electric substation.

23 ([D] E) *Design requirements.*

24 (1) *Landscaping, screening, and buffering.*

25 (a) A landscaped buffer must include a four-season visual screen resulting in multi-
26 layered, staggered rows of overstory and understory trees and shrubs that are a mix of evergreen
27 and deciduous vegetation, with an emphasis on species that are native to Frederick County.

28 (b) The minimum height of overstory trees within a landscape screen or buffer at planting
29 must be a minimum of 6 feet with a minimum caliper of 2 inches. The minimum height of
30 understory trees and shrubs at the time of planting must be 3 gallon or larger. Trees and shrubs
31 larger than the minimum sizes listed above will be required where the minimum planting sizes
32 will not provide adequate screening or buffering within 2 years. Vegetation used to establish a
33 visual screen shall not be trimmed so as to stunt upward and outward growth or to otherwise
34 limit the effectiveness of the visual screen.

35 (c) A berm, wall, or fence may be used in combination with vegetation to satisfy the
36 screening requirement where deemed appropriate by County Staff and the Planning Commission.
37 Walls and fences must be made of quality materials and enhance rather than detract from the
38 beautification of the site. Walls and fences that are in public view must avoid long,

Underlining indicates entirely new matter added to existing law.

[Single boldface brackets] indicates matter deleted from existing law.

*** - indicates existing law unaffected by bill

Double underlining boldface indicates matter added by Amendment.

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AMENDED Bill No. 25-05

undifferentiated facades and long, plain sections by including a combination of the following design elements: variations in height, step-backs or recesses, changes in material, patterns, textures, colors, or use of accent materials.

(d) 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. Chain-link and similar woven metal or plastic fencing shall not be used.

(e) If existing forest or hedgerows exist where screening or buffering is required, it must be preserved to the maximum extent practicable and supplemented with new plantings where necessary to provide the desired screening or buffering.

(f) All landscaping, screening, and buffering must be maintained in living condition.

(g) The Planning Commission may approve a modification to the landscaping, buffering, and screening standards where an alternate landscaping, buffering, and screening plan is provided that meets the purpose and intent of this section.

(h) Applicant must submit a landscape, buffering, and screening plan as part of the site plan application addressing the requirements and timing of plantings. Screening and buffering must be installed as early in the development process as possible. Occupancy shall not be granted if screening and buffering requirements are not installed in accordance with the approved site plan.

(2) Lighting, if provided, must comply with § 1-19-6.500, and light poles shall not exceed a height of 18 feet. The Planning Commission may reduce lighting height(s) where deemed appropriate by the Planning Commission.

(3) *Noise*.

(a) Noise will be measured with a sound level meter.

(b) The following table describes the maximum sound pressure level permitted from any source and measured at any adjacent property line.

<i>Sound Measured To</i>	<i>Decibels Continuous Slow Meter Responses</i>
Industrial uses	70
Commercial uses	64
Residential uses in any zoning district	55
Institutional uses	55
All other uses	55

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AMENDED Bill No. 25-05

1 (c) All applications for site plan approval must include a sound study that is prepared by a
2 qualified engineer with experience in environmental acoustics. The purpose of the detailed
3 study is to assess the impact of all noise sources and determine the appropriate layout, design,
4 and control measures. The study must include:

5 1. Details of assessment methodology.

6 2. List of all devices that are included in the sound evaluation, including manufacturers
7 specifications.

8 3. Predicted sound levels.

9 4. Summary of the results and recommended control measures.

10 (d) Within 6 months of the beginning date of operation, actual sound levels must be
11 measured, and **biennially** ~~[[bi-annually]]~~ thereafter by a qualified engineer with experience in
12 environmental acoustics and a sound level report must be submitted to the County for review and
13 approval. If actual sound levels exceed the maximum sound pressure levels listed in (b) above,
14 corrective actions must be executed as soon as reasonably possible, but no later than 180 from
15 the submission of the report.

16 ([c]e) The following sources of noise are exempt:

17 1. Transportation vehicles not under the control of the use.

18 2. Occasionally used safety signals, warning devices, and emergency pressure relief
19 valves.

20 3. Temporary construction activity between 7:00 a.m. and 7:00 p.m.

21 (4) *Vibration*. No vibration may be produced which is transmitted through the ground and is
22 discernible without the aid of instruments at any point beyond the property line; nor may any
23 vibration produce a particle velocity of 2 inches per second measured at any point beyond the
24 property line. All applications for site plan approval must include a vibration impact study that is
25 prepared by a qualified individual with experience in vibration analysis. This provision does not
26 apply between adjoining critical digital infrastructure uses.

27 (5) *Height*. The Planning Commission may approve an increase in the maximum height
28 established in § 1-19-6.100, if it finds the increased height would not have an adverse impact on
29 properties in the vicinity of the proposed critical digital infrastructure electric substation. For
30 each 3-foot increase in the height above the maximum height established in § 1-19-6.100, the
31 required front, side, and rear yards set back measurements must be increased by one additional
32 foot.

33 (Bill. No. 22-05, 3-15-2022)

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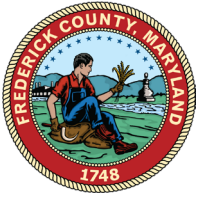
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AMENDED Bill No. 25-05



FREDERICK COUNTY GOVERNMENT

COUNTY COUNCIL

To: County Council

From: Council Member Renee Knapp and Council President Brad Young

Date: February 25, 2025

Subject: Siting Requirements to Apply to Critical Digital Infrastructure Facilities

Issue:

Should the County Council approve the attached bill amending the Frederick County Code to add siting requirements to apply to critical digital infrastructure facilities?

Background:

Recognizing the dynamic and rapidly changing conditions of today's data center industry, which is in initial stages of development in Frederick County, County Executive Jessica Fitzwater convened the Data Centers Workgroup in June 2023. The Data Centers Workgroup was charged with examining lessons from Northern Virginia's experience with data center development and to consider the following topics: appropriate locations for data centers; taxation issues related to data centers; water, power, and other infrastructure needs of data centers, opportunities to encourage sustainability practices; and potential updates to existing data center regulations established in Frederick County in 2022.

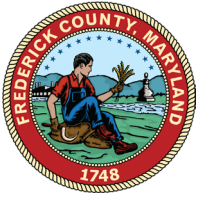
The Data Centers Workgroup submitted their report to the County Executive in March 2024 (Attachment 1). The Administration analyzed the findings and recommendations to determine which could potentially be implemented at the local level and those that would require state consideration, while continuing to receive feedback from various stakeholders throughout the process.

This bill encompasses the work of the Data Centers Workgroup, and input from relevant County Divisions, industry experts, and community advocacy groups. It establishes new restrictions on where data centers can be located within Frederick County. Additionally, the bill establishes new standards for visual impacts, sound and vibration reporting, air pollution and environmental health considerations, and acceptable versus unacceptable areas for data center development.

Visual Impacts

To mitigate potential visual impacts to the surrounding area, the proposed legislation adds new requirements for design and site development applications for critical digital infrastructure, including:

- Submission of a viewshed analysis with the site development plan application.



FREDERICK COUNTY GOVERNMENT

COUNTY COUNCIL

- Requirement to include lighting elements that reduce negative environmental impacts to wildlife, such as amber or yellow tints, the use of timers and motion detectors, and light sensitive switches.

- Approval criteria for siting location includes the requirement to demonstrate that the visual impact of the project on the viewshed, surrounding properties, public roadways, and historic sites will be avoided or minimized.

Sound and Vibration

A heavily discussed concern throughout the Workgroup was sound pollution around data centers. To address these concerns, this legislation proposes the following regulations:

- Clarification that all components of data centers, including but not limited to air handlers, generators, and other mechanical devices, are subject to the noise level requirements.
- Sound and Vibration reporting submitted to the County within 6 months of building occupancy, and bi-annually thereafter.
- Required corrective actions to address sound pressure levels exceeding maximum allowable levels.
- Required corrective actions to address vibration levels exceeding maximum allowable levels

Air Pollution and Environmental Health

To address on site air pollution that may result from the backup power needs of data centers, the proposed legislation includes the following provisions:

- Requirement for all generators to meet or exceed the Tier 4 equivalent emissions standards, as established by the United States Environmental Protection Agency.
- Generator testing must only occur Monday thru Friday, 8am to 5pm, for a period not exceeding 60 minutes.

Acceptable versus Unacceptable Areas

The bill incorporates the workgroup recommendations for acceptable use areas and limits CDI use to only tracts of land that meet the following criteria:

- Zoning designation of Limited Industrial (LI) or General Industrial (GI).
- Within a Community Growth Area, as designated on the Comprehensive Plan Land Use map.
- Located within 2 miles of existing 69 KV or greater high-voltage electrical transmission lines.
- Is not within a Priority Preservation Area (PPA), a Rural Legacy Area (RLA), or a Treasured Landscape Management Area.
- Is not designated as “No Planned Service” in the Water and Sewerage Plan.
- Does not abut land that is zoned residential or designated as residential in the Comprehensive Plan.



FREDERICK COUNTY COUNCIL

Local Government Fiscal and Policy Note

CONTACT INFORMATION AND GENERAL INSTRUCTIONS

Bill Number/Reference:	25-05
Bill Title:	Design and Specific Use Regulations for Critical Digital Infrastructure Facilities and Electric Substations
Local Government Agency:	Finance Division; Planning and Permitting Division
Prepared By:	Erin White; Michael Wilkins
Title:	Director of Finance; Department of Development Review and Planning Director
Phone Number:	301-600-1193;301-600-2329
E-Mail Address:	EWhite@FrederickCountyMD.gov ; MWilkins@FrederickCountyMD.gov
Due Date:	March 18, 2025
Date Submitted:	March 18, 2025

FREDERICK COUNTY COUNCIL

Local Government Fiscal and Policy Note

Date:						
Please respond to the questions below. If you prefer to provide responses or additional information in a separate file or document, send the file or document in a separate e-mail to rcherney@frederickcountymd.gov with the bill number/reference in the subject line.						
1.	Describe the impact of this proposed legislation on your agency (operations, revenues, expenditures, etc). If there is no impact, <u>please explain why.</u>					
<p>The proposed bill would update design requirements for Critical Digital Infrastructure Facilities and update Specific Use Regulations for Critical Digital Infrastructure Facilities and Critical Digital Infrastructure Electric Substations.</p> <p>There should be no fiscal impact to the County due to this proposed legislation.</p>						
2.	Please indicate whether the proposed legislation will affect small businesses in Frederick County, and if it will, please provide any information you may have which could be useful in determining the economic impact on small businesses.					
N/A – This legislation will not have an impact on small businesses in Frederick County.						
FISCAL IMPACT SUMMARY – SHOW (DECREASE) IN PARENTHESES						
<u>REVENUES</u>						
3.	Analysis of estimated increase (or decrease) in government revenues. Please estimate below any anticipated increase (or decrease) in revenues resulting from this legislation. Please be aware of any delayed effective dates in the bill or other factors that may cause revenue increases/decreases to begin in later years.					
<u>Source</u>		<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>
TOTAL \$		\$	\$	\$	\$	\$
		Please explain how the above estimated increase(s) or decrease(s) were arrived at, including any calculations and/or assumptions made. Please also explain any variation if the revenue increase(s)/decrease(s) are not constant.				
N/A – This legislation will not have an impact on County revenues.						

FREDERICK COUNTY COUNCIL

Local Government Fiscal and Policy Note

<u>EXPENDITURES</u>						
4.	Analysis of estimated increase (or decrease) in government expenditures . Please estimate below any anticipated increase (or decrease) in expenditures resulting from this legislation. Please be aware of any delayed effective dates in the bill or other factors that may cause expenditure increases/decreases to begin in later years.					
A. Salaries & Wages		<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>
FTE Employees - _____ # of positions						
Fringe Benefits						
TOTAL (Salaries, wages & benefits)		\$	\$	\$	\$	\$
		Please provide an explanation of the need for the number and type of any personnel listed above, including (1) what specific provision(s) of the bill necessitate additional staff; (2) what the duties of each type employee will be; and (3) why existing personnel cannot absorb the additional work. Please also certify the wage/salary rate and % fringe rate (if differing rates apply) for each personnel classification.				
B. Other Operating Expenses		<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>
Technical/Special Fees, Grants/Subsidies						
Communications-Phone, Postage						
Travel, Food, Auto, Fuel & Utilities						
Contractual Services						
Supplies						
Equipment-Replacement						
Equipment-Additional						
Land & Structures, Fixed Charges						
Other (Please Specify on Extra Page(s))						
TOTAL (Expenditures)		\$	\$	\$	\$	\$
		On the next page, please provide brief descriptions/breakdowns of the above “Other Operating Expenses.”				
		Please explain below any additional calculations or assumptions made in estimating the “Other Operating Expenses” that will help us to understand the amounts and timing of the expenses.				
N/A – This legislation will not have an impact on County expenditures.						

FREDERICK COUNTY COUNCIL

Local Government Fiscal and Policy Note

4. (cont'd)

C. Operating Expense Descriptions/Breakdowns

Please provide below a short description of the specific purpose of each expense listed under 4B. If any amount(s) listed under 4B represent(s) a total of multiple expenses, provide a breakdown of the fiscal 2025 amount with a short description of each expense (for example, if \$2,500 is listed for Communications – Phone, Postage, a statement such as “\$1,500 for cellphone charges for two new inspectors and \$1,000 for postage for mailings to permittees to notify them of changes to inspection requirements.”)

Fiscal 2025 Expenditures

Technical/Special Fees, Grants & Subsidies description/breakdown	\$
Communications – Phone, Postage description/breakdown	\$
Travel, Food, Auto Operations, Fuel & Utilities description/breakdown	\$
Contractual Services description/breakdown	\$
Supplies description/breakdown	\$
Equipment-Replacement description/breakdown	\$
Equipment-Additional description/breakdown	\$
Land & Structures, Fixed Charges description/breakdown	\$
Other (Please Specify) description/breakdown	\$

FREDERICK COUNTY COUNCIL

Local Government Fiscal and Policy Note

<u>ADDITIONAL POLICY IMPLICATIONS/CONCERNS</u>

Please submit BY E-MAIL to: Ragen Cherney, Legislative Director/Chief of Staff
Frederick County Council • E-Mail: RCherney@FrederickCountyMD.gov