

Draft for Public Review

This is a draft of a submission I intend to provide to the County of Newell regarding proposed Bylaw 2129-26 and its proposed regulations for data centres.

It is not yet the final submission.

There are provisions I am still reviewing, legal and regulatory details I want to examine more carefully, and recommendations that may change as that work continues.

I am publishing the draft now for another reason as well.

Public consultation should not happen only between individual citizens and government behind closed doors. People who may be affected by the recommendations in this submission—including residents, landowners, municipal officials, developers, industry participants and others—should have an opportunity to see what is being proposed, identify errors or missing context, challenge assumptions, suggest better wording, or submit their own arguments to Council.

That includes arguments opposing my recommendations.

If a proposed safeguard is unnecessary, already adequately addressed elsewhere, technically impractical or likely to create unintended consequences, that is information worth considering before the submission is finalized.

This is also the spirit in which policy work is presented through [Civic Sketches](#).

These documents are not intended to be declarations handed down as finished answers. They are attempts to examine a problem carefully, identify choices and consequences, propose possible solutions, show the reasoning and sources behind them, and leave room for those ideas to be challenged, improved or replaced.

The objective is not to produce a document everyone agrees with. It is to make the eventual submission—and the public discussion surrounding it—as accurate, useful and well-supported as possible.

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If a resident wants to take one recommendation and submit it in their own words, they should be able to. If another municipality finds suggested wording useful, it should be available to them. If someone believes a recommendation is wrong and wants to use the same research to argue the opposite position, the material should be available for that purpose too.

That openness is part of the point.

The final version submitted to the County of Newell may therefore differ from this draft as additional information, criticism and analysis are considered.

Formal Submission Begins Here
Introduction letter to be added to final version

I respectfully recommend that Council not proceed with Bylaw 2129-26 in its present form without further amendments.

The following are the principal areas I believe should be reconsidered.

1. The definition of “Small-Scale” requires actual capacity and development-intensity limits	2
2. The bylaw needs an anti-fragmentation provision.....	3
3. The proposed noise standards for both categories are inadequately framed.....	3
4. Predicted noise must be followed by actual operating measurements.....	5
5. Ongoing sound monitoring and public reporting should be required	6
6. An individual landowner should not be able to waive protections affecting others	8
7. Water disclosure is not the same thing as water protection	8
8. Infrastructure created by the project must be treated as part of the project	10
9. Existing taxpayers and utility ratepayers should not bear project-induced infrastructure costs	11
10. Interdependent infrastructure should be assessed as one development system	12
11. On-site generation requires an air-emissions and land-use compatibility assessment.....	12
12. The 800-metre study and notification distance should be a minimum, not the limit	13
13. Public consultation for small-scale facilities should not be optional.....	14
14. Cumulative effects should be expressly required	14
15. Decommissioning and financial security are missing.....	15
16. Material changes should trigger further review	15
17. Emergency planning should extend beyond simply requiring a plan	16
18. Provincial regulation should be a floor, not an excuse for municipal inaction.....	17
19. Several discretionary provisions should be reconsidered	18
20. Minor drafting issues should be corrected before adoption.....	18
Conclusion	18
Appendix A — References and Regulatory Benchmarks by Recommendation.....	21
Principal Sources Consulted	31

Note: The suggested wording throughout this document is intended to illustrate the regulatory objective being proposed, not to substitute for legislative drafting or legal review by the County.

1. The definition of “Small-Scale” requires actual capacity and development-intensity limits

The proposed bylaw limits a Small-Scale Energy-Integrated Data Centre to a footprint of five acres. It does not, however, establish a corresponding maximum electrical demand, computing capacity, gross floor area or on-site generating capacity.

Five acres measures horizontal land occupation. It does not necessarily measure the actual scale or industrial intensity of a development.

A facility could remain within a five-acre footprint while substantially increasing its usable area and capacity through multiple storeys, stacked mechanical and electrical systems, underground development, high-density computing or other forms of vertical construction. In other words, a five-acre footprint does not prevent a development from becoming much larger above or below grade.

Modern high-density computing can also concentrate substantial electrical demand, cooling equipment and generating capacity into a relatively small physical footprint.

A facility should therefore not qualify for a less restrictive category solely because it occupies fewer than five acres.

The definition is further complicated by the fact that a Small-Scale Energy-Integrated Data Centre may receive its primary power from the electricity grid, meaning the category is not necessarily restricted to small facilities making beneficial use of existing oil-and-gas infrastructure.

I recommend that the County establish multiple limits rather than using acreage alone as a proxy for scale.

Suggested wording:

“SMALL-SCALE ENERGY-INTEGRATED DATA CENTRE means a Data Processing Centre having:

- a) a development footprint not exceeding five acres;
- b) a gross floor area not exceeding [X m²], including all above-grade and below-grade developed floor area;
- c) a maximum electrical demand not exceeding [X MW]; and
- d) total on-site electrical generation capacity not exceeding [X MW].

A development exceeding any one of these thresholds shall be considered a Data Processing Centre.”

The numerical thresholds should be selected following technical review rather than assumed from acreage alone.

If the County's intent is specifically to facilitate productive use of existing oil-and-gas infrastructure or gas that would otherwise be flared or vented, that intent should also be stated clearly. If connection to the ordinary electricity grid remains sufficient to qualify, the term “Energy-Integrated” becomes so broad that the distinction between the two categories is difficult to justify.

2. The bylaw needs an anti-fragmentation provision

Related to the five-acre threshold is the possibility of project splitting.

The bylaw should prevent a larger development from being divided into several nominally separate small-scale facilities to qualify for less restrictive requirements.

Common ownership should not be the only test. Projects can be structured through subsidiaries, affiliates, land leases and separate corporate entities while remaining functionally one development.

The same principle should apply whether the attempt to remain “small” occurs through horizontal subdivision, vertical stacking, underground expansion or operational separation.

Suggested wording:

“For the purpose of determining whether a development qualifies as a Small-Scale Energy-Integrated Data Centre, the Development Authority shall consider as a single development any facilities that are functionally interdependent or that share common ownership or control, electrical generation or distribution infrastructure, natural-gas supply, water or wastewater infrastructure, communications infrastructure, access roads, cooling infrastructure or other essential services.

A development shall not be divided, staged, vertically separated, placed above or below grade, or otherwise configured for the purpose of avoiding a requirement of this Bylaw.”

3. The proposed noise standards for both categories are inadequately framed

The proposed bylaw establishes different modelled property-line sound limits for the two data-centre categories: 55 dBA for a Data Processing Centre and 45 dBA for a Small-Scale Energy-Integrated Data Centre.

The lower standard for the small-scale category is appropriate in principle, particularly because those developments may potentially be located in agricultural and other non-industrial districts.

However, the underlying regulatory approach raises several concerns for **both** categories.

First, the property line is not necessarily the most meaningful receptor.

On a sufficiently large parcel, distance between the noise-producing equipment and the property boundary itself becomes a means of achieving compliance. Conversely, a relatively small parcel may place equipment closer to neighbouring land even where the overall development is categorized as “small-scale.”

The more important question is what sound levels will actually be experienced at nearby homes, farms, schools, institutions and other sensitive receptors.

Noise assessment should therefore consider both the development property boundary and actual receptors beyond it.

Second, the proposed standards refer only to dBA.

A-weighting reduces the significance assigned to lower-frequency sound. Data-centre developments may contain cooling systems, large fans, pumps, transformers, generators and other equipment capable of producing persistent tonal or low-frequency noise.

This concern is not limited to large Data Processing Centres. A Small-Scale Energy-Integrated Data Centre incorporating on-site generation, transformers, cooling equipment or other industrial machinery may also create significant low-frequency or tonal sound even while occupying a relatively small physical footprint.

The County should therefore require assessment of both dBA and dBC, together with sufficient frequency analysis to identify low-frequency and tonal characteristics where relevant.

Third, a single overall property-line number does not necessarily capture the characteristics of sound most likely to cause disturbance.

A facility may technically comply with an average dBA limit while still producing:

- persistent low-frequency sound;
- identifiable tonal components;
- cycling or fluctuating sound;
- impulsive events;
- generator start-up or testing noise;
- periods of substantially higher sound during maximum cooling demand; or
- nighttime sound that is particularly noticeable because ambient rural sound levels are lower.

The acoustic assessment should therefore evaluate not merely the overall sound level, but the characteristics, timing and operating conditions of the noise produced.

Suggested wording:

“Noise from a Data Processing Centre or Small-Scale Energy-Integrated Data Centre, including all associated cooling equipment, electrical equipment, transformers, generators and other infrastructure, shall be assessed at the development property boundary and at existing residences and other sensitive receptors that may reasonably be affected by the development.

The assessment shall include A-weighted and C-weighted sound levels, tonal characteristics and, where applicable, one-third-octave-band analysis sufficient to identify low-frequency noise.

The assessment shall consider daytime and nighttime conditions, representative operating loads, maximum anticipated cooling demand, normal operation of on-site generation, backup-generator testing and other operating conditions reasonably expected to result in elevated or distinctive sound.

Compliance with a property-boundary sound limit shall not, by itself, establish that noise impacts at an affected dwelling or other sensitive receptor are acceptable.”

The existing 55 dBA and 45 dBA property-line standards could remain as additional safeguards, but they should not be the sole measure of acoustic acceptability.

The Development Authority should also be authorized to establish more restrictive receptor-based limits where existing ambient sound levels, surrounding land uses or other site-specific conditions warrant additional protection.

4. Predicted noise must be followed by actual operating measurements

Perhaps the most important weakness in the noise provisions is that the bylaw clearly regulates modelled noise before construction, but is much less clear about verifying actual noise after construction.

Models are necessary. They are not measurements.

Once thousands of pieces of equipment are operating under real temperatures, loads, weather conditions and operating cycles, actual sound can differ from what was predicted.

A development permit should therefore require baseline measurements before construction and verification after commissioning.

Suggested wording:

“Prior to construction, the applicant shall establish representative baseline ambient sound levels at locations approved by the Development Authority.

Within 90 days of reaching normal operating conditions, and following any material expansion or modification, the operator shall undertake post-construction sound monitoring by an independent qualified professional to confirm compliance with the approved Noise Impact Assessment and all applicable development conditions.

The Development Authority may require additional monitoring following a substantiated complaint or where operating conditions have materially changed.

The cost of all required monitoring shall be borne by the operator.”

The bylaw should also specify what happens when actual performance does not match the model. Mitigation, operational modification, equipment replacement or other corrective action should be mandatory where approved limits are exceeded.

5. Ongoing sound monitoring and public reporting should be required

For a major industrial facility expected to operate continuously, a one-time commissioning test is not sufficient.

Data-centre sound can vary with server load, temperature, cooling demand, equipment replacement, generator operation, seasonal conditions and facility expansion.

Large Data Processing Centres should therefore be subject to an ongoing operational monitoring program for the life of the development.

Monitoring should not occur only at one convenient point.

It should include a representative network of locations designed to show how sound propagates away from the facility.

Suggested wording:

“Data Processing Centres shall be subject to ongoing operational sound monitoring. Small-Scale Energy-Integrated Data Centres shall also be subject to ongoing or periodic operational monitoring where on-site generation is used, nearby sensitive receptors may reasonably be affected, or the Development Authority determines monitoring is warranted.

Monitoring locations shall include, at minimum:

- a) representative locations at the property boundary;
- b) the nearest occupied dwelling or other sensitive receptor in each relevant direction;
- c) representative intermediate monitoring locations between the development and nearby receptors; and
- d) additional locations required by the Development Authority to characterize sound propagation and cumulative noise conditions.

Where practicable and relevant, monitoring locations should include representative distances such as 250 metres, 500 metres and 1 kilometre from major noise-producing equipment, together with the nearest affected receptor.

Monitoring shall include dBA and dBC measurements and sufficient frequency information to identify low-frequency and tonal noise.

Monitoring shall capture daytime and nighttime conditions, representative operating loads, seasonal conditions, periods of maximum cooling demand and periods when backup or on-site generation is operating.”

The precise spacing of monitors should remain adjustable because terrain, parcel size, prevailing winds, building orientation and receptor locations differ from one project to another.

However, the bylaw should establish the principle that sound must be measured at multiple meaningful distances rather than only at the property line.

Public reporting should also be required.

Suggested wording:

“Operational sound-monitoring results shall be submitted to the County at least annually and shall be made publicly available in a readily accessible format, subject only to reasonable redaction of information protected by law.

Where monitoring demonstrates an exceedance of an applicable standard or a material deviation from the approved Noise Impact Assessment, the operator shall undertake corrective action within a timeframe established by the Development Authority.

Repeated or unresolved exceedances may result in additional operating restrictions or other enforcement measures available to the County.”

This would create a clear progression:

prediction before construction → verification after construction → monitoring during operation → public reporting → corrective action where necessary.

6. An individual landowner should not be able to waive protections affecting others

Both categories appear to allow the Development Authority to reduce noise and vibration separation requirements after considering a written agreement from an “affected landowner.”

That wording raises difficult questions.

Who is the affected landowner when there are several?

What happens if one owner accepts additional noise but another receptor farther away remains affected?

What happens when the consenting landowner sells the property?

At minimum, an agreement with one landowner must not authorize an impact on anyone else.

Suggested wording:

“A written agreement with a landowner shall not authorize an exceedance of any applicable sound or vibration standard at another property, dwelling, sensitive receptor or public area, and shall not relieve the operator from compliance with any other requirement of this Bylaw.”

Council should also consider whether baseline environmental and public-protection standards should be privately waivable at all.

7. Water disclosure is not the same thing as water protection

The proposed bylaw requires applicants to provide details concerning water use, the source of water and wastewater disposal.

That information is necessary, but it does not establish a water standard.

There is no clear requirement addressing maximum daily and annual use, consumptive use, cooling technology, drought conditions, groundwater monitoring, effects on other users or cumulative water demand from other proposed developments.

I recommend replacing the simple disclosure requirement with a Water and Wastewater Impact Assessment.

Suggested wording:

“The applicant shall submit a Water and Wastewater Impact Assessment identifying:

- a) anticipated average and maximum daily water demand;
- b) annual water demand;
- c) consumptive water use;
- d) water source;
- e) cooling technology;
- f) wastewater volumes and characteristics;
- g) proposed wastewater disposition;
- h) water requirements during emergency conditions;
- i) effects during drought or water-shortage conditions;
- j) potential effects on groundwater and surface-water users; and
- k) cumulative effects when considered with existing and approved development.

The assessment shall demonstrate that the development can be serviced without materially impairing existing municipal, agricultural, domestic or environmental water requirements.”

The County does not necessarily need to invent an arbitrary universal water cap today. It does need enough information and authority to determine what is acceptable in the particular watershed and servicing context.

8. Infrastructure created by the project must be treated as part of the project

Data centres do not exist only within the fence surrounding the computing buildings.

They may require new or expanded:

- roads;
- water lines;
- pumping stations;
- water-treatment capacity;
- sewer systems;
- wastewater-treatment capacity;
- stormwater infrastructure;
- substations;
- transmission facilities;
- natural-gas infrastructure;
- emergency-response capacity; and
- other municipal or regional services.

If infrastructure would not reasonably be required but for the proposed development, it should be identified and treated as project-related infrastructure for both assessment and cost-allocation purposes.

Suggested wording:

“For the purposes of this Bylaw, infrastructure shall be considered project-related where its construction, expansion or material upgrading would not reasonably be required in the absence of the proposed development.

Project-related infrastructure shall be identified as part of the development application and considered in assessing the cumulative impacts and servicing requirements of the development, regardless of whether the infrastructure is located on-site or off-site or requires approval from another regulatory authority.”

The County should not assess the building in isolation while treating the infrastructure required to make that building function as something separate.

9. Existing taxpayers and utility ratepayers should not bear project-induced infrastructure costs

Identifying project-related infrastructure is only part of the issue.

The County should also determine who pays for infrastructure that would not otherwise be required.

The concern is not limited to initial construction costs.

A developer may pay to construct a road, water line or utility connection while the municipality or its ratepayers later inherit decades of:

- maintenance;
- repair;
- replacement;
- pumping;
- treatment;
- staffing;
- emergency-service costs;
- snow clearing;
- road rehabilitation; or
- other lifecycle obligations.

A project that creates extraordinary infrastructure requirements should therefore be subject to both capital and lifecycle cost assessment.

Suggested wording:

“The applicant shall identify all municipal and regional infrastructure that must be constructed, expanded or materially upgraded as a consequence of the proposed development.

Prior to approval, the County shall determine the portion of attributable capital, operating, maintenance, replacement and lifecycle costs associated with project-related infrastructure.

To the fullest extent permitted by law, such costs shall be borne by the developer or operator through development agreements, off-site levies, utility agreements, securities or other lawful cost-recovery mechanisms and shall not create an unreasonable financial burden on existing taxpayers or utility ratepayers.”

This principle is particularly important for infrastructure whose capacity is being expanded primarily to meet a single extraordinary industrial load.

10. Interdependent infrastructure should be assessed as one development system

A related concern is regulatory fragmentation.

A data centre may require a power plant, pipeline, substation, transmission connection, road improvements, water works and wastewater infrastructure.

Different components may require approval from different agencies.

That does not mean their impacts are unrelated.

For municipal land-use purposes, the County should require disclosure of the entire functional project and consider the cumulative land-use implications of its interdependent components to the extent permitted within municipal jurisdiction.

Suggested wording:

“An application shall identify all on-site and off-site infrastructure that is necessary or reasonably anticipated to be necessary for the proposed development to operate at full build-out, including power generation, substations, transmission connections, pipelines, roads, water infrastructure and wastewater infrastructure.

Where components are functionally interdependent, the Development Authority shall consider their cumulative land-use, servicing, environmental, traffic, emergency-response and financial effects when assessing the application, notwithstanding that one or more components may require separate approval from another regulatory authority.”

A large project should not become environmentally or municipally insignificant simply because it has been separated into several regulatory applications.

11. On-site generation requires an air-emissions and land-use compatibility assessment

Both Data Processing Centres and Small-Scale Energy-Integrated Data Centres may incorporate on-site electrical generation.

This is particularly relevant to the small-scale category, where integration with existing energy infrastructure or on-site generation may form a significant part of the development model.

The proposed bylaw requires information concerning power sources, anticipated electrical demand, backup power and fuel storage. However, it does not expressly require a comprehensive

emissions inventory or air-quality compatibility assessment where combustion-based generation is proposed.

Where natural gas or other combustion-based generation forms part of either category of data-centre development, the County should understand the emissions associated with that generation at full build-out, including both primary generation and backup or emergency generation.

The concern is not limited to whether another provincial regulator may also require approvals. The County still needs sufficient information to determine whether the proposed combination of computing infrastructure, generation equipment and surrounding land uses is appropriate at the proposed location.

Suggested wording:

“Where a Data Processing Centre or Small-Scale Energy-Integrated Data Centre includes combustion-based electrical generation, the applicant shall provide an emissions inventory and air-quality impact assessment identifying expected emissions from primary generation, backup generation and routine testing, including nitrogen oxides, particulate matter and other material air contaminants, together with greenhouse-gas emissions and the cumulative effect of existing and approved emission sources where relevant to land-use compatibility.”

Provincial approvals should certainly be required where applicable.

They should not substitute for the County having sufficient information to assess the land-use compatibility of the complete development.

12. The 800-metre study and notification distance should be a minimum, not the limit of consideration

Several provisions rely on an 800-metre area for identifying neighbouring uses or formally inviting landowners to consultation.

There is nothing inherently significant about 800 metres for every possible impact.

Noise, air emissions, groundwater effects, traffic, transmission infrastructure and visual effects can extend beyond it.

Suggested wording:

“The 800-metre notification and study area shall constitute a minimum requirement and shall not limit the assessment of effects beyond that distance.

The Development Authority may require an expanded study or consultation area where modelling, infrastructure, environmental conditions or the scale of the development indicates that persons or properties beyond 800 metres may reasonably be affected.”

For major Data Processing Centres, Council should also consider whether a larger mandatory invitation radius is appropriate.

13. Public consultation for small-scale facilities should not be optional

For large Data Processing Centres, public consultation is mandatory.

For Small-Scale Energy-Integrated Data Centres, the proposed bylaw appears to make a public meeting something the County may require.

Given that the small-scale category currently has no electrical-capacity limit and can be located in the Agriculture, General District, I do not believe consultation should be discretionary.

Replace “**may require**” with “**shall require.**”

If Council eventually creates a genuinely small MW-based category, it could then establish a lower threshold below which consultation requirements are reduced.

14. Cumulative effects should be expressly required

Each application can appear reasonable when examined independently.

Several individually acceptable developments can collectively produce very different conditions.

The bylaw should therefore require consideration of existing and approved developments when assessing noise, water, air emissions, traffic, infrastructure capacity and public-service demand.

Suggested wording:

“Impact assessments required under this section shall consider cumulative effects arising from the proposed development together with existing and approved developments and associated infrastructure where those developments contribute to the same environmental, infrastructure, financial or land-use effect.”

This is especially important for industrial development that may cluster around available gas, transmission, fibre and water infrastructure.

15. Decommissioning and financial security are missing

Data centres are capital-intensive but technologically dynamic facilities.

Equipment becomes obsolete, business models change and operators can fail.

The bylaw should address the end of the development's life before construction begins.

Suggested wording:

“An application shall include a Decommissioning and Site Reclamation Plan addressing removal of computing equipment, generators, cooling equipment, batteries, fuel-storage systems and other infrastructure; management of hazardous materials and electronic waste; remediation of contamination; and restoration of the site to a condition acceptable to the Development Authority.

Where permitted by law, the County shall require financial security based upon an independent estimate of decommissioning and reclamation costs, with the amount periodically reviewed and updated.”

The public should not inherit an abandoned industrial site because the operator that obtained the original approval no longer exists.

16. Material changes should trigger further review

An approved data centre can change substantially without necessarily changing its building footprint.

Computing density can rise.

Cooling technology can change.

Electrical demand can increase.

Additional generators can be installed.

Water use can change.

A facility could therefore become materially more intensive while remaining within the same physical footprint.

The bylaw should specify when an alteration requires a development-permit amendment or new application.

Suggested wording:

“A material modification to an approved Data Processing Centre or Small-Scale Energy-Integrated Data Centre shall require review by the Development Authority and, where required, an amended development permit.

Material modification includes:

- a) a significant increase in electrical demand or generation capacity;
- b) expansion of gross floor area, including above-grade or below-grade development;
- c) addition or substantial modification of combustion generation;
- d) material change in water source or consumption;
- e) material change in cooling technology;
- f) a substantial increase in computing density; or
- g) any alteration reasonably expected to increase noise, vibration, emissions, traffic or other off-site effects.”

Council may wish to add numerical thresholds so both operators and residents know when review is automatically triggered.

17. Emergency planning should extend beyond simply requiring a plan

The proposed bylaw appropriately requires an Emergency Management Plan, including fire mitigation.

The requirement could be strengthened by requiring consultation with local emergency responders and disclosure of the resources the facility may require.

Suggested wording:

“The Emergency Management Plan shall be prepared in consultation with applicable fire and emergency-response authorities and shall identify foreseeable emergencies associated with batteries, electrical systems, fuel storage, generators, cooling chemicals and other hazardous materials; required firefighting water supply; containment of contaminated runoff; evacuation or shelter considerations; and any specialized equipment, training or mutual-aid capacity required as a consequence of the development.”

The County should also determine who will bear extraordinary municipal emergency-service costs created by the facility.

18. Provincial regulation should be a floor, not an excuse for municipal inaction

Some of the issues raised in this submission overlap with matters considered by the AUC, AESO, AER, Alberta Environment and Protected Areas or other regulators.

That overlap is not a reason for the County to omit appropriate land-use standards within its own lawful jurisdiction.

A provincial regulator may examine one component of a development for one statutory purpose.

That is not necessarily the same question as whether the entire development is an appropriate land use at a particular location within the County.

Nor does the existence of provincial standards prevent a municipality from establishing clearer or tighter requirements within areas where it has lawful authority.

I recommend adding a general provision along the following lines:

“Compliance with the requirements or approval of another regulatory authority shall not, by itself, establish compliance with this Bylaw or prevent the Development Authority from imposing lawful development standards or conditions necessary to address land-use impacts within the jurisdiction of the County.”

This does not attempt to replace provincial regulation.

It makes clear that provincial approval is not automatically municipal approval.

19. Several discretionary provisions should be reconsidered

The proposal contains several instances where something “may be required” when there is a strong argument that it should be mandatory.

For large Data Processing Centres, a noise attenuation or mitigation plan appears to be something the Development Authority may require.

I suggest instead:

“Where the Noise Impact Assessment identifies that mitigation is necessary to achieve any applicable noise standard, a Noise Attenuation and Mitigation Plan shall be required as a condition of approval.”

Likewise, where visual impacts, emergency impacts, infrastructure effects, water impacts or other material effects are identified, appropriate mitigation should be required rather than merely available at the discretion of the Development Authority.

20. Minor drafting issues should be corrected before adoption

Schedule A also contains numbering inconsistencies and several wording issues that should be corrected before final reading.

The phrase requiring third-party reviews to be completed by a “qualified profession” should presumably read “**qualified professional**.”

The small-scale provision stating that development “**should be aligned**” with an existing oil-and-gas lease footprint should also be reconsidered.

If that is intended as an enforceable requirement, “**shall**” should be used.

Similarly, wording stating that no new drilling shall be permitted solely for the purpose of powering a data centre “without separate approval” should specify what approval is contemplated and whether County approval is required in addition to applicable provincial approvals.

Conclusion

The County of Newell deserves credit for attempting to establish a regulatory framework before major data-centre developments are approved.

I encourage Council to use this opportunity to create a bylaw that regulates not merely the information an applicant must provide, but the actual performance expected throughout the life of the development.

In particular, I recommend that Council amend Bylaw 2129-26 to:

- establish electrical-demand, generation, gross-floor-area and development-intensity limits for the small-scale category;
- prevent project splitting, vertical circumvention and other forms of regulatory fragmentation;
- establish receptor-based noise standards addressing dBA, dBC, low-frequency and tonal noise;
- require baseline, post-construction and ongoing operational noise monitoring;
- require monitoring at multiple representative distances and sensitive receptors;
- require public reporting of operational sound-monitoring results and corrective action where standards are exceeded;
- strengthen water and wastewater impact requirements;
- identify all infrastructure that would not otherwise be required but for the development;
- assess interdependent infrastructure as part of the same functional development system;
- ensure project-induced capital and lifecycle infrastructure costs do not become an unreasonable burden on existing taxpayers or utility ratepayers;
- require an air-emissions assessment for on-site generation;
- treat 800 metres as a minimum consultation and study distance rather than the maximum extent of consideration;
- make public consultation mandatory for small-scale facilities;
- expressly require cumulative-effects assessment;
- require decommissioning and reclamation planning and, where legally available, financial security;
- establish a material-change review process;
- strengthen emergency planning and address project-induced emergency-service costs; and
- make clear that provincial approvals do not replace the County's responsibility to assess lawful municipal land-use considerations.

The decisions made through this bylaw may establish the regulatory framework for developments operating in the County for decades.

It is substantially easier to establish clear expectations before those facilities are constructed than to attempt to correct inadequate standards after they are operating.

A strong regulatory framework should answer not only:

What does the developer say the project will do?

It should also answer:

What must the project actually do?

How will that performance be independently verified?

What happens if it fails to meet those requirements?

What additional infrastructure does it create?

Who pays for that infrastructure over its entire lifecycle?

And what happens when the facility eventually changes, expands or closes?

I respectfully ask Council to amend Bylaw 2129-26 accordingly before proceeding to final adoption.

Respectfully submitted,

Appendix A — References and Regulatory Benchmarks by Recommendation

Purpose of this Appendix

This appendix identifies the principal sources, Alberta regulatory precedents and comparative municipal practices supporting the recommendations made in this submission.

Not every source cited below imposes an identical legal requirement on the County of Newell. Some are:

- provisions already contained in proposed Bylaw 2129-26;
- Alberta statutes or regulatory frameworks relevant to municipal authority;
- Alberta regulatory standards demonstrating established methods of assessing particular impacts;
- bylaws adopted by other Alberta municipalities specifically for data centres; or
- comparative municipal guidance showing approaches being used elsewhere to regulate rapidly developing data-centre land uses.

They are provided to demonstrate that many of the recommendations in this submission are based on regulatory approaches already being used in Alberta or elsewhere rather than on hypothetical concerns.

Recommendation 1 — Establish electrical-demand, generation, gross-floor-area and development-intensity limits for the “small-scale” category

County of Newell — Proposed Bylaw 2129-26, Schedule A. The proposed bylaw defines a Small-Scale Energy-Integrated Data Centre broadly as a building or part of a building containing computing infrastructure and sets a maximum development footprint of five acres. It does not establish a corresponding maximum electrical load, generation capacity or gross floor area. The definition also permits primary power to come from the electricity grid.

This is the principal basis for the recommendation. A horizontal land-area limit alone does not necessarily constrain the intensity of development above grade, below grade or within the building.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek requires data-centre applicants to disclose floor plans and elevations for all proposed structures and requires facilities incorporating on-site generation to identify the **total MW at full build-out**. This

demonstrates that an Alberta municipality can make electrical capacity and physical-development information explicit components of its data-centre land-use review.

Recommendation 2 — Prevent project splitting, vertical circumvention and other forms of regulatory fragmentation

County of Newell — Proposed Bylaw 2129-26. The proposed five-acre threshold applies to the footprint of a Small-Scale Energy-Integrated Data Centre, but Schedule A does not expressly aggregate related developments, common infrastructure, affiliated operators, staged facilities, vertically developed space or multiple adjacent small-scale projects.

Government of Alberta — Cumulative Effects Management. Alberta defines cumulative effects as the combined effects of past, present and reasonably foreseeable land-use activities over time. Alberta's *Land-use Framework* expressly recognizes that project-by-project assessment may work at lower levels of development but becomes inadequate for addressing the combined effects of multiple activities as development intensity increases. Its cumulative-effects approach therefore focuses on understanding and managing multiple existing and new development pressures together rather than considering each project in isolation. [Government of Alberta, *Land-use Framework* (2008), pp. 3, 31, 51; Government of Alberta, “Cumulative Effects Management.”]

The proposed anti-fragmentation provision applies that same principle at the development-definition stage: a functionally integrated industrial development should not obtain a less restrictive classification merely by dividing itself administratively, physically or vertically.

Recommendation 3 — Establish receptor-based noise standards addressing dBA, dBC, low-frequency and tonal noise

County of Newell — Proposed Bylaw 2129-26. Large Data Processing Centres are proposed to meet a modelled limit of 55 dBA at the development property line. Small-scale centres have a proposed 45 dBA modelled property-line limit. No specific dBC, low-frequency or tonal standard is stated.

Alberta Utilities Commission — Rule 012: Noise Control. Rule 012 provides an established Alberta methodology in which compliance measurements are taken near affected dwellings rather than merely at the industrial property line. The rule states that dBA alone may be insufficient to identify low-frequency noise and provides for concurrent dBA and dBC measurements, together with analysis of tonal components between 20 and 250 Hz.

The AUC confirms that Rule 012 remains its current noise-control framework, with administrative amendments effective April 17, 2026.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek's data-centre provisions establish different daytime and nighttime limits based on affected dwelling density and transportation context. Its required Noise Impact Assessment measures the proposed facility's effect on dwellings and other buildings within 1.6 kilometres.

This provides a directly relevant Alberta municipal precedent for measuring impacts at receptors rather than relying exclusively on a single property-boundary number.

ISO 1996-1:2016 — Acoustics: Description, measurement and assessment of environmental noise. ISO's general environmental-noise assessment standard also recognizes that environmental sound may require additional consideration because of characteristics including **tonality, impulsiveness and low-frequency content**, rather than relying exclusively on a single overall sound level.

Recommendation 4 — Require baseline and post-construction noise verification

County of Newell — Proposed Bylaw 2129-26. Schedule A requires a Noise and Vibration Impact Assessment but frames the principal sound standard in terms of **modelled** sound. It does not establish an equally explicit mandatory post-construction verification program.

AUC Rule 012. Rule 012 distinguishes between predictive Noise Impact Assessments and actual post-construction sound surveys. Where ordered as a condition of approval or in response to a complaint, a licensee must conduct post-construction noise monitoring. The rule also prescribes the information required in monitoring reports and requires measurements under representative conditions.

The regulatory principle is important even where Rule 012 does not directly regulate the data-processing facility: prediction and operational verification are distinct regulatory functions.

Montgomery County and Chester County Planning Commissions — 2026 Data Center Ordinance Guide. This municipal planning guide recommends both **pre-construction and post-construction noise studies** as part of data-centre regulation.

Recommendation 5 — Require ongoing operational sound monitoring, representative measurement locations and public reporting

AUC Rule 012. Alberta's noise-control framework establishes detailed standards for sound-monitoring equipment, measurement periods, weather conditions, measurement locations, low-frequency analysis and reporting. It also recognizes that representative conditions and, in some circumstances, extended monitoring periods are necessary to establish compliance.

Rule 012 itself should not be represented as requiring permanent continuous public reporting from every regulated facility. The recommendation in this submission deliberately goes further because major data centres are continuous industrial operations whose acoustic profile can change with computing load, cooling demand, weather, equipment replacement and generation activity.

City of Aurora, Illinois — Responsible Data Center Ordinance, adopted March 24, 2026.

As a comparative municipal example, Aurora adopted a data-centre ordinance specifically designed to require continuing transparent reporting regarding **noise, energy and water performance**. City staff identified lack of operational transparency over time and long-term infrastructure costs among the issues the ordinance was designed to address.

This source is offered as a comparative municipal model, not as Alberta law.

Government of Alberta — Environmental Monitoring. Alberta's broader environmental-management approach recognizes monitoring, comparison against thresholds, reporting and corrective action as interconnected components of cumulative-effects management.

Recommendation 6 — Prevent one landowner from waiving protections affecting other properties or receptors

County of Newell — Proposed Bylaw 2129-26. Both the large and small-scale provisions permit the Development Authority to reduce noise and vibration separation requirements after considering a written agreement from an affected landowner. The wording does not expressly address impacts on other receptors or what happens when multiple properties are affected.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek uses a more formal mechanism where an easement permitting specified noise conditions must be approved by the Municipal Planning Commission and registered on title. It nevertheless continues to regulate noise affecting surrounding dwellings.

The recommendation does not necessarily require the County to prohibit private agreements. It requires that such an agreement not extinguish protections belonging to other people or properties.

Recommendation 7 — Strengthen water and wastewater impact requirements

County of Newell — Proposed Bylaw 2129-26. Schedule A requires details concerning water use, water source and wastewater disposal but does not establish a detailed Water and Wastewater Impact Assessment, drought-response requirement, cumulative-use analysis or quantitative operating information.

Alberta Water Act framework. Industrial diversions of surface water or groundwater generally require authorization under Alberta's Water Act, subject to statutory exceptions. Alberta water licences identify matters including source, diversion location, volume, rate and timing of diversion, and may contain operating conditions. Alberta also maintains reporting templates for water use, water levels, diversion rates and return flows.

These provincial requirements demonstrate that **volume, rate, timing and monitoring** are ordinary components of water management. Municipal land-use assessment can therefore reasonably seek information beyond merely identifying a water source.

Montgomery/Chester County Data Center Ordinance Guide. The 2026 guide recommends Water Feasibility Studies, Drought Response Plans, wastewater-needs analysis and wastewater feasibility studies for data-centre developments.

Recommendation 8 — Identify infrastructure that would not otherwise be required and treat it as project-related infrastructure

County of Newell — Proposed Bylaw 2129-26. The proposed bylaw requests information about water, wastewater, stormwater, electrical demand and power supply but does not expressly require an integrated inventory of off-site infrastructure created or expanded because of the development.

Municipal Government Act, s.650. Alberta's development-agreement framework allows a municipality, where properly provided for in its land-use bylaw, to require an applicant to construct or pay for roads required to access a development and public utilities necessary to serve it, including utilities situated outside the development parcel.

Strathcona County Land Use Bylaw. As an Alberta municipal example implementing that authority, Strathcona County expressly allows a development permit to be conditioned on an agreement requiring the applicant to construct or pay for access roads and public utilities necessary to serve the development. The bylaw expressly provides that the required public utility may be located **off the development site**.

These authorities support expressly identifying infrastructure caused by the development rather than treating the facility inside the fence as the complete project for municipal servicing purposes.

Recommendation 9 — Protect taxpayers and utility ratepayers from project-induced infrastructure costs

Municipal Government Act — **development agreements and off-site levies.** Alberta's MGA provides mechanisms allowing municipalities to recover certain infrastructure costs created by

development through development agreements and off-site levies. Provincial guidance describes off-site levies as mechanisms for recovering costs associated with roads, water, stormwater and wastewater infrastructure required by development.

Section 650 also permits development agreements addressing roads, necessary public utilities, applicable levies and security to ensure agreement obligations are performed.

The recommendation in this submission deliberately uses the phrase “**to the fullest extent permitted by law.**” Not every future operating, maintenance or replacement cost will necessarily be recoverable through an off-site levy. The purpose of the proposed lifecycle-cost assessment is first to identify those liabilities and then require the County to use whatever lawful development agreement, levy, utility agreement, security or other cost-allocation mechanism is available.

This prevents an approval from being made without understanding the long-term municipal financial consequences.

Recommendation 10 — Assess functionally interdependent infrastructure as one development system

Government of Alberta — Cumulative Effects Management. Alberta expressly recognizes that traditional project-by-project assessment becomes inadequate where numerous activities combine to create larger impacts and defines cumulative effects as the effects of past, present and reasonably foreseeable activities over time.

AUC data-centre-related decision-making illustrates the jurisdictional gap. In a 2025 AUC power-plant decision associated with cryptocurrency/data-centre operations, the Commission expressly stated that its approval was for the electrical power-plant components and that it had **no approval authority over the cryptocurrency mining and data-centre operations themselves.**

That distinction demonstrates why a municipality should understand the complete functional development even where individual components require separate provincial approvals.

Recommendation 11 — Require an air-emissions and land-use compatibility assessment for on-site combustion generation

County of Newell — Proposed Bylaw 2129-26. Schedule A expressly permits Data Processing Centres to use on-site generation and requires information about power sources, backup power and fuel storage, but does not expressly require a comprehensive emissions inventory or air-quality compatibility assessment.

Alberta Environment and Protected Areas — Industrial Air Quality Management.

Alberta's EPEA approval framework considers emission inventories, source-emission limits, pollution-control technologies, plume-dispersion modelling, existing air quality, local meteorology, terrain and surrounding emission sources.

Environmental Protection and Enhancement Act approvals. Alberta notes that EPEA approvals may be required for activities affecting land, water and air and that approval applications include technical information about the nature, location, capacity and size of the activity.

The recommendation does not seek to replace EPEA regulation. It asks the County to have sufficient information to determine whether the proposed generating activity and associated industrial land use are compatible with the proposed location.

Recommendation 12 — Treat 800 metres as a minimum consultation/study distance rather than an absolute boundary of consideration

County of Newell — Proposed Bylaw 2129-26. Formal invitations to developer public meetings are proposed for landowners within 800 metres, and development applications identify several surrounding land uses within an 800-metre study area.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek requires data-centre public-meeting notices to every household within **1.6 kilometres**, refers applications to landowners within 1.6 kilometres and requires the Noise Impact Assessment to evaluate dwellings and other buildings within that same distance.

This is a directly comparable Alberta municipal precedent demonstrating that an 800-metre radius is not the only reasonable approach to data-centre notification and assessment.

Recommendation 13 — Make meaningful public consultation mandatory for small-scale facilities

County of Newell — Proposed Bylaw 2129-26. Large Data Processing Centres must hold a public meeting. For Small-Scale Energy-Integrated Data Centres, Schedule A states that an applicant **may** be required to hold one. At the same time, that category presently contains no maximum MW threshold and may be considered in agricultural and rural districts.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek requires a public meeting before a data-centre application is decided and requires notice to every household within 1.6 kilometres. Its general consultation provisions require information about the intensity of the use and existing and proposed utility servicing.

This provides an Alberta precedent for mandatory developer consultation associated with data-centre land-use applications.

Recommendation 14 — Expressly require cumulative-effects assessment

Government of Alberta — Land-use Framework and Cumulative Effects Management.

Alberta describes cumulative effects as the combined effects of multiple activities and recognizes that individual project assessment can fail to address the consequences of high rates of development. Provincial cumulative-effects management addresses air, water, land and biodiversity and incorporates monitoring and environmental thresholds.

AUC Rule 012. Alberta's noise framework also incorporates cumulative sound rather than considering a proposed facility's sound contribution entirely in isolation.

The recommendation extends this principle to municipal consideration of water, traffic, infrastructure, emissions, public services and other effects where multiple facilities or associated infrastructure contribute to the same impact.

Recommendation 15 — Require decommissioning, reclamation planning and appropriate financial security

County of Newell — Proposed Bylaw 2129-26. Schedule A does not presently contain a specific data-centre decommissioning, reclamation or financial-security requirement.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek expressly requires a data-centre application to include **reclamation planning and security**.

This is a particularly relevant Alberta municipal precedent because it demonstrates that reclamation and security can be addressed directly within a data-centre land-use framework rather than being regarded solely as matters for other regulators.

Montgomery/Chester County Data Center Ordinance Guide. The guide also recommends both an Electronic Waste Plan and a Decommissioning Plan.

Recommendation 16 — Require review of material changes after initial approval

County of Newell — Proposed Bylaw 2129-26. Schedule A requires applicants to disclose anticipated power demand at full build-out, computing activities, water use, generation and other operating characteristics, but does not expressly define when subsequent changes to those characteristics become sufficiently significant to require new municipal review.

AUC regulatory precedent. AUC facility approvals commonly distinguish between the facility that was approved and later substantive changes. For example, [Approval 29916-D02-2025](#) requires Commission approval before substantive changes or substantial variation from the approved design or specifications.

The proposed municipal provision follows the same regulatory principle: approval of a particular development should not automatically authorize a materially different development simply because the original building remains on the same parcel.

Recommendation 17 — Strengthen emergency planning and address project-induced emergency-service requirements

County of Newell — Proposed Bylaw 2129-26. Schedule A already requires an Emergency Management Plan including fire mitigation for both categories. The recommendation therefore strengthens an existing County concept rather than introducing an unrelated requirement.

[Municipal District of Pincher Creek No. 9 — Bylaw 1361-25.](#) Pincher Creek requires data-centre applications to include both a fire-protection plan, including code compliance, and an emergency-response plan.

[Montgomery/Chester County Data Center Ordinance Guide.](#) The guide similarly recommends an Emergency Response Plan as part of the information municipalities should require from applicants.

The additional recommendation that emergency-resource and service costs be identified follows the same principle as project-induced infrastructure: Council should understand whether a development requires specialized municipal capacity that would not otherwise exist.

Recommendation 18 — Make clear that other regulatory approvals do not automatically determine municipal land-use suitability

[Municipal Government Act, s.640.](#) Alberta municipalities are required to adopt land-use bylaws, and the MGA authorizes those bylaws to regulate and control the use and development of land and buildings, including design standards, agricultural-land protection and other matters Council considers necessary for municipal land-use regulation.

Government of Alberta — Planning on Private and Public Lands. Alberta states that planning on private lands is primarily governed by the Municipal Government Act and that municipalities maintain responsibility and authority for local land-use planning and development within their boundaries, including land-use bylaws and development decisions.

There is, however, an important statutory qualification.

Municipal Government Act, s.619. Certain provincial authorizations issued by bodies including the AUC and AER prevail over inconsistent municipal statutory plans and land-use bylaws. Alberta provides a specific appeal mechanism where a municipality refuses to amend its planning documents to conform to such an authorization.

Accordingly, Recommendation 18 should be read—and I suggest worded—subject to this limitation:

“Subject to section 619 of the Municipal Government Act and any other applicable statutory limitation, compliance with the requirements or approval of another regulatory authority shall not, by itself, establish compliance with this Bylaw or prevent the Development Authority from imposing lawful development standards or conditions concerning matters remaining within the jurisdiction of the County.”

This wording preserves the important municipal role without overstating municipal authority where provincial legislation expressly provides otherwise.

Recommendation 19 — Replace discretionary mitigation language with mandatory mitigation where an identified impact requires it

County of Newell — Proposed Bylaw 2129-26. Schedule A states that a Noise Attenuation or Mitigation Plan **may** be required for both large and small-scale facilities.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Pincher Creek requires data-centre facilities to integrate noise-management strategies to achieve compliance and states that, where identified measures do not adequately mitigate sound, more sophisticated mitigation solutions **shall be required prior to commencement of operations**.

This demonstrates an Alberta municipal approach in which mitigation becomes mandatory when it is necessary to achieve the applicable performance standard.

Recommendation 20 — Correct drafting, numbering and enforceability issues before adoption

County of Newell — Proposed Bylaw 2129-26, Schedule A. The proposed Schedule contains several internal numbering irregularities, including repeated paragraph and Roman-numeral designations. It also uses terms such as “qualified profession,” which appears intended to mean “qualified professional,” and states that facilities using existing oil-and-gas infrastructure **“should”** align with an existing lease footprint rather than using mandatory language.

Because a land-use bylaw will subsequently guide applications, permit conditions, enforcement and potentially appeals, mandatory obligations should be distinguishable from recommendations.

Where Council intends a provision to be enforceable, terms such as “**shall**” or “**must**” are generally preferable to advisory wording such as “**should**.”

Principal Sources Consulted

County of Newell — Proposed Bylaw 2129-26, Schedule A. Primary source for the provisions being reviewed.

County of Newell — Public Hearing for Proposed Bylaw 2129-26. Confirms the amendment's purpose and statutory hearing process.

Alberta Utilities Commission — Rule 012: Noise Control. Alberta regulatory benchmark for predictive noise assessment, receptor-based measurement, cumulative noise, low-frequency noise, operational measurement and complaint investigation.

Municipal District of Pincher Creek No. 9 — Bylaw 1361-25. Alberta municipal data-centre bylaw providing useful comparison concerning public consultation, receptor-based noise standards, MW disclosure, reclamation/security and emergency planning.

Government of Alberta — Municipal Government Act and municipal land-use guidance. Relevant to municipal land-use authority, development agreements, infrastructure cost recovery and the relationship between municipal planning and certain provincial authorizations.

Government of Alberta — Water Act resources. Relevant to water allocation, diversion volumes, rates, monitoring and reporting.

Government of Alberta — EPEA and Industrial Air Quality Management. Relevant to emissions inventories, air-quality assessment, monitoring, source limits and the interaction between municipal land-use review and provincial environmental regulation.

Government of Alberta — Land-use Framework and Cumulative Effects Management. Relevant to assessing the combined effects of multiple existing and foreseeable developments rather than relying exclusively on isolated project assessment.

Montgomery County and Chester County Planning Commissions — Data Center Ordinance Guide, 2026. Comparative municipal planning guidance addressing water feasibility, drought response, wastewater, pre- and post-construction noise studies, emergency response, electronic waste and decommissioning.

City of Aurora, Illinois — Responsible Data Center Ordinance, 2026. Comparative municipal precedent for continuing transparent reporting of data-centre noise, energy and water performance and consideration of long-term infrastructure costs.