



Mayor Jeni Arndt
Council member Trish Canonico
Council member Emily Francis
Council member Susan Gutowsky
Council member Kelly Ohlson
Council member Shirley Peel
Council member Julie Pignataro

December 17, 2022

Re: Fort Collins Draft Oil and Gas Regulations

Dear Mayor Arndt and City Council members,

The Larimer Alliance for Health, Safety, and the Environment; the Sierra Club-Poudre Canyon Group; 350 Colorado, and the Fort Collins Sustainability Group respectfully offer the following comments regarding the City of Fort Collins draft Oil and Gas (O&G) regulations. Our comments herein are based upon Version 1 of the City's draft O&G regs, released on Nov. 8, 2022.¹

The Northern Colorado Front Range, including Fort Collins, faces significant and growing air quality, public health, public safety, and livability challenges associated with rapidly increasing Oil and Gas (O&G) development. We appreciate the City Council's commitment to adopting regulations that seek to prevent, limit, and mitigate O&G development's adverse impacts.

However, the challenges posed by O&G development are considerable. State air regulators recently acknowledged that they have vastly underestimated the pollutant emissions and Front Range ozone impacts attributable to O&G facilities and operations.² Moreover, in addition to these regional air quality impacts, there is a significant and growing body of peer-reviewed scientific studies evidencing

¹ We note that City staff released a somewhat revised Version 2 on Dec. 12, 2022. Our preliminary review indicates that Version 2 addresses some, but not all, of the concerns we had with Version 1. We appreciate staff's efforts to address some of our initial concerns; and we expect to complete our review of Version 2 and to provide Council with any necessary additional comments as soon as possible. In the interim, we apologize for any redundancy in comments made herein that have been adequately addressed in Version 2.

² See, *Colorado Air Regulators Vastly Underestimated Ozone Pollution from some Oil and Gas Operations Due to a Data Error*, CPR (Nov. 17, 2022), <https://www.cpr.org/2022/11/17/colorado-air-pollution-data-error/>; and *Notice of Temporary Withdrawal of Limited Parts of the Severe State Implementation Plan*, CDPHE (Nov. 11, 2022), <https://wp-cpr.s3.amazonaws.com/uploads/2022/11/2022-11-11-NOTICE-OF-TEMP-WITHDRAWAL-1.pdf>. We acknowledge and thank the City's legal and regulatory consultant for bringing the erroneous data calculations to the State's attention.

serious localized adverse human health impacts associated with O&G fracking.³ Given the current limited amount of O&G operations and infrastructure within Fort Collins boundaries, the City has a unique time window to proactively address O&G related challenges before they pose a significant threat to our residents and environment.⁴

Our recommendations fall into three categories: (i) Reducing the pace of the regulation adoption process; (ii) increasing transparency and reducing Director discretion in the regulations' implementation; and (iii) utilizing the broader range of O&G regulatory measures available to local governments under SB 19-181 and the City's Home Rule status.

1. Reduce the Adoption Pace: We recommend extending the timeframe for developing and approving the O&G regulations to allow for careful consideration of additional options, to seek additional public input, and to foster greater confidence in the final product. We recommend that City Council:
 - a. Allow more time for review of the draft regulations and how they fit into the new development code. We request the Council consider adopting an official, temporary moratorium on further in-City O&G development to provide sufficient time for this additional analysis.
 - b. Allow for at least one public forum held by City staff for community discussion and collaboration regarding the draft regulations.
 - c. Extend the first reading date, or the time between first and second reading, to allow sufficient time to develop and incorporate the additional safeguards discussed herein, and to build public awareness and confidence regarding the final regulations.
2. Increase the Transparency: We recommend the following changes designed to increase transparency in the regulatory process and in the regulations' implementation:
 - a. Adopt a firm 2,000 ft. setback from residential/occupied buildings for all (non-pipeline) O&G operations and facilities --with no waivers, variances, modifications or off ramps.
 - b. O&G operations and facilities should be allowed only in Industrial zoned areas – with no waivers, variances, modifications, or off-ramps.
 - c. Setbacks should be measured from the property boundary, rather than the nearest wall, for any existing or platted building approved or to be approved as occupiable space (as defined under City Building code 5.17.4 (A)(2)(i)).
 - d. Applicants proposing oil and gas facilities and/or pipelines should not be allowed to:
 - i. add permitted uses not listed or permitted in the current development code or zoning map;
 - ii. seek a text amendment to the land development code, or to use any other means such as a standards modification, development code amendment, or zoning map amendment, to expand allowable uses;

³ These documented adverse health impacts include: Increased rates of childhood Acute Lymphoblastic Leukemia; increased rates of congenital anomalies and pre-mature and under-weight births; increased rates of acute myocardial infarction in adult men and women; increased mortality risk in the elderly; and increased adverse mental health impacts. See, Attachment A, *Scientific Studies Evidencing the Localized Health Impacts of Oil & Gas Fracking*.

⁴ USEPA's recent downgrade of our area's air quality to "severe non-attainment" status for ozone and the American Lung Association's corresponding "F Grade" on air quality further evidence the dire condition of our regional airshed.

- iii. seek variances or other requests designed to expand allowable uses.
 - e. Remove O&G pipelines as an allowed use from public lands and all residential zoned districts, including HMN, LMN, MH, MMN, RL, UE, RF, and RUL. Newly constructed O&G pipelines (incl. flowlines, gathering lines, and transmission lines) and the enlargement or expansion of lawful nonconforming O&G pipelines must be excluded from public lands and all residential zoned districts.
 - f. Establish a fixed minimum O&G pipeline setback distance of 150 ft. with no provision for a City waiver (i.e., the discretionary waiver down to 50 ft. should be removed)
 - g. Require pre-decisional notice and hearing on all applications for O&G operations and facilities, including decommissioning and plugging & abandonment operations.
 - h. Notice should be provided to rental and leasehold tenants in addition to “property owners of record”. Failure to provide proper written notice should be deemed a violation of the permitting process.
 - i. Remove the following wording from proposed regulations: “This prohibition shall not be interpreted to include oil and gas operation, facilities, or pipelines as defined in this Code and addressed in Division 5.17.”
 - j. O&G facilities and all pipelines should be subject to Planning and Zoning Commission Review – utilizing a type 2 review and not a basic development review.
3. Broaden the Regulatory Approach: We understand City Council has indicated support for a regulatory approach that relies upon zoning and setback restrictions to limit O&G development and, thereby, control its impacts. While reliance upon setbacks and zoning restrictions is a good start, we believe those tools alone are insufficient to adequately address the serious O&G-related challenges outlined above. We encourage the City to expand its regulatory aperture to consider the wider range of O&G regulatory options available to it under SB 19-181 and the City’s Home Rule status:
- a. Establish operator financial assurance requirements sufficient to ensure adequate resources are available to provide for proper maintenance, decommissioning, removal, response, and remediation of O&G operations and facilities.
 - b. Require the operator to provide a cumulative impacts analysis and a natural habitat / natural feature review prior to development plan approval for all O&G facilities and operations (including pipelines).
 - c. Require the applicant operator to provide an up-front showing that the water supply for the proposed O&G operation will be adequate for the project’s needs.⁵
 - d. Establish a schedule of impact fees to fund infrastructure and services necessary to serve oil and gas development, including roads, emergency management, and city planning and enforcement staff time.⁶
 - e. Establish Inspection, enforcement, and penalty provisions for violations of operational requirements.⁷

⁵ C.R.S § 29-20-303(1) provides local government authority for imposing this requirement.

⁶ C.R.S. § 29-20-104.5(1) provides local government authority for imposing this requirement.

⁷ Local government adoption of O&G inspection, enforcement, and penalty provisions is authorized under SB 19-181. Indeed, Larimer County included such provisions in its recently-adopted O&G regulations. See, Larimer County Land Use Code, § 11.5. We note that, to the extent the proposed setbacks and zoning restrictions are not completely successful in preventing O&G development, the City’s sole reliance upon these tools with no “fallback” regulatory structure or safety net risks creating a “donut hole” of deregulation which may well make O&G development within City limits more attractive than in surrounding Larimer County.

- f. Require development plans for all O&G operations and facilities (incl. all pipelines) to incorporate industry-leading Best Management Practices, including requirements for effective air quality emission monitoring.

In general, the O&G regulations recently adopted by Larimer County provide a solid starting point for this more comprehensive approach.⁸

In closing, we would like to thank the Council for its commitment to addressing this important matter and for the opportunity to provide these recommendations. We look forward to working openly and constructively with Council, City staff, and the public to facilitate the adoption of regulations that meet the purpose and expectations of SB 19-181 and that adequately protect Fort Collins residents and environment.

Sincerely,

Larimer Alliance for Health, Safety, and the Environment

Sierra Club – Poudre Canyon Group

350 Colorado

Fort Collins Sustainability Group

⁸ See generally, Larimer County Land Use Code, Art. 11, *Oil and Gas Facilities*.

ATTACHMENT A

Scientific Studies Evidencing the Localized Health Impacts of Oil & Gas Fracking

The following published, peer-reviewed research provides background information on the question of health impacts associated with O&G fracking facilities and operations:

- Gonzalez DJX, Sherris AR, Yang W, Stevenson DK, Padula AM, Baiocchi M, Burke M, Cullen MR, Shaw GM. Oil and gas production and spontaneous preterm birth in the San Joaquin Valley, CA: A case-control study. Environ Epidemiol. 2020 Jun 5;4(4):e099. doi: 10.1097/EE9.000000000000099. PMID: 32832838; PMCID: PMC7423522. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7423522/>).
 - **Conclusion:** "We found evidence that exposure to oil and gas well sites is associated with increased risk of spontaneous preterm birth."
- Alina Denham, Mary D. Willis, Daniel P. Croft, Linxi Liu, Elaine L. Hill, Acute myocardial infarction associated with unconventional natural gas development: A natural experiment. Environmental Research, Volume 195, 2021, 110872, ISSN 0013-9351. (<https://www.sciencedirect.com/science/article/abs/pii/S0013935121001663>).
 - **Conclusion:** "Cumulative UNGD [Unconventional Natural Gas Development] is associated with increased AMI [Acute Myocardial Infarction] hospitalization rates among middle-aged men, older men and older women as well as with increased AMI mortality among middle-aged men. Our findings lend support for increased awareness about cardiovascular risks of UNGD and scaled-up AMI prevention as well as suggest that bans on hydraulic fracturing can be protective for public health."
- Currie J, Greenstone M, Meckel K. Hydraulic fracturing and infant health: New evidence from Pennsylvania. Sci Adv. 2017 Dec 13;3(12):e1603021. doi: 10.1126/sciadv.1603021. PMID: 29242825; PMCID: PMC5729015. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5729015/>).
 - **Conclusion:** "We found evidence for negative health effects of in utero exposure to fracking sites within 3 km of a mother's residence, with the largest health impacts seen for in utero exposure within 1 km of fracking sites. Negative health impacts include a greater incidence of low-birth weight babies as well as significant declines in average birth weight and in several other measures of infant health. "
- Walker Whitworth K, Kaye Marshall A, Symanski E. Drilling and Production Activity Related to Unconventional Gas Development and Severity of Preterm Birth. Environ Health Perspect. 2018 Mar 20;126(3):037006. doi: 10.1289/EHP2622. PMID: 29578659; PMCID: PMC6071723. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6071723/>).
 - **Conclusion:** "We found evidence of differences in phase- and trimester-specific associations of UGD [Unconventional Gas Development] and PTB [Pre-Term Birth] and indication of particular risk associated with extremely preterm birth."
- Casey JA, Wilcox HC, Hirsch AG, Pollak J, Schwartz BS. Associations of unconventional natural gas development with depression symptoms and disordered sleep in Pennsylvania. Sci Rep. 2018 Jul 27;8(1):11375. doi: 10.1038/s41598-018-29747-2. PMID: 30054553; PMCID: PMC6063969. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6063969/>).

- **Conclusion:** "Our findings suggest that UNGD [Unconventional Natural Gas Development] may be associated with adverse mental health in Pennsylvania."
- Li, L., Dominici, F., Blomberg, A.J. *et al.* Exposure to unconventional oil and gas development and all-cause mortality in Medicare beneficiaries. *Nat Energy* 7, 177–185 (2022). <https://www.nature.com/articles/s41560-021-00970-y#citeas>.
 - **Conclusion:** "We found evidence of a statistically significant higher mortality risk associated with living in proximity to and downwind of unconventional oil and gas wells. Our results suggest that primary air pollutants sourced from unconventional oil and gas exploration can be a major exposure pathway with adverse health effects in the elderly."
- Cassandra J. Clark, Nicholas P. Johnson, Mario Soriano Jr, Joshua L. Warren, Keli M. Sorrentino, Nina S. Kadan-Lottick, James E. Saiers, Xiaomei Ma, and Nicole C. Deziel. 2022. Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case–Control Study in Pennsylvania, 2009–2017. <https://ehp.niehs.nih.gov/doi/10.1289/EHP11092>.
 - **Conclusion:** "Our study including a novel UOGD [Unconventional Oil and Gas Development] metric found UOGD to be a risk factor for childhood ALL [Acute Lymphoblastic Leukemia]. This work adds to mounting evidence of UOGD’s impacts on children’s health, providing additional support for limiting UOGD near residences."
- Cairncross ZF, Couloigner I, Ryan MC, et al. Association Between Residential Proximity to Hydraulic Fracturing Sites and Adverse Birth Outcomes. *JAMA Pediatr.* 2022;176(6):585–592. doi:10.1001/jamapediatrics.2022.0306. <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2790802>.
 - **Conclusion:** "Small for gestational age and major congenital anomalies were significantly higher for individuals who lived within 10 km of at least 1 hydraulically fractured well after adjusting for parental age at delivery, multiple births, fetal sex, obstetric comorbidities, and area-level socioeconomic status. Risk of spontaneous preterm birth and small for gestational age were significantly increased in those with 100 or more wells within 10 km....Results suggest that individuals who were exposed to hydraulic fracturing within pregnancy may be at higher risk of several adverse birth outcomes."

For a “lay” summary of the above-cited recent Harvard, Yale, and Univ. of Calgary studies you may wish to review the following articles:

- Living near or downwind of unconventional oil and gas development linked with increased risk of early death. Harvard School of Public Health, News, Jan. 27, 2022. <https://www.hsph.harvard.edu/news/press-releases/living-near-or-downwind-of-unconventional-oil-and-gas-development-linked-with-increased-risk-of-early-death/>.
 - **Article Summary:** "Elderly people living near or downwind of unconventional oil and gas development (UOGD)—which involves extraction methods including directional (non-vertical) drilling and hydraulic fracturing, or fracking—are at higher risk of early death compared with elderly individuals who don’t live near such operations, according to a large new study from Harvard T.H. Chan School of Public Health. The results suggest that [airborne contaminants](#) emitted by

UOGD and transported downwind are contributing to increased mortality, the researchers wrote."

- Proximity to fracking sites associated with risk of childhood cancer. Yale News, Aug. 17, 2022. <https://news.yale.edu/2022/08/17/proximity-fracking-sites-associated-risk-childhood-cancer>.
 - **Article Summary:** "Pennsylvania children living near unconventional oil and gas (UOG) developments at birth were two to three times more likely to be diagnosed with leukemia between the ages of 2 and 7 than those who did not live near this oil and gas activity, after accounting for other factors that could influence cancer risk, a novel study from the Yale School of Public Health finds.
- Study finds link between high density of fracking operations and increased risk of adverse birth outcomes. Univ. O Calgary, Cumming Sch. Of Medicine, news. <https://cumming.ucalgary.ca/news/study-finds-link-between-high-density-fracking-operations-and-increased-risk-adverse-birth-outcomes>
 - **Article Summary:** "In the first study the University of Calgary team has published in this research area, the scientists discovered a link between the density of fracking operations and increased risk for poor health outcomes for pregnant people and their babies."

The reference below is a recent compendium of the scientific studies into the health impacts of fracking:

- Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure. Physicians for Social Responsibility. 8th Ed., Apr.2022. <https://psr.org/wp-content/uploads/2022/04/compendium-8.pdf>