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Internal Memo

To: Board of Trustees

From: David Frank, Energy and Environmental Program Specialist

Date: 8/9/2022

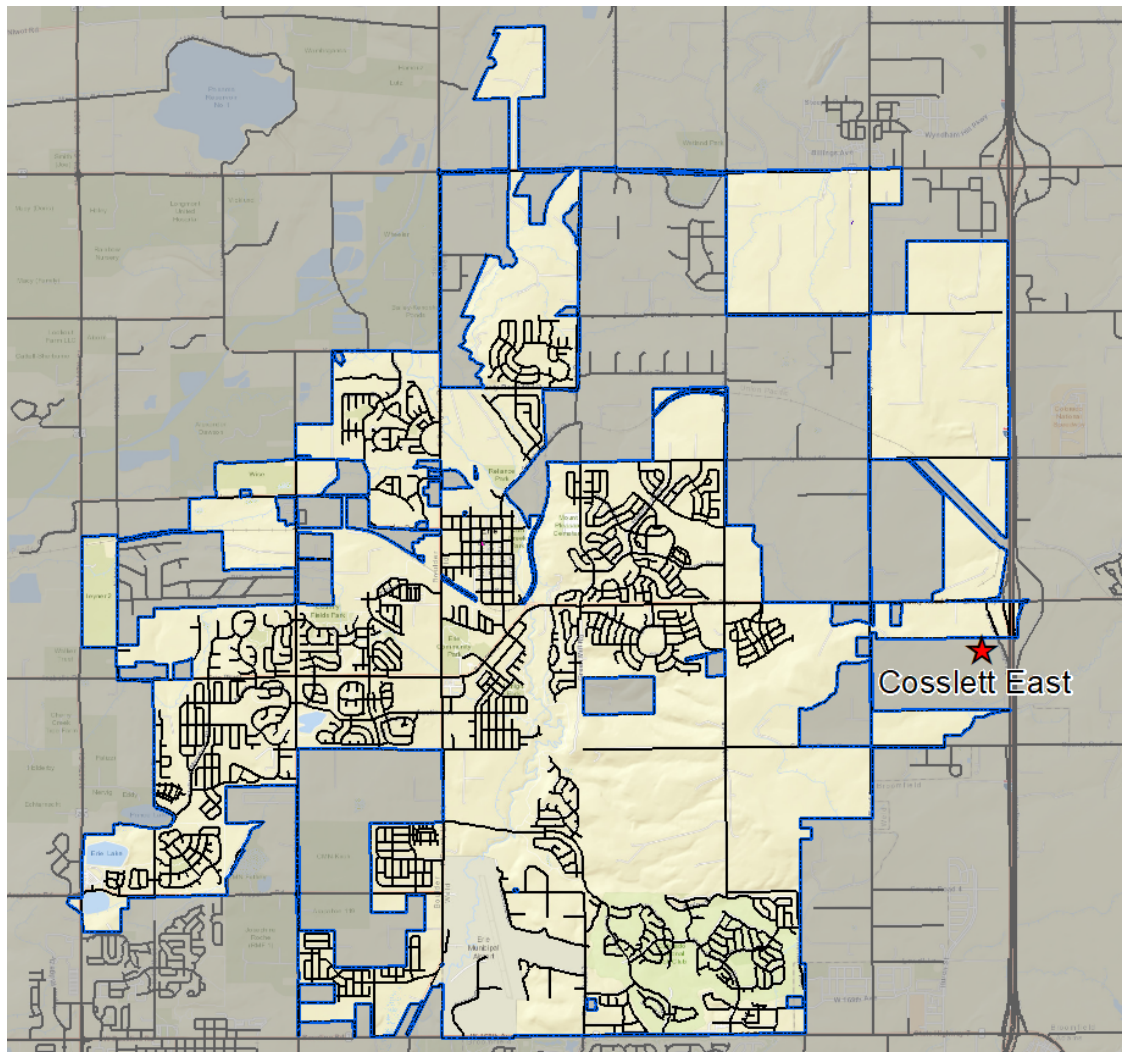
Subject: Background information regarding the Cosslett East Oil and Gas Development Plan

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This memo is intended to provide background information regarding a proposed oil and gas development plan near the Town of Erie which is being considered by the Colorado Oil and Gas Conservation Commission (COGCC). Crestone Peak Resources (Crestone), on behalf of the parent company Civitas Resources (Civitas), submitted an Oil and Gas Development Plan (OGDP) to develop the Cosslett East Well Pad in March 2020. This initial OGDG was rejected by COGCC for various reasons. After revision, the OGDG was resubmitted in July 2021 and deemed complete in its submittal by COGCC in May 2022. A hearing before the COGCC regarding the Cosslett East OGDG is scheduled for September 21, 2022, and petition to participate in the hearing as an interested party is due August 21, 2022.

Crestone/Civitas has proposed to develop an Oil and Gas Location 175 feet outside of Erie Municipal limits, near the intersection of Erie Parkway and I-25 (Figure 1). The proposal, referred to here as Cosslett East, is to modify an existing is a well pad (Cosslett B Unit 61N68W 22SENE) which has eight existing drilled wells. Of the eight wells, six are plugged and abandoned (PA) and two are temporarily abandoned (which would be PA and much of the current pad reclaimed as part of the proposed plan). A second well pad, Cosslett 22H-B168 (completed in 2019), is situated approximately 400 ft to the northwest, inside Erie Limits, and has thirteen drilled wells, twelve producing and one PA. Cosslett East will be comprised of 19 horizontally drilled wells and associated production equipment (19 separators and 2 modular tanks for use when production directly into pipelines is not possible). The proposed well traces extend east-northeast and then turn due south to produce oil and gas from beneath 2 square miles of Broomfield County on the east side of I-25.

**Figure 1. Town of Erie and proposed Cosslett East location.**

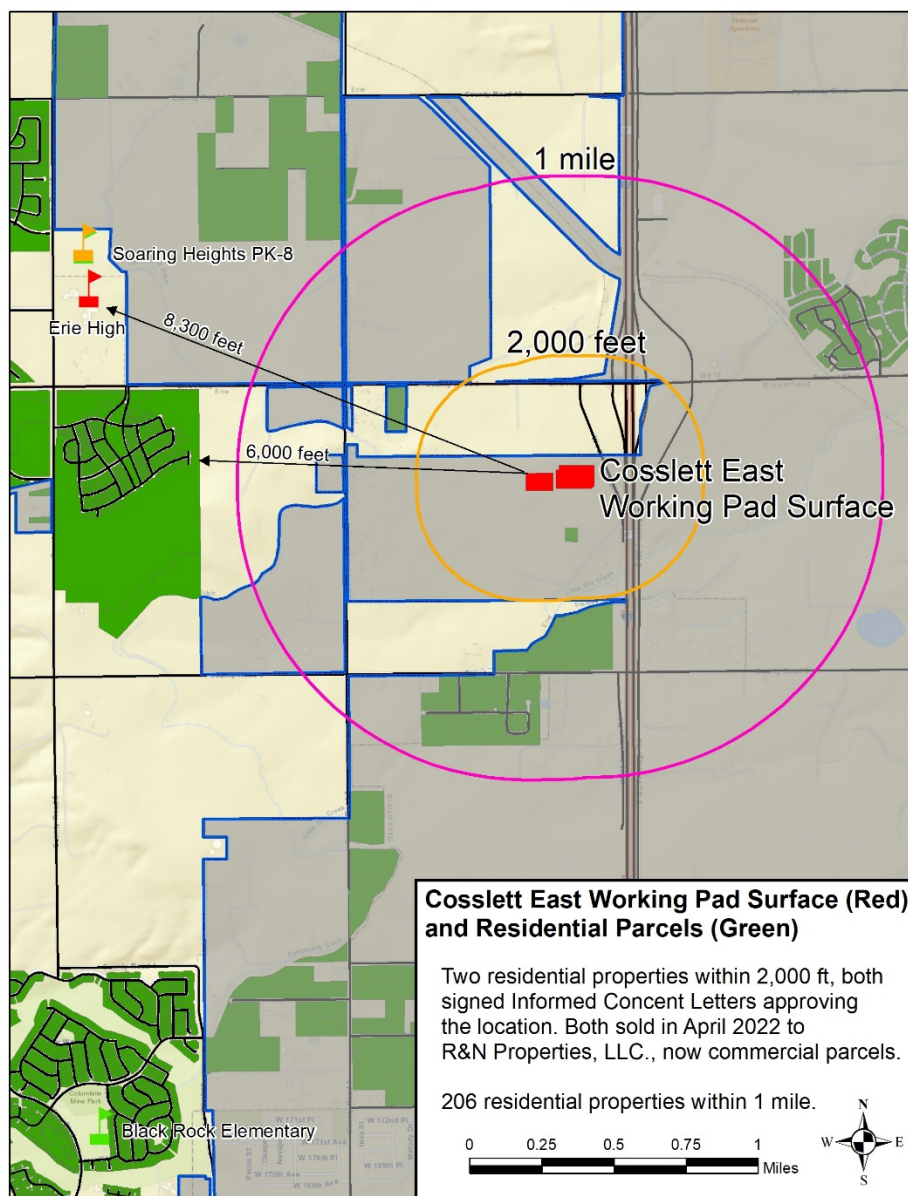


Cosslett East is within the 2018 Crestone/Erie Operator Agreement (OA) Area and is subject to the requirements of that agreement. Thus, while not located within Town limits, by virtue of the 2018 Operator Agreement, Erie has “land use authority” over the site and is a relevant local government in addition to a proximate local government. If the Town wishes to assert its authority as a Relevant Local Government and participate in the COGCC Hearing on 9/21/2022, it must petition the COGCC no later than 8/21/2022. The OA also contains numerous Best Management Practices (BMPs), some of which exceed current COGCC rules and regulations. Crestone/Civitas has unequivocally agreed to abide by the BMPs within the OA, which include not storing oil, gas, or produced water on site (a “tankless facility”), use of electrical drilling rigs, use of the most efficient fracturing pumps feasible (Tier 4), prohibition of a long list of chemicals, prior Town approval for all venting activities and notice no less than 24 hours in cases of emergency or accidental venting, monthly IR camera inspections, and submittal of annual air quality monitoring reports to the Town. Note that this is a partial list of the BMPs, the full list of required measures can be found in the provided 2018 Operator Agreement.

The Colorado Department of Public Health and Environment (CDPHE) also requested many additional BMPs which exceed COGCC rules and regulations, a list of which and notes of the degree of compliance agreed to by Crestone is provided.

No Erie residences are less than 6,000ft from Cosslett East, though there are 206 Weld County, Broomfield, and Dacono residences within 1 mile (Figure 2). Only two residences are within 2,000ft of Cosslett East, both located ~800ft south. Those residents signed Informed Consent Letters approving of the Cosslett East location and have subsequently sold the properties to R&N Properties, LLC, and are now described as commercial properties according to Weld County records. The nearest school is over 8,000ft from Cosslett East.

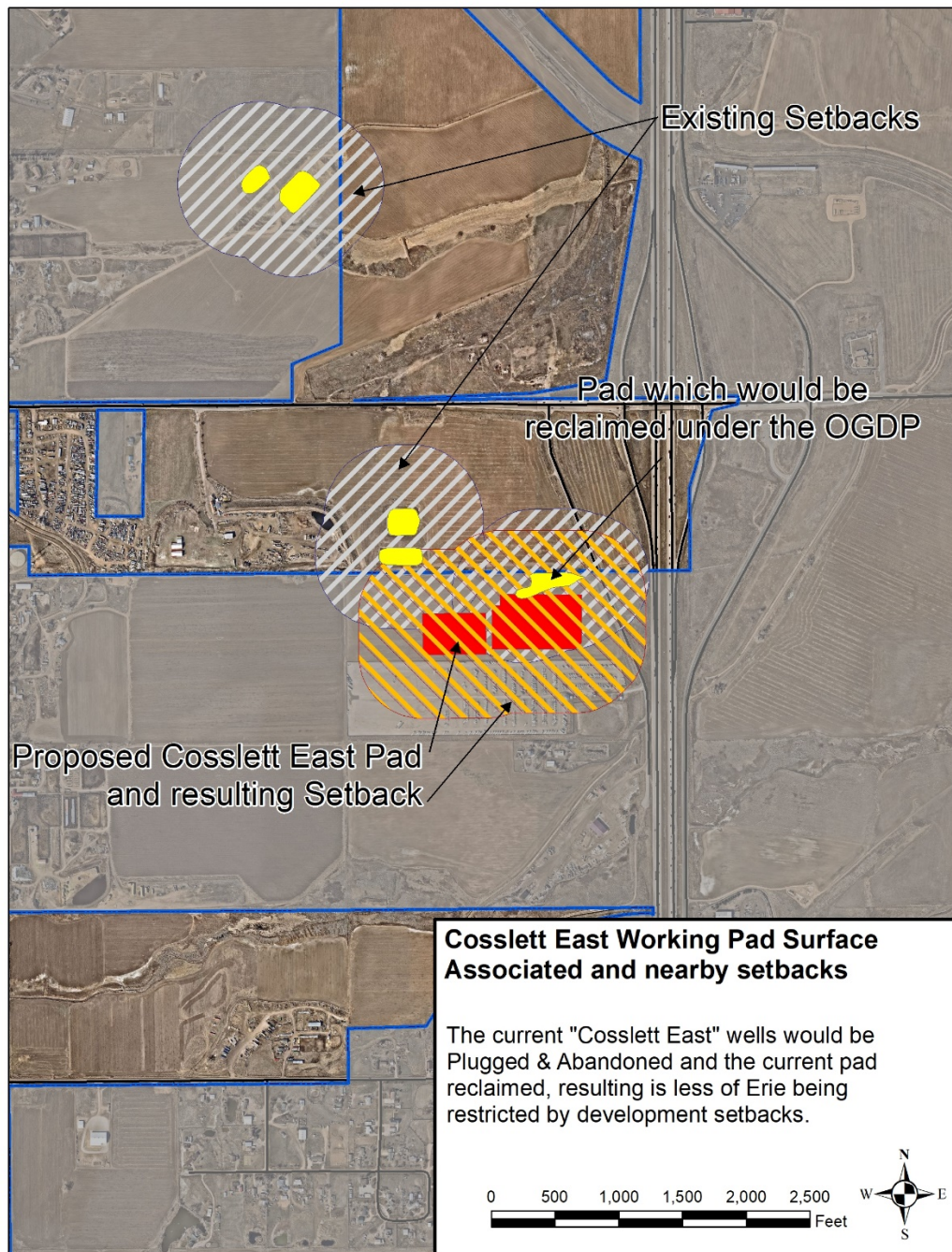
**Figure 2. Cosslett East and distances to residences and schools.**





Effects on development of the parcels north of Cosslett East will be minimal. Figure 3 shows the current reciprocal setbacks (which restrict platting of residential lots, structures that require a certificate of occupancy, parks, sports fields, and playgrounds) overlain by the resulting setbacks if Cosslett East is constructed. Of note is that due to the partial reclamation of the existing Cosslett B Unit Pad and overlap with the setback from the adjacent Cosslett 22H-B168 Pad setback, less of Erie will be affected by reciprocal setbacks than if the facility is not constructed.

**Figure 3. Current and resulting reciprocal setbacks.**



If approved, Cosslett east would likely require 12-24 months for construction, drilling, completion, and flowback. An expected production lifespan of 30 years is estimated, though future commodity prices and technology could shorten or lengthen that time significantly.

Crestone estimates pre-production activities and the first year of production at the Well Site will result in emissions from both stationary and mobile sources as follows:

Period	NO <sub>x</sub>	CO	VOC	CH <sub>4</sub>	C <sub>2</sub> H <sub>6</sub>	CO <sub>2</sub>	N <sub>2</sub> O
Pre-Production	403.5	335.1	103.7	41.5	17.9	67,147.8	0.7
Production (Year 1)	1.7	1.5	5.1	27.5	12.8	2,095.4	0.04

Note 1: oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOCs), methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), carbon dioxide (CO<sub>2</sub>), and nitrous oxide (N<sub>2</sub>O).

Note 2: Emissions “include both stationary and mobile sources of emissions during all pre-production activities, and both stationary and mobile sources of emissions for the first year of production based on all proposed wells and equipment.”<sup>4</sup>

Pre-production is total tons estimated to be emitted. Production values are in tons per year.

Additionally, Crestone estimates pre-production activities and the first year of production at the Well Site will result in emissions of VOCs as follows:

Period	B	T	EB	X	n- Hexane	2,2,4- TMP	H <sub>2</sub> S	HCOH	Methanol	Total HAP
Pre- Production	813.0	313.1	5.3	167.2	1022.1	<0.01	1.1	282.9	<0.01	2,604.8
Production	138.2	56.2	3.4	7.1	797.3	0.1	0.1	2.6	<0.01	1,005.1

Note 1: benzene (B), toluene (T), ethylbenzene (EB), xylene (X), 2,2,4-trimethylpentane (2,2,4-TMP), hydrogen sulfide (H<sub>2</sub>S), formaldehyde (HCOH), total hazardous air pollutants (Total HAPs).

Note 2: Emissions “include both stationary and mobile sources of emissions during all preproduction activities, and both stationary and mobile sources of emissions for the first year of production based on all proposed wells and equipment.”<sup>6</sup>

Pre-production is total pounds estimated to be emitted. Production values are in pounds per year.

Crestone estimates the use of 24,173 barrels (bbls) of water for drilling operations primarily sourced from the Town of Erie and Left Hand Water District; however, Erie Public Works Department has not been contacted to request use of Erie Municipal water, nor has Erie Municipal water been allowed for use in Oil and Gas operations during the tenure of the current Public Works Director.

In addition to the fresh water to be utilized for drilling operations, a further 6,270,000 to 8,170,000 bbls of fresh water will be required for completion. This is the equivalent annual water usage of 14,400 to 18,800 average Colorado households (50 gallons per day usage), the vast majority of which would be returned to waterways following sanitary treatment. In contrast, the 6 to 8 million barrels of water to be used in hydraulic fracturing will never be treated and returned to the waters of the State.