



STAFF REPORT

Planning Commission

Ordinance #1891

PC Date:	June 5, 2012	Case Planner:	Steve Timms
CC Date:	June 18, 2012	Type of Case:	Legislative
Location:	City-Wide		
Applicant:	The City of Commerce City		
Address:	7887 E. 60 th Avenue, Commerce City, CO 80022		

Case Summary

Request: Commerce City staff is requesting an amendment to the Subsurface Extraction/Oil and Gas Operations section of the Land Development Code (LDC).

Project Summary: On December 19, 2011, City Council passed on first reading an ordinance to establish a moratorium on oil and gas activity. Subsequently, City Council continued the second reading of the moratorium multiple times to allow staff, community members and representatives of the industry to work towards new regulations regarding oil and gas drilling. An Oil and Gas Land Use Committee was formed with the intent of working towards these new regulations. On February 27, 2012, City Council voted to end the activities of the Oil and Gas Land Use Committee, and directed staff to propose amendments to the existing oil and gas regulations within the Land Development Code (LDC), and to create a Memorandum of Understanding (MOU) with the oil and gas operators who are active, or will be active, in Commerce City after outreach to various stakeholders.

An internal team with representatives from the City Manager's Office, Public Works, Planning, and the City Attorney's Office was formed. The team has researched existing oil and gas regulations from jurisdictions throughout Colorado, and reviewed state-wide oil and gas regulations established and administered by the Colorado Oil and Gas Conservation Commission (COGCC). Additionally, staff has met with concerned members of the public and discussed possible solutions with members of the oil and gas industry. As a result of this process, staff has constructed a new regulatory approach for the Planning Commission to consider. The purpose of this staff reports is to provide Planning Commission with an overview of the issues, identify key impacts, and outline the new regulatory approach, with specific emphasis or changes to the LDC in preparation for a motion on this request.

Staff Recommendation: Approval

Oil and Gas Overview

For a more exhaustive review of the legal background and history regarding oil and gas issues in Colorado, please refer to the attached memo, "Legal Oil and Gas Overview," found within the packet.

Increased Oil and Gas Activity Along the Front Range

The drilling activity along the Front Range is related to promising production levels found in the Niobrara Shale Formation. The Niobrara is a shale rock formation located in northeast Colorado, northwest Kansas, southwest Nebraska and southeast Wyoming. Oil and natural gas can be at depths generally located between 3,000 to 14,000 feet. Once a well is drilled vertically, lateral drilling can extend out in all directions approximately 5,000 to 10,000 feet. In this area of Adams County, the shale layer is approximately 7,000 to 8,000 feet below the ground.

Hydraulic fracturing of the shale layers aids in the extraction by breaking up the shale underground and releasing pockets of oil and gas. Hydraulic fracturing, often called fracking, or hydrofracking, is the process of initiating and subsequently propagating a fracture in a shale layer, employing the pressure of a fluid as the source of energy. Fluid-driven fractures are formed at depth in a borehole and extend into targeted formations. The fracture width is typically maintained after the injection by introducing a proppant, such as sand, within the injected fluid to prevent the fractures from closing when the hydraulic pressure is released.

The purpose of hydraulic fracturing is to improve the productivity of the well. Although fracking most often occurs when a well is new, existing wells can be fractured repeatedly in an effort to extract as much oil or natural gas as possible and to maximize the return on their investment in a profitable site. The fracking process is currently being used to boost production at 90 percent of all oil and gas wells in the United States, according to the Interstate Oil and Gas Compact Commission.

Potential Oil and Gas Activity within Commerce City

With the continued annexation of properties further east towards DIA, the City has expanded into areas where there is already active oil and gas exploration and production activity. The mineral rights in areas where production is occurring is owned by various entities. There are existing oil and gas wells within the City that are on private property that have been operating for a number of years and there are a number of existing wells that are in unincorporated Adams County that are near city boundaries, which will eventually be annexed into Commerce City. Recently, a well operated by HilCorp Energy in unincorporated Adams County (100th Avenue and Tower Road) near the South Lawn area of the Reunion development utilized hydraulic fracturing, or "fracking", in a test well. This activity raised a great deal of concern for a number of residents and the City. Subsequently, HilCorp applied to the Colorado Oil and Gas Conservation Commission (COGCC) for a permit for another test well within city limits near the first well located at 96th Ave. and Tower Road, within the Settler's Crossing development. This permit is still under review by the City and the State. It is unclear at the present time whether this recent activity is a harbinger of new oil and gas activity to come, but nevertheless, potential is certainly there for an increase in oil and gas exploration within Commerce City.

Key Issues and Impacts

Over the past months, through outreach and staff research, the following issues have been identified as it relates to oil and gas operations within Commerce City:

- *Proximity to the Rocky Mountain Arsenal National Wildlife Refuge (RMANWR)*
Throughout the Oil and Gas Land Use Committee process, and in subsequent discussions with a group of concerned residents, the proximity to the Rocky Mountain Arsenal has been raised as a concern. Specifically, there are two main areas of concern:
 1. That drilling activities might intersect with the deep injection wells used by the Arsenal in the late 1960's. Residents were concerned that because no recent tests have been done regarding the status of the injected material, it is difficult to determine where said material is located today and if it has migrated in substantial ways.
 2. That drilling activities would intersect with near-surface plumes that extend beyond the RMANWR boundaries.
- *Water Quality and Usage*
Accelerated gas drilling and hydraulic fracturing in recent years has fueled public concern about water well contamination by methane, fracking fluids, and the wastewater extracted from wells after the shale has been fractured.

In regards to water usage, the process of hydraulic fracturing of a single well bore requires between 1 and 5 million gallons of water per fracking operation. Members of the public were very outspoken in their concern for the amount of water that could be consumed in drilling operations and questioned whether this was a good use of water given its limited availability.

In regards to the disposal of wastewater, the hydraulic fracking fluid extracted from a well prior to the production of oil and gas is either collected in open, lined storage pits or within closed systems that contain the fluid in a tank on site. Fracking fluid collected in open pits is allowed to evaporate and then the remaining sediment is removed and the site is reclaimed. Waste fluids stored on the site can be treated and reused in additional fracturing operations or even for dust control. Feedback to staff indicated a strong objection to open evaporative pits for the collection and treatment of reclaimed hydraulic fracking fluid and closed loop systems were preferred over the open pits. Regardless of the collection and storage method, there was a great deal of concern about the potential for leaks and spills from the pits or tanks and the impact of surface or subsurface contamination.

Further, there was a great apprehension expressed over the possibility of wastewater injection wells within Commerce City. As background, in other operations, deep injection wells are sometimes used to dispose of the previously utilized water, and there is mounting evidence that these injection wells may, in certain formations, be related to increased seismic activity in the area of the well.

- *Open Space/Trails/Wildlife*
Drilling activity in open spaces or along trails can have visual impacts, as well as impacts to wildlife habitat. Most groups agreed that the presence of well sites, which include holding tanks, well

heads, separating equipment, flares for burning of waste gas and potentially evaporative pits in these sensitive areas would have a very negative impact on the public's enjoyment of these community amenities. Protection of the City's open space, parks, trails, corridors and wildlife habitats was strongly encouraged.

- *Economic Impacts/Property Values*

Some residents expressed concern that the heavy industrial impacts of oil and gas development will have a negative influence on property values, which was troubling considering the wider real estate downturn that has impacted so many residents.

- *Air Quality*

Another concern surrounding oil and gas production is affects on local air quality. This includes emissions from vehicles and drilling equipment. Incendiary equipment is used on well sites to burn off extraneous gases and by-products of oil production. Residents who could be located near new wells were concerned about objectionable odors and noxious fumes emanating from well sites and most felt this would diminish their quality of life and have negative impacts on property values. Additionally, concerns were raised about the potential health impacts from diminished air quality due to the operations at the well sites.

- *Transportation Infrastructure/Haul Routes/Truck Traffic*

During initial drilling operations, heavy equipment can be anticipated on City roads and can generate a tremendous amount of truck traffic if the operator is forced to truck in the water needed for the drilling operation. Once a well is producing, oil is held on the site in tanks and then periodically loaded onto tanker trucks and removed from the site for processing.

- *Lighting*

Based on experience at the well located in unincorporated Adams County (100th Ave. and Tower Road), concerns were raised about the lighting used, especially the temporary lighting needed during the initial drilling phase. In the past, lighting has sometimes been directed towards the existing residences, and as a result, the home owners have been negatively impacted.

- *Visual Impacts*

These oil and gas wells sometimes have generated negative reactions due to their industrial appearance, especially when located in and among residential areas. The initial drilling phase can sometimes involve a rig that rises to a height much taller than the existing residences nearby.

Existing Commerce City Regulations

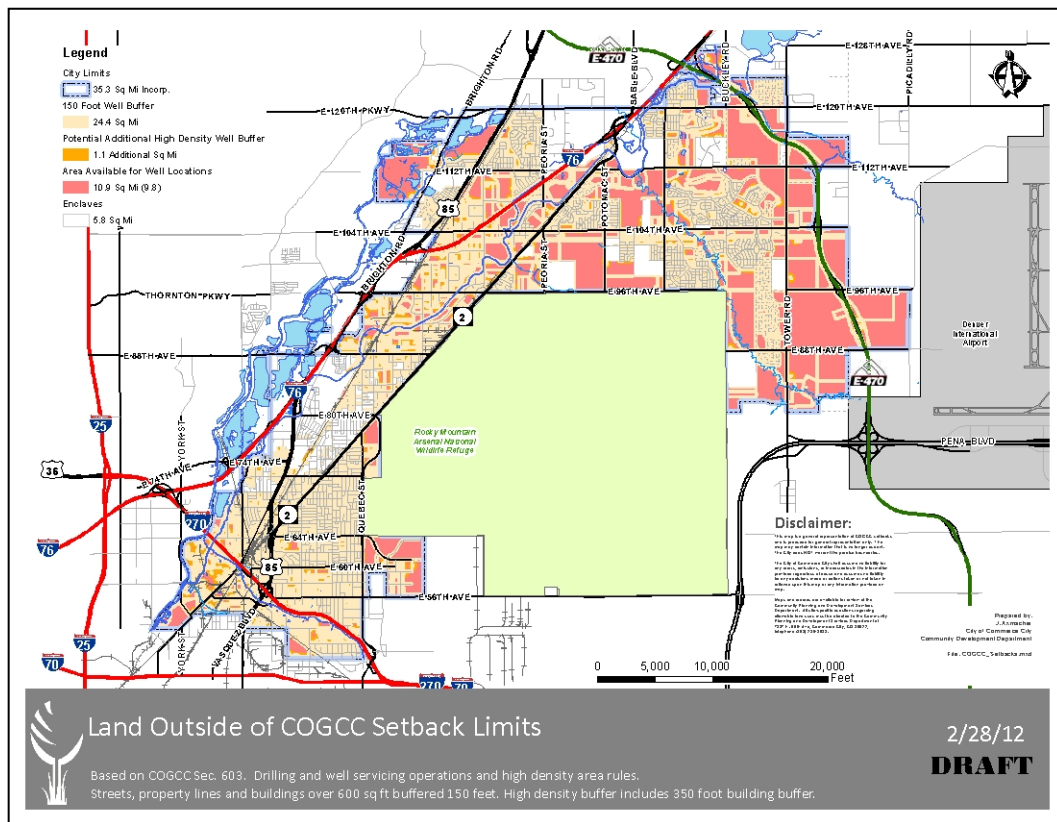
Prior to 2009, Commerce City had no city-wide oil and gas regulations of any kind. Occasionally, some language would be found within a PUD zoning district, but little regulation was included. Then, in the 2009 zoning ordinance rewrite, the new Land Development Code provided for some basic regulations entitled "21-5266 Subsurface Extraction." Overall, many of the standards within the existing code are similar or exactly match those standards set out by the Colorado Oil and Gas Conservation Commission (COGCC). Some issues, related to fracking operations and waste water containment are not referenced at all. Further, the emphasis of the standards is on surface issues and not on subsurface operational issues such as casing requirements or fracking fluid disclosure. Finally, the 2009 LDC standards did limit the areas where the drilling could occur by Zone District. Specifically,

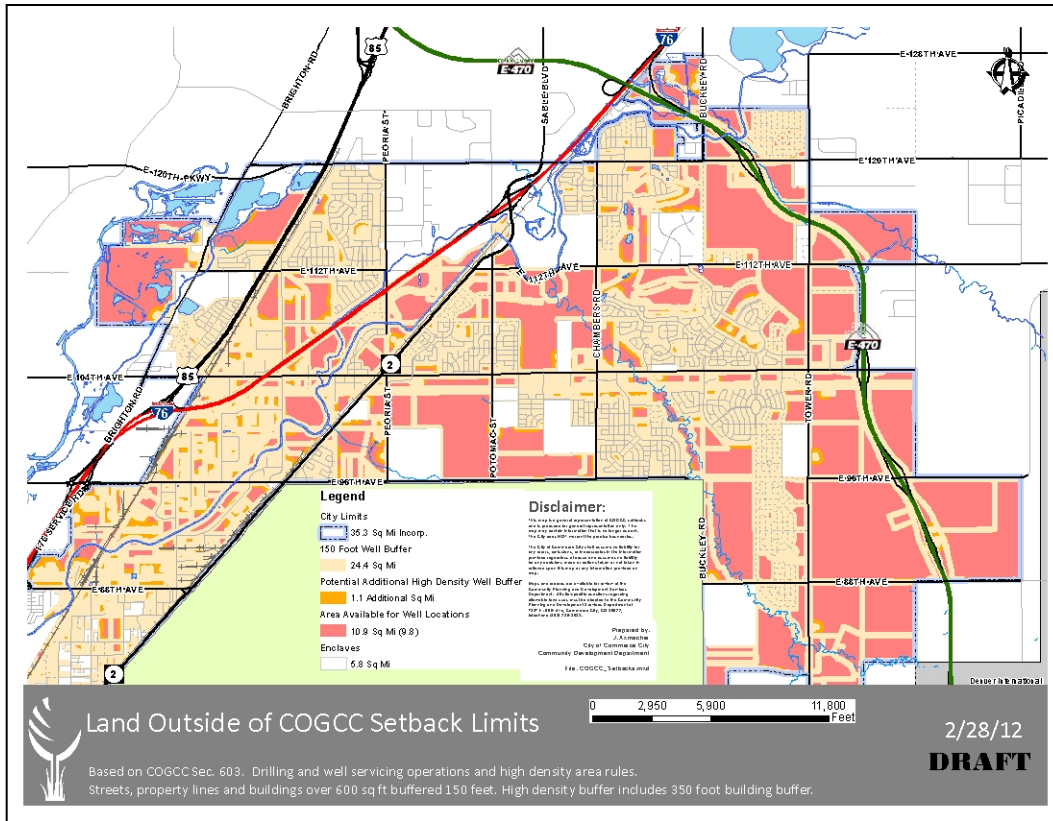
the current language in the LDC limits new Oil and Gas operations to I-1, I-2, and I-3, and AG zone districts, and only with approval of a Use-by-Permit granted by the Board of Adjustment.

Potential Areas for New Drilling Activity in Commerce City

As a part of staff’s analysis of the potential impacts of new oil and gas drilling activity in Commerce City, staff mapped potential new oil and gas well locations based on the COGCC standards, which include a 150-foot setback in rural conditions, and a 350-foot setback in high-density, or urban conditions. The following two maps are an approximation of what these standards would yield for Commerce City and more specifically the Northern Range. The light yellow areas are those areas that would not be available for new wells based on COGCC setback rules, while the red areas would be available for new well sites.

While the City has an overall size of approximately 35 square miles, the area available for new well sites is only 10.9 square miles. Further, the overall areas available for new well sites is limited by the existing urbanized areas, such as the core city, which have only a few drilling windows, while clearly the most potential for new well sites exists further east along the E-470 corridor. It is important to note that these maps reflect current conditions only. As increased development occurs throughout the city, the potential drilling areas will continue to shrink in size, due to the setback requirements.





Proposed Regulatory Framework

When Council directed staff to research and suggest possible regulatory changes regarding this issue, it was clear that Council intended to strengthen the protections for the Commerce City community and its residents. At the same time, Council also requested that this proposed solution have a limited potential for legal action from the State or the Industry. These directives led staff to construct a unique approach to these issues; an approach that has received positive feedback. Overall, the approach does not rely on a single tool to ensure protections. Rather, the approach utilizes three main systems that are designed to be integrated:

- *LDC Standards* – Staff has produced a series of amendments to the LDC that would act as a baseline set of standards that would apply to all new or “recompleted” wells in Commerce City. The LDC standards are generally similar to the standards in the COGCC rules, but address traditional home rule issues such as traffic, flood plain, and visual mitigation.
- *Extraction Agreement (EA)* - Originally, staff was working on a potential Memorandum of Understanding (MOU) concept that is similar to what a number of other jurisdictions have used with operators and the COGCC. This MOU would be negotiated between an operator and the City, and would cover a number of other items that were not covered in the LDC. Representatives from the industry indicated that a separate MOU might be more palatable even if the terms had some provisions that went beyond the COGCC standards based on the context and conditions of a specific well or area. However, the MOU approach had a weakness that staff was uncomfortable with, namely the ability for either party to break from the terms of the agreement with no real recourse. As a result, the concept evolved into something more akin to a contract, called the Extraction Agreement. The overall approach of the EA would be to act as a supplement to the LDC and provide for standards that were much stricter, than those found within the LDC. Because the

EA would be a negotiated agreement that would eventually be signed off by an operator, the terms within that agreement would therefore be far less exposed legally.

- *Local Government Designee Program* – The COGCC has a program in place that allows local governments to appoint a designee to receive documents and forms from the COGCC relating to oil and gas activities within that government area. Further, the LGD also receives notification of applications for permits to drill and public hearing applications. Finally, the LGD has an opportunity to be consulted on locating roads, production facilities, and well sites when requested. Recently, Chris Cramer, Acting Community Development Director, was identified as the Commerce City LGD. In conversations with COGCC, they have indicated that there exists an opportunity for a LGD to request additional Conditions of Approvals (COA's), which can be placed on individual oil and gas permits issued by the COGCC. These additional COA's would then be above and beyond the other provisions outlined within the LDC and EA processes. The City has been active in conversations with the COGCC in an effort to ensure the City fully maximizes the possible protections afforded by this program.

Taken as a whole, the approach is that the three different tools could be used to address different impacts surrounding an oil and gas well site. Overall, the LDC amendments and the EA template represent a significant increase in the protections provided the Commerce City community and its residents.

LDC Amendments

The proposed LDC amendments are a complete overhaul of the existing LDC standards. The current draft version of the LDC oil and gas section is attached for Planning's Commission's review. The follow is a summary of the highlights of the LDC amendments:

Article III

- *Oil and Gas Permit* – The proposed LDC requires that all new wells, and those wells that require a "recomplete" approval from the COGCC will require an Oil and Gas Permit from Commerce City. This requirement is a substantial change because the current LDC only requires a permit for new wells.
- *Review Process* – The current version of the new regulations calls for Oil and Gas permits to receive an administrative approval by the Director of Community Development.
- *Appeals* – The intent is for Planning Commission and City Council to hear appeals should Oil and Gas permits be denied.
- *Notification Requirements* – The current LDC standards do not require that the City or applicant notify the surrounding properties or public at large about the pending permit. The new regulations would require that applicants, at their expense, notify residents within a 2500 foot radius of a potential new well site. Further, the LDC requires that notice of the permit application be posted on the property and in a newspaper consistent with the requirements in the LDC.

Article V

- *Application Requirements* – A thorough and complete list of requirements and information needed to process an application is contained within the LDC. An initial application fee of \$2000 will be required for all new oil and gas permits. This fee will be approved by City Council and is not part of the LDC amendment.
- *Review and Approval Criteria* – A thoughtful listing of review and approval criteria has been included to help guide decision makers with final actions.
- *Traffic Mitigation Requirements* – The proposed LDC amendments outline a much more thorough review of the traffic impacts of potential wells, primarily through the requirement of a Transportation Impact Study. Through the approval of this study, the City will be able to address a number of issues related to traffic, such as truck routes, access, and road paving materials.
- *Nuisance Control* – The proposed LDC amendments provides for some basic standards as it relates to noise, dust and odor. Because some court cases have found that some nuisance issues fall under state control and are pre-empted from local standards, additional protections are provided in the EA template.
- *Site Development Provisions* – The LDC provides a series of standards and provisions for a variety of site elements at a well location, including:
 - Fencing
 - Paint colors for equipment
 - Landscaping standards, including the possibility of berming
 - Visual Mitigation Measures
 - Lighting requirements
 - Signage requirements
 - Wildlife mitigation plan requirements
 - Waste management of debris, litter, and sanitation facility requirements
 - Drainage and stormwater management
- *Potential for New Impact Fees* – Staff is continuing to research how the City could utilize an impact fee to offset some of the impacts of the drilling activities. However, further research on this issue is needed. The final version of LDC amendments includes language related to impact fees, but the exact amount will be forthcoming after greater analysis can be completed.
- *Prohibitions of Wells in Floodplain and Hazard Areas* - Throughout the LDC, all types of land uses are excluded within a floodplain and hazard areas, such as landfills. These prohibitions continue this tradition and do not treat oil and gas operations differently than anyone else.
- *Prohibition on Disposal Wells* - Disposal wells will not be permitted within Commerce City. Currently, there is no prohibition on this type of operation.
- *Emergency Preparedness* - This section requires up-to-date emergency notification, contacts, plans, and clean up for any accidents that may occur.

- *Required Extraction Agreement* – This is a key element of the LDC amendments. This provision requires that for an Oil and Gas permit to be approved, an operator must sign a separate Extraction Agreement to cover all of their potential wells or a single well at a time.
- *Enforcement and Inspections* - Article V gives the City a process to enforce on violations related to the Oil and Gas Permit. In addition, this section gives the City the authority to enter the property for inspections or observation related to the application.
- *Financial Assurances* - This section requires the operator to submit adequate financial assurances to the City in the case of clean up, abandonment, or non-compliance.
- *Non Compliance* - The LDC specifically states that non-compliance/non-conformance with these items contained within the LDC will require separate hearings before the Planning Commission and City Council. No variances are allowed to be granted through the Board of Adjustment.

Article XI

Article XI (Definitions) has been expanded to include a variety of new and specific definitions which apply to terms used when referring to oil and gas operations. The complete list can be found in the attached LDC exhibit.

Extraction Agreement (EA)

As mentioned earlier, the EA is the second layer of regulations found within Commerce City's framework. The EA acts like a contract, in that it is a binding agreement between the City and oil and gas operators. The EA would be negotiated process. Staff has been working on a template of what the terms of the EA would include as a starting point in the negotiating process. The specific language of the EA is not included within the LDC nor is the Planning Commission voting on the contents of this document. The highlights of the EA template include:

- *Soil Sampling Requirements* – In an effort to address the concerns over contamination of soils in well areas, the EA calls for baseline and ongoing soil sampling.
- *Increased Setbacks* – The COGCC has two setback requirements, a 150-foot setback in rural conditions, and a 350-foot setback in high-density or urban conditions. The EA template includes a 1,250-foot setback from residential areas.
- *Buffer from RMANWR and Barr Lake State Park* – The EA template calls for no new or recomplete drilling operations within a mile of the both the RMANWR and Barr Lake State Park property boundaries.
- *Additional Noise Mitigation Requirements* – The EA template has additional measures regarding noise issues that will supplement the LDC standards.
- *Hours of Operation Limitations* – The EA template limits the operating hours of a drilling operation to 7 a.m. to 7 p.m. during the week, and from 8 a.m. to 6 p.m. during the weekend.

- *Water Quality Monitoring Program* – The EA contemplates that an additional water quality monitoring program might be required and could include water quality testing on an on-going basis.
- *Water and Wastewater Disposal and Closed Loop/Pitless System* – The EA template states that all waste material shall be discharged and held only in a “closed loop system.” Further, it states that drilling or operation of any waste water or other injection or disposal wells is prohibited.
- *Fracking Fluids* – The EA calls for the operators to use “green” fracking fluids.
- *Spill Containment Requirements* – The EA calls for best-management practices in an effort to limit the potential for spills, and reduce their impact should they occur.
- *Air Quality Monitoring* – The EA template contains a variety of provisions that should help air quality impacts of these wells, including on-going monitoring, requiring electric motors, and “green completion” techniques.
- *Non-compliance* – As this is a negotiated document, non-compliance is not expected to regularly occur. However, in the rare cases in which it does, a public hearing before Planning Commission and City Council would be required to approve any non-compliance issue.

Outreach

Feedback is critical for any new process. City staff has been working with both Planning Commission and City Council on this issue for several months and has worked diligently to make suggested changes. In addition to Planning Commission and City Council study sessions, the City hosted several open houses to gather input and feedback from the community. A summary of the feedback is contained in an attachment. Overall, the three-tiered direction of LDC, EA, and LGD was well received and the community felt that the proposed regulations were a good step to take to help effectively regulate oil and gas operations within the community.

As with any difficult issue, there is disagreement on some of the specifics. A few members of the community would like to see further studies and research done regarding oil and gas operations and the wildlife refuge prior to adoption of any new code. In addition, several members of the oil and gas industry believe that the state’s rules are adequate and they raise an objection to the required EA agreement in particular. Specific letters of objection are included within the Planning Commission’s packet.

Next Steps

The schedule for final adoption is found below:

- June 5 – Open House followed by Planning Commission Case on the LDC amendments
- June 11- Final Study Session for City Council
- June 18 - Open House followed by City Council 1st Reading on the LDC amendments
- July 2 - City Council 2nd Reading on the LDC amendments

Development Review Team Recommendation

Based on the information provided above, the Development Review Team recommends that the Planning Commission forward the requested amendments to the LDC to the City Council with a favorable recommendation.

Recommended Motion

To recommend approval (DRT recommendation):

I move that the Planning Commission recommend that City Council approve Ordinance #1891, an ordinance amending the Commerce City Land Development Code, for Subsurface Extraction and Oil and Gas Permits.

Alternate Motions

To recommend approval subject to condition(s):

I move that the Planning Commission recommend that City Council approve Ordinance #1891, an ordinance amending the Commerce City Land Development Code subject to the following conditions:

Insert Condition(s)

To recommend denial:

I move that the Planning Commission recommend that City Council deny Ordinance #1891, an ordinance amending the Commerce City Land Development Code because it fails to meet the following criteria:

List the criteria not met

I further move that, based upon this finding, the Planning Commission recommend that the City Council deny Ordinance #1891.