



Oil & Gas Manual

We steward access to the natural resources under our authority with integrity and respect for our citizens, businesses, and the environment.

City of Aurora

Oil & Gas Division

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Oil & Gas Manual

We welcome public comments on this Draft Oil & Gas Manual. To access the Draft Oil & Gas Manual, go to AuroraGov.org/Oil&Gas.

Comments may be emailed to Oil&Gas@AuroraGov.org

Two virtual Town Hall meetings will be held on June 30 and July 16. Visit AuroraGov.org/Oil&Gas for details.

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SECTION 1.00 INTRODUCTION

1.01 Scope

This Oil & Gas Manual (OGM) sets forth the minimum acceptable criteria for permitting, designing, and constructing all locations and facilities related to oil and gas development within the City of Aurora.

Sections 1.00-7.00 set forth the criteria for Oil and Gas Locations, Oil and Gas Facilities, and Flowlines, including well pads, wells, and related infrastructure.

Sections 31.00-38.00 of this Oil & Gas Manual (OGM), set forth the minimum acceptable criteria for permitting, designing, and constructing pipelines and pipeline facilities, including Central Gathering Facilities (CGF), Gathering Lines, and Associated Facilities within the City of Aurora.

Regulations and Best Management Practices (BMPs) related to oil and gas development not specifically addressed in this document shall follow the provisions of the latest Rules and Regulations of the Colorado Oil & Gas Conservation Commission (COGCC) and the Air Quality Control Commission (AQCC).

1.02 Authority

1.02.1 State Authority

The Local Government Land Use Control Enabling Act of 1974, C.R.S. § 29-20-101 *et seq.* authorizes local governments to regulate the surface impacts of oil and gas operations in a reasonable manner to protect and minimize adverse impacts to public health, safety, and welfare and the environment within its jurisdiction. It also authorizes local governments to adopt reasonable regulations for surface impacts of oil and gas operations that address:

1.02.1.01 Land use

1.02.1.02 The location and siting of oil and gas facilities and oil and gas locations.

1.02.1.03 Impacts to public facilities and services.

1.02.1.04 Water quality and source, noise, vibration, odor, light, dust, air emissions, and air quality, land disturbance, reclamation procedures, cultural resources, emergency preparedness, and coordination with first responders, security, and traffic and transportation impacts.

- 1.02.1.05** Financial securities and insurance as appropriate to ensure compliance with the regulations of the local government.
- 1.02.1.06** All other nuisance-type effects of oil and gas development.
- 1.02.1.07** Otherwise planning for and regulating the use of land to provide planned and orderly use of land and protection of the environment in a manner consistent with constitutional rights.
- 1.02.1.08** Inspect all facilities subject to local government regulation.
- 1.02.1.09** Impose fines for leaks, spills, and emissions.
- 1.02.1.10** Impose fees on Operators or owners to cover the reasonably foreseeable direct and indirect costs of permitting and regulation and the costs of any monitoring and inspection program necessary to address the impacts of development and to enforce local governmental requirements.

Pursuant to the Colorado Oil and Gas Conservation Act, C.R.S. § 34-60-131 local governments may adopt regulations that are more protective or stricter than state requirements.

Pursuant to the Colorado Air Pollution Prevention and Control Act (APPCA), C.R.S. § 25-7-108 local governments may enact local air pollution resolutions or ordinances that include more stringent emission control regulations than state requirements.

1.02.2 Aurora Municipal Code

[Placeholder for final code sections A.M.C. 135-101, 135-102, 135-103, 135-104] give authority to the Oil & Gas Manual to regulate Oil and Gas Locations, Oil and Gas Facilities, pipelines, and all other oil and gas related operations.

1.03 Revisions

Revisions to this Oil & Gas Manual may be adopted as often as needed by the City Manager or their designee. It is the responsibility of the Operator to obtain the latest revisions from the City.

1.04 Review and Approval

City staff will review all submittals for general compliance with this Oil & Gas Manual. However, approval by the City does not relieve the Operator from the responsibility of ensuring their

calculations, plans, specifications, construction, and as-built drawings are correct and in compliance with this Oil & Gas Manual.

1.05 Interpretation

In the interpretation and application of the provisions of this Oil & Gas Manual, the following shall govern:

1.05.1 Minimum Requirements

This Oil & Gas Manual shall be regarded as the minimum requirements needed for the protection of public health, safety, welfare, and the environment.

1.05.2 Existing Permits

This Oil & Gas Manual shall not abrogate or annul any permit issued before its effective date, any construction plans approved before their effective date, or any site plans that have been recommended for approval by the City's Planning and Zoning Commission before the effective date of these standards.

1.05.3 Headings

The descriptive headings of the sections of this Oil & Gas Manual are inserted for convenience only and shall not control or affect the meaning or construction of any regulations herein.

1.06 Terms and Definitions

Wherever in this Oil & Gas Manual the following terms, acronyms, or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

1.06.1 Abbreviations

A.M.C.	Aurora Municipal Code
AMSE	Association of Mechanical and Structural Engineers
AQCC	Air Quality Control Commission of Colorado
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CGF	Central Gathering Facility
COA	City of Aurora
COGCC	Colorado Oil & Gas Conservation Commission
C.R.S.	Colorado Revised Statutes
FEMA	Federal Emergency Management Agency
LGD	Local Government Designee
NTP	Notice to Proceed
OGMP	Oil & Gas Midstream Permit
OGP	Oil & Gas Permit
PHMSA	Pipeline and Hazardous Materials Safety Administration
PPE	Personal Protective Equipment
PUC	Colorado Public Utilities Commission
ROW	Right-of-Way
SPCC	Spill Prevention, Control, and Countermeasure
TPH	Total Petroleum Hydrocarbons
US EPA	United States Environmental Protection Agency

1.06.2 Definitions

ABUTTING shall mean two or more properties or zone lots sharing a common border or separated only by a public or private right-of-way or by public open space or body of water not more than 1,000 feet in width.

ABUTTING PROPERTY OR ZONE LOT shall mean property that shares at least part of a boundary line, not just a corner point, with the subject property or zone lot.

ACCESSORY EQUIPMENT shall mean any equipment that is integral to the production and operation of an oil or gas well, including but not limited to tanks, treaters, separators, and production pits.

ASSOCIATED FACILITIES shall mean a Compressor Station, Launcher and Receiver sites, Valve Stations, Electrical Substation, and related equipment.

BERM shall mean an earthen barrier of compacted soils preventing the passage of liquid materials or providing screening from adjacent uses as may be specified in an applicable development standard.

BURIED DEPTH shall mean the depth of cover to the top of the largest pipe, typically a minimum of forty-eight (48) inches.

CENTRAL GATHERING FACILITY (CGF) shall mean a facility or location which receives crude oil, liquid hydrocarbons, associated field gas, and produced water from production wells and central distribution points via a Gathering Lines to treat and stabilize the liquid hydrocarbon into a saleable product.

CITY shall mean the City of Aurora, Colorado, a home rule municipal corporation of the Counties of Adams, Arapahoe, and Douglas.

CITY CODE shall mean the duly adopted Aurora Municipal Code of the City of Aurora, Colorado, as amended.

COMMERCIAL EXEMPT WELL Defined by the state of Colorado Department of Natural Resources Division of Water Resources for uses of water for drinking and sanitation facilities inside a business.

COMPRESSOR STATION shall mean a facility that collects natural gas from exploration and production facilities via Gathering Lines and transports natural gas into third party systems for further processing.

CONSTRUCTION shall mean any site preparation, assembly, erection, substantial repair, alteration, or similar action.

CORROSION shall mean the deterioration of a material, usually a metal, which results from a reaction with its environment.

CRITICAL INFRASTRUCTURE shall mean all existing or planned source water pipelines, potable waterlines of sixteen-inch (16") diameter and greater, sanitary sewer pipelines of twenty-four-inch (24") diameter and greater, storm sewer pipelines (or box culverts) of thirty-six-inch (36") diameter or greater or City pump stations, lift stations, and bridges.

CRUDE OIL see OIL

CUSTODY TRANSFER shall mean the transaction involving the transportation and measurement of a raw petroleum product from one Operator to another.

DISTANCE FROM AN OIL AND GAS LOCATION TO A PLATTED RESIDENTIAL SUBDIVISION, PLATTED LOT LINE CONTAINING A RESIDENTIAL BUILDING UNIT shall mean the distance from the edge of the Oil and Gas Location (not including access road) to the nearest platted residential lot line or a platted lot line that contains a Residential Building Unit.

ENGINEER shall mean a Licensed Professional Engineer (PE) in the State of Colorado.

EVENT shall mean a significant occurrence or happening. As applicable to pipeline safety, an event could be an accident, abnormal condition, incident, equipment failure, human failure, or release.

EXPRESSIONS Wherever the words “as required,” or words of like meaning are used, it shall be understood that the direction, requirements, or permission of the City’s Oil & Gas Division Manager is intended. Similarly, the words “approved,” “acceptable,” shall refer to approval by the City’s Oil & Gas Division Manager.

FLOWLINE shall mean a segment of pipe transferring oil, gas, or condensate between a wellhead and processing equipment to the load point or point of delivery to a U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration or Colorado Public Utilities Commission regulated Gathering Line or a segment of pipe transferring produced water between a wellhead and the point of disposal, discharge, or loading. This definition of flowline does not include a Gathering Line. The different types of flowlines are:

Wellhead Line shall mean a flowline that transfers well production fluids from an oil or gas well to process equipment (e.g., separator, production separator, tank, heater treater), not including pre-conditioning equipment such as sand traps and line heaters, which do not materially reduce line pressure.

Production Piping shall mean a segment of pipe that transfers well production fluids from a wellhead line or production equipment to a Gathering Line or storage vessel and includes the following:

Production Line shall mean a flowline connecting a separator to a meter, LACT, or Gathering Line;

Dump Line shall mean a flowline that transfers produced water, crude oil, or condensate to a storage tank, pit, or process vessel and operates at or near atmospheric pressure at the flowline's outlet;

Manifold Piping shall mean a flowline that transfers fluids into a piece of production facility equipment from lines that have been joined together to comingle fluids; and

Process Piping shall mean all other piping that is integral to oil and gas exploration and production related to an individual piece or a set of production facility equipment pieces.

Off-Location Flowline shall mean a flowline transferring produced fluids (crude oil, natural gas, condensate, or produced water) from an oil and gas location to a production facility, injection facility, pit, or discharge point that is not on the same oil and gas location. This definition also includes flowlines connecting to gas compressors or gas plants.

Peripheral Piping shall mean a flowline that transfers fluids such as fuel gas, lift gas, instrument gas, or power fluids between oil and gas facilities for lease use.

Produced Water Flowline shall mean a flowline on the oil and gas location used to transfer produced water for treatment, storage, discharge, injection, or reuse for oil and gas operations. A segment of pipe transferring only freshwater is not a flowline.

GAS shall mean all natural gases and all hydrocarbons not defined as oil. Examples are: natural gas, flammable gas, manufactured gas, petroleum, or other hydrocarbon gases including propane; or any mixture of gas produced, transmitted, distributed, or furnished by a utility.

GATHERING LINE shall mean a gathering pipeline or system as defined by the Colorado Public Utilities Commission, Regulation No. 4, 4 C.C.R. 723-4901, Part 4, (4 C.C.R. 723-4901) or a pipeline regulated by the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration pursuant to 49 C.F.R. §§

195.2 or 192.8. (49 C.F.R. §§ 195.2 or 192.8 and 4 C.C.R. 723-4901 in existence as of [date of adoption of this OGM] and does not include later amendments.)

HAZARD AND OPERABILITY ANALYSIS (HAZOP) shall mean a systematic method for evaluating hazards. It often involves the review of detailed system drawings, specifications, and operating procedures. Process hazards and potential operating problems are identified through a qualitative investigation of deviations from normal process conditions.

HORIZONTAL DIRECTIONAL BORING OR DRILLING (HDD) shall mean a method of installing underground pipelines, cables, and service conduit through trenchless methods. It involves the use of a directional drilling machine, and associated attachments, to accurately drill along the chosen bore path and back ream the required pipe.

HYDROCARBON shall mean an organic compound of hydrogen and carbon, such as any of those which are the chief components of petroleum and natural gas.

INJECTION WELL shall mean any hole drilled into the earth into which fluids are injected for purposes of secondary recovery, storage, or disposal pursuant to authorizations granted by the COGCC.

INTERNAL FLOATING ROOF TANKS shall mean a tank that has both a fixed roof and an internal floating roof. The fixed roof is usually a cone roof. The internal floating roof can be constructed of steel, aluminum, plastic, or other material. These tanks hold stabilized liquid hydrocarbon.

LEASE AUTOMATIC CUSTODY TRANSFER (LACT) shall mean a unit that measures the net volume and quality of liquid hydrocarbons. This system provides for the automatic measurement, sampling, and transfer of oil from one Operator to another.

OBSERVER shall mean the authorized representative of the Oil & Gas Division Manager assigned to observe the work.

OIL shall mean crude petroleum oil and any other hydrocarbons, regardless of gravities, that are produced at the well in liquid form by ordinary production methods, and that is not the result of condensation of gas before or after it leaves the reservoir. Oil that is extracted from the ground before it is refined into usable products, such as gasoline.

OIL AND GAS shall mean oil or gas or both oil and gas.

OIL & GAS DIVISION shall mean the Oil and Gas Division of the City of Aurora.

OIL & GAS DIVISION MANAGER shall mean the authorized representative of the City who provides overall technical coordination and monitoring of work.

OIL & GAS FACILITY shall mean equipment or improvements used or installed at an Oil and Gas Location for the exploration, production, withdrawal, gathering, treatment, or processing of crude oil, condensate, E&P waste, or gas. Any well, wellhead, flowlines, tanks, surface equipment, or associated infrastructure used in the development, production, storage, or marketing of oil, natural gas, natural gas liquids, or other hydrocarbon resources.

OIL & GAS LOCATION shall mean a definable area where an operator has disturbed or intends to disturb the land surface in order to locate an Oil and Gas Facility. An Oil and Gas Location might contain a single well, multiple wells, and/or associated infrastructure. An Oil and Gas Location is the primary component that is permitted through the Oil & Gas Permit application process.

OIL & GAS MIDSTREAM PERMIT (OGMP) shall mean a duly approved permit to construct a CGF, Gathering Line, or Associated Facilities within the City of Aurora.

OIL & GAS PERMIT (OGP) shall mean a properly approved permit to begin construction on an Oil & Gas Location within the City of Aurora.

OIL AND GAS WELL see WELL

OPERATIONAL PHASES shall mean those phases within the life cycle of an Oil & Gas Location or Oil and Gas Facility, which best describe the type of activities happening at the Oil & Gas Location or Oil and Gas Facility during the phase. It is possible for multiple phases of operation to be occurring at the same time with respect to a single Oil & Gas Location. Chronologically, those phases are:

PERMITTING PHASE shall mean the period of time in which the project proposed by the Operator is being evaluated by the City. The Permitting Phase ends with a decision by the City and when all additional required federal, state, and local permits or approvals have been obtained.

CONSTRUCTION PHASE shall mean the conducting of civil and earth work in connection with the construction and installation of drilling pads, visual mitigation measures, access routes, pipelines, and launcher/receiver locations. The Construction Phase ends when the Oil & Gas Location or Oil and Gas Facility is fully prepared for its intended purpose.

DRILLING PHASE shall mean the period in which a drilling or spudder rig is utilized to penetrate the surface of the earth with a drill bit and the installation of well casing and cement at one or more wells. The Drilling Phase ends when the Completion Phase begins.

COMPLETION PHASE shall mean the period of hydraulic fracturing, coiling, workover, installation of tubing, and flowback of one or more wells at the Oil & Gas Location. The Completion Phase ends when the Production Phase begins.

PRODUCTION PHASE shall mean the period in which one or more wells are capable of producing hydrocarbons that flow through permanent separator facilities and into tanks or, if applicable, into a Gathering Line.

RECLAMATION PHASE shall mean the period of returning or restoring the surface of disturbed land as nearly as practicable to its condition prior to the commencement of oil and gas operations.

OPERATING PLAN shall mean a general description of an oil or gas well facility identifying purpose, use, typical staffing pattern, seasonal or periodic considerations, routine hours of operation, source of services and infrastructure, and any other information related to the regular functioning of that facility.

OPERATOR shall mean the permitted entity authorized to construct or operate an Oil & Gas Location, a Well, or an Oil & Gas Facility in the City of Aurora.

PIG shall mean a generic term signifying any independent, self-contained device, tool, or vehicle that is inserted into and moves through the interior of a pipeline for inspecting, dimensioning, or cleaning.

PIG LAUNCHER AND RECEIVER SITES shall mean a location including equipment associated with the operation and maintenance of the pipelines associated with the cleaning and inspection of the pipelines, also known as pigging.

PIPELINE & HAZARDOUS MATERIALS SAFETY ADMINISTRATION
PHMSA monitors compliance through field inspections of facilities and construction projects; programmatic inspections of Operator management systems, procedures, and processes; incident investigations; and through direct dialogue with Operator management.

(PIPELINE) MAINTENANCE shall mean the process of maintaining property or equipment, including pipelines, to preserve it and prevent it from failure and ensure that it will continue to perform its intended function.

PLANNING DEPARTMENT shall mean, unless the context clearly indicates otherwise, the Aurora Planning and Development Services Department.

PLATTED RESIDENTIAL SUBDIVISION shall mean a subdivision that has been approved and recorded and is located in a zone that allows residential uses.

PROCESS SAFETY MANAGEMENT (PSM) shall mean an analytical tool focused on preventing releases of any substance defined as highly hazardous by the EPA or OSHA. A “process” is defined by OSHA in the PSM standard as “any activity involving a flammable substance including any use, storage, manufacturing, handling, or the on-site movement of such chemicals, or combination of these activities.”

PRODUCED WATER TRANSFER SYSTEM Defined by COGCC, to mean a system of off-location flowlines that transports produced water generated at more than one Oil & Gas Location or production facility.

PRODUCTION PITS shall mean those pits used for initial settling, temporary storage, or disposal of produced water by permeation or evaporation after drilling and initial completion of the well.

PRODUCTION SITE shall mean that surface area immediately surrounding proposed or existing production pits, or other accessory equipment necessary for oil and gas production activities, exclusive of transmission and Gathering Lines.

PUBLIC PROJECT shall mean (1) a public work or improvement within the City that is wholly owned by the City; or (2) a public work or improvement within the City where 50% or more the funding is provided by any combination of the City, the Federal Government, the State of Colorado, any regional transportation District, the Urban Drainage and Flood Control District, any regional transportation authority, any

Colorado county, or any type of governmental entity, or any type of quasi-governmental entity; or (3) any public work or improvement funded and constructed within the City for the benefit of the City.

RESIDENTIAL BUILDING UNIT shall mean a building or structure designed for use as a place of residency by a person, a family, or families. The term includes manufactured, mobile, and modular homes, except to the extent that any such manufactured, mobile, or modular home is intended for temporary occupancy or for business purposes.

RIGHT-OF-WAY shall mean an area of land dedicated to the public in fee simple title conveyed to the City for drainage, pedestrian, utility, street lighting, landscaping, roadway, or other purposes.

STATE shall mean the State of Colorado.

TANK shall mean any container used in conjunction with the production or storage of petroleum and hydrocarbon substances stored at or near atmospheric pressure.

TESTING AGENCY shall mean any individual or other person or entity which is qualified and licensed to perform the required sampling, analysis, testing, and professional recommendation service.

TREATMENT FACILITIES shall mean any plant, equipment, or other works used to treat, separate, or stabilize any substance produced from a well.

TWINNING shall mean the drilling of a well adjacent to or near an existing wellbore when the existing well cannot be drilled to the objective depth or produced due to an engineering problem such as collapsed casing or formation damage.

VALVE STATIONS shall mean a location associated with the a Gathering Line where Safety Shutdown Valves, Automated Safety Devices, and pressure monitoring devices are strategically located to isolate segments of the Gathering Line.

WATER FLOWLINE shall mean a pipe composed of a rigid material such as steel, PVC or HDPE or lay-flat pipe with the general characteristics of fire hose, which is used to transport or convey water for application to use.

WATER SOURCES shall mean all floodways, as defined by FEMA, and permanent City underground water storage facilities.

WELL shall mean a hole drilled into the earth for the purpose of exploring for or extracting oil, gas, or other hydrocarbon substances.

WILDLIFE HABITAT shall mean a specific geographic area that provides the physical and biological features needed for life and successful reproduction of plant or animal species.

1.07 Previous Agreements

Any previous Operator Agreement or other agreement, duly signed by the City Manager of the City of Aurora, or approved by the City Council, shall remain in full effect until the term of such agreement has expired, or until all Wells drilled during the term of such agreement are permanently plugged, abandoned, and removed from the Oil and Gas Location in accordance with the rules and regulations of the COGCC and reclamation has been completed pursuant to COGCC requirements, or unless otherwise terminated by law.

1.08 Best Management Practices

1.08.1 General

This Oil & Gas Manual represents Best Management Practices (BMPs), which protect and minimize adverse impacts to public health, safety, welfare, and the environment. The Operator must comply with the BMPs set forth in this Oil & Gas Manual at all times.

1.09 Compliance with Other Authorities

The BMPs identified in this Oil & Gas Manual are intended to supplement and are in addition to state rules and regulations. However, Operator shall comply with applicable federal and state rules, regulations, and standards pertaining to public health, safety, welfare, and the environment. Operator shall comply with the more protective of the BMPs contained in this Oil & Gas Manual or applicable federal or state rule or regulation and/or standards.

SECTION 2.00 OIL & GAS PERMIT (OGP) APPLICATION PROCESS

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SECTION 2.00 OIL & GAS PERMIT APPLICATION PROCESS

2.01 General/Applicability

2.01.1 Permitting of an Oil and Gas Location

The Oil & Gas Permit (OGP) application process shall apply to any Oil and Gas Location within the City of Aurora. Each Oil and Gas Location requires a separate OGP application.

2.01.2 Future Increase in Oil and Gas Location Size

An Oil and Gas Location is fixed in size and geographical extent at the time the OGP is approved. If an Operator desires to increase the size of an Oil and Gas Location or add an additional Oil and Gas Facility to the Oil and Gas Location, then the Operator must submit a new OGP application.

2.01.3 Overview of Application Process

The OGP process is divided into two Phases. In Phase 1, the Operator submits required items to support its application for its Oil & Gas Location. The Oil & Gas Location must be reviewed by the City and approved by the Planning and Zoning Commission before the Operator can submit the remainder of its items for the OGP. This process aligns with the requirements of the COGCC.

After approval of the Oil & Gas Location by the Planning and Zoning Commission, the Operator moves to Phase 2. In Phase 2, the Operator submits the remainder of its items for the OGP. In some cases, documents and agreements (such as the Water Delivery Agreement, Road Maintenance Agreement, and License Agreements) are begun in Phase 1 and completed in Phase 2.

2.02 Application Process

The purpose of the pre-application process is for the Operator to provide a high-level overview of the proposed OGP application to the City. City staff will provide feedback to the Operator on any BMPs or issues of concern.

2.02.1 Pre-Application Meeting

2.02.1.01 Operator shall request a Pre-Application Meeting with the Office of Development Assistance prior to submitting an application for an Oil and Gas Location. Appropriate City staff (as determined in the sole

discretion of the Oil & Gas Manager) may attend. The City may waive the Pre-Application Meeting or Pre-Submittal requirement for any Oil and Gas Location.

2.02.1.02 At the Pre-Application Meeting, Operator shall present the proposed project to the City to determine the appropriate materials needed for the application.

2.02.1.03 A map and detailed description of the Oil and Gas Location must accompany the request for a Pre-Application Meeting.

2.02.2 Pre-Submittal Meeting

At the Pre-Submittal Meeting, the Operator shall demonstrate, prior to entering the formal OGP application process, its ability to comply with all BMPs.

2.02.2.01 Following receipt of City comments from the Pre-Application Meeting, the Operator shall request a Pre-Submittal Meeting with the City Staff to demonstrate the Operator's ability to comply with BMPs.

2.02.2.02 At the Pre-Submittal Meeting, Operator shall request that a portal be opened to allow the application to be submitted digitally.

2.02.3 Submission of OIL & GAS LOCATION Application (Phase 1)

In Phase 1 of the OGP application process, the Operator shall apply for approval of its Oil & Gas Location. Submittal requirements are listed in Section 2.03 of this OGM.

OGP applications will be processed in the order received. Operator shall not submit more than two OGP applications per three weeks. If Operator has more than one OGP application that has been deemed by the City to be complete, it may provide a priority list for review of complete OGP applications. Such a request may increase the approval time needed for Operator's other applications.

2.02.4 Pre-Acceptance Completeness Review

Upon receipt of the Operator's OGP application, the City will initiate a Pre-Acceptance Review to determine whether the OGP application is sufficient to begin the formal review process. During the Pre-Acceptance Review, the City will identify any deficiencies in the OGP application and will notify the Operator of its decision

in writing. Operator must demonstrate that the Operator has incorporated all BMPs from this OGM in its application.

2.02.5 Acceptance of OGP Application

If no deficiencies are identified, an invoice of the OGP application fee for Phase 1 listed in the City Code will be sent to the Operator. The OGP application fee must be paid prior to the City and outside agencies beginning review of the OGP application.

If deficiencies in the OGP application are identified, the Operator shall address the deficiencies and resubmit the OGP application. The City will review the resubmitted application and notify the Operator in writing of its completeness determination.

2.02.6 Schedule Pre-Submittal Meetings for Phase 2

Once the City begins review of the Oil & Gas Location application, the Operator shall schedule Phase 2 Pre-Submittal Meetings with City Departments as necessary to initiate discussions of submittal requirements for Phase 2.

2.02.7 Phase 1-First Review

In the First Review, the City will review the completed OGP application and provide questions or comments to the Operator in writing. The Operator will then respond in writing to the City to address all questions and comments.

2.02.8 Neighborhood Meeting

Operator shall host a Neighborhood Meeting to inform the public of their application.

2.02.8.01 Operator shall notify all surface owners within one (1) mile of the Oil & Gas Location, of the time and location of the Neighborhood Meeting. Surface owners shall be notified a minimum of ten (10) days in advance.

2.02.8.02 Operator shall respond to all comments received at the Neighborhood Meeting in writing.

2.02.9 Phase 1-Second Review

In the Second Review, the City will review the Operator's response to its questions or comments from the First Review, including Operator Responses to Neighborhood Meeting Comments. The City will provide any further questions and comments to

the Operator in writing. The Operator will then respond in writing to the City to address all questions and comments from the Second Review.

2.02.10 Phase 1-Additional Review

Subsequent rounds of review may be necessary until Operator has, in the sole discretion of the Oil & Gas Manager, sufficiently responded to the City's questions and comments.

2.02.11 Operator Response Timing

Any time the City provides written comments to an Operator submittal, the Operator shall reply in a timely manner. If comments are not received from the Operator within ninety (90) days of the City's response, the Operator's application will be deemed abandoned.

2.02.12 Public Hearing

Once the City is satisfied with Operator responses to its review, a Public Hearing will be scheduled at a meeting of the City of Aurora Planning and Zoning Commission. Operator shall notify all surface owners within one (1) mile of the Oil & Gas Location of the time and location of the Public Hearing. The Planning and Zoning Commission will make a formal decision on the Oil & Gas Location. All Planning and Zoning Commission decisions are subject to call-up by City Council.

2.02.13 Approval of Oil & Gas Location

When the Planning and Zoning Commission decision and any City Council call-up is complete, Operator will be notified in writing of the decision on its Oil & Gas Location application.

2.02.14 Submission of Oil & Gas Permit (OGP) Application (Phase 2)

In Phase 2 of the OGP application process, the Operator shall submit the remainder of submittal requirements in support of its OGP application. Submittal requirements are listed in Section 2.04 of this OGM.

2.02.15 Pre-Acceptance Completeness Review

Upon receipt of the Operator's OGP Phase 2 application, the City will initiate a Pre-Acceptance Review to determine whether the OGP application is sufficient to begin the formal review process. During the Pre-Acceptance Review, the City will identify

any deficiencies in the OGP application and will notify the Operator of its decision in writing. Operator must demonstrate that the Operator has incorporated all BMPs from this OGM in its application.

2.02.16 Phase 2-First Review

In the First Review, the City will review the completed OGP application and provide questions or comments to the Operator in writing. The Operator will then respond in writing to the City to address all questions and comments.

2.02.17 Phase 2-Second Review

In the Second Review, the City will review the Operator's response to its questions or comments from the First Review. The City will provide any further questions and comments to the Operator in writing. The Operator will then respond in writing to the City to address all questions and comments from the Second Review.

2.02.18 Phase 1-Additional Review

Subsequent rounds of review may be necessary until Operator has, in the sole discretion of the Oil & Gas Manager, sufficiently responded to the City's questions and comments.

2.02.19 Compatibility with Approved Master Plans

The location and operations of the Oil and Gas Location shall be compatible with the approved Master Plan for the subject property.

2.02.20 Limit on Commencement of Construction

The Operator shall not move any heavy equipment or begin construction at the Oil and Gas Location based on COGCC approval until the Operator has received final approval of the OGP from the City pursuant to this Oil & Gas Manual and all applicable City permits.

2.02.21 Administrative Approval of OGP

OGP applications are approved by the Oil & Gas Division on an administrative basis. Once all questions have been answered by the Operator to the satisfaction of the City (at the sole discretion of the Oil & Gas Manager), a Letter of Administrative Decision is provided to the Aurora City Council. The City Council may elect to call-up the approved OGP for further discussion.

2.02.22 Issuance of OGP

Once any City Council call-up requirements are complete, the Oil & Gas Permit (OGP) will be issued to the Operator by the Oil & Gas Division with or without conditions. No drilling of wells or installation of any Oil and Gas Facility may begin until Operator receives the NTP.

2.02.23 Fulfillment of OGP Conditions

The Operator shall satisfy any conditions required by the OGP.

2.02.24 Notice to Proceed (NTP)

Upon satisfaction of all conditions required by the OGP, the City and Operator may execute a Water Delivery Agreement, Road Maintenance Agreement, and other agreements as necessary. Upon approval and execution of all required agreements, the City may issue a Notice to Proceed (NTP) with or without conditions. After issuance of the NTP, Operator may begin drilling activities at the Oil and Gas Location if all additional approvals from COGCC have been received.

2.02.24 Time Limits

An administratively approved OGP shall be valid for a period of three (3) years from the date of approval. If the construction of the Oil and Gas Location has not begun within that period, a new OGP application must be submitted by the Operator.

2.02.25 Denial

If it is established by competent evidence that a proposed Oil and Gas Location fails to meet any of the specifications in this Oil & Gas Manual, the permit for such Oil and Gas Location may be denied.

2.03 Required Application Contents-Phase 1

An OGP application to the City shall contain the following (together, the Submittal Requirements whose components are further described in this Oil & Gas Manual):

2.03.1 Combined Letter of Introduction and Project Summary

Operator shall include:

2.03.1.01 Response to Pre-Application City comments

2.03.1.02 A narrative list of how applicable BMPs (related to location) will be addressed.

2.03.1.03 Any requests for variance from the regulations within this OGM.

2.03.2 Site Plan which depicts the following:

A full Site Plan is not required for Phase 1, however, there must be one or more 24" x 36" sheets that detail the following:

2.03.2.01 Oil and Gas Location Layout (Drilling and Production site layout sheets; Existing Conditions sheet)

2.03.2.02 New Oil or Gas Wells

2.03.2.03 Proposed Location of Facilities

2.03.2.04 Road Access

2.03.2.05 Existing easements and rights-of-way

2.03.2.06 Mile High Flood District Streams (with names)

2.03.2.07 FEMA Flood Hazard Zones

2.03.2.08 Visible improvements within five hundred (500) feet of the Oil and Gas Location

2.03.2.09 Photometric Plan with Fixture Specifications

2.03.3 Visual Mitigation Plan

2.03.4 Vicinity/Context Map

2.03.4.01 Map must be topographic

2.03.4.02 Map must show Water Sources identified by the City

2.03.4.03 Map must indicate distances to the nearest occupied structure, municipal boundary, and subdivision boundary

2.03.4.04 Neighborhood outlines and approved Master Plans

2.03.5 Alternative Location Analysis

2.03.6 Water Supply Plan

2.03.7 Water Delivery Method (signed agreement required in Phase 2)

2.03.8 Preliminary Drainage Report (PDR)

A Preliminary Drainage Report is required for Oil and Gas Locations. A Preliminary Drainage Letter shall not be submitted in place of a Report.

2.03.9 Groundwater Quality Monitoring Plan

2.03.10 Air Quality Plan

2.03.11 Noise Management Plan

2.03.12 Property Owner Authorizations

2.03.13 Recorded Surface Use Agreement, (if applicable)

2.03.14 Determination of License Agreements needed

2.03.15 One-mile Radius Abutters Map and List

2.03.16 Traffic Letter or other analysis requested in the Pre-Application Notes & Traffic Management Plan

2.03.17 Haul Route

2.03.18 Road Maintenance-Evidence of Initial discussion with Public Works

Including impacts to City-owned improvements as the result of Operator construction or infrastructure relocation and including any entailed construction of drainage improvements such as culverts.

2.03.19 Wildlife Impact Mitigation Plan (if applicable)

2.03.20 COGCC Forms

Submit to the City a copy of the drilling and spacing order, which confirms the Operator's right to develop the mineral estate and confirms the ownership of the surface information.

2.03.21 Proof of Insurance

2.03.22 Neighborhood Meeting Schedule and Results / Response to Public Comments

2.03.23 Fee Payment-Phase 1

2.04 Required Application Contents-Phase 2

2.04.1 Letter of Introduction (full)

Operator shall include:

2.04.1.01 Response to any conditions on the Oil & Gas Location approval

2.04.1.02 A narrative list of how remaining applicable BMPs will be addressed

2.04.1.03 Any requests for variance from the regulations within this OGM with justification.

2.04.2 Project Summary (full)

2.04.3 Site Plan which depicts the following:

2.04.3.01 Site Plan should reflect all submittal sheets and revisions from Phase 1

2.04.3.02 Oil and Gas Location Layout

2.04.3.03 Location of Flowlines, reasons for selection, and procedures to be employed in mitigating any adverse impacts of the proposed routes

2.04.3.04 New Oil or Gas Wells

2.04.3.05 Proposed Location of Facilities

2.04.3.06 Road Access

2.04.3.07 Existing and ultimate easements and rights-of-way

2.04.3.08 Mile High Flood District Streams (with names)

2.04.3.09 FEMA Flood Hazard Zones

2.04.3.10 Visible improvements within five hundred (500) feet of the Oil and Gas Location

2.04.3.11 Landscape Plan: Must include fencing and other criteria listed in the BMPs.

2.04.3.12 Interim Reclamation Plan

2.04.3.13 Building and Structure Elevations, including Placarding note as applicable

2.04.4 Operations Plan

2.04.4.01 Project Development Schedule

2.04.4.02 Security Plan

2.04.4.03 Decommissioning / Final Reclamation Plan. The Decommissioning Plan shall address how the Flowline will be properly removed from the ground.

2.04.5 Emergency Action Plan (EAP) / Emergency Response Plan (ERP) (if applicable)

2.04.6 PHA-HAZOP Letter

The Operator will provide a letter that the PHA-HAZOP has been completed, and the Engineer of record has incorporated all applicable PHA-HAZOP recommendations in the design.

2.04.7 Water Delivery Agreement

2.04.8 Water Use Plan consistent with CDPHE Regulation 84

2.04.9 Fluid Disposal Plan

2.04.10 Road Maintenance Agreement and DOT Registration (if applicable)

2.04.11 Fugitive Dust Suppression Plan

2.04.12 License Agreements as applicable

2.04.13 Weed Control Plan

2.04.14 Storm Water Management Plan, Civil Plans, Final Drainage Report (Grading, Drainage and Erosion Plan)

Operator should contact Public Works separately for a Pre-Submittal Meeting.

2.04.15 Approved COGCC Form 2A

2.04.16 Fee Payment-Phase 2

2.05 Variance Requests

Operator may seek a minor exception to the strict application of the BMPs by making a written Variance Request to the Oil & Gas Division. The Variance Request must include the justifiable rationale supporting the request. As part of a granted variance request, the Oil & Gas Division may require alternative mitigation measures to ensure compliance with the goals of the applicable BMPs.

2.05.1 Variance Request Process

Any request for a variance shall be processed through the Oil & Gas Division. The Oil & Gas Division shall approve, approve with conditions, or deny the variance based on consideration of the staff report, the evidence from the neighborhood meeting, and the variance's compliance with the criteria for approval.

2.05.2 Variance Request Steps

2.05.2.01 Submission of a request by Operator

2.05.2.02 Neighborhood Meeting: Optional, unless the Oil & Gas Manager determines the variance request could have significant neighborhood impacts.

2.05.2.03 Staff Report

2.05.2.04 Conditions of Approval: In approving a variance, the Oil & Gas Division may attach any conditions necessary to ensure the variance authorized shall not constitute a grant of special privilege inconsistent with the limitations upon other properties in the vicinity in which the subject property is located and will protect public health, safety, welfare, the environment.

2.05.3 Variance Request Approval Criteria

The Oil & Gas Division in approving a variance shall find:

2.05.3.01 Special physical requirements or circumstances exist which are peculiar to the land, the lot or some aspect inherent in the land causes the hardship and are not applicable to other lands in the same district.

- 2.05.3.02** The literal interpretation of the provisions of these standards and regulations would deprive the applicant of rights commonly enjoyed by other properties in the same district under the terms of these standards and regulations.
- 2.05.3.03** Granting of the variance requested will not confer on the applicant any special privilege denied by these standards and regulations for other land in the same zone district.
- 2.05.3.04** Because of physical circumstances or conditions, the property cannot reasonably be developed in conformity with the provisions of the physical requirements of these standards and regulations.
- 2.05.3.05** The special circumstances applicable to the property have not been created by voluntary action or negligence by any person presently having an interest in the property.
- 2.05.3.06** The granting of the variance will be in harmony with the general purpose and intent of the Oil & Gas Manual.
- 2.05.3.07** The granting of a variance from the strict application of these standards and regulations will not cause substantial detriment to the public good or impair the intent of these standards and regulations.

SECTION 3.00 SAFETY AND SECURITY

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SECTION 3.00 SAFETY AND SECURITY

3.01 Security Plan

A Security Plan must be included with the OGP application to indicate how the Oil and Gas Location and associated Oil and Gas Facilities will be operated and maintained free from purposeful and inadvertent interference from anyone except the Operator. The Security Plan may contain a description of fencing, cattle guards, a remote security system, warning and identification signs, and gating.

3.02 Emergency Action Plan (EAP)

3.02.1 Detailed Emergency Action Plan

The Operator is required to complete a detailed Emergency Action Plan for all operations in the City of Aurora, and a site-specific plan for each Oil and Gas Location including all Flowlines and associated Oil and Gas Facilities in accordance with the provisions of this BMP.

3.02.2 Required Elements of the Emergency Action Plan

The Emergency Action Plan shall consist of at least the following information:

3.02.2.01 Name, address, and phone number, including twenty-four (24) hour emergency numbers for at least two (2) persons responsible for emergency field operations as well as the contact information for any subcontractor of Operator engaged for well-control or Flowline emergencies.

3.02.2.02 An as-built facilities map to be provided after the facilities are placed in service, in a format suitable for input into a GIS system depicting the location of above-ground facilities, Flowlines, and associated equipment for emergency response and management purposes.

3.02.2.03 A detailed plan for responding to emergencies that may include any or all of the following: explosions, fires, gas, oil, or water pipeline leaks or ruptures. A provision that any spill outside of the containment area that has the potential to leave the Oil and Gas Location or to threaten water, or as required by the City-approved Emergency Action Plan, shall be reported to the City's LGD.

- 3.02.2.04** Detailed information identifying access or evacuation routes, and health care facilities anticipated to be used.
- 3.02.2.05** Operator shall provide the City with its emergency shutdown protocols and promptly notify the City of any emergency shutdowns related to onsite upset conditions that would have an impact to any area beyond the confines of the Oil and Gas Location.
- 3.02.2.06** A statement and detailed information indicating that the Operator has adequate personnel, supplies, and training to implement the Emergency Action Plan immediately at all times.
- 3.02.2.07** The Operator shall have current Safety Data Sheets (SDS) for all chemicals available upon request. The SDS shall be provided immediately upon request to City officials, a public safety officer, or a health professional as required by COGCC regulations. Operator's contractors are responsible for the management of their own SDS and are to be made available upon request.
- 3.02.2.08** All "walkthroughs" or trainings associated with the Emergency Action Plan shall be coordinated with the City or Aurora Fire Rescue, upon their request.
- 3.02.2.09** Operator shall reimburse the appropriate emergency agencies for their reasonable expenses directly resulting from the Operator's operations.

3.02.3 Notification to Aurora Fire Rescue and Aurora Public Safety

Operator shall notify and work with Aurora Fire Rescue and Aurora Public Safety to prepare for an emergency if requested by them to do so. In case of an emergency, the Operator will have appropriate response foam, and the capacity to apply such, available to respond to emergencies related to the Oil and Gas Location and Flowline.

3.02.4 Approval of Emergency Action Plan

The City and Aurora Fire Rescue must approve the Emergency Action Plan before the Drilling Phase commences. As long as all requirements of this BMP are met, the City and Aurora Fire Rescue shall not unreasonably withhold approval and shall approve the Emergency Action Plan within thirty (30) days of submittal.

3.02.5 Annual Update of Emergency Action Plan

The Emergency Action Plan shall be filed with the City and Aurora Fire Rescue and updated on an annual basis or as conditions change (responsible field personnel changes, ownership changes, etc.).

3.03 Emergency Response Plan (ERP)

3.03.1 Fieldwide Emergency Response Plan

When an Operator applies for a second or subsequent Oil and Gas Location permit application, they shall submit an in-depth field-wide ERP that encompasses every element required by the ERP, and a summarized site-specific ERP to cover each individual site.

3.04 PHA-Hazard and Operability Study

3.04.1 PHA-HAZOP

A third party PHA-HAZOP certified facilitator shall coordinate a Hazard and Operability Study with the cooperation of the Operator. If any of the findings by the PHA-HAZOP certified facilitator are applicable, this information will be added to the Emergency Action Plan and Aurora Fire Rescue training. The Operator will provide a letter that the Engineer of record has incorporated all applicable PHA-HAZOP recommendations in the design of the applicable Oil and Gas Location.

3.04.1.01 The Engineer of record letter shall include the credentials of pertinent individuals that are responsible for any studies, design, and operational implementation, such as the “certified facilitator, Engineer of record, data analyst, design team, etc.”

3.05 Anchoring

Well equipment and all existing equipment at the Oil and Gas Location shall be anchored to the extent necessary to resist flotation, collapse, lateral movement, or subsidence in compliance with applicable Federal Emergency Management Agency (FEMA) (as administered by this City) and COGCC rules and regulations. All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor.

3.06 Photometric Plan with Fixture Specifications

- 3.06.1** A Photometric Plan with Fixture Specifications must be included with the OGP application.
- 3.06.2** Lighting shall be downcast and shall not shine beyond the boundaries of the Oil and Gas Location.

3.07 Discharge Valves

Open-ended discharge valves on all storage tanks, pipelines, and other containers within the Oil and Gas Location or Flowline shall be secured, capped, or blind-flanged and shall not be accessible to the general public. Open-ended discharge valves within the Oil and Gas Location or Flowline shall be placed within the interior of the secondary containment area.

3.08 Chemical Disclosure and Storage

3.08.1 Chemical Disclosure

All hydraulic fracturing chemicals must be disclosed to Aurora Fire Rescue as part of the Emergency Response Plan pursuant to the process set forth below before bringing such chemicals onto an Oil and Gas Location. The Operator shall make available to the City, in a table format, the name, Chemical Abstracts Service (CAS) number, and storage, containment, and disposal methods for such chemicals to be used on the Oil and Gas Location, which the City may make available to the public as public records.

3.08.2 Chemical Storage

The Operator shall not permanently store fracturing chemicals or flowback from hydraulic fracturing on an Oil and Gas Location. Operator shall remove all unused hydraulic fracturing chemicals at an Oil and Gas Location within thirty (30) days following the end of the Completion Phase at that Well.

3.08.3 Chemicals Not Permitted for Use

In addition to any substances that are not permitted to be used in accordance with state or federal rules or regulations in place from time to time, the following chemicals on **Table 3-1** shall not be utilized in the hydraulic fracturing fluid at the Oil and Gas Location:

Table 3-1 Chemicals Not to be Used in Hydraulic Fracturing

Ingredient Name	CAS #
Benzene	71-43-2
Lead	7439-92-1
Mercury	7439-97-6
Arsenic	740-38-2
Cadmium	7440-43-9
Chromium	7440-47-3
Ethylbenzene	100-41-4
Xylene-f	1330-20-7
1,3,5-trimethylbenzene	108-67-8
1,4-dioxane	123-91-1
1-butanol	71-36-3
2-butoxyethanol	111-76-2
N,N-dimethylformamide	68-12-2
2-ethylhexanol	104-76-7
2-mercaptoethanol	60-24-2
benzene, 1, 1'-oxybis-, tetrapropylene derivatives, sulfonated, sodium salts (BOTS)	119345-04-9
Butyl glycidyl ether	2426-8-6
Polysorbate 80	9005-65-6
quaternary ammonium compounds, dicoco alkyldimethyl, chlorides (QAC)	61789-77-3
bis hexamethylene triamine penta methylene phosphonic acid (BMPA)	35657-77-3
FD&C blue no. 1	3844-45-9
Tetrakis(triethanolaminate) zirconium (IV)(TTZ)	101033-44-7

3.09 Automatic Safety Protective Systems and Surface Safety Valve

3.09.1 General

An automated safety system, governed by safety devices and a programmable logic computer, will be installed at the Oil and Gas Location. The automated safety system shall include the installation, monitoring, and remote control of a Surface Safety Valve (SSV), among many other engineered measures and devices that are implemented to greatly reduce or eliminate the potential for a Well event. All Wells will have an SSV installed prior to the commencement of the Production Phase connected to the production tubing at the surface. The SSV will be equipped to operate remotely via the automated safety protective system, which monitors multiple flowing pressures and rates which have predetermined maximum and/or minimum threshold values programmed and will remotely shut wells in should certain upset conditions be detected. Additionally, the automated safety system provides the ability to remotely shut-in wells on demand through Operator remote intervention. The SSV will have documented quarterly testing to ensure functionality.

3.10 Flammable Material

All ground within twenty-five (25) feet of any tank, or other structure containing flammable or combustible materials, shall be kept free of dry weeds, grass, rubbish or landscaping.

3.11 General Maintenance

Operator shall operate and maintain all equipment pursuant to manufacturer specifications consistent with technological limitations and reasonable and customary maintenance practices.

3.12 Miscellaneous

3.12.1 General

Operator shall not conduct the Drilling Phase and Completion Phase operations simultaneously at a single Oil and Gas Location.

3.12.2 Signs

Each Oil and Gas Location shall post a legible sign in a conspicuous place, which is three (3) to six (6) square feet in area. The sign shall bear the current name of the Operator, a current telephone number including area code, where the Operator may be reached at all times, name or number of the lease, and the number of the well printed thereon. The sign shall warn of safety hazards to the public and shall be

maintained on the premises from the time materials are delivered for drilling purposes until the Oil and Gas Location is abandoned.

3.13 Insurance

3.13.1 General

The Operator shall provide liability and insurance under the conditions and in the amounts set forth below.

3.13.2 Operator shall maintain or cause to be maintained, with insurers authorized by the state of Colorado and carrying a financial strength rating from A.M. Best of no less than A- VII (or a similar rating from an equivalent recognized rating agency), at a minimum, the following types of insurance with limits no less than the amounts indicated:

3.13.2.01 Commercial General Liability insurance on an occurrence-based form including coverage for bodily injury or property damage for operations and products and completed operations with limits of not less than \$1,000,000 each and every occurrence.

3.13.2.02 Automobile Liability insurance with limits of not less than \$1,000,000 each and every occurrence.

3.13.2.03 Workers' Compensation insurance—Statutory Workers' Compensation Coverage for the employee's normal State of employment/hire. Including Employer's Liability insurance—with limits of not less than \$1,000,000 Each Accident, Disease—Each Employee, Disease—Policy Limit.

3.13.2.04 Control of Well/Operators Extra Expense insurance—with limits of not less than \$10,000,000 covering the cost of controlling a well that is out of control or experiences a blowout, re-drilling, or restoration expenses, seepage and pollution damage resulting from an out of control well or blowout as first party recovery for the Operator and related expenses, including, but not limited to, loss of equipment and evacuation of residents.

3.13.2.05 Umbrella/Excess Liability—in excess of General Liability, Employer's Liability, and Automobile Liability with limits no less than \$25,000,000

per occurrence; provided, however, that for so long as the Construction Phase, Drilling Phase, or Completion Phase is ongoing at the Oil and Gas Location or Flowline, Operator will maintain such insurance with limits no less than \$100,000,000 per occurrence.

- 3.13.2.06** Environmental Liability/Pollution Legal Liability insurance—with limits of not less than \$5,000,000 per pollution incident, with coverage being required beginning with the date that is eight (8) years from the date of first production from the Oil and Gas Location (the “Required Date.”) Coverage must include gradual pollution events. This insurance may be on a claims-made basis; however, the retroactive date must precede the Required Date in order to cover all Wells.
- 3.13.3** Operator shall waive and cause its insurers under the above policies to waive for the benefit of the City any right of recovery or subrogation which the insurer may have or acquire against the City or any of its affiliates, or its or their employees, officers or directors for payments made or to be made under such policies.
- 3.13.4** As it pertains to the risks and liabilities assumed by Operator, Operator shall add the City and its elected and appointed officials and employees as Additional Insureds under general liability (including operations and completed operations), auto liability, and umbrella liability.
- 3.13.5** Operator shall ensure that each of the policies is endorsed to provide that they are primary without right of contribution from the City or any insurance or self-insurance otherwise maintained by the City, and not in excess of any insurance issued to the City.
- 3.13.6** Operator shall ensure that each of the policies above (excluding workers’ compensation and OCC/COW) are endorsed to state that the inclusion of more than one insured under such insurance policy shall not operate to impair the rights of one insured against another insured and that the coverage afforded by each insurance policy shall apply as though a separate policy had been issued to each insured.
- 3.13.7** All policies shall be endorsed such that they cannot be canceled or non-renewed without at least thirty (30) days’ advanced written notice to the Operator and the City, evidenced by return receipt via United States mail, except when such policy is being canceled for nonpayment of premium, in which case ten (10) days advance written

notice is required. Language relating to cancellation requirements stating that the insurer's notice obligation is limited to "endeavor to" is not acceptable.

- 3.13.8** Operator shall, prior to permit issuance, deliver Certificates of Insurance reasonably acceptable to the City confirming all required minimum insurance is in full force and effect.
- 3.13.9** Deductibles or retentions shall be the responsibility of Operator. Deductibles or retentions must be listed on the Certificate of Insurance required herein and are subject to the reasonable approval of the City.
- 3.13.10** Operator shall require any of its subcontractors to carry the types of coverage and in the minimum amounts in accordance with the requirements set out in Sections 3.13.2.01, 3.13.2.02, and 3.13.2.03. Operator shall be responsible for any damage or loss suffered by the City as a result of non-compliance by Operator or any subcontractor with this section.
- 3.13.11** In the event that Operator's coverage lapses, is canceled, or otherwise not in force, the City reserves the right to obtain the insurance required herein and charge all costs and associated expenses to Operator, which shall become due and payable immediately.

SECTION 4.00 PROTECTION OF WATER QUALITY

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SECTION 4.00 PROTECTION OF WATER QUALITY

4.01 General

4.01.1 Water Sources

The City, through Aurora Water, will identify Water Sources and water infrastructure to be depicted by Operator on its Site Plan for an Oil and Gas Location to be submitted with the OGP application.

4.01.2 Water Supply

The Operator shall comply with applicable laws, rules, and regulations concerning the source(s) of water used in the Drilling Phase, Completion Phase, and Production Phase.

4.02 Surface Water Protection

4.02.1 Maintenance

Routine field maintenance of vehicles or mobile machinery shall not be performed within five hundred (500) feet of any navigable waters of the United States. All fueling must occur over impervious material.

4.02.2 Wastewater and Waste Management

Operator must submit a waste management plan to the City that complies with the following:

4.02.2.01 All fluids shall be contained, and there shall be no discharge of fluids with the exception of unimpacted stormwater per federal Spill Prevention, Control, and Countermeasure Plan (SPCC) regulations.

4.02.2.02 Flowback and produced water shall be transported by pipeline once constructed and available. If a pipeline is unavailable, flowback and produced water must be stored in tanks and transported by tanker trucks. All flowback and produced water must be disposed of at a licensed disposal site or recycled for use on-site.

4.02.2.03 No land treatment of oil-impacted or contaminated drill cuttings is permitted. Disposal of oil-impacted or contaminated drill cuttings shall be disposed of at licensed disposal or recycling sites.

4.02.2.04 A copy of the Operator’s Spill Prevention, Control, and Countermeasure Plan (SPCC) will be submitted to the City as part of the wastewater and waste management plan.

4.02.2.05 The Operator shall not dispose of any wastewater within the City.

4.02.3 Stormwater Management

Operator must apply for and receive a City stormwater quality discharge permit for each Oil and Gas Location in accordance with the City of Aurora’s Rules and Regulations Regarding Stormwater Discharges Associated with Construction Activities. Erosion and sedimentation control are required for each Oil and Gas Location. Operator must inspect and maintain stormwater facilities and control devices to ensure compliance with BMPs annually as well as after storm events.

4.02.4 Setbacks

4.02.4.01 Setbacks from buried infrastructure. Operator shall locate the Oil and Gas Location a minimum of three hundred fifty (350) feet from City buried infrastructure (Critical Infrastructure).

4.02.4.02 Setbacks from floodways. Operator shall locate the Oil and Gas Location a minimum of five hundred (500) feet from floodways (as defined by FEMA).

4.02.4.03 Setbacks from reservoirs. Operator shall locate the Oil and Gas Location a minimum of one (1) mile from all existing or planned reservoir sites.

4.03 Groundwater Protection

4.03.1 Water Quality Monitoring Plan.

The Operator shall implement a water quality and well testing plan. Operator will submit water quality monitoring reports to the City. Operator shall avoid causing degradation to surface or ground waters within the City and to wetlands within the City.

4.03.2 Baseline Sampling

Using records of the Colorado Division of Water Resources, Operator must implement a water quality monitoring and well testing plan that includes the following:

- 4.03.2.01** Operator must obtain initial baseline samples from all available domestic water sources within a one-half (1/2) mile distance from the edge of the Oil and Gas Location. Operator shall also drill one (1) down-gradient monitoring well (Operator Drilled Monitoring Well) on that Oil and Gas Location to sufficiently test the domestic water supply for the City groundwater source in each aquifer (Alluvial, Dawson, Denver, Laramie-Fox, and Arapahoe).
- 4.03.2.02** Operator must collect initial testing of baseline samples from available water sources, including on-site Operator Drilled Monitoring Well prior to the commencement of the Drilling Phase at an Oil and Gas Location, or prior to the re-stimulation of an existing Well for which no samples were collected and tested during the previous twelve (12) months.
- 4.03.2.03** Post-Completion Phase samples of available domestic water sources shall be collected to test the domestic water supply for the City groundwater source in each aquifer (Alluvial, Dawson, Denver, Laramie-Fox, and Arapahoe). The Operator Drilled Monitoring Well at the Oil and Gas Location will be tested annually for the Denver Basin Aquifers and quarterly for the alluvial aquifer, for the duration of the Oil and Gas Location. The representative water source locations will be mutually agreed upon by the City and the Operator.
- 4.03.2.04** Operator may rely on existing groundwater sampling data from any water source within the radii described above that was collected in accordance with accepted City standards, provided the data was collected within the twelve (12) months preceding the commencement of Drilling Phase for such Oil and Gas Location, the data includes measurement of all of the constituents measured in **Tables 4-1 through 4-6** below, and there has been no significant oil and gas activity within a one-mile radius in the time period between the original sampling and the commencement of the Drilling Phase for such Oil and Gas Location.

- 4.03.2.05** Operator shall make reasonable efforts to obtain the consent of the owner of the water source. If the Operator is unable to locate and obtain permission of the water source, the Operator must advise the City that Operator could not obtain access to the water source from the surface owner. Operator shall drill one (1) Operator Drilled Monitoring Well regardless of the existence of water sources available within a one-half (1/2) mile distance from the edge of the Oil and Gas Location.
- 4.03.2.06** Baseline water quality testing will be conducted for the analytes listed in **Tables 4-1 through 4-6** below. Subsequent water quality testing will be conducted for the analytes in **Table 4-7**, annually for the Denver Basin Aquifers and quarterly for the alluvial aquifer.
- 4.03.2.07** Operator must follow standard industry procedures in collecting samples, consistent with the current version of the COGCC Model Sampling and Analysis Plan.
- 4.03.2.08** Operator must report the location of the water source using a GPS with sub-meter resolution.
- 4.03.2.09** Operator must report results of field observations, including reporting on damaged or unsanitary well conditions, adjacent potential pollution sources, odor, water color, sediment, bubbles, and effervescence.
- 4.03.2.10** Operator must provide copies of all test results described above to the City, the COGCC, and the water source owners within thirty (30) days after receiving the lab analytical.
- 4.03.2.11** If sampling shows the degradation of water quality, additional measures may be required, including:
- 4.03.2.11.1** If free gas or a dissolved methane concentration level higher than one (1) milligram per liter (mg/l) is detected in a water source, determination of the gas type using gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen).
 - 4.03.2.11.2** If the test results indicate thermogenic or a mixture of thermogenic and biogenic gas, an action plan to determine the source of the gas.

- 4.03.2.11.3** Immediate notification to the City, the COGCC, and the owner of the water source if the methane concentration increases by more than five (5) mg/l between sampling periods, or increases to more than ten (10) mg/l.
- 4.03.2.11.4** Immediate notification to the City, the COGCC, and the owner of the water source if BTEX and/or TPH are detected as a result of testing. Such detections may result in required subsequent sampling for additional analytes.
- 4.03.2.11.5** Further water well sampling in response to complaints from water source owners.
- 4.03.2.11.6** Timely production and distribution of test results in electronic deliverable format to the City, the COGCC, and the water source owners.
- 4.03.2.11.7** All water source testing must be conducted by the Operator or, if requested by a surface owner, by a qualified independent professional consultant.
- 4.03.2.11.8** If Operator identifies degradation to water quality from the baseline testing as a result of its oil and gas development, Operator will be responsible to mitigate the degradation of water quality to the baseline levels.
- 4.03.2.11.9** Operator will submit a CDPHE Regulation 84 water use plan as described in section 84.11 sections B, D, and F.

Table 4-1 Inorganic Chemicals

Contaminant:
Antimony
Arsenic
Asbestos
Barium
Beryllium
Cadmium
Chromium
Cyanide (as free Cyanide)
Fluoride

Mercury
Nitrate
Nitrite
Total Nitrate and Nitrite
Selenium
Thallium

Table 4-2 Volatile Organic Compounds (VOCs)

Contaminant:
Propane
BTEX as Benzene, Toluene, Ethylbenzene and Xylenes
Total Petroleum Hydrocarbons (TPH)
Vinyl chloride
Benzene
Carbon tetrachloride
1,2-Dichloroethane
Trichloroethylene
Para-Dichlorobenzene
1,1-Dichloroethylene
1,1,1-Trichloroethane
cis-1,2 Dichloroethylene
1,2-Dichloropropane
Ethylbenzene
Monochlorobenzene
o-Dichlorobenzene
Styrene
Tetrachloroethylene
Toluene
Trans-1,2 Dichloroethylene
Xylenes (total)
Dichloromethane(methylene chloride)
1,2,4-Trichlorobenzene
1,1,2-Trichloroethane

Table 4-3 Synthetic Organic Compounds (SOCs)

Contaminant:
Alachlor
Aldicarb1
Aldicarb sulfoxide
Aldicarb sulfone
Atrazine

Carbofuran
Chlordane
Dibromochloropropane
2,4-D
Ethylene dibromide
Heptachlor
Heptachlor epoxide
Lindane
Methoxychlor
Polychlorinated biphenyls
Pentachlorophenol
Toxaphene
2,4,5-TP (Silvex)
Benzopyrene
Dalapon
Di(2-ethylhexyl)adipate
Di(2-ethylhexyl)phthalate
Dinoseb
Diquat
Endothall
Endrin
Glyphosate
Hexachlorobenzene
Hexachlorocyclopentadiene
Oxamyl (Vydate)
Picloram
Simazine
2,3,7,8-TCDD (Dioxin)
Perfluorooctanoic Acid (PFOA)
Perfluorooctane Sulfonate (PFOS)

Table 4-4 Radionuclides

Contaminant:
Combined radium-226 and radium-228
Gross alpha particle activity (including radium-226 but, excluding radon and uranium)
Beta particle and photon radioactivity
Uranium

Table 4-5 Secondary Maximum Contaminant Levels

Contaminant:
Aluminum
Chloride
Color
Copper
Corrosivity
Fluoride
Foaming agents (surfactants)
Iron
Manganese
Odor
pH
Silver
Sulfate
Total dissolved solids (TDS)
Zinc

Table 4-6 Other Parameters

<p>GENERAL WATER QUALITY</p> <p>Alkalinity, Conductivity & TDS, pH, Dissolved Organic Carbon (or Total Organic Carbon), Bacteria, and Hydrogen Sulfide</p>
<p>MAJOR IONS</p> <p>Bromide, Magnesium, Potassium, Sodium, and Nitrate + Nitrite as N</p>
<p>METALS</p> <p>Boron, Lead, Selenium, Strontium,</p>
<p>DISSOLVED GASES</p> <p>Methane, Ethane,</p>
<p>OTHER</p> <p>Water Level, Stable isotopes of water (Oxygen, Hydrogen, Carbon), Phosphorus</p>

Table 4-7 General Sampling Parameters

<p>GENERAL WATER QUALITY Alkalinity, Conductivity & Total Dissolved Solids (TDS), pH, Dissolved Organic Carbon (or Total Organic Carbon), Bacteria, and Hydrogen Sulfide</p>
<p>MAJOR IONS Bromide, Chloride, Fluoride, Magnesium, Potassium, Sodium, Sulfate, and Nitrate + Nitrite as N</p>
<p>METALS Arsenic, Barium, Boron, Chromium, Copper, Iron, Lead, Manganese, Selenium, Strontium, Mercury, Uranium, and Radium</p>
<p>DISSOLVED GASES and VOLATILE ORGANIC COMPOUNDS Methane, Ethane, Propane, BTEX as Benzene, Toluene, Ethylbenzene and Xylenes, Total Petroleum Hydrocarbons (TPH)</p>
<p>OTHER Water Level, Stable isotopes of water (Oxygen, Hydrogen, Carbon), Phosphorus</p>

4.03.3 Class II Underground Injection Control Wells

For operations associated with any Oil and Gas Location, the Operator shall not develop, use, operate or contract with any third party for the use of any Class II Underground Injection Control Wells within the City Limits or within a four (4) mile buffer of the City’s existing or planned critical infrastructure. The City shall provide Operator with a map that defines the critical infrastructure.

4.03.4 Wellbore Integrity and Aquifer Protection

Operator shall follow all COGCC regulations regarding wellbore integrity and aquifer protection.

4.04 Water During Drilling Phase

4.04.1 Closed-Loop Pitless Systems for the Containment and/or Recycling of Drilling Fluids

Wells shall be drilled, completed, and operated using closed-loop pitless systems for containment and/or reuse of all drilling, completion, flowback, and produced fluids. Operator shall reuse fluids unless technically infeasible. All aboveground storage,

including temporary tanks and separators, for use during drilling, completion, flowback, and other produced fluids shall have secondary containment.

4.05 Use and Transportation of Water and Hydrocarbons During Completion and Production Phases

4.05.1 Pipeline Construction Timeframe

Pipelines servicing a particular Oil and Gas Location must be constructed before the Production Phase commences at such Oil and Gas Location.

4.05.2 Separate Use of Pipelines

Operator shall use separate pipelines for the transportation of raw water to and from the Oil and Gas Location, and the transportation of hydrocarbons and produced water from the Oil and Gas Location.

During the Completion Phase, the Operator will use flowlines and pipelines for flowback unless technically infeasible. All raw water related to completion activities shall be transported to the Oil and Gas Location by pipeline.

4.05.3 Temporary Use of Tanks

Operator shall be permitted to utilize temporary tanks during the Drilling and Completion Phases, and during maintenance operations of the Oil and Gas Location or Flowline, provided Operator has provided proper notice regarding location, and required screening for temporary tanks if the maintenance or temporary tanks are present longer than a week.

For maintenance operations that are expected to extend greater than seven days, Operator shall give the City's Oil and Gas Manager or designee prior notice of maintenance activities within three days of commencing the maintenance operations and the planned number of temporary tanks.

Operator may use temporary tanks for up to one month for an Oil and Gas Location during any single maintenance operation without the need for adding appropriate temporary visual screening (e.g., hay bales).

4.05.6 Water for Landscape Irrigation

All water use at the Oil and Gas Location shall be pursuant to A.M.C. 138 *et seq.*

4.06 Berms for Fluid Containment

4.06.1 Berm Design

The Operator shall utilize steel-rim berms at the Oil and Gas Location with sufficient capacity to contain one and one-half (1.5) times the maximum volume of the largest tank on the location that such Oil and Gas Location will contain at any given time plus sufficient freeboard to prevent overflow around all permanent facility equipment. All berms and containment devices shall be inspected quarterly by the Operator and maintained in good condition. No potential ignition sources shall be installed inside the secondary containment area unless the containment area encloses a fired vessel, or such sources are rated in accordance with industry codes and standards. Secondary containment such as duck ponds or lined earthen berms for temporary tanks may also be used.

4.06.2 Permanent Berms

Permanent containment berms shall be constructed of steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation.

4.06.3 Secondary Containment

Secondary containment for tanks shall be constructed with a synthetic or engineered liner that contains all primary containment vessels and is mechanically connected to the steel ring to prevent leakage.

4.06.4 Locations Near Surface Water

For locations within five hundred (500) feet and up-gradient of a surface water body or flood plain, tertiary containment, such as an earthen berm, is required around production facilities.

4.07 Flowlines

4.07.1 General

The Operator shall construct a Flowline in accordance with specifications set forth in Section 38 of this Oil & Gas Manual for the transportation of hydrocarbons and produced water. Operator shall comply with the requirements for Flowlines set forth in COGCC regulations. All new Flowlines shall have the legal description of the location recorded with the Clerk and Recorder of the applicable county within thirty

(30) days of completion of their construction. Operator shall provide as-built GIS locations and maps of all Off-Location flowlines.

4.07.2 Flowline Construction

4.07.2.01 The pipeline buried depth should be a minimum of forty-eight (48) inches for all pipes outside of the City ROW. All pipes within the arterial City ROWs shall be a minimum of twenty (20) feet depth. All pipes within all other City ROWs shall be a minimum of fifteen (15) feet depth. All pipelines installed beneath public ROW shall be bored unless otherwise approved by the City Engineer.

4.07.2.02 Operator will conduct an x-ray or other non-destructive examination on all welds and conduct surveys and logging for every girth weld in place.

4.07.2.03 Operator will utilize jeeping (holiday detector) as well as visual inspection of the coating. Once a jeep (damage) is detected, pipe coating shall be repaired and re-jeeped until the damage is repaired and does not cause a jeep or detection.

4.07.3 Flowline Safety

4.07.3.01 On all Flowlines regulated by the COGCC leak protection and detection shall be provided through differential metering to meet zero tolerance levels for migration of product from the pipe envelope. Operator to conduct additional leak detection through aerial surveys at least two (2) times per year.

4.07.3.02 On all Flowlines regulated by the COGCC Operator shall hydrostatic test to 1.25 times the Maximum Operating Pressure for four (4) hours for exposed pipe and eight (8) hours for buried pipe.

4.07.3.03 On all Flowlines regulated by the COGCC Operator shall utilize automated systems for overpressure protection & low pressure detection that shut-in the pipe in order for Operator to investigate.

4.07.4 Flowline Maintenance

4.07.3.03 Operator shall conduct quarterly pigging on the pipelines.

4.08 Floodways

Additional BMPs related to water preservation or protection may be imposed by the City staff during the OGP application process in order to mitigate risks of potential contamination to a floodway.

4.09 Drainage

- 4.09.1 Planning Process & Preliminary Drainage Reports** The OGP process requires the submittal of a Preliminary Drainage Report for the Oil and Gas Location and Pumping Stations. Preliminary Drainage Letters in place of Report will not be permitted.
- 4.09.2 Civil Plans—Process** Public Works Engineering will require a civil plan Pre-Submittal Meeting to be held. To set up a meeting, please contact Chris Eravelly at 303-739-7457.
- 4.09.3 Civil Plans—Content and Naming Convention** Operator Agreements and associated applications and checklists for Oil and Gas Locations have been developed using the term “Storm Water Management Plans (SWMPs)” in reference to the Civil Plans for these sites. The Civil Plans for Oil and Gas Locations include features that go beyond typical SWMPs. Drainage Reports (both Preliminary and Final) and Civil Plan submittals will be reviewed using City standards.
- 4.09.4 Civil Plans—Submittal Package** Civil Plan submittals for an Oil and Gas Location shall include the Final Drainage Report, Storm Water Management Report, and an Inspection and Maintenance Plan as outlined at the civil pre-submittal meeting. Any grading within an existing utility easement may require structural loading evaluation as determined at the civil plan pre-submittal meeting. The structural loading evaluation shall be submitted with the first submittal of civil plans.
- 4.09.5 Hydrologic Analyses for Drainage Reports** The City’s Storm Drainage Design and Technical Criteria Manual along with Mile High Flood District Urban Storm Drainage Criteria Manual shall be used to develop the hydrology for Oil and Gas Locations. For Oil and Gas Locations, 100-year precipitation depths shall be used for major storm event analyses. The entire tributary area, including the Oil and Gas Location, draining to Water Quality/Full Spectrum (EURV)/Detention BMPs shall be used to size those BMPs. Gravel surfaced pads shall use imperviousness (40%) and runoff coefficients consistent with the City’s SDDTC Table 1.

- 4.09.6 Hydraulic Analyses—Conveyances/Detention/WQ** For Oil and Gas Locations, WQ/EURV/Detention BMPs will be sized and designed in accordance with the standard requirements of the City SDDTC (e.g., Extended Detention Basins). Storm Water Detention and Infiltration (SDI) Data Sheets shall be uploaded to the State website prior to civil plan approval. Culverts, Open Channels, and Grass Lined Swales shall satisfy the standard requirements of the City SDDTC.
- 4.09.7 Subsurface Utility Investigation/Loading Information** For Oil and Gas Location Civil Plans, the City of Aurora Roadway Specifications SUE note 22 (which refers to SB 18-167 and will be updated to refer to CRS 9-1.5) is a required note to be placed on the plans. In addition, Aurora Water requires any crossing of existing utilities or tie-ins to provide pre-design potholing.
- 4.09.8 Drainage Easements/License Agreements** For all Oil and Gas Locations, the need for Easements and License Agreements shall be evaluated on a case-by-case basis. For Oil and Gas Locations where the lease agreement with the property owner includes provisions for removing WQ/Detention BMPs, the I&M Plan for such BMP will negate the need for a Drainage Easement or License Agreement for that BMP. If there is a need for a drainage or license agreement, these documents must be executed prior to civil plan approval.

SECTION 5.00 PROTECTION OF AIR QUALITY

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SECTION 5.00 PROTECTION OF AIR QUALITY

5.01 Air Quality Monitoring Plan

5.01.1 General

In order to minimize degradation to air quality, Operator shall avoid or minimize and mitigate all potentially harmful emissions and odors, and avoid, minimize or mitigate dust associated with onsite activities and traffic on access roads.

5.01.2 Minimization of Emissions

To protect air quality, the following will be required:

5.01.2.01 The use of electric equipment and electric line power to operate all permanent production equipment.

5.01.2.02 The use of no-bleed continuous and intermittent pneumatic devices that do not bleed natural gas to the atmosphere. This requirement can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process.

5.01.2.03 Any combustion device, auto ignition system, recorder, vapor recovery device or other equipment used to meet the hydrocarbon destruction or control efficiency used to meet the relevant BMP shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

5.01.2.04 Year-round compliance with the odor standards pursuant to COGCC and CDPHE regulations.

5.01.2.05 Venting is prohibited unless necessary for safety. If emergency venting is required, or if accidental venting occurs, the Operator shall provide notice to the City of such event as soon as, but in no event later than twenty-four (24) hours from the time of the event, with the information listed above and with an explanation as to the cause and how the event will be avoided in the future.

5.01.2.06 Reduction of emissions from oil and gas well maintenance activities. For planned maintenance activities involving the intentional flaring of gas, the Operator shall provide forty-eight (48) hour advance written

notice to the City of such proposed flaring. Such notice shall identify the duration and nature of the flaring event, a description as to why flaring is necessary, what steps will be taken to limit the duration of flaring, and what steps the Operator proposes to undertake to minimize similar events in the future.

5.01.2.07 Telemetric control and monitoring systems to detect when pilot lights on control devices are extinguished.

5.01.2.08 Exhaust from all engines, motors, coolers, and all other equipment must be vented up and away from the nearest residences.

5.01.2.09 Operator shall participate in Natural Gas STAR program or other voluntary programs to encourage innovation in pollution control at the Oil and Gas Location.

5.01.3 Air Monitoring and Leak Detection for Facilities Without Permanent Tanks

5.01.3.01 Pre-Construction or Pre-Drilling Baseline Air Quality Testing. Operator shall conduct air sampling for a period of five (5) days prior to any construction activities for any new Oil and Gas Location or prior to drilling additional wells on any Oil and Gas Location already constructed. Operator shall conduct baseline sampling using a continuous monitoring system that detects hydrocarbons. Operator shall conduct baseline sampling at least thirty (30) days in advance of any construction activities at the Oil and Gas Location. Results of the baseline air sampling must be received prior to the issuance of the final OGP.

5.01.3.02 Continuous Air Monitoring. During Drilling and Completion Phases, the Operator shall conduct continuous air monitoring capable of detecting total hydrocarbons.

5.01.3.02 Periodic Air Sampling. During all Operational Phases, the Operator shall have the ability to deploy and collect air samples for speciated hydrocarbon analysis when monitoring indicates elevated levels of hydrocarbons, or at the request of the City.

5.01.3.03 Data related to air monitoring or sampling during any phase shall be made available to the City upon request.

5.01.3.04 Leak Detection and Repair. During the Production Phase, the Operator shall develop and maintain a Leak Detection And Repair (LDAR) program as required by CDPHE using modern leak detection technologies such as infra-red (IR) cameras for equipment used on the Oil and Gas Location.

5.01.3.05 For the first five (5) years of the Production Phase at an Oil and Gas Location, the Operator shall conduct at least semi-annual inspections of all equipment at the Oil and Gas Location; more frequent inspections may be required based on the nature and location of the facility and as required by state rules. At least once per year, the Operator shall notify the City five (5) business days prior to an LDAR inspection of its facilities to provide the City the opportunity to observe the inspection.

5.01.3.07 Records The Operator will maintain records of all leaks found, the date the leaks were repaired, and the date the location is re-screened to verify that the leak has been repaired. Such records must be maintained for five (5) years and must be made available to the City upon request.

5.01.3.08 Repairs Except when an emergency circumstance would necessitate an immediate repair, Operator must repair leaks as quickly as practicable. If more than five (5) days repair time is needed after a leak is discovered, an explanation of why more time is required must be submitted to the City.

5.01.4 Air Quality Requirements For Facilities With Permanent Tanks

For facilities that use permanent storage tanks and do not transport all hydrocarbons and produced water via pipelines, the following Air Quality provisions will apply until the pipeline infrastructure is available:

5.01.4.01 Operator shall comply with the provision in 5.01.3.01

5.01.4.02 Leak Detection and Repair.

Unless more frequent inspections are required by the AQCC, for the five (5) year period beginning with the start of the Production Phase at an

Oil and Gas Location, Operator shall conduct IR camera monitoring of all equipment at the respective Oil and Gas Location based on the following minimum frequency:

Year 1 – monthly

Year 2 – quarterly

Year 3-5 – semi-annually

The first inspection will occur within thirty (30) days of the facility commencing production.

5.01.4.03 Additional Monitoring After the initial five (5) year period, Operator will conduct semi-annual IR camera monitoring until all Wells at the Oil and Gas Location are either connected to a Gathering Line and Associated Infrastructure or are plugged and abandoned.

5.01.4.04 The City may require the Operator to use a third party to conduct additional air monitoring and analysis as needed in response to emergency events such as spills, process upsets, or accidental releases. Operator may evaluate other technologies throughout the life of the wells and may use other technologies if they are as effective in detecting target compounds.

5.01.5 Ozone Air Quality Action Days

The Operator shall respond to Ozone Air Quality Action Day advisories posted by the CDPHE for the Front Range Area by implementing their suggested air emission reduction measures as feasible. Emission reduction measures shall be implemented for the duration of an Ozone Air Quality Action Day advisory and may include measures such as:

5.01.5.01 Minimization of vehicle and engine idling.

5.01.5.02 Reducing truck traffic and worker traffic.

5.01.5.03 Delaying vehicle refueling.

5.01.5.04 Postponement of construction and maintenance activities if feasible.

5.01.5.05 Within thirty (30) days following the conclusion of each annual Ozone Air Quality Action Day season, Operator must submit a report to the

City that details which measures it implemented during any Ozone Air Quality Action Day advisories.

5.01.6 Compliance Reports

The Operator must submit quarterly reports to the City certifying: (i) compliance with these air quality requirements and documenting any periods of material non-compliance, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance, and (ii) that the equipment at the Oil and Gas Location continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The quarterly report must contain a certification as to the truth, accuracy, and completeness of the reports, signed by a Responsible Official, as defined by the CDPHE. The Operator will also provide the City with a copy of any self-reporting submissions that Operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the Oil and Gas Location.

5.01.7 Combustion Devices

To the extent flares, thermal oxidizers, or combustion devices are utilized, all such flares shall be designed and operated as follows:

5.01.7.01 The combustion device must be fired with natural gas and designed to operate with a ninety-eight (98) percent or higher hydrocarbon destruction efficiency.

5.01.7.02 The combustion device must be designed and operated in a manner that will ensure no visible emissions during normal operation. Visible emissions mean observations of smoke for any period or periods of duration greater than or equal to one (1) minute in any fifteen (15) minute period during normal operation, pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor.

5.01.7.03 The combustion device must be operated with a flame present at all times when emissions may be vented to it, or another mechanism that does not allow uncontrolled emissions.

5.01.7.04 The combustion device will have no visible flame, with the exception of the pilot light, from the Oil and Gas Location boundary. The combustion device shall completely conceal the flame.

5.01.7.05 All combustion devices must be equipped with an auto-igniter unless manned while in use.

5.01.8 Burning

No open burning shall occur on any Oil and Gas Location.

5.01.9 Air Modeling Study

If the City determines that an Air Modeling Study is necessary to create a dispersion model, Operator will be invoiced its proportionate share in an amount not to exceed \$5000 per Oil & Gas Location.

5.02 Odor

5.02.1 Odor Prevention

Operator will prevent odors by routing to closed-loop systems unless technically infeasible. Odors emitting from Oil and Gas Location must be controlled immediately. Operator must minimize odors by proactively addressing and resolving citizen concerns within twenty-four (24) hours. Operator must use a filtration system or additives to drilling fluids to prevent or minimize odors but cannot mask odors. In order to meet the provisions of this section, Operator implements the following measures:

5.02.1.01 Wiping down the drill pipe each time that the drilling operation “trips” out of the hole.

5.02.1.02 Increasing additive concentrations during peak hours.

5.03 Fugitive Dust Suppression

5.03.1 Minimize Dust

In addition to complying with COGCC rules, dust associated with activities on the Oil and Gas Location, and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust

emissions from access roads or the Oil and Gas Location to the maximum extent practicable given wind conditions.

5.03.2 Water Use

No untreated produced water or other process fluids shall be used for dust suppression.

5.03.3 Covering of Material

At the Oil and Gas Location, sand, silica, or similar material must be stored in covered containers.

5.03.4 Safety Data Sheets (SDS)

Safety Data Sheets (SDS) for any chemical-based dust suppressant, other than magnesium chloride, shall be submitted to the City prior to use.

5.04 Noise

5.04.1 Noise Management Plan

For any Oil and Gas Location that is on property located in zoning districts that allow for residential development or if a Residential Building Unit is located within 1,320 feet of an Oil and Gas Location located in a zoning district that does not allow for residential development unless Operator obtains waivers from all property owners within that distance the following provisions shall apply:

5.04.1.01 A Baseline Noise Mitigation Study will be conducted to ascertain baseline noise levels at the Oil and Gas Location to demonstrate that noise is expected to be mitigated to the extent practicable and a copy will be provided to the City.

5.04.1.02 The Operator shall comply with all provisions of COGCC regulations on Noise Abatement with respect to the Oil and Gas Location; provided, however, that the maximum permissible noise levels to be applied under COGCC regulations for the length of time indicated in COGCC regulations shall be, other than during the Construction Phase, the greater of (i) the levels set forth for the land use type of “Residential/Agricultural/Rural” under COGCC regulations if measurements are taken at 1,000 feet from the sound walls at the Oil

and Gas Location and (ii) 4 dB(A) higher than baseline ambient sound measured at 1,000 feet from the sound walls at the Oil and Gas Location. During the Construction Phase, noise levels shall not exceed those produced by the construction of a typical commercial development. All measurements considered for compliance with this section shall be taken by a third-party contractor using industry-standard equipment and practices. The Operator shall address C scale noise/vibration through berming, capable sound walls, and other associated BMPs. During the Drilling and Completion Phases, the Operator shall construct a sound wall and/or comparable measures to mitigate noise.

5.04.1.03 All noise mitigation measures shall be paid for by the Operator.

5.04.1.04 Unloading pipe. The Operator shall not unload pipe from delivery trucks between 8:00 p.m. and 7:00 a.m.

5.04.2 Mitigation of Dust, Noise, and Visual Disturbance

For mitigation of dust, noise, and visual disturbance during the Drilling and Completion Phases, the Operator shall use a combination of berms, bales, and sound walls at the perimeter of any Oil and Gas Location that:

5.04.2.01 Is located in a zoning district that allows for residential development or

5.04.2.02 Is located within 1,320 feet of a Residential Building Unit (as measured from the edge of an Oil and Gas Location) in a zoning district not zoned for residential development unless the Operator obtains a variance in advance.

5.04.3 Quiet Completion Technology

Operator shall use quiet completion technology on any Oil and Gas Location that:

5.04.3.01 Is located in a zoning district that allows for residential development or

5.04.3.02 Is located within 1,320 feet of a Residential Building Unit (as measured from the edge of an Oil and Gas Location) in a zoning district not zoned for residential development unless the Operator obtains a variance in advance.

5.05 Electric Equipment

Operator shall use electric line power to power permanent production equipment, such as compressors, motors, and pump jacks, in order to mitigate noise and to reduce emissions.

5.06 Reduced Emission Completion

Operator shall comply with EPA Reduced Emission Completion rules for oil and gas wells.

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SECTION 6.00 PROTECTION OF SURFACE QUALITY

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SECTION 6.00 PROTECTION OF SURFACE QUALITY

6.01 License Agreements

Operator shall use Flowlines to be built in accordance with specifications set forth in Section 38 of this Oil & Gas Manual. Operator will utilize Flowlines once operations commence. The Operator's obligation to build and utilize such Flowlines is subject to the Operator obtaining all necessary rights-of-way, crossings, licenses and easements, and the City issuing Operator the necessary Public Improvement Permits.

6.02 Visual Mitigation

6.02.1 Low Profile Equipment

Operator will use low profile equipment, such as low profile tanks, associated production equipment, and combustion devices. No tanks shall exceed twenty (20) feet in height.

6.02.2 Fencing

Permanent opaque fencing shall be installed around production equipment and shall be secured. Operator will not use chain link fencing.

6.02.3 Color

All permanent aboveground production equipment, structures, and stationary equipment on each Oil and Gas Location shall be painted in a tan or brown matte finish unless a different color is necessary for safety or per regulations.

6.02.4 Location Siting

6.02.4.01 An Oil and Gas Location shall be located away from prominent natural features such as distinctive rock and landforms, vegetative patterns, river crossings, land in the POS zone district, and other designated landmarks.

6.02.4.02 An Oil and Gas Location shall be located to avoid hilltops and ridges to prevent the appearance of pump jack and accessory equipment profiles on the horizon.

6.02.4.03 The Operator shall locate facilities at the base of slopes to provide a background of topography and natural cover.

6.02.4.04 The Operator shall align access roads to follow existing grades and minimize cuts and fills.

6.03 Traffic

6.03.1 Transportation and Circulation

The Operator will submit a traffic management plan for the City to review during the Oil and Gas Location OGP application review process that includes detailed descriptions of all proposed haul routes for equipment, water, sand, waste fluids, waste solids, mixed waste, and all other material to be hauled on the public and private streets and roads during phased well development and operations. The traffic management plan shall include the following:

- 6.03.1.01** Estimated weights of vehicles when loaded, a description of the vehicles, including the number of wheels and axles of such vehicles and estimated trips per day.
- 6.03.1.02** Detail of access locations for the Oil and Gas Location, including sight distance, turning radius of vehicles, and a template indicating this is feasible, sight distance, turning volumes in and out of the Oil and Gas Location for an average day, and what to expect during peak hours.
- 6.03.1.03** Estimated truck traffic volumes converted to equivalent single axle loads and compared to existing volumes.
- 6.03.1.04** Truck routing map and truck turning radius templates with a listing of required improvements that are necessary at intersections along the route.
- 6.03.1.05** Complete traffic letter, determining operational changes and geometric modifications necessary as a result of Operator's activities.
- 6.03.1.06** Identification of the need for any additional traffic lanes, which would be subject to the final approval of the City's engineer.
- 6.03.1.07** Restriction of non-essential traffic to and from the Oil and Gas Location to periods outside of peak a.m. and p.m. traffic periods and during school hours of schools along the designated traffic routes (generally 7:00-9:00 a.m. and 3:00-6:00 p.m.).

6.03.1.08 City may request consolidated haul routes and roadway improvements or upgrades based on contents of the traffic management plan to be covered in a Road Maintenance Agreement during the OGP review process.

6.04 Road Maintenance

6.04.1 Access Roads

Access points to public roads shall be located, improved, and maintained to ensure adequate capacity for efficient movement of existing and projected traffic volumes, and to minimize traffic hazards.

6.04.1.01 Permanent access roads shall be improved a minimum distance of two-hundred (200) feet onto the access road from the point of connection to a public road. All access roads shall be in conformance with the City's current Roadway Specification Manual. The access road shall be improved as a hard surface (concrete or asphalt) for the first one-hundred (100) feet from the public road and then improved as a crushed surface (concrete or asphalt) for one-hundred (100) feet past the hard surface in the appropriate depth to support the weight load requirements of the vehicles accessing the Oil and Gas Location. A geotechnical report and pavement design will be submitted to the City for approval. If an access road intersects with a pedestrian trail or walk, the Operator shall pave the access road as a hard surface (concrete or asphalt) a distance of one-hundred (100) feet either side of the trail or walk and if necessary, replace the trail or walk to address the weight load requirements of the vehicles accessing the Oil and Gas Location.

6.04.1.02 Temporary access roads associated with the operation shall be reclaimed and revegetated to the original state within sixty (60) days after discontinued use of the temporary access roads.

6.04.2 Mud Tracking

In accordance with the Stormwater Management Plan (SWMP), the Operator shall take all practicable measures to ensure that vehicles do not track mud or debris onto City streets. If mud or debris is nonetheless deposited on City streets, in excess of *de minimus* levels, the streets shall be cleaned immediately by the Operator. If, for some

reason, this cannot be done or needs to be postponed, the Operator shall notify the City of its plan for mud removal.

6.04.3 Chains

Traction Chains from heavy equipment shall be removed from all Operator vehicles before entering a City street.

6.04.4 Culverts

Operator shall construct all necessary culverts for road construction per any available City or County, as applicable, Drainage Plan. In the event no information is available, the Operator shall complete any necessary studies or analysis to determine the appropriate culvert size.

6.04.5 Road Repairs

Road repairs will be addressed as set forth in the Road Maintenance Agreement.

6.05 Landscaping

Operator shall submit a landscape plan for City approval during the Oil and Gas Location OGP application review process. Operator shall implement the landscape plan when new development is constructed within 1,500 feet of an Oil and Gas Location once access to City main water source is available.

6.06 Tree Mitigation

The Oil and Gas Location and Flowline should be constructed in a manner that minimizes the removal of and damage to existing trees in accordance with the City's tree mitigation ordinance

6.07 Cultural and Historical Resource Protection

6.07.1 General

The Operator shall comply with the City of Aurora Municipal Code, as amended, by not causing to be carried out any construction, alteration, removal, or demolition of a building or feature or make any changes that would impair the historical association of the landmark building, landmark site, or historic district, pursuant to those qualities depicted in the Code, without first obtaining approval. Operator will submit the permit application and await the planning department's approval following referral

to the historic preservation commission, if applicable. If there is a discovery of historical artifacts, Operator will notify the City.

6.07.2 Protection of Natural, Historical, and Archaeological Resources

The nature and location of an Oil and Gas Location shall not unreasonably interfere with or affect any unique natural resource, historical site or landmark, or known archaeological site.

6.08 Wildlife\WIMP

This BMP is only applicable in the event that an Oil and Gas Location is located in a significant wildlife habitat or high priority habitat, as defined by the State Division of Wildlife, and/or in a natural area or open space. In such a case, the Operator shall consult with the State Division of Wildlife or the City Parks, Recreation, and Open Space Department to obtain recommendations for appropriate site-specific and cumulative impact mitigation procedures. If not applicable, Operator shall provide the City with a statement that it has investigated whether the Oil and Gas Location is located near a significant wildlife habitat and that this BMP is not applicable.

6.09 Building Electric

6.09.1 Any buildings or structures must meet the design standards contained in the Aurora Municipal Code. All site features shall be integrated into the building or site design.

6.09.2 Operator shall place a note on site plan elevation sheets, stating: “Operator certifies that all structures are in compliance with 8 Colorado Code Regulations § 1302-14 regarding placarding and certification of non-residential modular or factory-built structures.”

6.10 Removal of Debris

6.10.1 General

All construction-related debris shall be removed from the Oil and Gas Location for proper disposal in a timely manner. The Oil and Gas Location shall be maintained free of debris and excess materials at all times during operation. Operator shall also not stockpile debris at the Oil and Gas Location.

6.11 Removal of Equipment

All equipment used for drilling, re-completion, and maintenance of the facility shall be removed from the Oil and Gas Location within thirty (30) days of completion of the work, weather conditions permitting, unless otherwise agreed to by the applicable surface owner. Permanent storage of removable equipment on the Oil and Gas Location shall not be allowed.

6.12 Trailers

A construction trailer(s) is permitted as an accessory use during active drilling and well completion or workover operations only. No permanent residential trailers shall be permitted at the Oil and Gas Location; provided, however, that until six (6) months following the end of the Completion Phase on an Oil and Gas Location, temporary residential and/or security trailers are permitted, as needed for on-site operations, for exclusive use by the Operator's personnel and the personnel of its subcontractors on a temporary basis.

6.13 Noxious Weed Control

The Operator shall be responsible for ongoing noxious weed control as defined under the Colorado Noxious Weed Act (C.R.S. § 35-5.5-101 *et seq.*) at the Oil and Gas Location, along access roads, and in disturbed areas under restoration as a result of related construction activities or operations per City or other applicable agency regulations.

6.14 Park and Open Space Area Setback

The Oil and Gas Location shall be sited a minimum of three hundred fifty (350) feet away from existing and proposed parks and open space areas. This distance shall be measured from the perimeter of the Oil and Gas Location. For Flowlines that pass within three hundred fifty (350) feet of a park or open space area, a mitigation plan which identifies measures to be taken to mitigate impacts to parks and open space areas shall be submitted to the City.

6.15 Reclamation

6.15.1 Interim Reclamation.

Operator must submit an Oil and Gas Location Interim Reclamation Plan to the City with each OGP.

6.15.2 Final Reclamation Plan.

Operator must submit a Final Oil and Gas Location Reclamation Plan to the City concurrently with the submission of the COGCC application to plug and abandon the last Well at the Oil and Gas Location.

6.15.3 Decommissioning of Flowlines

Operator shall properly drain and decommission in accordance with City and COGCC regulations all Flowlines associated with any Plugged and Abandoned Well and shall remove from service all Flowlines by either abandoning in place and filling with flow fill or removing the pipe subject to approval by the City.

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SECTION 7.00 GENERAL OIL & GAS PERMIT REQUIREMENTS

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SECTION 7.00 GENERAL OIL & GAS PERMIT REQUIREMENTS

7.01 Surface Stakeholder Notification

7.01.1 Notice of Application

When Operator submits an OGP application to the City, the Operator shall include a list of all property owners (names, property addresses and mailing addresses) within one mile from the edge of an Oil and Gas Location and all registered neighborhood organizations within one mile of the Oil and Gas Location, and the surface owners of the property upon which the Oil and Gas Location is located (“Notified Residents”). The City shall send out notices of the OGP application to Notified Residents when the review process commences for the purpose of receiving public comment.

7.01.2 Resident Notification of Neighborhood Meeting

When the City begins the OGP review process, the Operator shall send notification of a Neighborhood Meeting to all Notified Residents. The notice must include:

- Operator’s contact information
- Approximate date to begin drilling
- Information on the Neighborhood Meeting

Operator shall send proof of mailed notices to the City by affidavit or certificate of mailing.

7.01.3 Neighborhood Meeting

Upon the City’s completeness determination of the OGP application, the Operator shall hold a Neighborhood Meeting to facilitate engagement between the Operator and nearby Notified Residents of the applicable Oil and Gas Location. Operator shall notify all Notified Residents of the Neighborhood Meeting. Operator shall provide notice a minimum of ten (10) days in advance of the Neighborhood Meeting.

Notified Residents may submit written comments to the City about the OGP application, including the BMPs. The City shall transmit those comments which require an Operator response to the Operator. Operator shall respond to those comments within thirty (30) days in writing to the City. A Neighborhood Meeting may not be required if there are no residents within one (1) mile of the Oil and Gas Location, no comments are received from the initial notice of filing of OGP application and the City agrees.

7.01.4 Notice of Administrative Decision

The City shall provide Operator with a form letter for Notice of Administrative Decision for a pending OGP application. At least ten (10) calendar days prior to the scheduled decision on an OGP application, the Operator shall send out the Notice of Administrative Decision to the Notified Residents. The Operator shall provide proof to the City of mailed notices by affidavit or certificate of mailing.

7.01.5 Pre-Drilling Notice

Operator will comply with the mailing requirements of the Move-In, Rig-Up Notice required by the COGCC rules

7.02 Other Notifications

7.02.1 General

All notices and other correspondence sent to the City shall be in writing and shall be delivered by: (A) certified mail with return receipt, or (B) hand delivery with signature or delivery receipt provided by a third-party courier service (such as FedEx, UPS, etc.) to the designated representative of the City as indicated below, or (C) email to the designated representative of the City as indicated below.

City of Aurora
Oil & Gas Division
15151 E. Alameda Parkway, #5900
Aurora, CO 80012

Attn: Oil & Gas Manager
Telephone: 303-739-7676
Email: jsmoore@auroragov.org

7.02.2 Notification of Submittal of COGCC Permits, Orders, and Approvals

At the time the Operator files any COGCC Form 2 or Form 2A for a Well or Oil and Gas Location within the City, the Operator will provide the City a copy of such filings and shall provide the City with notification of any decision with respect to any COGCC Form 2 or Form 2A for a Well or an Oil and Gas Location and Operator's best estimate as to when the Construction Phase for such Well or Oil and Gas Location will begin.

7.02.3 Notification of New Operational Phase

Operator shall provide written notice to the City no less than thirty (30) days prior to the commencement of any of the following: Construction Phase (unless the Construction Phase commences within forty-five (45) days of the approval of the applicable Form 2 or Form 2A), Drilling Phase, Completion Phase, or any recompletion, re-drilling, or plugging and abandonment of a Well. Until the commencement of the Production Phase at the Oil and Gas Location, Operator shall notify the Oil & Gas Division Manager as to the status of development at each active Well monthly. Any notification provided by Operator to City may be used by the City for public notification.

7.02.4 Routine Maintenance

Operator may perform all surface and downhole well maintenance and operations on its Oil and Gas Location, Oil and Gas Facility, or Flowline that the Operator deems prudent and necessary. Operator may perform routine maintenance of Oil and Gas Facilities without prior notification to the City, including surface and downhole well maintenance.

7.02.4.01 If Operator intends to perform maintenance that may be excessively loud or performed with vehicles larger than a standard work vehicle, the City shall receive advance notification in order to best answer questions from citizens.

7.03 Incidents/Spills

7.03.1 Events or Incidents. Any COGCC or OSHA reportable injuries, accidents, or natural events shall be reported to the City within twenty-four (24) hours. Once the applicable forms are submitted to the agency, a copy of that form will also be provided to the City. In the event of a fire that is not controllable by Operator personnel, explosion, or need for emergency services response, 911 shall be called.

7.03.2 Spills. Operator must notify the City of any spill of any material on permeable ground on the Oil and Gas Location that has a reportable spill quantity under any law. The Operator will also provide the City with a copy of any self-reporting submissions that Operator provides to the COGCC due to any spills at the Oil and Gas Location.

7.04 Annual Development Schedule

The Operator shall provide a summary of planned operations and an operational timeline (Development Schedule) to the City by January 31 of each year. The Operator may revise the summary and timeline from time to time provided that the Operator will keep the City informed of any revision to the Development Schedule. The Development Schedule should include a brief summary of major planned operations at all of Operator's Oil and Gas Locations within the City for the coming year, including a proposed timeline of operations, and any new permitting activities. This report is informal in nature and may be changed by the Operator at any time. The report provides guidance to the City staff for planning workflows.

7.05 Previously Drilled Wells

When an Operator purchases or acquires an interest in an Oil and Gas Location, previously drilled Well, or other Oil and Gas Facility, which was not subject to an Operator Agreement, the Operator must review the BMPs in effect in this Oil & Gas Manual at the time of purchase. Within ninety (90) days before the purchase date, the Operator must submit a written report demonstrating compliance with all BMPs or a plan to bring the Oil and Gas Location and all Oil and Gas Facilities into compliance by the purchase date.

SECTION 8.00-30.00 RESERVED

**SECTION 31.00 INTRODUCTION TO OIL & GAS MIDSTREAM
PERMITTING**

31.01 Scope.....31-2
31.02 Authority.....31-2

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SECTION 31.00 INTRODUCTION TO OIL & GAS MIDSTREAM PERMITTING

31.01 Scope

Sections 31.00-38.00 of this Oil & Gas Manual (OGM), set forth the minimum acceptable criteria for permitting, designing, and constructing pipelines and pipeline facilities, including Central Gathering Facilities (CGF), Gathering Lines, and Associated Facilities within the City of Aurora. A successful permit application process results in the approval of an Oil & Gas Midstream Permit (OGMP).

31.02 Authority

31.02.1 Local Authority

The Local Government Land Use Control Enabling Act of 1974, C.R.S. § 29-20-101 *et seq.* authorizes local governments to regulate the surface impacts of oil and gas operations in a reasonable manner to protect and minimize adverse impacts to public health, safety, and welfare and the environment within its jurisdiction. It also authorizes local governments to adopt reasonable regulations for surface impacts of oil and gas operations that address plan for and regulate the use of land by regulating the surface impacts of oil and gas operations in a reasonable manner to address:

Pursuant to the Colorado Oil and Gas Conservation Act, C.R.S. § 34-60-131 local governments may adopt regulations that are more protective or stricter than state requirements.

Pursuant to the Colorado Air Pollution Prevention and Control Act (“APPCA”), C.R.S. § 25-7-108 local governments may enact local air pollution resolutions or ordinances that include more stringent emission control regulations than state requirements.

31.02.2 City Code of Aurora

[Placeholder for final code sections A.M.C. 135-101, 135-102, 135-103, 135-104] give authority to the Oil & Gas Manual to regulate Oil and Gas Locations, Oil and Gas Facilities, pipelines, and all other oil and gas related operations.

**SECTION 32.00 OIL & GAS MIDSTREAM PERMIT (OGMP)
APPLICATION PROCESS**

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32.02 OGMP Application Process 32-2
32.03 Required Application Contents 32-6

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SECTION 32.00 OIL & GAS MIDSTREAM PERMIT (OGMP) APPLICATION PROCESS

32.01 General/Applicability

32.01.1 Permitting of Oil & Gas Midstream Locations and Associated Facilities

The Oil & Gas Midstream Permit (OGMP) application process shall apply to the CGF, Gathering Lines, and Associated Facilities within the City of Aurora.

32.01.2 Future Increase in Oil & Gas Midstream Location Size

Oil & Gas Midstream locations should be constructed only to the extent approved and are fixed in size and geographical extent at the time the OGMP is approved. In the future, if an Operator desires to increase the size of an Oil & Gas Midstream location, or add additional Facilities, then the Operator shall submit a new permit application.

32.02 OGMP Application Process

The purpose of the pre-application process is for the Operator to provide a high-level overview of the proposed OGMP application to the City. City staff will provide feedback to the Operator on any BMPs or issues of concern.

Operator shall first obtain any necessary permits and agreements pursuant to these regulations prior to construction. The Operator shall submit all required City permits and applications such as but not limited to building permit, Stormwater and Erosion Control Permit, license agreements, rights-of-way permit, and OGMP application for the CGF, Associated Facilities, and Gathering Lines. The review by the City of these permits is to ensure the proposed Gathering Lines, Associated Facilities, and CGF comply with this Oil & Gas Manual and all applicable City of Aurora Municipal Code requirements.

32.02.1 Pre-Application Meeting

32.02.1.01 Operator shall request a Pre-Application Meeting with the Office of Development Assistance prior to submitting an application for an Oil & Gas Midstream Permit (OGMP). Appropriate City staff (as determined in the sole discretion of the Oil & Gas Manager) may attend. The City may waive the Pre-Application Meeting or Pre-Submittal requirement for any Oil & Gas Midstream application.

32.02.1.02 At the Pre-Application Meeting, Operator shall present the proposed project to the City to determine appropriate materials needed for the application, and any special conditions for the CGF, Gathering Lines, and Associated Facilities.

32.02.1.03 A map and detailed description of the CGF, Gathering Lines, and Associated Facilities, as applicable, must accompany the request for a Pre-Application Meeting.

32.02.1.04 The City shall provide Operator with comments from the Pre-Application Meeting in writing.

32.02.2 Pre-Submittal Meeting

At the Pre-Submittal Meeting, the Operator shall demonstrate, prior to entering the formal OGMP application process, its ability to comply with all BMPs.

32.02.2.01 Following receipt of City comments from the Pre-Application Meeting, the Operator shall request a Pre-Submittal Meeting with the City Staff to demonstrate the Operator's ability to comply with BMPs.

32.02.2.02 At the Pre-Submittal Meeting, Operator shall request that a portal be opened to allow the application to be submitted digitally.

32.02.3 Submission of OGMP Application

Operator may then submit the OGMP application.

32.02.4 Pre-Acceptance Completeness Review

Upon receipt of the Operator's OGMP application, the City will initiate a Pre-Acceptance Review to determine whether the OGMP application is sufficient to begin the formal review process. During the Pre-Acceptance Review, the City will identify any deficiencies in the OGMP application and will notify the Operator of its decision in writing. Operator must demonstrate that the Operator has incorporated all BMPs from this OGM in its application.

32.02.5 Acceptance of OGMP Application

If no deficiencies are identified, an invoice of the OGMP application fee listed in the City Code will be sent to the Operator. The OGMP application fee must be paid prior to the City and outside agencies beginning review of the OGMP application.

If deficiencies in the OGMP application are identified, the Operator shall address the deficiencies and resubmit the OGMP application. The City will review the resubmitted application and notify the Operator in writing of its completeness determination.

32.02.6 First Review

In the First Review, the City will review the completed OGMP application and provide questions or comments to the Operator in writing. The Operator will then respond in writing to the City to address all questions and comments.

32.02.7 Neighborhood Meeting

Operator shall host a Neighborhood Meeting to inform the public of their application.

32.02.2.01 Operator shall notify all surface owners within one (1) mile of the Oil & Gas Location, of the time and location of the Neighborhood Meeting. Surface owners shall be notified a minimum of ten (10) days in advance.

32.02.2.02 Operator shall respond to all comments received at the Neighborhood Meeting in writing.

32.02.8 Second Review

In the Second Review, the City will review the Operator's response to its questions or comments from the First Review, including Operator Responses to Neighborhood Meeting comments. The City will provide any further questions and comments to the Operator in writing. The Operator will then respond in writing to the City to address all questions and comments from the Second Review.

32.02.9 Civil Construction Plans

Operator can submit its Civil Construction Plans concurrently with the second City review of the CGFP.

32.02.10 Additional Review

Subsequent rounds of review may be necessary until Operator has, in the sole discretion of the Oil & Gas Manager, sufficiently responded to the City's questions and comments.

32.02.11 Operator Response Timing

Any time the City provides written comments to an Operator submittal, the Operator shall reply in a timely manner. If comments are not received from the Operator within ninety (90) days of the City's response, the Operator's application will be deemed abandoned.

32.02.12 Compatibility with Approved Master Plans

The location and operations of the Oil and Gas Location shall be compatible with the approved Master Plan for the subject property.

32.02.13 Limit on Commencement of Construction

No construction activities shall begin until a valid Oil & Gas Midstream Permit (OGMP) has been received by the Operator. The Operator shall not move any heavy equipment or begin construction at the CGF, Gathering Lines, or Associated Facilities based on COGCC approval until the Operator has received administrative approval after the OGMP application review process by the City pursuant to this Oil & Gas Manual and all applicable City, State, and Federal permits.

32.02.14 Administrative Approval of OGMP

OGMP applications are approved by the Oil & Gas Division on an administrative basis. Once all questions have been answered by the Operator to the satisfaction of the City (at the sole discretion of the Oil & Gas Manager), a Letter of Administrative Decision is provided to the Aurora City Council. The City Council may elect to call-up the approved OGMP for further discussion.

32.02.15 Issuance of OGMP

Once any City Council call-up requirements are complete, the Oil & Gas Midstream Permit (OGMP) will be issued to the Operator by the Oil & Gas Division with or without conditions. No installation of pipelines or Associated Facilities may begin until Operator receives the NTP.

32.02.16 Fulfillment of OGP Conditions

The Operator shall satisfy any conditions required by the OGMP.

32.02.17 Notice to Proceed (NTP)

Upon satisfaction of all conditions required by the OGMP, the City and Operator may execute a Water Delivery Agreement, Road Maintenance Agreement, and other agreements as necessary. Upon approval and execution of all required agreements, the City may issue a Notice to Proceed (NTP) with or without conditions. After issuance of the NTP, Operator may begin drilling activities at the Oil and Gas Midstream location, if all additional approvals from COGCC have been received.

32.02.18 Time Limits

An administratively approved signed OGMP shall be valid for a period of three (3) years from the date of approval. If construction of the pipeline or Associated Facilities has not begun within that period, a new application must be submitted by the Operator.

32.02.19 Denial

If it is established by competent evidence that a proposed Oil & Gas Midstream application fails to meet any of the specifications in this Oil & Gas Manual, the permit for such Oil & Gas Midstream location may be denied.

32.03 Required Application Contents

An Oil & Gas Midstream Permit (OGMP) application to the City contains the following (together, the Submittal Requirements) as described in the current City Code and Criteria. Application requirements will be at the discretion of the City based on the type of submittal.):

32.03.1 Master Plan To include the following:

32.03.1.01 All the planned components and land uses for the site

32.03.1.02 Public improvement plan

32.03.1.03 Context Map

32.03.2 Letter of Introduction for Plans for Gathering Line Submittal Materials including items below:

- 32.03.2.01** The name, address, email, and telephone number of the Operator.
- 32.03.2.02** A summary statement of the project
- 32.03.2.03** A description of the Gathering Line, including the product(s) or substance(s) being transported and its/their source, size, terminus or end of route, and type of Facility, including any support structures involved.
- 32.03.2.04** All public utility crossings labeling the diameter and type of utility crossing to include bridges, culverts, water, wastewater, and stormwater infrastructure. Also, identify all public utilities within a one hundred fifty (150) foot buffer from the Gathering Line.
- 32.03.2.05** A description of the route or location of the Gathering Line and reasons for its selection.
- 32.03.2.06** Procedures to be employed in mitigating any adverse impacts of the proposed routes or sites of the Gathering Lines.
- 32.03.2.07** An outline of the planned construction, including startup and commissioning schedule, and include timing of each. The City acknowledges that this outline is subject to change, due to factors including, but not limited to, contractor availability, weather, ability to close ROW tracts, and the timing of third-party facility completion.
- 32.03.2.08** Information from Neighborhood Meeting conducted to include the location, date, time, attendance, and method of advertising.
- 32.03.2.09** A description of the hazards, if any, of fire, explosion, and other dangers to the health, safety, and welfare of the Operator's employees and the public.
- 32.03.2.10** A Decommissioning Plan, which shall address how the Gathering Line will be properly cleaned, capped, and maintained if the Gathering Line will be Properly Abandoned in Place or whether the Gathering Line will be removed from the ground.

- 32.03.2.11** A description of any haul routes during construction, identifying the roads and bridges involved, and the weight of the loads.
- 32.03.2.12** Existing land use within or adjacent to the Gathering Line within 1,800 feet.
- 32.03.2.13** Soils reports required for Gathering Line crossings or any Gathering Line encroaching in a public right-of-way, if required by the Department of Public Works.
- 32.03.2.14** Present zone and overlay zoning districts, which include floodplains and floodways, if appropriate.
- 32.03.2.15** Operator shall provide either authorization letters or agreements from all impacted property owners to verify application can be accepted.
- 32.03.2.16** Signature of the applicant.
- 32.03.2.17** Easements or rights-of-way for the Gathering Line from other landowners or a statement that the Operator is currently in good faith negotiations with the owners of surface properties, irrigation ditch companies and/or affected irrigation ditch easement owners of record at the point crossed by the Gathering Line.
- 32.03.2.18** A statement which provides evidence of compliance with the following standards:
- 32.03.2.18.1** The Gathering Line will not have an undue adverse effect on existing and future development of the surrounding area as set forth in applicable City Master Plans.
 - 32.03.2.18.2** The design of the proposed Gathering Line mitigates negative impacts on the surrounding area to the greatest extent feasible.
 - 32.03.2.18.3** The disturbed area shall be maintained during construction by the Operator or property owner in

such a manner to control soil erosion, dust, and the growth of noxious weeds.

32.03.3 Site Plan for the CGF and Associated Facilities to include the following:

- 32.03.3.01** Proposed location of CGF and Associated Facilities on CGF property
- 32.03.3.02** Road access
- 32.03.3.03** Haul routes
- 32.03.3.04** Existing easements and rights-of-way
- 32.03.3.05** Visible improvements within 500 feet
- 32.03.3.06** Distances to the nearest occupied structure
- 32.03.3.07** Gathering Line Routes
- 32.03.3.08** Interim Reclamation Plan
- 32.03.3.09** Landscape Plan (including fencing and other criteria listed in the BMPs)
- 32.03.3.10** Photometric Plan
- 32.03.3.11** Visual Mitigation Plan
- 32.03.3.12** Air Quality Plan
- 32.03.3.13** Fugitive Dust Suppression Plan
- 32.03.3.14** Emergency Response Plan
- 32.03.3.15** Fluid Disposal Plan
- 32.03.3.16** PHA-HAZOP Letter- The Operator will provide a letter that the PHA-HAZOP has been completed, and the Engineer of record has incorporated all applicable PHA-HAZOP recommendations in the design.
- 32.03.3.17** Noise Management Plan

- 32.03.3.18** Operations Plan
- 32.03.3.19** Project Development Schedule
- 32.03.3.20** Security Plan
- 32.03.3.21** Traffic Letter or other analysis requested in the Pre-Application Notes & Traffic Management Plan
- 32.03.3.22** Wildlife Impact Mitigation Plan (if applicable)
- 32.03.3.23** Road Maintenance Agreement
- 32.03.3.24** Recorded Surface Use Agreement, if applicable
- 32.03.3.25** Stormwater and Erosion Control Plan (Grading, Drainage and Erosion Plan)
- 32.03.3.26** License Agreements, if applicable
- 32.03.3.27** A certified list of the names, addresses, and the corresponding Parcel Identification Numbers assigned by the County Assessor of owners of surface properties located within one hundred fifty (150) feet of the CGF and Associated Facilities. The source of such list shall be the records of the County Assessor, or an ownership update from a title, abstract company, or attorney derived from such records, or from the records of the County Clerk and Recorder. If the list was assembled from the records of the County Assessor, the Operator shall certify that such a list was assembled within thirty (30) days of the application submission date.
- 32.03.3.28** Evidence of Insurance
- 32.03.3.29** Such additional information as may be reasonably required by the City.
- 32.03.3.30** **Fee Payment**

The Operator shall be subject to an administrative fee associated with plan review and report analysis.

32.03.4 Narrative list of applicable BMPs addressed

The Operator shall include those BMPs which (A) the COGCC has the ability to respond to and resolve potential complaints regarding the BMP and (B) the COGCC has enforcement ability to which it can exercise through inspection to ensure compliance with the BMPs.

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SECTION 33.00 SAFETY AND SECURITY

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SECTION 33.00 SAFETY AND SECURITY

33.01 Security Plan

33.01.1 General

A Security Plan must be included with the OGMP application to indicate how the Oil and Gas Facility will be operated and maintained free from purposeful and inadvertent interference from anyone except the Operator. The Security Plan may contain a description of fencing, cattle guards, a remote security system, warning and identification signs, and gating.

33.01.2 Security Fencing

Permanent security fencing shall be installed around the CGF and Associated Facilities and shall be secured. An internal security fence may include chain-link fence with security wire immediately surrounding the CGF and Compressor Station, with visual mitigation of the chain-link fence addressed by BMPs used in the visual mitigation plan. Gating systems shall meet City's Roadway Specification Manual applicable at the time of the OGMP application.

33.02 Emergency Response Plan (ERP)

33.02.1 Detailed Emergency Response Plan

The Operator is required to complete a detailed Emergency Response Plan for all operations in the City of Aurora, and CGF, Gathering Lines, and Associated Facilities in accordance with the provisions of this Section, and Operator shall notify and work with Aurora Fire Rescue, Aurora Public Safety and Bennett Fire to prepare for an emergency if requested by them to do so.

33.02.2 Required Elements of the Emergency Response Plan

The Emergency Action Plan shall consist of at least the following information:

33.02.2.01 Name, address, and phone number, including twenty-four (24) hour emergency numbers for at least two (2) persons responsible for emergency field operations as well as the contact information for any subcontractor of Operator engaged for CGF, Gathering Line, and Associated Facilities emergencies.

- 33.02.2.02** An as-built CGF, Gathering Line, and Associated Facilities map, to be provided after the CGF, Gathering Line, and Associated Facilities are placed in service, in a format suitable for input into a GIS system depicting the locations and type of above-ground facilities and associated equipment for emergency response and management purposes.
- 33.02.2.03** A detailed plan for responding to emergencies that may include any or all of the following: explosions, fires, gas, oil, or water pipeline leaks or ruptures. A provision that any spill outside of the containment area that has the potential to leave the facility or to threaten waters of the state, or as required by the City-approved Emergency Response Plan, shall be reported to the City's LGD.
- 33.02.2.04** Detailed information identifying access or evacuation routes, and health care facilities anticipated to be used.
- 33.02.2.05** A statement and detailed information indicating that the Operator has adequate personnel, supplies, and training to implement the Emergency Response Plan immediately at all times during construction and operations.
- 33.02.2.06** The Operator shall have current Safety Data Sheets (SDS) for all chemicals available upon request. The SDS shall be provided immediately upon request to City officials, a public safety officer, or a health professional as required by COGCC. The contractors of the Operator are responsible for the management of their own SDS and are to be made available upon request.
- 33.02.2.07** All "walkthroughs" or trainings associated with the Emergency Response Plan shall be coordinated with the City or Aurora Fire Rescue, upon their request.
- 33.02.2.08** Operator shall reimburse the appropriate emergency agencies for their expenses resulting from the Operator's operations, to the extent required by Colorado Revised Statutes.
- 33.02.2.09** Operator shall provide the City with its emergency shutdown protocols and promptly notify the City of any emergency shutdowns

related to onsite upset conditions that would have an impact to any area beyond the confines of the CGF, Gathering Line, and Associated Facilities.

33.02.2.10 Operator shall use non-PFAS foam such as Novacool or equivalent if foam is necessary to respond to an accident

33.02.3 Approval of Emergency Action Plan

The City and Aurora Fire Rescue must approve the Emergency Plan before operations commence. Operator shall consult with Sable Altura Fire Rescue and/or Bennett Fire, if applicable.

33.02.4 Emergencies

In case of an emergency, the Operator will have appropriate response foam on hand, and the capacity to apply such, to respond to emergencies at the CGF, Gathering Line, and Associated Facilities. The Operator will have a tank large enough to hold the water needed for putting out a fire of the largest building at the CGF.

33.02.5 Annual Update of Emergency Action Plan

The Emergency Plan shall be filed with the City, Bennett Fire, if applicable, and Aurora Fire Rescue and updated on an annual basis or as conditions change (responsible field personnel change, ownership changes, etc.). As part of the evacuation plan, Emergency Responders will notify surrounding residents.

33.03 PHA-Hazard and Operability Study

33.03.1 PHA-HAZOP

A third party PHA-HAZOP certified facilitator shall coordinate the Hazard and Operability Study with the Operator after the permitting phase. If any of the findings by the PHA-HAZOP certified facilitator is applicable, this information will be added to the Emergency Response Plan and the Aurora Fire Rescue training. The Operator will provide a letter that the Engineer of record has incorporated all applicable PHA-HAZOP recommendations in the design.

33.03.1.01 The Engineer or record letter shall include the credentials of pertinent individuals that are responsible for any studies, design, and

operational implementation, such as the “certified facilitator, Engineer of record, data analyst, design team, etc.”

33.04 Photometric Plan

33.04.1 A Photometric Plan must be included with the OGMP application.

33.04.2 Lighting shall be downcast and shall not shine beyond the boundaries of the CGF and Associated Facilities.

33.05 Discharge Valves

33.05.1 General

Open-ended discharge valves on all storage tanks, pipelines, and other containers within the CGF, Gathering Line, and Associated Facilities shall be secured and shall not be accessible to the general public. Open-ended discharge valves within the CGF, Gathering Line, and Associated Facilities shall be blinded and locked and where feasible placed within the interior of the secondary containment area.

33.06 Chemical Disclosure and Storage

33.06.1 General

Operator shall disclose the referenced chemicals to the Aurora Fire Rescue and Bennett Fire as part of the Emergency Response Plan pursuant to the process set forth in the ERP. Chemicals that will be disclosed include methanol, tri-ethylene glycol, corrosion inhibitor, and other operational required chemicals used for the safe operation of CGF and Associated Facilities.

33.07 Automatic Safety Protective Systems and Surface Safety Valve

33.07.1 General

An automated safety system, governed by safety devices and a programmable logic computer, will be installed at the CGF, Gathering Line, and Associated Facilities. The automated safety system shall include the installation, monitoring, and remote control of Safety shutdown valves (SDVs), among many other engineered measures and devices that are implemented to greatly reduce or eliminate the potential for an upset condition.

33.07.1.01 The SDV will be equipped to operate remotely via the automated safety protective system, which monitors multiple flowing pressures

and rates which have predetermined maximum and/or minimum threshold values programmed and will remotely shut in the CGF, Gathering Line, and Associated Facilities should certain upset conditions be detected. Additionally, the automated safety system provides the ability to remotely shut-in the CGF, Gathering Line, and Associated Facilities on demand through Operator remote intervention. The Automatic Safety Protective System will have documented quarterly testing to ensure functionality.

33.07.1.02 Automated Safety Systems shall be maintained per OSHA PSM guidance and annually documented compliance.

33.07.1.03 Automated Process and Safety Systems shall be maintained per OSHA PSM guidance, and a Computerized Maintenance Management System implemented for compliance and auditable periodic testing.

33.08 Flammable Material

All ground within twenty-five (25) feet of any tank, or other structure containing flammable or combustible materials, shall be kept free of dry weeds, grass, rubbish or landscaping.

33.09 General Maintenance

Operator shall operate and maintain all equipment pursuant to manufacturer specifications consistent with technological limitations and reasonable and customary maintenance practices.

33.10 Miscellaneous

33.10.1 Lightning Protection

Lightning protection mitigation measures will be considered by the Operator during the CGF and Associated Facilities design and installed per industry best practice to mitigate lightning strike events and/or consequences.

33.11 Insurance

33.11.1 General

The Operator shall provide liability and insurance under the conditions, and in the amounts, set forth below.

33.11.2 Operator shall maintain or cause to be maintained, with insurers authorized by the state of Colorado and carrying a financial strength rating from AM. Best of no less than A- VII (or a similar rating from an equivalent recognized rating agency), at a minimum, the following types of insurance with limits no less than the amounts indicated:

33.11.2.01 Commercial General Liability insurance on an occurrence-based form including coverage for bodily injury or property damage for operations and products and completed operations with limits of not less than \$1,000,000 each and every occurrence.

33.11.2.02 Automobile Liability insurance with limits of not less than \$1,000,000 each and every occurrence.

33.11.2.03 Workers' Compensation insurance- Statutory Workers' Compensation Coverage for the employee's normal State of employment/hire. Including Employer's Liability insurance with limits of not less than \$1,000,000 Each Accident, Disease- Each Employee, Disease - Policy Limit.

33.11.2.04 Umbrella/Excess Liability - in excess of General Liability, Employer's Liability, and Automobile Liability with limits no less than \$25,000,000 per occurrence; provided, however, that for so long as the Construction Phase is ongoing at the CGF, Gathering Line, and Associated Facilities, Operator will maintain such insurance with limits no less than \$100,000,000 per occurrence.

33.11.2.05 Environmental Liability/Pollution Legal Liability insurance- with limits of not less than \$5,000,000 per pollution incident, with coverage being required beginning with the date that is eight (8) years from the date of CGF, Gathering Line, and Associated Facilities construction. (the "Required Date"). Coverage must include gradual pollution events. This insurance may be on a claims-made basis; however, the retroactive date must precede the Required Date.

33.11.3 Operator shall waive and cause its insurers under the above policies to waive for the benefit of the City any right of recovery or subrogation which the insurer may

have or acquire against the City or any of its affiliates, or its or their employees, officers or directors for payments made or to be made under such policies.

- 33.11.4** As it pertains to the risks and liabilities assumed by Operator, Operator shall add the City and its elected and appointed officials and employees as Additional Insureds under general liability (including operations and completed operations), auto liability, and umbrella liability.
- 33.11.5** Operator shall ensure that each of the policies is endorsed to provide that they are primary without right of contribution from the City or any insurance or self-insurance otherwise maintained by the City, and not in excess of any insurance issued to the City.
- 33.11.6** Operator shall ensure that each of the policies above (excluding workers' compensation and OCC/COW) are endorsed to state that the inclusion of more than one insured under such insurance policy shall not operate to impair the rights of one insured against another insured and that the coverage afforded by each insurance policy shall apply as though a separate policy had been issued to each insured.
- 33.11.7** All policies shall be endorsed such that they cannot be canceled or non-renewed without at least thirty (30) days' advanced written notice to the Operator and the City, evidenced by return receipt via United States mail, except when such policy is being canceled for nonpayment of premium, in which case ten (10) days advance written notice is required. Language relating to cancellation requirements stating that the insurer's notice obligation is limited to "endeavor to" is not acceptable.
- 33.11.8** Operator shall, prior to permit issuance, deliver Certificates of Insurance reasonably acceptable to the City confirming all required minimum insurance is in full force and effect. •
- 33.11.9** Deductibles or retentions shall be the responsibility of Operator. Deductibles or retentions must be listed on the Certificate of Insurance required herein and are subject to the reasonable approval of the City.
- 33.11.10** Operator shall require any of its subcontractors to carry the types of coverage and in the minimum amounts in accordance with the requirements set out in Section 1.A, 1.B., and 1.C. Operator shall be responsible for any damage or loss suffered

by the City as a result of non-compliance by Operator or any subcontractor with this Section.

33.11.11 In the event that Operator's coverage lapses, is canceled, or otherwise not in force, the City reserves the right to obtain the insurance required herein and charge all costs and associated expenses to Operator, which shall become due and payable immediately.

33.12 Risk Management

As part of Operator's application to the City, Operator shall provide a risk management plan, which will include the identification of potential risks, methods of risk avoidance, and controls that implement techniques to prevent accidents and losses and reduce the impact or cost after the occurrence of identified potential events.

SECTION 34.00 PROTECTION OF WATER QUALITY

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34.02 Surface Water Protection 34-2

34.03 Groundwater Protection 34-3

34.04 Water During Drilling Phase 34-3

34.05 Construction of Gathering Line 34-3

34.06 Berms for Fluid Containment 34-4

34.07 Floodways 34-4

34.08 Drainage 34-5

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SECTION 34.00 PROTECTION OF WATER QUALITY

34.01 General

34.01.1 Water Sources

The City, through Aurora Water, will identify Water Sources and Critical Infrastructure located near Operator's infrastructure, and the Water Sources and Critical Infrastructure will be noted on Operator's Site Plans that will be provided during the review process. The Operator will then note the distance of the Water Sources and Critical Infrastructure from the edge of the CGF and Associated Facilities.

34.01.2 Water Supply

The Operator shall comply with applicable laws, rules, and regulations concerning the source(s) of water used in the construction and operations phase.

34.02 Surface Water Protection

34.02.1 Maintenance

Routine field maintenance of vehicles or mobile machinery shall not be performed within five hundred (500) feet of any Waters of the United States, as defined by the EPA. All fueling must occur over impervious material, and spills must be cleaned up and properly disposed of.

34.02.2 Wastewater and Waste Management

Operator must submit a waste management plan to the City that complies with the following:

34.02.2.01 All fluids shall be contained, and there shall be no discharge of fluids with the exception of unimpacted stormwater per federal Spill Prevention, Control, and Countermeasure Plan (SPCC) regulations.

34.02.2.02 Waste shall be stored in tanks, transported by tanker trucks and/or pipelines, and disposed of at licensed disposal or recycling sites.

34.02.2.03 A copy of the Operator's Spill Prevention, Control, and Countermeasure Plan (SPCC) will be submitted to the City as part of the wastewater and waste management plan. The SPCC shall

meet all federal requirements associated with spill prevention and mitigation practices.

34.02.3 Stormwater Management

Operator must apply for and obtain a City stormwater and erosion control permit. Erosion and sedimentation control are required.

34.03 Groundwater Protection

34.03.1 Groundwater Pollution Mitigation.

Operator shall avoid causing degradation to surface or ground waters within the City and to wetlands within the City. If Operator is responsible for degradation to water, it will pay its proportionate share to restore water quality as close to baseline as possible.

34.03.2 Class II Underground Injection Control Wells

For operations associated with the CGF, the Operator shall not develop, use, operate or contract with any third party for the use of any Class II Underground Injection Control Wells within the City Limits or within a four (4) mile buffer of the City's existing or planned critical infrastructure. The City shall provide Operator with a map that defines the critical infrastructure.

34.04 Water During Drilling Phase

34.04.1 Water Supply

Operator will enter into a separate agreement with the City for the delivery of groundwater through a commercially exempt well in accordance with the Colorado Division of Water Resources if City water infrastructure is unavailable.

34.05 Construction of Gathering Line

34.05.1 General

The Operator shall construct a Gathering Line for the transportation of hydrocarbons and produced water to the CGF.

34.05.2 Temporary Use of Tanks

Operator shall be permitted to utilize temporary tanks during Gathering Line maintenance operations, provided Operator has obtained City approval regarding the location and required screening for temporary tanks if the maintenance or temporary tanks are present longer than a week. For maintenance operations that extend greater than seven (7) days, Operator shall give City prior notice of maintenance activities within three (3) days and planned number of temporary tanks.

34.06 Berms for Fluid Containment

34.06.1 General

The Operator shall utilize steel-rim berms around all permanent facility tankage at the CGF and Compressor Station with sufficient capacity to contain the maximum volume of the largest tank on location, plus a twenty-five (25)-year twenty-four (24)-hour rain event, plus sufficient freeboard to prevent overflow.

34.06.1.01 All berms and containment devices shall be inspected quarterly by the Operator and maintained in good condition.

34.06.1.02 No potential ignition sources shall be installed inside the secondary containment area unless the containment area encloses a fired vessel, or such sources are rated in accordance with industry codes and standards.

34.06.2 Permanent Berms

Permanent containment berms shall be constructed of earthen berms or steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation.

34.06.3 Secondary Containment

Secondary containment shall be constructed with a synthetic or engineered liner that is mechanically connected to the steel ring to prevent leakage.

34.07 Floodways

Additional BMPs related to water preservation or protection shall be imposed by the City staff during the OGMP application process in order to mitigate risks of potential contamination to a floodway.

34.08 Drainage

- 34.08.1 Planning Process & Preliminary Drainage Reports** The OGMP process may require the submittal of a Preliminary Drainage Report for Oil & Gas Facilities and Pumping Stations.
- 34.08.2 Civil Plans—Process** Public Works Engineering will require a civil plan Pre-Submittal Meeting to be held. To set up a meeting, please contact the Aurora Public Works Department.
- 34.08.3 Civil Plans—Content and Naming Convention** Operator Agreements and associated applications and checklists for Oil & Gas Facilities have been developed using the term “Storm Water Management Plans (SWMPs)” in reference to the Civil Plans for these sites. The Civil Plans for Oil & Gas Facilities include features that go beyond typical SWMPs. Drainage Reports (both Preliminary and Final) and Civil Plan submittals will be reviewed using City standards.
- 34.08.4 Civil Plans—Submittal Package** Civil Plan submittals for Oil & Gas Facilities will be determined on a case by case basis at civil plan pre-submittal meeting and may include: Final Drainage Report, Storm Water Management Report, and an Inspection and Maintenance Plan. Any grading within an existing utility easement may require structural loading evaluation as determined at the civil plan pre-submittal meeting. The structural loading evaluation shall be submitted with the first submittal of civil plans.
- 34.08.5 Subsurface Utility Investigation/Loading Information** For Oil & Gas Facility Civil Plans, the City of Aurora Roadway Specifications SUE note 22 (which refers to SB 18-167 and will be updated to refer to CRS 9-1.5) is a required note to be placed on the plans. In addition, Aurora Water requires any crossing of existing utilities or tie-ins to provide pre-design potholing.
- 34.08.6 Oil and Gas Pipeline Civil Plans—Content** Civil Plans for Oil and Gas Pipelines shall include Plan & Profile sheets (P&Ps) where such pipelines cross City ROW, utility easements, floodplains, or other critical areas as determined on a case-by-case basis. The Subsurface Utility Investigations described above shall be used to provide depictions of existing utilities on those profiles. The P&Ps shall be included with the SWMP submittal
- 34.08.7 Drainage Easements/License Agreements** For all Oil & Gas Facilities, the need for Easements and License Agreements shall be evaluated on a case-by-case

basis. If there is a need for a drainage or license agreement these documents must be executed prior to civil plan approval

34.08.8 Oil and Gas Pipeline CAD Files and As-Builts 3-D CAD files that include the entire pipeline shall be submitted to the City with the Signature Set of Civil Plans. In addition, the City requires as-builts for entire pipeline alignments upon construction completion, for pipelines external to pad sites. This shall be noted on the Site Plans, Civil Plans, and in Storm Water Permits.

34.08.9 CAD Submittal Standards. The City has developed CAD Data Submittal Standards to streamline the process of importing AutoCAD information into the city's Enterprise GIS. A digital submission meeting the CAD Data Submittal Standards is required before the final Site Plan mylars can be routed for signatures or recorded. Please review the CAD Data Submittal Standards, including templates and required layer file labeling, at <http://tinyurl.com/AuroraCAD>. Email your Case Manager the appropriate Site Plan and Pipeline Easement files before submitting your final Site Plan mylars. Once received, the City's AutoCAD Operator will run an audit report and your Case Manager will let you know whether the file meets or does not meet the City's CAD Data Submittal Standards. Please email CADGIS@auroragov.org for questions or more detailed instructions.

SECTION 35.00 PROTECTION OF AIR QUALITY

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35.02 Odor..... 35-6
35.03 Noise Mitigation 35-6
35.04 Electric Equipment..... 35-7

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SECTION 35.00 PROTECTION OF AIR QUALITY

The BMPs in this Section relate to the CGF and Associated Facilities only.

35.01 Air Quality Monitoring Plan

35.01.1 General

In order to minimize degradation to air quality, Operator shall eliminate, capture, or minimize all potentially harmful emissions and minimize dust associated with onsite activities and traffic on access roads. Operator shall comply with all applicable state and federal regulations, including regulations promulgated by CDPHE, COGCC, and US EPA.

35.01.2 Minimization of Emissions

To protect air quality, the following will be required:

- 35.01.2.01** The use of electric equipment and electric line power to operate all permanent production equipment.
- 35.01.2.02** Natural gas engines and turbines will be operated and maintained in accordance with the CDPHE and the US EPA regulations and emissions standards.
- 35.01.2.03** The use of no-bleed continuous and intermittent pneumatic devices that do not bleed natural gas to the atmosphere. This requirement can be met by replacing natural gas with electricity or instrument air, or routing the discharge emissions to a closed loop-system or process.
- 35.01.2.04** Any combustion device, auto-ignition system, recorder, vapor recovery device, or other equipment used to meet the hydrocarbon destruction or control efficiency requirement shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- 35.01.2.05** Year-round compliance with the odor standards pursuant to COGCC and CDPHE regulations.

- 35.01.2.06** Venting is prohibited unless necessary for safety. If emergency venting is required, or if accidental venting occurs, the Operator shall provide notice to the City of such event as soon as, but in no event later than twenty-four (24) hours from the time of the event, with the information listed above and with an explanation as to the cause and how the event will be avoided in the future.
- 35.01.2.07** Reduction of emissions from oil and gas well maintenance activities. For planned maintenance activities involving the intentional flaring of gas, the Operator shall provide forty-eight (48) hour advance written notice to the City of such proposed flaring. Such notice shall identify the duration and nature of the flaring event, a description as to why flaring is necessary, what steps will be taken to limit the duration of flaring, and what steps the Operator proposes to undertake to minimize similar events in the future.
- 35.01.2.08** Telemetric control and monitoring systems to detect when pilot lights on control devices are extinguished.
- 35.01.2.09** Exhaust from all engines, motors, coolers, and all other equipment must be vented up and away from the nearest residences.
- 35.01.2.10** Operator shall participate in Natural Gas STAR program or other voluntary programs to encourage innovation in pollution control at sites.

35.01.3 Air Monitoring and Leak Detection

- 35.01.3.01 Leak Detection and Repair** The Operator shall develop and maintain a Leak Detection And Repair (LDAR) program as required by CDPHE using modern leak detection technologies such as infra-red cameras. The Operator shall conduct quarterly IR camera monitoring or alternative instrument monitoring method of all permanent production equipment.
- 35.01.3.02** Except when an emergency circumstance would necessitate an immediate repair, Operator must repair leaks as quickly as practicable. If more than five (5) days repair time is needed after a leak is discovered, an explanation of why more time is required must

be submitted to the City. At least once per year, the Operator shall notify the City five (5) business days prior to an LDAR inspection of its facilities to provide the City the opportunity to observe the inspection.

35.01.3.03 Data related to LDAR during any phase shall be made available to the City upon request.

35.01.4 Ozone Air Quality Action Days

The Operator shall respond to Ozone Air Quality Action Day advisories posted by the CDPHE for the Front Range Area by implementing their suggested air emission reduction measures as feasible. Emission reduction measures shall be implemented for the duration of an Ozone Air Quality Action Day advisory and may include measures such as:

35.01.4.01 Minimization of vehicle and engine idling.

35.01.4.02 Reducing truck traffic and worker traffic.

35.01.4.03 Delaying vehicle refueling.

35.01.4.04 Postponement of construction and maintenance activities to the maximum extent practicable.

35.01.4.05 Within thirty (30) days following the conclusion of each annual Ozone Air Quality Action Day season, Operator must submit a report to the City that details which measures it implemented during any Ozone Air Quality Action Day advisories.

35.01.5 Compliance Reports

The Operator must submit bi-annual reports to the City certifying (i) compliance with these air quality requirements and documenting any periods of material non-compliance, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance, (ii) that the equipment at the CGF and Associated Facilities continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The bi-annual report must contain a certification as to the truth, accuracy, and completeness of the reports, signed by a

Responsible Official. The Operator will also provide the City with a copy of any self-reporting submissions that Operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the CGF and Associated Facilities.

35.01.6 Combustion Devices

To the extent flares, thermal oxidizers, or combustion devices are utilized, all such flares shall be designed and operated as follows:

35.01.6.01 A combustion device shall be available at the CGF and Compressor Station during operations for maintenance or emergencies only.

35.01.6.02 The combustion device must be fired with natural gas and designed to operate with a ninety-eight (98) percent or higher hydrocarbon destruction efficiency.

35.01.6.03 The combustion device must be designed and operated in a manner that will ensure no visible emissions during normal operation. Visible emissions mean observations of smoke for any period or periods of duration greater than or equal to one (1) minute in any fifteen (15) minute period during normal operation, pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor.

35.01.6.04 The combustion device must be operated with a flame present at all times when emissions may be vented to it, or another mechanism that does not allow uncontrolled emissions.

35.01.6.05 All combustion devices must be equipped with an auto-igniter unless manned while in use.

35.01.7 Burning

No open burning except for the use of combusters or flares shall occur on the site of any oil and gas operation, as per City Code.

35.02 Odor

35.02.1 Odor Prevention

Operator will prevent odors by routing to closed-loop systems. Odor emitting from the CGF and Associated Facilities must be controlled immediately. Operator must minimize odors by proactively addressing and resolving citizen concerns within twenty-four (24) hours.

35.03 Noise Mitigation

For the CGF and compressor station, the following noise mitigation apply:

35.03.1 Operator shall comply with noise requirements set forth in the City's zoning code for all construction activities.

35.03.2 Operator shall adhere to the City's noise ordinance:

35.03.3 Operator may be required to provide for additional noise mitigation based on the following site-specific characteristics considering the distance from the nearest residential structure :

35.03.3.01 Nature and proximity of adjacent development (design, location, use)

35.03.3.02 Prevailing weather patterns, including wind directions

35.03.3.03 Type and intensity of the noise emitted

35.03.3.04 Vegetative cover on or adjacent to the site or topography

35.03.4 Based on the foregoing, if there is a Residential Building Unit within one thousand three hundred twenty (1,320) feet of the CGF or compressor station location, the City may require one or more of the following additional noise abatement measures or BMPs depending on the site including:

35.03.4.01 A Noise Management Plan specifying the hours of maximum noise and the type, frequency, and level of noise emitted, and the mitigation methods to be employed to control both A and C scale noise.

35.03.4.02 A Baseline Noise Mitigation Study shall be conducted to ascertain baseline noise levels at the CGF to demonstrate that noise is expected to be mitigated to the maximum extent practicable, and a copy will be provided to the City.

35.03.5 All noise mitigation measures shall be paid for by the Operator.

35.03.6 Noise Mitigation Barriers The Operator shall use a combination of berms, bales, and other measures during the construction of the CGF and Associated Facilities. During the operations of the CGF and Associated Facilities, the Operator shall use a combination of equipment enclosures, structures, or pre-engineered buildings, berms, landscaping, and other visual mitigation measures to ensure compliance with the City's noise ordinance.

35.04 Electric Equipment

Operator shall use electric line power, to power permanent production equipment, such as compressors and motors, in order to mitigate noise and to reduce emissions.

SECTION 36.00 PROTECTION OF SURFACE QUALITY

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SECTION 36.00 PROTECTION OF SURFACE QUALITY

36.01 License Agreements

Operator shall use Gathering Lines to be built in accordance with specifications set forth in Section 38 of this Oil & Gas Manual. Operator will utilize Gathering Lines once operations commence. The Operator's obligation to build and utilize such Gathering Lines is subject to the Operator obtaining all necessary rights-of-way, crossings, licenses and easements, and the City issuing Operator the necessary Public Improvement Permits.

36.02 Fugitive Dust Suppression

36.02.1 Minimize Dust

Dust associated with on-site activities and traffic along pipeline ROW shall be minimized throughout construction and operational activities such that there are no visible dust emissions from access roads or the CGF, Gathering Line, and Associated Facilities unless infeasible given wind conditions. If dust is not suppressed, the City may require the surface to be improved to a dust-free surface.

36.02.2 Water Use

No untreated produced water or other process fluids shall be used for dust suppression.

36.02.3 Safety Data Sheets (SDS)

Safety Data Sheets (SDS) for any chemical-based dust suppressant, other than magnesium chloride, shall be submitted to the City prior to use.

36.03 Visual Mitigation

36.03.1 General

Operator shall submit a landscape and screening plan to mitigate visual impacts from the CGF and Associated Facilities for City approval during the OGMP review process.

Visual impacts from the CGF and Associated Facilities, including security fencing, shall be mitigated through a combination of equipment enclosures, structures or pre-engineered buildings, landscaping, opaque fencing, or other similar measures from the public right-of-way and critical public views. Critical public views are

defined as views from existing adjacent surface property owners as of the date of the OGMP application. Visual mitigation may be reduced or waived if written approval is provided by the adjacent surface property owners, and the City determines that the reduction or waiver is not visible from the public right-of-way or impairs critical public views.

36.03.2 Color

All permanent above-ground associated production equipment, structures, and stationary equipment on each CGF, Gathering Line, Associated Facilities shall be painted in a tan or brown matte finish unless a different color is necessary for safety per regulations.

36.04 Traffic

36.04.1 Transportation and Circulation

The Operator will submit a traffic management plan for the City to review and, if acceptable, approve that includes detailed descriptions of all proposed haul routes for equipment, pipe, and all other material to be hauled on the public and private streets and roads during pipeline and facility construction. The traffic management plan shall include the following:

- 36.04.1.01** Estimated weights of vehicles when loaded, a description of the vehicles, including the number of wheels and axles of such vehicles and estimated trips per day.
- 36.04.1.02** Detail of access locations for each CGF, Gathering Lines, and Associated Facilities, including sight distance, turning radius of vehicles, and a template indicating this is feasible.
- 36.04.1.03** Truck traffic volumes converted to equivalent single axle loads and compared with existing volumes. Trucks anticipated on roadways that are being accessed to equivalent single axle loads using existing volumes and proposed with extraction activities.
- 36.04.1.04** Truck routing map and truck turning radius templates with a listing of required improvements that are necessary at intersections along the route.

- 36.04.1.05** Complete traffic letter, determining operational changes and geometric modifications necessary as a result of Operator's activities.
- 36.04.1.06** Identification of the need for any additional traffic lanes, which would be subject to the final approval of the City's engineer.
- 36.04.1.07** Restriction of non-essential traffic to and from CGF, Gathering Lines, and Associated Facilities to periods outside of peak a.m. and p.m. traffic periods and during school hours of schools along the designated traffic routes (generally 7-9 a.m. and 3-6 p.m.).
- 36.04.1.08** City may request consolidated haul routes and roadway improvements, or upgrades based on the contents of the traffic management plan.
- 36.04.1.09** Road Repairs will be addressed as set forth in the Road Maintenance Agreement. A separate Road Maintenance Agreement shall be required for Operator.

36.05 Road Maintenance

36.05.1 Access Roads

Access points to public roads shall be located, improved, and maintained to ensure adequate capacity for efficient movement of existing and projected traffic volumes and to minimize traffic hazards.

- 36.05.1.01** Permanent access roads must be improved a minimum distance of two hundred (200) feet on the access road from the point of connection to a public road. All access roads shall be in conformance with the City's Roadway Specification Manual applicable at the time of OGMP application for CGF, Gathering Lines, and Associated Facilities. The access road must be improved as a hard surface (concrete or asphalt) for the first one hundred (100) feet from the public road, unless the public road is not already a hard surface, in which case, Operator shall meet the current standards of the public road and the access road must be improved as a crushed surface (concrete or asphalt) for one hundred (100) feet past the hard surface in the appropriate depth to support the weight load

requirements of the vehicles accessing the CGF, Gathering Line, and Associated Facilities.

36.05.1.02 A geotechnical report and pavement design will be submitted to the City for approval. If an access road intersects with a pedestrian trail or walk, the Operator must pave the access road as a hard surface (concrete or asphalt) a distance of one hundred (100) feet on either side of the trail or walk and if necessary, replace the trail or walk to address the weight load requirements of the vehicles accessing the well and production facilities unless the trail or walk is not already a hard surface, in which case, Operator shall meet the current standards of the trail or walk. Temporary access roads associated with the operation must be reclaimed and revegetated to the original state within sixty (60) days after discontinued use of the temporary access roads.

36.05.1.03 For the CGF, all required roadways for the project shall be evaluated and included in a Public Improvement Plan.

36.05.1.04 Temporary access roads associated with the operation shall be reclaimed and revegetated to the original state within sixty (60) days after discontinued use of the temporary access roads.

36.05.2 Mud Tracking

In accordance with the Storm Water Management Plan, the Operator shall take all practicable measures to ensure that vehicles do not track mud or debris onto City streets. If mud or debris is nonetheless deposited on City streets, in excess of *de minimus* levels, the streets shall be cleaned within twenty-four (24) hours by the Operator. If, for some reason, this cannot be done or needs to be postponed, the City shall be notified of the Operator's plan for mud removal.

36.05.3 Culverts

Operator shall construct all necessary culverts for road construction per any available City or County, as applicable, Drainage Plan. In the event no information is available, the Operator shall complete any necessary studies or analysis to determine the appropriate culvert size.

36.05.4 Road Repairs

Road repairs will be addressed as set forth in the Road Maintenance Agreement.

36.06 Tree Mitigation

CGF, Gathering Line, and Associated Facilities shall be constructed in a manner to minimize the removal of and damage to and replacement of existing trees in accordance with the City's tree mitigation policy.

36.07 Cultural and Historical Resource Protection

36.07.1 General

The Operator shall comply with the City of Aurora Municipal Code, as amended, by not causing any construction, alteration, removal, or demolition of a building or feature or make any changes that would impair the historical association of the landmark building, landmark site, or historic district, pursuant to those qualities depicted in the Code, without first obtaining approval. Operator will submit the permit application and await the planning department's approval following referral to the historic preservation commission, if applicable. If there is a discovery of historical artifacts, Operator will notify the City.

36.07.2 Protection of Natural, Historical, and Archaeological Resources

The nature and location of an Oil and Gas Midstream location or facility shall not interfere with or affect any unique natural resource, historical site or landmark, or known archaeological site.

36.08 Wildlife/WIMP

This BMP is only applicable in the event that a Facility is located in a significant wildlife habitat or high priority habitat, as defined by the State Division of Wildlife, and/or in a natural area or open space. In such a case, the Operator shall consult with the State Division of Wildlife or the City Parks, Recreation and Open Space Department to obtain recommendations for appropriate site-specific and cumulative impact mitigation procedures. If not applicable, Operator shall provide the City with a statement that it has investigated whether the Facility is located near a significant wildlife habitat and that this BMP is not applicable.

36.09 Buildings, Structures, and Associated Appurtenances

Any buildings or structures must meet the design standards contained in the Aurora Municipal Code. All site features shall be integrated into the building or site design.

36.10 Removal of Debris

All construction-related debris shall be removed from the CGF, Gathering Line, and Associated Facilities for proper disposal in a timely manner. The CGF, Gathering System, Flowlines, and Associated Facilities shall be maintained free of debris and excess materials at all times during operation. Operator shall also not stockpile debris at the CGF, Gathering Line, and Associated Facilities.

36.11 Trailers

A construction trailer(s) is permitted as an accessory use during construction only. No permanent residential trailers shall be permitted at the CGF, Gathering Line, and Associated Facilities; provided, however, that until six (6) months following the end of the construction phase on the CGF, Gathering Line, and Associated Facilities, temporary residential and/or security trailers are permitted, as needed for on-site operations, for exclusive use by the Operator's personnel and the personnel of its subcontractors on a temporary basis.

36.12 Noxious Weed Control

The Operator shall be responsible for ongoing noxious weed control as defined under the Colorado Noxious Weed Act (C.R.S. § 35-5.5-101 *et seq.*) at the CGF, Associated Facilities, along access roads, and in disturbed areas under restoration as a result of related construction activities or operations per City or other applicable agency regulations.

36.13 Park and Open Space Area Setback

The CGF, Gathering Line, and Associated Facilities, shall be sited a minimum of three hundred fifty (350) feet away from existing and proposed parks and open space areas. This distance shall be measured from the perimeter of the CGF, Gathering Line, or Associated Facility. For Gathering Lines that pass within three hundred fifty (350) feet of a park or open space area, a mitigation plan which identifies measures to be taken to mitigate impacts to parks and open space areas shall be submitted to the City.

36.14 Reclamation

36.14.1 Interim Reclamation.

Operator must submit an Oil & Gas Facility Interim Reclamation Plan to the City with each OGMP.

36.14.2 Final Reclamation Plan.

Operator must submit a Final Oil & Gas Facility Reclamation Plan to the City concurrently with the submission of the COGCC permit to decommission any CGF, Gathering Line, or Associated Facility.

36.14.3 Decommissioning of Gathering Lines

Operator shall properly drain and decommission in accordance with City, COGCC, DOT and PHMSA rules and regulations all Gathering Lines associated with any Plugged and Abandoned Well or Wells which are plugged, abandoned, and decommissioned by oil and gas upstream affiliate Operator(s), and shall remove from service all Gathering Lines related to the plugged wells by either abandoning in place and filling with flow fill or removing the pipe subject to approval by the City.

36.15 Damages

The initial cost of installing the Gathering Line and of maintaining such easements shall be borne by the Operator. In the event that Operator relocates an access road or Gathering Line causing damage to improvements owned by the City, the Operator shall repair the damage pursuant to the appropriate permit. If Operator fails to make the necessary repairs, Operator shall promptly reimburse the City for such damage upon receipt of a reasonable itemized statement that documents the cost to repair the damage; provided that, such reimbursement shall be received by the City no later than forty-five (45) calendar days from the date of the itemized statement. Notwithstanding the foregoing, nothing in this paragraph prevents an independent developer from seeking an agreement with Operator to relocate Gathering Lines. In the event that a relocation of the Gathering Line is needed, the City and the Operator will work cooperatively to identify an alternative route and Operator shall be permitted to maintain use of the existing Gathering Line until six (6) months after City's approval of any necessary permits for such alternative routes.

SECTION 37.00 GENERAL OIL & GAS MIDSTREAM PERMIT REQUIREMENTS

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SECTION 37.00 GENERAL OIL & GAS MIDSTREAM PERMIT REQUIREMENTS

37.01 Surface Stakeholder Notification

37.01.1 Notice of Application

When Operator submits an OGMP application to the City, the Operator shall provide a list of all property owners (names, property addresses and mailing addresses) and all registered neighborhood organizations within one mile of the CGF and Associated Facilities and the surface owners of the property upon which the CGF or Associated Facilities is located (Notified Residents). The City shall send out notices of the OGMP application to notified residents when the review process commences for the purpose of receiving public comment.

37.01.2 Resident Notification of Neighborhood Meeting

When the City begins the OGMP review process, the Operator shall send notification of a Neighborhood Meeting to all Notified Residents. The notice must include:

- Operator's contact information
- Approximate date to begin drilling
- Information on the Neighborhood Meeting

Operator shall send proof of mailed notices to the City by affidavit or certificate of mailing.

37.01.3 Neighborhood Meeting

Upon City acceptance of the OGMP application, the Operator shall hold a meeting to facilitate engagement between the Operator and nearby residents (Neighborhood Meeting). Operator shall notify all Notified Residents of the Neighborhood Meeting. Operator shall provide notice a minimum of ten (10) days in advance of the Neighborhood Meeting.

Notified Residents may submit written comments to the City on the OGMP application, including the BMPs. The City shall transmit those comments which require an Operator response to the Operator. Operator shall respond to those comments within thirty (30) days in writing to the City. A neighborhood meeting may not be required if there are no residents within one (1) mile of the CGF or

Associated Facilities location, no comments are received from the initial notice of the filing of OGMP Application, and the City agrees.

37.01.4 Notice of Administrative Decision

The City shall provide Operator with a form letter for Notice of Administrative Decision for a pending OGMP application. At least ten (10) calendar days prior to the scheduled decision on an OGMP application, the Operator shall send out a Notice of Administrative Decision to the Notified Residents. The Operator shall provide proof to the city of mailed notices by affidavit or certificate of mailing.

37.02 Other Notifications

37.02.1 General

All notices and other correspondence sent to the City shall be in writing and shall be delivered by: (A) certified mail with return receipt, or (B) hand delivery with signature or delivery receipt provided by a third-party courier service (such as FedEx, UPS, etc.) to the designated representative of the City as indicated below, or (C) email to the designated representative of the City as indicated below.

City of Aurora
Oil & Gas Division
15151 E. Alameda Parkway, #5900
Aurora, CO 80012

Attn: Oil & Gas Manager
Telephone: 303-739-7676
Email: jsmoore@auroragov.org

37.02.2 Notifications to the City Regarding Commencement of Construction at CGF and Pipeline Operations

Written notice to the City no less than thirty (30) days prior to the commencement of any of the following: Construction, planned maintenance, and abandonment. Operator must obtain all necessary permits prior to construction. Any notification provided by Operator to City may be used by the City for public notification. All Notifications shall be submitted to the Planning Local Government Designee

(LGD) with copies to the Public Works City Engineer and the Water Department Environmental Services Manager.

37.02.3 Routine Maintenance

Operator may perform all maintenance and operations on the CGF, Gathering Lines that the Operator deems prudent and necessary as long as in accordance with requirements set forth by easement language and state and federal requirements. Operator may perform routine maintenance of CGF, Gathering Line, and Associated Facilities without prior notification to the City.

37.02.3.01 If Operator intends to perform maintenance that may be excessively loud or performed with vehicles larger than a standard work vehicle, the City appreciates advance notification in order to best answer questions from citizens.

37.03 Incidents/Spills

37.03.1 Events or Incidents. Any COGCC reportable safety event or OSHA reportable injuries shall be reported to the City within twenty-four (24) hours. Once the applicable forms are submitted to the agency, a copy of that form will be provided to the City. In the event of a fire, explosion, or need for emergency services response, 911 shall be called.

37.03.2 Spills. Operator must notify the City of any spill of any material on permeable ground on the CGF, Gathering Line, and Associated Facilities that have a reportable spill quantity under any law. Operator will also provide the City with a copy of any self-reporting submissions that Operator provides to the COGCC due to any spills at the CGF, Gathering Line, and Associated Facilities.

37.04 Annual Development Schedule

The Operator shall provide a summary of planned operations and an operational timeline (Development Schedule) to the City by January 31 of each year. The Operator may revise the summary and timeline from time to time provided that the Operator will keep the City informed of any revision to the Development Schedule. The Development Schedule should include a brief summary of major planned operations at all of Operator's Oil & Gas Midstream locations and Associated Facilities within the City for the coming year, including a proposed timeline of operations, and any new permitting activities. This report is informal in nature and may be changed by the Operator at any time. The report provides guidance to the City staff for planning workflows.

37.05 Previously Installed Facilities

When an Operator purchases or acquires an interest in an Oil & Gas Midstream location or facility, the Operator must review the BMPs in effect in this Oil & Gas Manual at the time of purchase. Within ninety (90) days of purchase, the Operator must submit a written report demonstrating compliance with all BMPs or a plan to bring the Oil & Gas Midstream location or facility and all Associated Facilities into compliance.

37.06 Construction Work Hours

Operator shall only construct CGF, Gathering Line, and Associated Facilities, during hours as specified in Aurora Zoning Code unless exceptions are requested by the City and approved by the City during the OGMP process.

37.07 CGF and Associated Facilities Documentation

CGF and Associated Facilities documentation will be held in accordance with OSHA Process Safety Information and continuous review per OSHA requirement.

37.08 Mechanical Integrity Program

Mechanical Integrity Program shall be developed and implemented per industry best practices.

37.09 Operations and Maintenance of the CGF Work Hours

All facilities on the CGF property shall be staffed with the appropriate number of operators to ensure the safe, and reliable operation of the CGF, Gathering Line, and Associated Facilities.

37.10 Platting Requirements

The site configuration of the parcel must comply with subdivision standards and should not limit access for adjacent unplatted properties. Cross access agreements may be necessary to ensure that other properties are not negatively impacted.

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SECTION 38.00 PIPELINE CONSTRUCTION REQUIREMENTS

38.01 Easements

All pipeline rights-of-way (ROW) or easements shall be located outside existing and future road ROWs based on the latest available roadway information.

38.02 License Agreements

License Agreements are required for all crossing of City ROW and City easements.

38.03 Stormwater Management

Operator must apply for and obtain a City stormwater and erosion control permit. Erosion and sedimentation control is required.

38.04 General Requirements

- 38.04.1** Following construction, the site shall be left in as good a condition as prior to construction, and Operator shall work with the applicable surface owner on restoration. Operator shall restore the site to a substantially similar condition as it existed prior to construction unless otherwise agreed by the City in writing.
- 38.04.2** All new pipelines shall have the legal description of the location recorded with the Clerk and Recorder of the City within thirty (30) days of completion of construction and provide the City GIS feature classes in the projection identified by the City.
- 38.04.3** Operator will submit to City all records required to be submitted to PHMSA or the PUC, including those related to inspections, pressure testing, pipeline accidents, and other safety incidents.
- 38.04.4** Once the non-water pipelines are no longer in use, they shall be properly abandoned in place using flow fill or similar or removed. At this time, the easement shall be released to the property owner or to the City. All pipelines, installed greater than fifty (50) years ago, shall be properly abandoned or re-certified by a third party, and the certification shall be provided to the City.

38.05 Pipeline Location Requirements

- 38.05.1** Operator is responsible for locating all existing and proposed utility crossings and ensure a minimum vertical separation of ten (10) feet below said crossing. If, during the crossing design, a reduced vertical separation is requested due to site-specific factors, the City Engineer can approve a crossing with as little separation as five

(5) feet. Some crossing locations may be subject to additional requirements, including enhanced stabilization.

- 38.05.2** All pipeline utility crossings shall be perpendicular or a minimum crossing angle sixty (60) degrees.
- 38.05.3** Horizontal offsets to all existing and proposed City utilities shall be a minimum of ten (10) feet edge to edge with the exception of critical infrastructure or planned critical infrastructure, then the horizontal offset shall be a minimum of thirty (30) feet. Construction equipment is not allowed on top of critical infrastructure unless additional protection, as approved by the City, is applied.
- 38.05.4** The pipeline shall not have an undue adverse effect on existing and future development on the surrounding area as set forth in applicable City Master Plans and mitigates negative impacts on the surrounding area to the greatest extent feasible.
- 38.05.5** The nature and location or expansion of the pipeline will not unreasonably interfere with any significant wildlife habitat and will not unreasonably affect any endangered wildlife species, unique natural resource, known historical landmark, or archaeological site within the affected area.
- 38.05.6** No adverse impact, from stormwater runoff, to the public ROWs, of water supply and/or surrounding properties will result because of the pipeline.
- 38.05.7** Operator shall mitigate any conflicts with any mutual irrigation ditch and/or structures used to transport water within the easement or ROW of the pipeline.
- 38.05.8** No pipeline shall be constructed in any zoning district until approved by the City.
- 38.05.9** Pipeline route shall follow quarter-sections, or existing ROW and may not traverse properties diagonally unless the diagonal distance is less than two hundred fifty (250) feet unless specified by landowner or developer, with coordination of the City. For all routes on a non-platted parcel of land that do not meet the criteria in this paragraph, the Operator shall consult the City as to an acceptable pipeline route.
- 38.05.10** No pipelines shall be allowed in City ROW, with the exception of ROW crossings, and the edge of the closest pipeline to ROW must be a minimum distance of thirty (30) feet. Any pipeline which is located within an easement obtained on or after the Effective Date, and within an existing and/or future ROW, shall be moved at the

expense of the Operator and/or permitted upon receipt of notice by City of its intent to improve or construct a roadway within the ROW.

38.05.11 Maximum pipeline corridor width shall be seventy-five (75) feet. Temporary construction easements are not included in maximum width.

38.05.12 Unless infeasible, all pipelines shall be sited a minimum of one hundred fifty (150) feet away from general residential, commercial, and industrial buildings, as well as the high-water mark or floodplain of any water of the United States as defined by the EPA. This distance shall be measured from the nearest edge of the pipelines. Gathering Lines that pass within one hundred fifty (150) feet of general residential, commercial, and industrial buildings or the high-water mark or floodplain of any water of the United States as defined by the EPA shall incorporate leak detection, secondary containment, or other mitigation, as appropriate. The mitigation plan for such pipelines shall be submitted to the City.

38.05.13 Floodways, creeks, ditches, and other conveyances shall be bored underneath at a depth no less than twenty (20) feet as determined by a Professional Engineer stamped geotechnical report and horizontal directional drill design.

38.06 Testing and Maintenance

38.06.1 All steps and or phases of construction shall be inspected by Operator's third-party inspectors or the City.

38.06.2 If applicable, DOT Operational Control Center (OCC) will be used to monitor and control the DOT-regulated pipelines. Safety and pipeline systems actively monitor for rupture, leak, and flow anomalies.

SECTION 39.00-89.00 RESERVED

SECTION 90.00 INSPECTIONS

90.01 General 90-2
90.02 Cost of Inspections 90-2

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SECTION 90.00 INSPECTIONS

90.01 General

90.01.1 Operator Monitoring

The Operator will conduct its air, groundwater, and plugged and decommissioned well monitoring programs as required by the Oil and Gas Manual.

90.01.2 Access for Inspections

Operator shall allow the City access to the Oil and Gas Location, Oil and Gas Facility, Flowlines, CGF, Gathering Lines, and Associated Facilities easements for the purpose of undertaking compliance inspections, provided the City personnel are equipped with all appropriate personal protection equipment (PPE), that such personnel comply with the Operator's customary safety rules and are accompanied by an Operator's representative, with the exception of Stormwater and Erosion Control Permit inspections for Facilities.

90.01.3 Notification for Inspections

Operator shall allow the City access to the Oil and Gas Location, Oil and Gas Facility, Flowlines, CGF, Gathering Lines, and Associated Facilities easements upon reasonable notice to the Operator. Reasonable notice may include notification by City staff at the Oil and Gas Location or Oil and Gas Facility.

90.01.3 Inspection Results

The City shall provide the Operator with the results of any inspection within three (3) business days of the inspection. Additionally, the City reserves the right to contact the appropriate COGCC, CDPHE, PUC, or PHMSA area inspector if non-compliance issues related to state laws, rules, or regulations are identified as a result of field inspections or if non-compliance issues are not resolved expediently. Operator shall promptly address any compliance issues noted by the City staff.

90.02 Cost of Inspections

90.02.1 General

The Operator shall reimburse the City for inspection costs reasonably incurred to inspect the Operator's facilities to determine compliance. The City may impose an

inspection fee on Operator. The fee will cover the City's reasonable cost of the compliance inspection. Operator shall pay the invoiced amount within thirty (30) business days.

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SECTION 91.00 ENFORCEMENT

91.01 General91-2

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SECTION 91.00 ENFORCEMENT

91.01 General

The City may impose penalties for the violations of these BMPs or specifications under [Placeholder for new code: Aurora Municipal Code 135-103].

Any Operator or their employees, agents, or assigns violating any provision of this Oil & Gas Manual shall be subject to the penalties of A.M.C. Section 1-13. Each day of such unlawful operation shall constitute a separate violation.

SECTION 92.00-99.00 RESERVED