



**Town Of Erie**  
**Planning Commission Regular Meeting**  
**Wednesday, September 2, 2015**  
**6:30 P.M.**  
**Board Room, Erie Town Hall, 645 Holbrook,**  
**Erie, CO 80516**

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**I. CALL TO ORDER & PLEDGE OF ALLEGIANCE TO THE FLAG**

**II. ROLL CALL**

**III. APPROVAL OF THE AGENDA**

**IV. APPROVAL OF MINUTES**

Approval of the August 19, 2015, Planning Commission Regular Meeting Minutes

**V. PUBLIC COMMENTS** (This agenda item provides the public an opportunity to discuss items other than items that are on the agenda. The Planning Commission is not prepared to decide on matters brought up at this time, but if warranted, will place them on a future agenda.)

**VI. RESOLUTIONS** (This agenda item is for all matters that should be decided by resolutions.)

**1. Public Hearing – Morgan Hills Wells Special Review Use**

Purpose: Consideration of the Special Review Use

Project File #: SRU-000503-2015

Request: Consideration of Resolution P15-26, A Resolution Making Certain Findings Of Fact And Conclusions Favorable To The Special Review Use For The Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 Well Site.

Location: The SW corner of WCR 3 & WCR 12

Applicants: EnCana Oil & Gas, USA

(Staff Planner: R. Martin Ostholthoff)

**2. Public Hearing – Morgan Hills Wells Site Plan**

Purpose: Consideration of the Site Plan

Project File #: SP-000504-2015

Request: Consideration of Resolution P15-27, A Resolution Making Certain Findings Of Fact And Conclusions Favorable To The Site Plan For The Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 Well Site.

Location: The SW corner of WCR 3 & WCR 12

Applicants: EnCana Oil & Gas, USA

(Staff Planner: R. Martin Ostholthoff)

**VII. STAFF REPORTS** (This agenda items is reserved for specific items from Staff requiring Commission direction or just relaying important information.)

**VIII. COMMISSIONER REPORTS AND DISCUSSION ITEMS** (This agenda item is for all Planning Commission reports and items of information as well as Commission discussion items, not listed on the agenda.)

**IX. ADJOURNMENT TO STUDY SESSION**

**X. STUDY SESSION**

**Comprehensive Plan Update**

Purpose: Review Community Vision Chapters 1-3 & 13 Redlines

**Town of Erie**  
**Planning Commission Regular Meeting**  
**Wednesday, August 19, 2015**  
**6:30 p.m.**  
**Board Room, Erie Town Hall, 645 Holbrook, Erie, Co 80516**

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**I. CALL MEETING TO ORDER & PLEDGE OF ALLEGIANCE**

Chairman Bottenhorn called the Regular Meeting of the Erie Planning Commission to order at 6:30 p.m.

**II. ROLL CALL**

Commissioner Bottenhorn - Present

Commissioner Burgard – Present

Commissioner Campbell - Present

Commissioner Kemp - Present

Commissioner Fraser - Unexcused

Commissioner Gippe - Present

Commissioner Harrison - Present

Staff Present: R. Martin Ostholthoff, Community Development Director; and  
Hallie Sawyer, Secretary to the Commission

**III. APPROVAL OF THE AGENDA**

Commissioner Harrison moved to approve the August 19, 2015, Regular Meeting Agenda as submitted. The motion, seconded by Commissioner Gippe, carried with all voting in favor thereof.

**IV. APPROVAL OF MINUTES**

**a. Minutes from the August 5, 2015, Regular Meeting.**

Commissioner Burgard moved to approve the August 5, 2015, Minutes as submitted. The motion, seconded by Commissioner Campbell, carried with all voting in favor thereof.

**V. PUBLIC COMMENTS** (This agenda item provides the public an opportunity to discuss items other than items that are on the agenda. The Planning Commission is not prepared to decide on matters brought up at this time, but it warranted, will place them on a future agenda.)

Public Comment was given by Kim Mendoza Cooke, 1099 18<sup>th</sup> Street #1800, Denver, representing Anadarko Petroleum Corporation; Joe Evers, 1700 Lincoln St., #1300, Denver, representing Colorado Oil & Gas Association; and DeAndrea Arndt, 828 Lehigh Circle, Erie, Director of Eire Forward. Comments covered concerns about the proposed UDC Amendment and requests to delay approval of the proposed resolution.

**VI. RESOLUTIONS** (This agenda item is for all matters that should be decided by resolutions.)

**1. Proposed Text Amendments to Title 10 of the Town of Erie Municipal Code**

Purpose: Consider Proposed Amendments

Request: Consideration of Resolution P15-25, A Resolution Recommending Approval Of Text Amendments To Title 10 Off The Town Of Erie Municipal Code.

Location: N/A

Applicants: Town of Erie

(Staff Planner: Marty Ostholthoff)

Mr. Ostholthoff presented the application for the proposed Text Amendments to Title 10 of the Town of Erie Municipal Code – the addition of a new chapter dealing with mineral extraction within the municipal boundaries.

Barbara Green, Special Council to the Board of Trustees for Oil & Gas issues, presented the proposed addition of the new chapter to the Unified Development Code.

Commissioner questions covered the delta between the proposed regulations and current state regulations; differences in the regulations; the threshold to identify differences; what percentage of current operations would be covered under the Type A process; what impact will occur; how are noise issues and notification radius requirements changing; what other governments have these regulations; are there any teeth to this proposal; who decides technical feasibility; background of Ms Green; of the three options, what is an operator agreement; how were wells previously approved; definition of recompletion; will Colorado Supreme Court decisions affect these regulations; state versus municipal regulations; potential to impact economic growth; current regulation of recompletion; delicate balance between state/municipal/individual rights; Type B permits compared to current regulations – what is changing; and is Ms. Green involved with special negotiations.

Commissioner comments covered addressing old and ongoing issues from both sides; why the difference in setbacks and notice radius; glad to maintain good relationship with all sides; appreciation for complexity of the process and the attempt to find a balance between the past & future; impacts on operators; appreciation of flexibility of changes; clarification of setbacks for different types of application; note that the commission represents residents not businesses; and recognition of the sensitive issue and concern.

Commissioner Kemp moved approval of Resolution P15-25, A Resolution Recommending Approval of Text Amendments To Title 10 Of The Town Of Erie Municipal Code. The motion, seconded by Commissioner Harrison, carried 5-1 with Commissioner Gippe dissenting.

**VII. STAFF REPORTS** (This agenda items is reserved for specific items from Staff requiring Commission direction or just relaying important information.)

Mr. Ostholthoff reported the next few meetings will only have one or two short agenda items. Following completion of those items, the Commission will adjourn to Study Sessions to review updates to the Comprehensive Plan. Chairman Bottenhorn and staff are currently working on an outline that will be published as soon as it is completed.

**VIII. COMMISSIONER REPORTS AND DISCUSSION ITEMS** (This agenda item is for all Planning Commission reports and items of information as well as Commission discussion items, not listed on the agenda)

None.

**IX. ADJOURNMENT**

There being no further business to come before the Commission, Chairman Bottenhorn adjourned the August 19, 2015, Regular Meeting of the Planning Commission at 7:42 p.m.

Respectfully Submitted,

Town of Erie Planning Commission

By: \_\_\_\_\_  
Hallie S. Sawyer, Secretary

By: \_\_\_\_\_  
J. Eric Bottenhorn, Chair

**TOWN OF ERIE  
PLANNING COMMISSION MEETING  
Wednesday, September 2, 2015**

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**SUBJECT:** Public Hearing – Special Review Use  
EnCana Morgan Hills Well Site (1A-7H-A168, 1B-7H-A168, 1C-7H-A168,  
1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and  
1I-7H-A168)

**PURPOSE:** Review of the Morgan Hills Oil and Gas Wells for compliance with  
Municipal Code regulations. The applicant is proposing to drill nine  
horizontal wells from a new drilling location.

**PROJECT FILE NO:** SRU-000503-2015

**LOCATION:** Southwest corner of WCR 3 and WCR 12.

**APPLICANT:** EnCana Oil & Gas (USA) Inc.  
Attn: Miracle Pfister  
370 17<sup>th</sup> Street, Suite 1700  
Denver, CO 80202

**SURFACE OWNER:** Mary Alice Billings  
2246 Riverside Drive  
Lyons, CO 80540

Mary Alice Billings Trust  
Guaranty Bank and Trust, Co-Trustee  
Mary Alice Billings, Co-Trustee  
2246 Riverside Drive  
Lyons, CO 80540

Woolley Family Trust  
Donna Woolley, Trustee  
PO Box 223  
Allenspark, CO 80510

**CODE:** Town of Erie Municipal Code, Title 10

**DEPARTMENT:** Community Development Department  
R. Martin Ostholthoff, Director

**ACTION  
REQUESTED:** Consideration of Resolution No. P15-26: A Resolution Making Certain  
Findings Of Fact And Conclusions Favorable To The Special Review Use  
For The Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-  
A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-  
A168 Well Site.

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**STAFF RECOMMENDATION:**

Staff finds the Special Review Use application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site in compliance with the Approval Criteria and recommends the Planning Commission approve Resolution No. P15-26 recommending approval of the application to the Board of Trustees with the following conditions:

- a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
- b. Prior to construction a Right of Way Permit shall be obtained from the Town.
- c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
- d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
- e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/EnCana Operator Agreement.

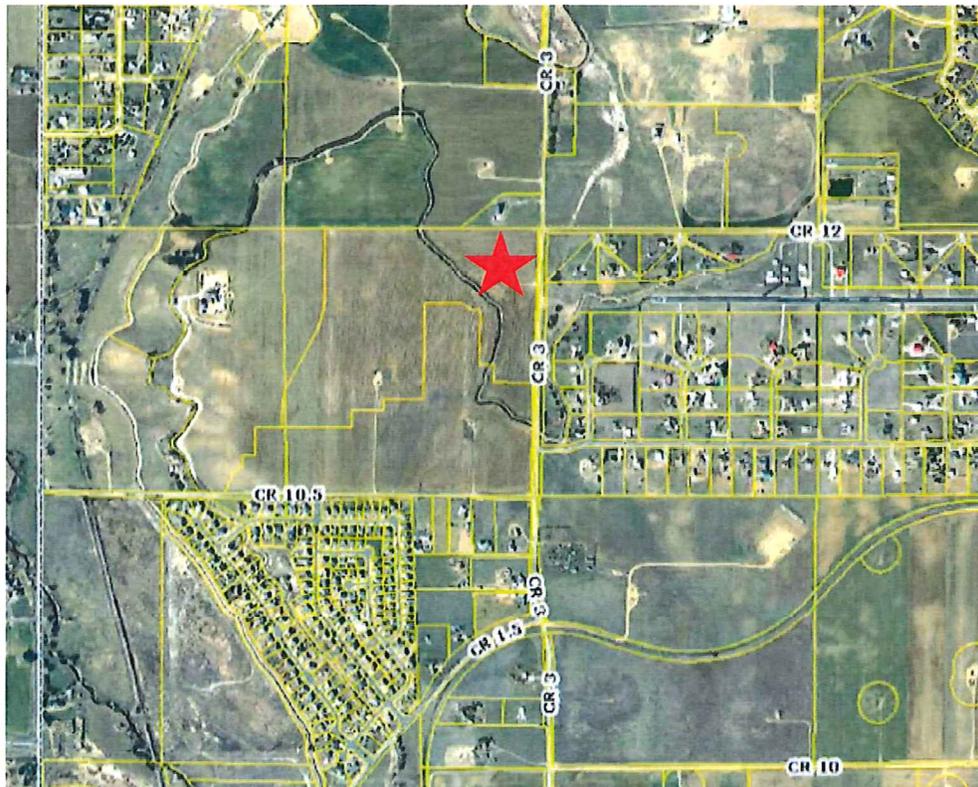
**SUMMARY AND BACKGROUND OF SUBJECT MATTER:**

**Purpose:**

The applicant is requesting approval for the Morgan Hills well site that includes nine horizontal wells on a new production site.

**Location:**

The site is located at the southwest corner of WCR 3 and WCR 12. A new access road is to be constructed aligning with WCR 12.



**Existing Conditions:**

Existing Zoning: LR – Low Density Residential  
Existing Use: Vacant Land and oil/gas operations

**Adjacent Land-Use/Zoning:**

	<b>ZONING</b>	<b>LAND USE</b>
<b>NORTH</b>	LR – Low Density Residential A – Agricultural (Weld County)	Vacant land Single-family residential
<b>SOUTH</b>	LR – Low Density Residential	Vacant land
<b>EAST</b>	PUD – Planned Unit Development (Weld County)	Single-family residential (Parkland Estates)
<b>WEST</b>	LR – Low Density Residential	Vacant land

**State Oil and Gas Regulations:**

Under Colorado State law, surface and mineral estates are separate and distinct interests in land, and may be “severed” from one another. The Colorado Oil and Gas Conservation Commission (COGCC) govern the permitting and regulation of oil and gas wells throughout the State according to the Oil and Gas Conservation Act. The Act and its associated Rules sets minimum standards for all aspects of oil and gas well drilling and production, including permitting, siting, setbacks, and adjacent development.

**Town of Erie Oil and Gas Regulations:**

The Town of Erie Municipal Code regulates the access roads, fencing, and color of the oil and gas well above ground facilities through the review of the required Site Plan and Special Review Use applications for the proposed oil and gas well facilities. Other operational aspects of an oil/gas facility are regulation by the State of Colorado through the COGCC.

**Town of Erie/EnCana Operator Agreement**

The Town of Erie and EnCana entered into an Operator Agreement on August 25, 2015. The Operator Agreement includes Best Management Practices (BMP’s) relative to the drilling and operations of oil/gas facilities. The list of BMP’s (Appendix A of the Operator Agreement) is attached hereto as Attachment D.

**Oil and Gas Well Installation:**

The Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 well site will include installation of well heads, well related facilities and equipment, access roads and pipelines.

**Drill Site Size:**

- Approximately 11 acres of disturbed area that will be reduced to approximately 3.5 acres after initial drilling and completion operations are finished.
- Construction of the pad site and access road will take approximately 8 weeks to complete, prior to the commencement of drilling.

Access:

- The applicant will be constructing a new access road into the proposed site as shown on the Site Plan. The proposed access will eventually become an extension of the WCR 12 when the property to the north (Andalusia) is developed.

Drilling Operations:

- Drilling rig on site approximately 120 to 140 days to complete the nine wells.
- Drilling occurs 24 hours per day.
- Completion operations performed on each well will be in accordance with COGCC rules and regulations.
- Permanent production facilities installed.
- Process completed with regrading and reclamation of site.

Mitigation Measures:

- A temporary sound wall will be installed around the operations area for sound and lighting control to the maximum extent practicable.
- Shrouding of lights will be provided to the maximum extent practicable.
- A closed loop water system will be utilized to reduce truck traffic and minimize site disturbance.

Production equipment and facilities:

- All production equipment and facilities located at the well site, including the nine well heads, will be fenced and painted according to Town Code requirements. No permanent liquid hydrocarbon and water storage tanks are included at this facility as liquid hydrocarbons and produced water from the wells will be piped to EnCana's centralized Liquids Handling Hub currently under construction at the northwest corner of WCR 6 and WCR 7, or approximately 5 miles from the Morgan Hills well site.

Pipeline:

- Flow lines and gathering lines are proposed as depicted on the Site Plan.

**Endangered Species:**

The drilling window for the wells is not located in an area identified in the Town of Erie's Natural Areas Inventory. In addition, the applicant has provided a Site Assessment Report that describes the physical and ecological character and conditions of the well site to identify potential environmental issues.

**SPECIAL REVIEW ANALYSIS:**

The Special Review Use Application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site was reviewed for conformance with Erie Municipal Code, Title 10, Section 7.13.C.9 Approval Criteria. Staff makes the following findings.

- a. The proposed use is consistent with the Comprehensive Plan and all applicable provisions of this Code and applicable State and Federal regulations;

**Staff:** *The proposed well facility is consistent with the Town of Erie Comprehensive Plan and State and Federal regulations. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

- b. The proposed use is consistent with the purpose and intent of the zoning district in which it is located;

**Staff:** *The proposed facility is consistent with the purpose and intent of the LR zone district in that mineral extraction is permitted within the LR zone district under the Special Review Use regulations of the Town.*

- c. The proposed use is consistent with any applicable use-specific standards set forth in Section 3.2;

**Staff:** *The proposed facility is consistent with the use-specific standards of Section 3.2.D.3 in that the facility meets: the COGCC setback requirements, access road requirements and fencing requirements.*

- d. The proposed use is compatible with adjacent uses in terms of scale, site design, and operating characteristics (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);

**Staff:** *The proposed facility will meet the COGCC setback requirements and the applicant will employ methods such as utilization of sound walls and light shrouding to mitigate operational issues to the maximum extent practicable. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

- e. Any significant adverse impacts anticipated to result from the use will be mitigated or offset to the maximum extent practicable;

**Staff:** *The applicant will utilize sound walls and light shrouding to mitigate operational issues to the maximum extent practicable. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

- f. Facilities and services (including sewage and waste disposal, water, gas, election, police and fire protection, and roads and transportation, as applicable) will be available to serve the subject property while maintaining adequate levels of service for existing development;

**Staff:** *The proposed facility will not have a significant impact on any of the Towns aforementioned facilities and services. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

- g. Adequate assurances of continuing maintenance have been provided; and

**Staff:** *The applicant will be responsible for re-vegetating disturbed areas as well as the ongoing maintenance of the facilities operations area.*

- h. Any significant adverse impacts on the natural environment will be mitigated to the maximum extent practicable.

**Staff:** *The applicant will meet Town and State regulations relative to impacts on the natural environment to the maximum extent practicable. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

### **STAFF RECOMMENDATION:**

Staff finds the Special Review Use application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site in compliance with the Approval Criteria and recommends the Planning Commission approve Resolution No. P15-26 recommending approval of the application to the Board of Trustees with the following conditions:

- a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
- b. Prior to construction a Right of Way Permit shall be obtained from the Town.
- c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
- d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
- e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/EnCana Operator Agreement.

**PUBLIC NOTICE:**

Notice of this Public Hearing has been provided as follows:

Published in the Colorado Hometown Weekly:	August 12, 2015
Property Posted as required:	August 14, 2015
Letters to Adjacent Property Owners:	August 14, 2015

**NEIGHBORHOOD MEETING:**

As required by the Municipal Code a Neighborhood Meeting was held on August 26, 2015 at 6:00 p.m. at the Erie Community Center. The required notice for the Neighborhood Meeting was provided. A summary of the meeting is attached hereto as Attachment C.

**Approved by:**

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**R. Martin Ostholthoff**  
**Community Development Director**

**Attachments:**

- A. Resolution No. P15-26
- B. Application Materials
- C. Neighborhood Meeting Summary
- D. Town of Erie/EnCana Operator Agreement, Appendix A

# ATTACHMENT A

## **RESOLUTION NO. P15-26**

### **A RESOLUTION MAKING CERTAIN FINDINGS OF FACT AND CONCLUSIONS FAVORABLE TO THE SPECIAL REVIEW USE FOR THE MORGAN HILLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 WELL SITE.**

**WHEREAS**, the Planning Commission of the Town of Erie, Colorado, has received and considered the Special Review Use application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 Well Site, on Wednesday, September 2, 2015, on the application of EnCana Oil & Gas (USA) Inc., 370 17<sup>th</sup> Street, Suite 1700, Denver, Colorado, 80202 for the following real property; to wit:

A Portion of Northeast Quarter, Section 7, Township 1 North, Range 68 West of the 6<sup>th</sup> Principal Meridian, Town of Erie, County of Weld, State of Colorado; and

**NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING AND ZONING COMMISSION OF THE TOWN OF ERIE, COLORADO**, as follows:

#### **Section 1. Findings of Fact.**

1. The applicant's application and supporting documents are in substantial compliance with the Town of Erie Municipal Code, Title 10.
2. The Special Review Use has met Town of Erie Municipal Code, Title 10 Section 7.13.C.9 Approval Criteria:
  - a. The proposed use is consistent with the Comprehensive Plan and all applicable provisions of this Code and applicable State and Federal regulations;
  - b. The proposed use is consistent with the purpose and intent of the zoning district in which it is located;
  - c. The proposed use is consistent with any applicable use-specific standards set forth in Section 3.2;
  - d. The proposed is compatible with adjacent uses in terms of scale, site design, and operating characteristics (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);
  - e. Any significant adverse impacts anticipated to result from the use will be mitigated or offset to the maximum extent practicable;
  - f. Facilities and services (including sewage and waste disposal, water, gas, election, police and fire protection, and roads and transportation, as applicable) will be available to serve the subject property while maintaining adequate levels of service for existing development;

- g. Adequate assurances of continuing maintenance have been provided; and
  - h. Any significant adverse impacts on the natural environment will be mitigated to the maximum extent practicable.
3. The Special Review Use as proposed, with the following conditions, preserves the health, safety, welfare and interest of the citizens of the Town of Erie, Colorado:
- a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
  - b. Prior to construction a Right of Way Permit shall be obtained from the Town.
  - c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
  - d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
  - e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/ EnCana Operator Agreement.

**Section 2. Conclusions and Order Recommending Approval to the Board of Trustees for the Special Review Use for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 Well Site.**

- 1. The applicant's application and supporting documents are in substantial compliance with the Town of Erie Municipal Code, Title 10.
- 2. The Special Review Use has met Title 10, Section 7.13.C.9 Approval Criteria.
- 3. The Special Review Use as proposed, with the following conditions, preserves the health, safety, welfare and interest of the citizens of the Town of Erie, Colorado:
  - a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
  - b. Prior to construction a Right of Way Permit shall be obtained from the Town.
  - c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
  - d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.

- e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/ EnCana Operator Agreement.

**INTRODUCED, READ, SIGNED AND APPROVED this 2<sup>nd</sup> day of September 2015.**

TOWN OF ERIE, PLANNING COMMISSION

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J. Eric Bottenhorn, Chair

ATTEST:

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Hallie S. Sawyer, Secretary

# ATTACHMENT B



Special Review Use Application  
Proposed Drilling of Oil & Gas Wells  
**SRU-000503-2015**

Morgan Hills 1A-7H-A168  
Morgan Hills 1B-7H-A168  
Morgan Hills 1C-7H-A168  
Morgan Hills 1D-7H-A168  
Morgan Hills 1E-7H-A168

Morgan Hills 1F-7H-A168  
Morgan Hills 1G-7H-A168  
Morgan Hills 1H-7H-A168  
Morgan Hills 1I-7H-A168

Morgan Hills 7H-A168  
Located in the Northeast 1/2 of the Section 7,  
Township 1 North, Range 68 West of the 6th P.M.  
Town of Erie, County of Weld, Colorado

Applicant:



**ENCANA OIL & GAS (USA) INC.**  
**10188 East 1-25 Frontage Road**  
**Firestone, CO 80504**



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Morgan Hills 7H-A168 Wells

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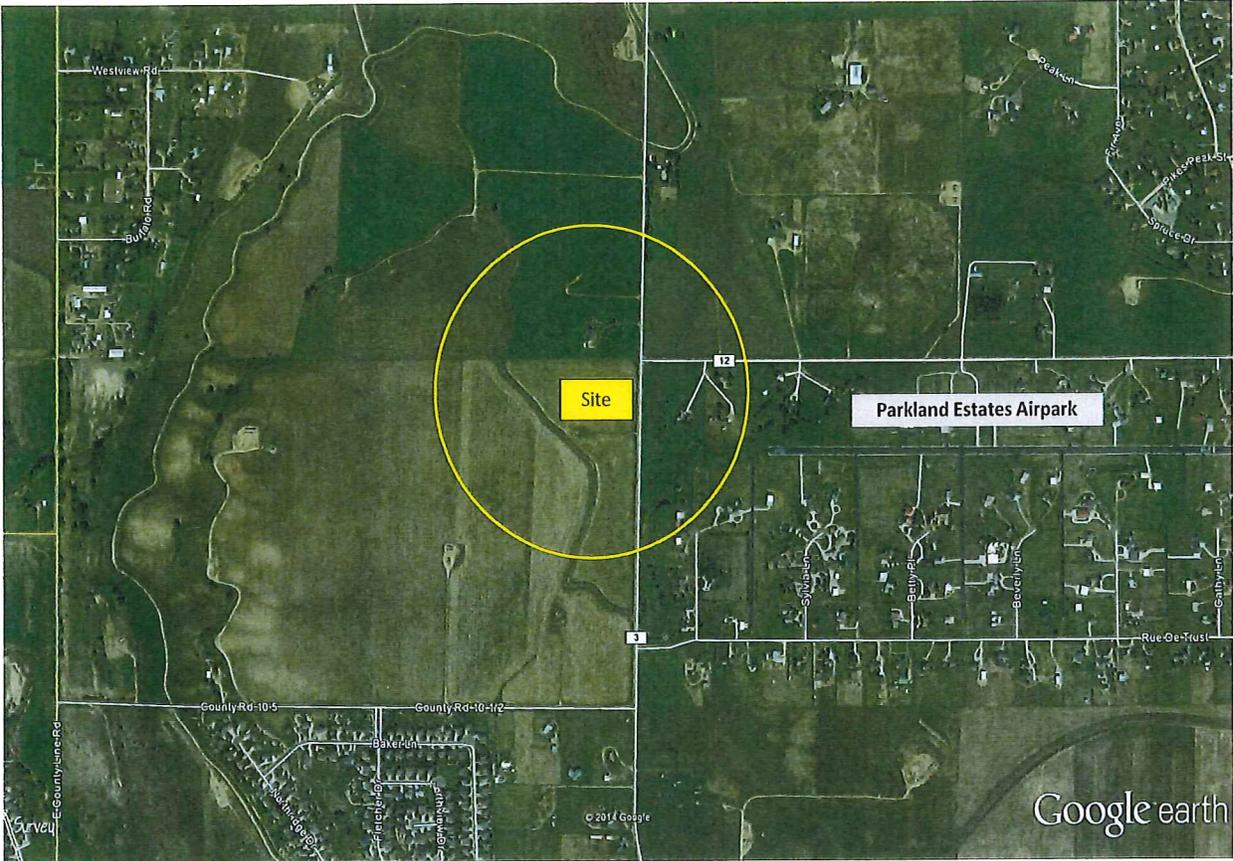
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8. Traffic Management Plan
9. Initial Site Assessment Report
10. FAA Permit
11. 24"x36" & 11"x17" Morgan Hills Wells SRU Master Site Plan Sheets

VICINITY MAP



Northeast 1/4 of Section 7  
Township 1 North, Range 68 West of the 6th P.M.  
Town of Erie, County of Weld, Colorado

## **SECTION 1: OVERVIEW OF SPECIAL REVIEW USE REQUIREMENTS**

*Town of Erie Special Review Use User's Guide 02/05/2008*

### **Description of Intended Use**

This Special Review Use (SRU) application (SRU-000503-2015) is referred to as the Morgan Hills 7H-A168 application and is proposed by Encana Oil & Gas (USA) Inc. ("Encana"). If approved, the application will permit the drilling of nine horizontal oil and gas wells known as: Morgan Hills 1A-7H-A168, Morgan Hills 1B-7H-A168, Morgan Hills 1C-7H-A168, Morgan Hills 1D-7H-A168, Morgan Hills 1E-7H-A168, Morgan Hills 1F-7H-A168, Morgan Hills 1G-7H-A168, Morgan Hills 1H-7H-A168, Morgan Hills 1I-7H-A168. The proposed wells will produce oil condensate and gas from underlying geological formations.

The proposed facility is uniquely different from conventional oil and gas drilling operations due to the absence of surface tanks that are typically utilized to collect and store oil condensate and produced water at individual well sites. Encana has elected to construct a centralized Liquids Handling Hub ("Hub") that is equipped with tanks and load out facilities. This election allows for a significant reduction in surface equipment, surface disturbance, and heavy truck traffic at the individual well sites by creating a network of underground pipelines that will transfer produced liquids from pad sites such as the Morgan Hills pad to the Hub facility. The Hub is located on Encana-owned property in unincorporated Weld County approximately five miles southeast of the proposed Morgan Hills site.

The proposed nine wells at the Morgan Hills site are expected to produce natural gas, oil condensate, and water. Natural gas will flow into a gas gathering line and any oil condensate or water produced from the wells will be routed to the Hub via pipelines. There will be a temporary completions area approximately 1,800 feet west of the drill pad, located on parcel 146707200018, which will be used to store fresh water in modular large volume tanks (MLVTs) during the well completion phase. This pad will also be used for the completion phase of the Woolley-Sosa-Becky drill pad (outside of Town of Erie limits) located in the SWNW QTR/QTR of Section 7. The state-licensed tanks are between 153'-158' in diameter and will hold between 40,000-42,000 barrels of fresh water. Once all completion operations are terminated for both pads, this area will be reclaimed. Encana certifies that the MLVTs are designed and implemented consistent with the June 13, 2014 Colorado Oil and Gas Conservation Commission "Policy on the Use of Modular Large Volume Tanks in Colorado."

This application for a Special Review Use permit, pursuant to the Chapters 10.3.2 of the Town of Erie's Unified Development Code, provides a full description of the drilling, completion, production, and maintenance processes related to the nine proposed wells.

### **Proposed Development Timeline**

Construction is tentatively planned to begin in September of 2015.

### **Familiarity with Town and COGCC Regulations**

Encana Oil & Gas (USA) Inc. is familiar with the Colorado Oil and Gas Conservation Commission (COGCC) rules and regulations as well as the Town of Erie's regulations as they

relate to oil and gas operations. Encana is aware of the drilling, maintenance, and abandonment procedures established by the COGCC and have incorporated them into the proposed application.

**Relation to Existing Land Use**

The subject property is currently labeled as LR, Low Density Residential Land Use Category and operations fall within the Manufacturing and Production (Mining and Mineral Extraction) Use Category. According to Section 10.3.1 of the Town of Erie’s Unified Development Code, mining and mineral extraction is permitted within the Low Density Residential (LR) Land Use Category with the approval of a Special Review Use permit.

The proposed drill pad is located on parcel 146707100015, which measures approximately 147.70 acres. The total disturbed area for construction, drilling, and completion operations will be approximately 11 acres and will be reclaimed to 3.5 acres of permanent disturbance once drilling and completion operations are terminated. The property is currently surrounded by farmland to the west and an LR neighborhood to the east. There is a building unit approximately 355 feet north of the project and one existing well, the Woolley 41-7, to the south, which Encana intends to plug and abandon (P&A). Encana views the proposed oil and gas operation to be compatible with current land utilization. Please refer to the enclosed site plan for more information regarding the location of existing and proposed equipment.

Encana is aware of the proximity of the proposed operation to Parkland Estates as well as the home directly north of the site. Encana will utilize Best Management Practices (BMPs) as outlined in its August 2012 executed Memorandum of Understanding (MOU) with the Town of Erie. These BMPs were developed to minimize the impacts of Encana’s operations in and around communities. Encana will ensure equipment on location is strategically positioned to direct noise and light sources away from nearby homes.

**Compliance with the Town of Erie’s Unified Development Code & Comprehensive Plan**

According to the Town of Erie 2005 Comprehensive Plan, the proposed property is placed in Low Density Residential (LR) Land Use Category. This category encourages single-family residential development (up to 6 DU/Acre) in order to preserve land for open space related activities such as parks, trails, and recreation areas. Due to the minimal surface equipment required for the proposed drilling operations, Encana demonstrates that very little land will be utilized for the proposed use and intent of the property will be viable in the future.

**UDC CHAPTER 3: USE REGULATIONS**

**10.3.2 (D) (3) USE-SPECIFIC STANDARDS (Oil and Gas Facilities)**

**a. Setbacks**

Wells and any associated oil and gas operation facility or structure (above ground) shall be set back in accordance with State of Colorado Oil & Gas Conservation Commission Regulations.

**b. Access Roads**

Access point to the site is owned and maintained by the Town of Erie; therefore, an access permit will be submitted to the Town's Public Works Department.

All erosion control, ROW permits, and oversize or overweight vehicle permits will be obtained through the appropriate agencies prior to beginning operations. All proposed transportation routes to the site will also be reviewed and approved by the Public Works Department to minimize traffic hazards and adverse impacts on public streets. Existing streets will be used in order to minimize land disturbance unless traffic safety, visual or noise concerns, or other adverse surface impacts clearly dictate otherwise. The access road to the well and production facilities will be improved a minimum distance of 200 feet from the point of connection to a street with the first 100 feet improved as a hard surface, concrete or asphalt. If an access road intersects with a Town of Erie pedestrian trail or walk, the developer will pave the access road 100 feet on both sides 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.

The proposed site will utilize a Town of Erie maintained drive on the future extension of County Road 12 located at the intersection of County Road 12 and County Road 3. Initially, the access road will be widened to 60 feet during the drilling and completion phases in order to prevent oversized vehicles from damaging the existing road. Once drilling and completion operations are complete, the road will be reclaimed to 45 feet. Encana intends to use recycled asphalt pavement (RAP) or 1½ inches aggregate from the road's access point to the well pad. Encana will be responsible for the daily inspection of CR 12 and CR 3 (whichever route is used to access the site), within ¼ mile of the access point, to ensure that any potential tracking of debris and dirt will be cleaned at the end of each day. Once the construction, drilling, and completion operations are complete and the wells are in production, Encana will then apply the hard surface to the first 100 feet of the access road.

**c. Fencing**

Above ground oil and gas well facilities within the Town of Erie are required to be fenced with wrought iron fencing, or *Ameristar Impasse*, or *Stronghold* fencing, or approved equivalent structures as determined by the Community Development Director. The fencing color will be bronze unless the Community Development Director approves black fencing. Black fencing will be approved by the Community Development Director only if fencing or site furnishings in the adjacent developments have approved black elements.

**d. Oil and Gas Operation Facility or Structure Color**

Above ground oil and gas operation facilities or structures such as tanks and steel rimmed berms will be painted a color designated by the Community Development Director. Encana's standard and proposed color for facilities is "Encana Tan." A color sample can be provided upon request. Equipment can be painted a different color if requested by the Community Development Director or approved by the Community Development Director.

**UDC CHAPTER 4: DIMENSIONAL STANDARDS**

**Table 4-1: Dimensional and Density Standards – Residential and Commercial Districts**

The proposed surface equipment will meet the required setbacks for the LR district.

## **UDC CHAPTER 6: DEVELOPMENT AND DESIGN STANDARDS**

Encana will address all regulations established in Chapter 6 of the Unified Development Code that are applicable to the proposed site. This includes general development as well as the specific oil and gas regulations outlined in Section 10.6.14.

### **Surface Owner and Operator Information**

#### **Surface Property Owner (Parcel No. 146707100015)**

Woolley Family Trust  
P.O. Box 223  
Allenspark, Colorado 80510

#### **Operator and Firm in Charge:**

Encana Oil & Gas (USA) Inc.  
10188 East 1-25 Frontage Road  
Firestone, CO 80504

### **Nearby Property Owners & Subdivisions**

*Please see the attached appendix item 2 for a list of abutting property owners.*

#### **Abutting subdivisions:**

Parkland Estates

Northridge Subdivision

### **Mineral Rights Status & Landowner Negotiations**

There is a Compatible Development and Surface Use Agreement between Encana Oil & Gas (USA) Inc. and the property owner(s). A copy of this agreement is included with this submittal.

### **Assessment of Impact**

The following section lists and describes the potential impact the proposed development may have on Town, County, Special District, and utility and services, including, but not limited to: water and wastewater, open space and recreation, law enforcement and fire protection, schools and general utilities (electric, gas, telephone).

- **Water and wastewater:** The proposed facility does not require water and wastewater services. Therefore, the construction of the facility will not impact the current water and wastewater infrastructure provided by the Town of Erie or any special district.
- **Open Space:** The proposed facility, due to its relatively small size, will not significantly impact the open space surrounding it.
- **Law enforcement and fire protection:** These services will be required in case of an emergency. However, no other services will be requested from these providers. All emergency response plans will be developed by the corresponding agencies and Encana will ensure that the first responder crews have appropriate methods to access the facility. In case of an emergency response, Encana will cover any cost incurred from these agencies.

- **Schools:** The nearest school, Wee Preschool, is located approximately 1.5 miles southwest from the proposed well site. The distance and sound walls utilized during drilling and completion operations will mitigate noise pollution emanating from the site. The site preparation and facility operation will not impact the traffic flow in and around the school due to the site's distant location.
- **Utilities:** The proposed facility will require electric service once operational. Gas and telephone infrastructure will not be required. Temporary power generating sources will be used at the site during construction. During the operational phase, the facility will require utility power for monitoring devices and operating pumps (pumps to be installed at a later date).

## **SECTION 2: DESCRIPTION OF SITE AND EQUIPMENT**

### **Site**

The surface land upon which the wells and production facility are situated is owned by Woolley Family Trust. Access to the site will be off of County Road 12 at the intersection of County Road 3 and County Road 12. The SRU permit area and the parcel is approximately 147.77 acres.

### **Equipment to be Used for Drilling**

The planned drilling rig to be utilized on this site is approximately 172 feet tall. Earthwork equipment will be used to prepare the site in advance of moving the drilling rig onto location. All drilling operations for the nine horizontal wells will be from this location using the same drill rig.

### **Equipment to be Used for Production**

One facility pad will be constructed for the additional surface infrastructure. There will be nine production 3-Phase separators, one oil surge drum, one water surge drum, one oil pump skid (with three pumps), one water pump skid (with two pumps), one produced oil pig launcher, one instrument air skid and electrical rack (all grouped together), one sales gas meter, and one sales gas pig launcher on site. The proposed separators are to be located approximately 80 feet north of the wells. The separators receive oil, gas, and water materials and separate and divert them to the appropriate pipelines. During normal operations, all water and oil condensate collected after the flowback process will be transferred via pipelines to the Hub. Gas from the separator will flow into a third party gas gathering line at the pad. The water and oil condensate will flow to the Hub until wellhead pressure falls below optimal operating pressure, at which point surge drums and transport pumps will be brought onto the location to help increase the pressure of liquids flowing to the Hub.

Unlike past well sites in the area, the proposed site will not utilize VOC burners as there are no VOC emission sources onsite. There will be gas measurement meters on the well pad for measuring oil, turbine meters for measuring water, and sales gas (orifice) meters for measuring gas to third party operators.

As the well site is developed, the produced oil condensate and produced water will be routed along laterals to larger gathering lines that will combine to form trunk lines terminating at the Hub. The gas gathering lines will be maintained and serviced by a third party operator. When needed, pig launchers for the produced oil condensate and sales gas lines will be used for cleaning (“pigging”) the pipelines throughout production.

**Existing Site Photographs**



**North View**



**South View**



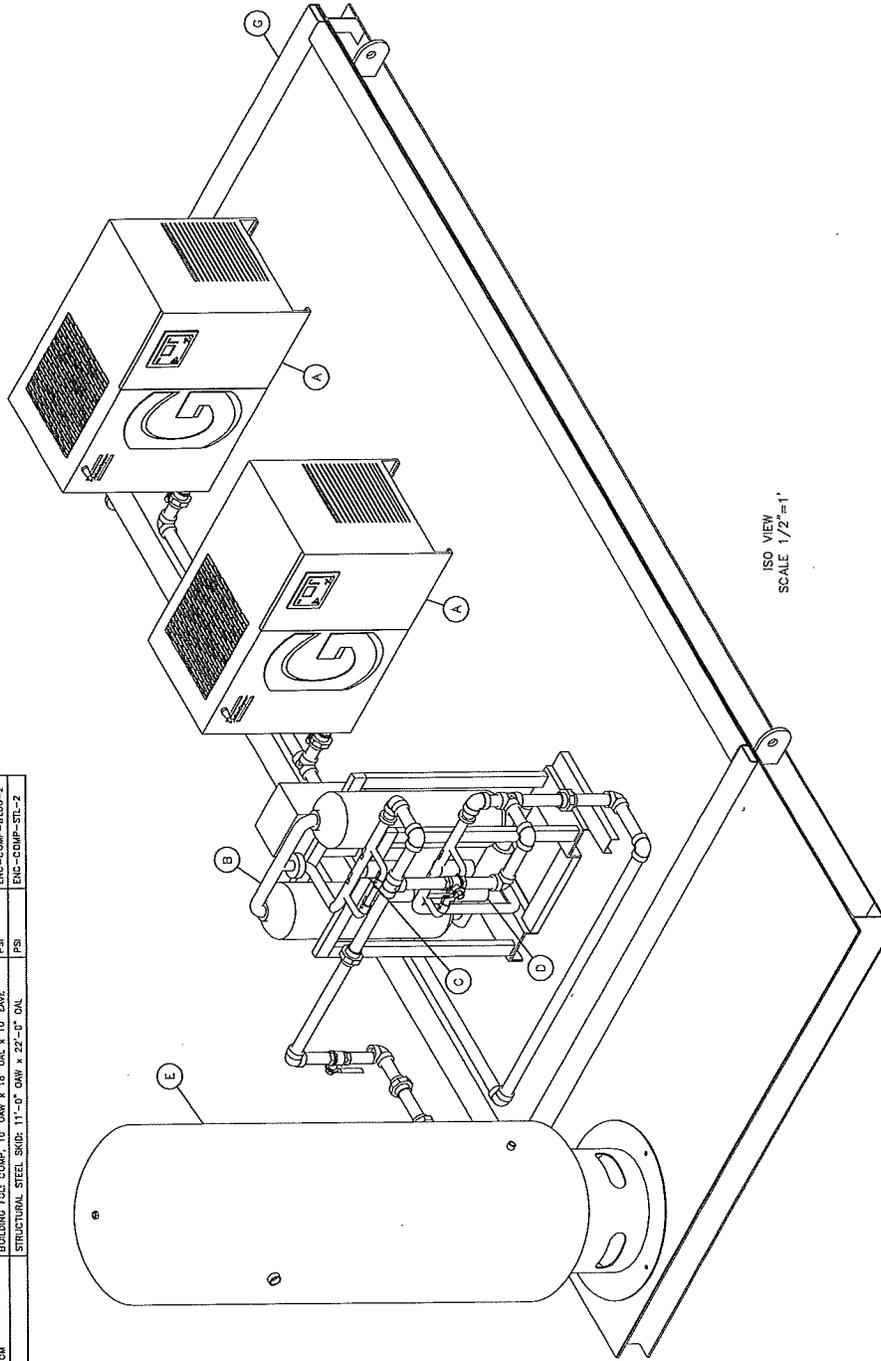
**East View**



**West View**

LEGEND

ITEM	TAG#	QTY	ERP NUMBER	DESCRIPTION	VENDOR	STOCK NUMBER
A	C-1180 / 1185	2	REF. PROJECT BOM	6429-102 AB, 480/2/60, 30HP, 125PSI	ATLAS	6422-126 AP
B	D-1180 / 1182	1	REF. PROJECT BOM	DRR: PE-200, 480/2/60, 150AMP, w/7W2	PNEUMATCH	PE-200
C	F-1181 / 1182	1	REF. PROJECT BOM	DUAL COALESCING FILTER (OUTLET)		
D	F-1183 / 1184	1	REF. PROJECT BOM	DUAL COALESCING FILTER (INLET)		
E	V-1200	1	REF. PROJECT BOM	YES, 38" OD, 10'H, 500 GAL, 200 WAMP, CS	SILVAN	#102-872
F		1	REF. PROJECT BOM	BUILDING FSH: COMP, 10" OAW x 19" OAL x 10" ENVE.	PSI	ENC-COMP-BLDG-2
G		1	N/A	STRUCTURAL STEEL SKID: 11'-0" OAW x 22'-0" DAL	PSI	ENC-COMP-STL-2



ISO VIEW  
SCALE 1/2"=1'

REVISED

PREPARED BY: EB  
DATE: 1/28/2015  
REVISION # 4  
APPROVED BY: EW  
SNO # 14440258-0000 (QTY. 1)

THIS DRAWING IS THE PROPERTY OF POWER SERVICE, INC.  
ENGINEER: WYOMING, USA

ENCANA

GENERAL ARRANGEMENT  
6422 W/ PE-200 AIR COMP. PKG  
11'-0" OAW x 22'-0" OAL x  
12'-6 1/4" OAH

POWER SERVICE, INC.  
CASPER, WYOMING, USA  
(307)472-7732

NO.	DATE	BY	CHK'D BY	APP'D BY	SCALE
1	11/19/2014	EW	PSI	PSI	1/2"=1'

NOTES: This sketch has not been submitted but rather has been prepared for reference only. It is not to be used for construction or any other purpose without the express written consent of Power Service, Inc.

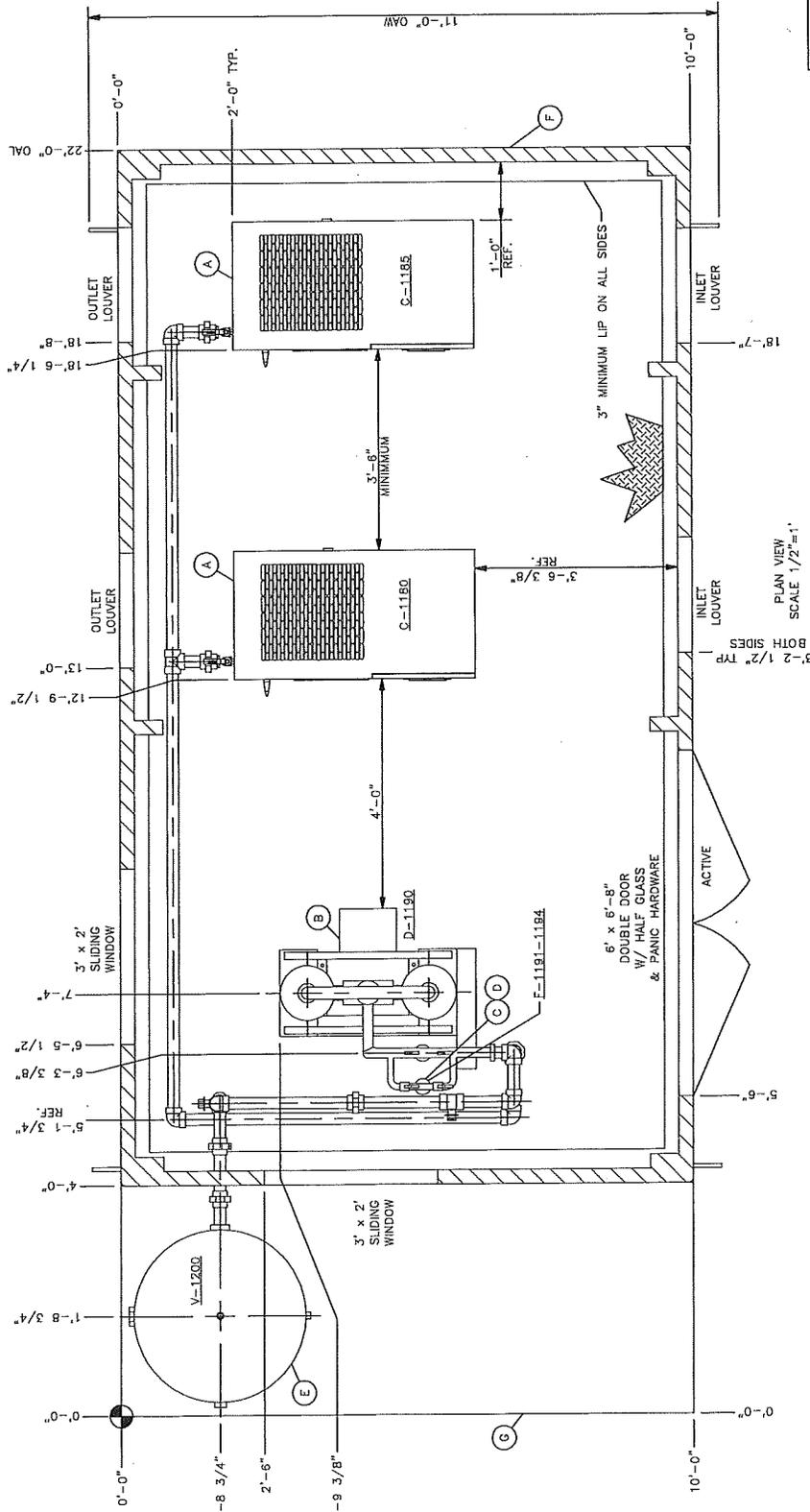
GENERAL NOTES

- 1) TOTAL PACKAGE WEIGHT APPROX. = 16,000 LBS.
- 2) INTERIOR BUILDING COLOR: WHITE
- 3) EXTERIOR SKID AND BUILDING COLOR: CALLSRAD CANYON TAN
- 4) INSULATION TO BE COMPLIANT WITH RES 35 REQ.

ENC-5005-U-2  
ENC-5005-U-2  
1 of 3

**LEGEND**

ITEM	TAG#	QTY	ERP NUMBER	DESCRIPTION	VENDOR	STOCK NUMBER
A	C-1180 / 1185	2	REF. PROJECT BOM	C422-125 AP 480/2760 30HP 125PS	ATLAS	G422-125 AP
B	D-1180 / 1182	1	REF. PROJECT BOM	DRTR. FC-200 460/2760 30MAMP. 47/42	PREMATECH	FC-200
C	F-1191 / 1192	1	REF. PROJECT BOM	DUAL COALESCING FILTER (OUTLET)		
D	F-1193 / 1194	1	REF. PROJECT BOM	DUAL COALESCING FILTER (INLET)		
E	V-1200	1	REF. PROJECT BOM	VES. 35"OD, 10"H, 50B OAL, 200 MAMP, CS	SILVAN	F102-872
F		1	REF. PROJECT BOM	BUILDING FGL COMP. 10" OAW x 18" OAL x 10" DAVE	FSI	ENC-COMP-BUDC-2
G		1	N/A	STRUCTURAL STEEL SKID: 11'-0" DAW x 22'-0" OAL	FSI	ENC-COMP-SIT-2



PLAN VIEW  
SCALE 1/2"=1'

THIS DRAWING IS THE PROPERTY OF POWER SERVICE, INC.  
DALLAS, WYOMING, USA.

**ENCANA**  
GENERAL ARRANGEMENT  
C422 W/ FC-200 AIR COMP. PKG  
11'-0" OAW x 22'-0" OAL x  
12'-6 1/4" OAH

**POWER SERVICE, INC.**  
**CASPER, WYOMING, USA**  
(307)472-7752

ENC-200A-P2-2  
ENC-200A-0209  
ENC-200A-022

REVISED DRAWINGS  
ENC-200A-P2-2  
ENC-200A-0209  
ENC-200A-022

REV	DATE	DESIGN	DESCRIPTION	CHECK	APPROV
1	1/28/2015	DB	DESIGN	DB	DB
2	1/28/2015	DB	REVISED WITH APPROVAL	DB	DB
3	1/28/2015	DB	ADDED DIM. PER CHECK. REQ	DB	DB
4	1/28/2015	DB	WORKS W/ WINDOW TO MEET ELECTRICAL FOR CONSTRUCTION	DB	DB
5	12/17/2014	DB	REVISED PER CUT. REQ.	DB	DB
6	12/17/2014	DB	FOR APPROVAL	DB	DB

REVISION HISTORY

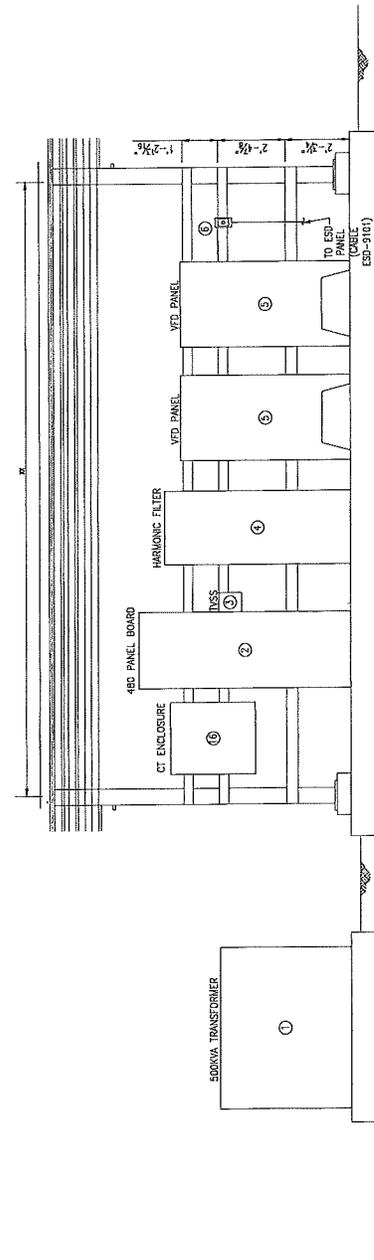
GENERAL NOTES  
1) TOTAL PACKAGE WEIGHT APPROX. ~ 15,000 LBS.  
2) EXTERIOR SKID AND BUILDING COLOR: CARLSBAD CANYON TAN  
3) INSULATION TO BE COMPLIANT WITH RES 35 REQ.  
4) APPROVE BY: DB  
DATE: 1/28/2015  
REVISION # 4



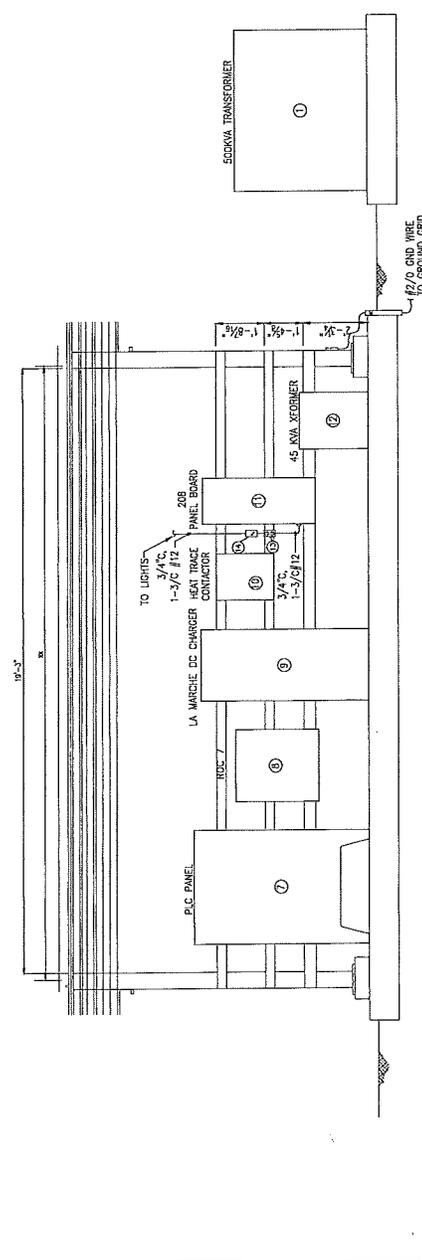
### BILL OF MATERIAL

ITEM	QTY	DESCRIPTION
1	1	500KVA TRANSFORMER 56H X 66H X 50 600lbs.
2	1	480 PANEL BOARD 90H X 37W X 140 250lbs.
3	1	TVSS 10H X 6W X 50 20lbs.
4	1	HARMONIC FILTER 80H X 37W X 250 600lbs.
5	2	VFD PANEL 72H X 36W X 120 360lbs.
6	1	3WAVE ESD PULSEDUTION AND NEVA 4X ENCLOSURE
7	1	ES-C PANEL 74H X 46W X 100 80lbs.
8	1	ROC 7 PANEL 36H X 30W X 120 200lbs.
9	6	LA MARCHIE DC CHARGER 72H X 30T3W X 300 2000lbs.
10	1	HEAT TRACE CONTROLLER 24H X 20W X 6.50 150lbs.
11	1	200V PANEL BOARD 46H X 20W X 6.50 150lbs.
12	1	45KVA TRANSFORMER 29H X 24W X 250 600lbs.
13	1	DUPLEX RECEPTACLE, 2-GANG, NEMA 3R
14	1	LIGHT SWITCH, 120VAC, NEMA 3R
15	AS REQD	BEZEL STEEL UNISTRUT CHANNEL WITH HARDWARE OR EQUAL
16	1	CT ENCLOSURE 36 X 30 X 12

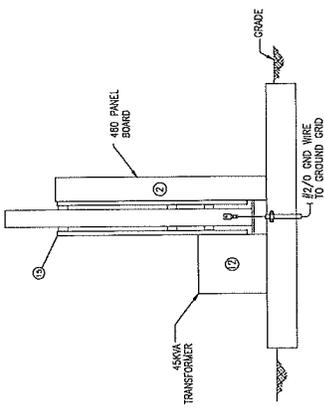
NOTES:  
 1. REFER TO DRAWING DJ-HWY52-6243 FOR ELECTRICAL BACK PLAN VIEW.  
 2. REFER TO DRAWING DJ-HWY52-6244 FOR ELECTRICAL BACK BLOCK DIAGRAM



ELECTRICAL RACK ELEVATION - LOOKING SOUTH  
SCALE: 1/2" = 1'-0"



ELECTRICAL RACK ELEVATION - LOOKING NORTH  
SCALE: 1/2" = 1'-0"



EQUIPMENT RACK SIDE ELEVATION - LOOKING WEST  
SCALE: 1/2" = 1'-0"

**WILLBROS ENGINEERING**  
**encana.**

400 WILBROS PROPERTY SITE 400  
 WILBROS PROPERTY SITE 400  
 HWY 52 221-0268  
 WILBROS P.O. BOX 1500  
 WILBROS P.O. BOX 1500

ISSUED FOR CONSTRUCTION  
 01/16/15

CHONGERS STAMP

PERMIT STAMP

PROJECT STAMP

DATE: 01/16/15

PROJECT: HWY 52 WELL PAD AREA ELECTRICAL RACK ELEVATION

CLIENT: DJ BASIN

DRAWING NO.: DJ-HWY52-6241

NO.	DATE	DESCRIPTION	PROJ.	ATE	EPCH	CH	EPCH	NO.	ISSUE	STAGE	DATE	BY	CHKD.	APPD.
A	01/16/15	ISSUED FOR CONSTRUCTION	5242	5242	WILLBROS	WILLBROS	WILLBROS	WILLBROS	1	ISSUE	01/16/15	EP	EP	EP
B	01/16/15	ISSUED FOR CONSTRUCTION	5242	5242	WILLBROS	WILLBROS	WILLBROS	WILLBROS	2	ISSUE	01/16/15	EP	EP	EP
C	01/16/15	ISSUED FOR CONSTRUCTION	5242	5242	WILLBROS	WILLBROS	WILLBROS	WILLBROS	3	ISSUE	01/16/15	EP	EP	EP

REVISIONS

CAUTION: READ BEFORE EXCAVATION  
 ALL EXCAVATIONS MUST BE CARRIED OUT AS PER  
 "ENCANA'S GROUND DISTURBANCE PRACTICE"



## **SECTION 3: OPERATING PLAN**

All phases of operations, including drilling, completion, production, abandonment and reclamation are designed to adhere to the Rules and Regulations of the Colorado Oil and Gas Conservation Commission ("COGCC"), especially COGCC 300 Series (Drilling); 600 Series (Safety); 800 Series (Aesthetics & Noise Control); 900 Series (Environmental); 1000 Series (Reclamation).

### **Preparation & Drilling Phase**

The preparation and drilling phase consists of surveying, permitting, construction of the pad, and drilling all permitted wells. The proposed wells are horizontal and a Drilling Prognosis is compiled for each well. The Drilling Prognosis includes pertinent information such as the approximate depth of formation tops, mud program, logging program, casing program and company contacts.

The initial activity at the proposed site involves surveying the well location. The area needed for the initial drilling and completion operations will be approximately 11 acres. Survey plats and drilling plans were prepared for the permits and submitted to the COGCC and local regulatory agencies for approval.

After required approvals are received, earthwork equipment will begin preparing the drill pad. Since the private access road to the drill site does not yet exist, this will be the first part to be constructed. This access road is required to comply with Fire Department and Town Engineering standards for heavy equipment and emergency response vehicles as well as preventing dust and mud issues. Site preparation also includes leveling the rig site. Total construction time for the Morgan Hills will take approximately eight (8) weeks, including the installation of cellars and conductors.

Once the pad is built, the rig moves in and is rigged up (MIRU). The drill rig is equipped with high-pressure blowout prevention equipment that is tested prior to drilling below surface casing on each well. Drilling fluid in a closed-loop system is used to carry cuttings and control pressure from the exposed formations. Numerous parameters are continuously monitored and evaluated to ensure the fluid properties and density are adequate, and if an adjustment is necessary, various additives and weighting material are incorporated. The blowout prevention equipment is a backup system to control flow from unexpected high-pressure formations while the drilling fluid density is increased to reestablish primary control.

When drilling has reached approximately 800 feet (200 feet below the base of the Fox Hills) or the depth required by the COGCC, 9-5/8" casing will be run and cemented from said depth to surface. The depth of the surface casing is determined from subsurface ground water maps prepared by the State Engineer in order to protect all fresh water aquifers and is approved by the COGCC. Once cement has sufficiently cured, drilling operations will resume.

In order for the well path to turn horizontally, a "curve" section is built where the angle of the wellbore is increased as drilling approaches the target interval. When the curve is built and the well is lined up with the target interval (hydrocarbon-bearing formation or zone), 7" intermediate

casing is run and cemented to surface in order to protect well integrity and facilitate drilling the productive interval. The cementing operation is designed for cement volume, curing times, and compressive strength. Cement is placed in the annular area between the casing and wellbore to provide containment and isolation of exposed formations.

Drilling then continues horizontally out of the bottom of the 7" casing for 7,000 to 10,000 feet, depending on the permitted length of the horizontal lateral. When the drill bit reaches the planned total depth (TD), 4.5" production casing is run to the total depth point. This casing is then cemented in the well from total depth, with the top of cement brought back above the 7" shoe to provide isolation of the productive interval. After the wells have been drilled and cased to total depth, the drilling rig is moved off location, and the drilling phase is complete. Under normal conditions, the nine wells should require a total of 120 to 140 days to drill.

### **Completion Phase**

The well completion operation consists of six phases and is initiated after sufficient curing time of the cement (typically three to four days) has been reached. The zone(s) to be completed in the wells will be the Codell and Niobrara shale formations depending on the evaluation and testing results of each zone in each individual well.

#### **Verification Phase**

The first phase of the completion operation is "Verification and Testing," which involves running a cement bond log (CBL) to verify cement placement and quality behind the 7" casing. This log is submitted to the COGCC for review.

#### **Material Preparation Phase**

The size of the completion job and resulting raw material volumes are determined by the quality of the production interval and engineering experience. The completion operation will consist of modular large volume tanks and high-pressure pump trucks. Several days prior to the completion operation, the MLVTs are placed on a temporary completion pad located approximately 1800 feet west of the drill pad. The state-licensed tanks are between 153'-158' in diameter and will hold between 40,000-42,000 barrels of fresh water. Encana certifies that the MLVTs are designed and implemented consistent with the June 13, 2014 Colorado Oil and Gas Conservation Commission "Policy on the Use of Modular Large Volume Tanks in Colorado." Water supply preference will be based on availability at the time of operations.

#### **Perforation and Stimulation Phase**

Next, the interval of potential hydrocarbon production is accessed. The first stage is performed by a pressure activated valve and the formation in contact with the first stage is hydraulically fractured. This is a means of hydraulically cracking the formation with liquid (mostly water) and placing propping agents (sand and other chemical compounds) in the formation to create a channel of high flow capacity between the formation and the wellbore. Subsequent stages are performed by pumping down an isolation plug and isolating the previous stage below the plug. Along with the isolation plug, perforating devices located above the plug are also pumped down on wireline. At a specified

interval, the shots on the perforating devices are discharged, which pierce the steel casing and cement and penetrate the formation. The interval is then stimulated by the process of hydraulic fracturing followed by setting of another isolation plug. This process is repeated several times until the entire production interval is stimulated. This phase of the operation normally requires one day for rigging up and three days for pumping and rigging down for each well. The temporary modular large volume tanks will be removed shortly after the hydraulic fracturing of the wells has been completed.

Encana will follow Colorado Oil & Gas Conservation Commission Rule 205A HYDRAULIC FRACTURING CHEMICAL DISCLOSURE which, among other things, specifically requires that the Operator [Encana] disclose:

- a) Each hydraulic fracturing additive used in the hydraulic fracturing fluid and the trade name, vendor, and a brief descriptor of the intended use or function of each hydraulic fracturing additive in the hydraulic fracturing fluid;
- b) each chemical intentionally added to the base fluid;
- c) the maximum concentration, in percent by mass, of each chemical intentionally added to the base fluid; and
- d) the chemical abstract service number for each chemical intentionally added to the base fluid, if applicable.

Rule 205A further states:

That the operator [Encana] must, within 60 days following the conclusion of a hydraulic fracturing treatment, complete and post the chemical registry disclosure form with FracFocus. The FracFocus form includes information about the well, the volume of fresh or treated water and the chemicals used and their concentrations.

### **Drill-Out Phase**

Immediately following the hydraulic fracturing operation, a service rig moves in to drill out the temporary plugs that were installed during the stimulation phase in the lateral section of the wellbores.

### **Flowback Phase**

After the drill-out Phase, the well is flowed back to temporary 500-barrel tanks or turned to sales. During this period, the flowback fluid is predominately water. This operation will require additional truck traffic to transport the fluids off location for a period of 4-17 days. Tubing is run inside the casing following drill out to improve production efficiency. The flowback tanks will remain on location until the wells are ready to go through standard production equipment (approximately 4-17 days).

### **Production Phase**

New production facilities will be constructed in accordance with COGCC Rules and Regulations as illustrated on the Site Plan. There will be nine production 3-Phase separators, one oil surge drum, one water surge drum, one oil pump skid (with three pumps), one water pump skid (with two pumps), one produced oil pig launcher, one instrument air skid and electrical rack (all grouped together), one sales gas meter, and one sales gas pig launcher on site. Fencing six feet in height will be installed around all production equipment and the wellheads per COGCC and Town standards. A flow line buried approximately four feet deep will be routed from the wellheads to the separators in compliance with COGCC regulations. An automated shutoff valve will be installed at the wellhead for safety purposes. A new gas sales line will be installed to route natural gas into a third-party gathering pipeline. Additional pipelines will be installed that will route the produced oil condensate and water to the Hub. The produced oil condensate pipe will measure 8 inches and the produced water pipeline will measure six inches. Per COGCC regulations and specifications, berms are constructed around the separators. The wellhead, surge tank, and separators will be painted a beige/tan color to blend into the surrounding area and vegetation.

Once construction of the flowlines is complete, a pumper/lease operator (dedicated member of staff responsible for regularly visiting assigned locations) then begins daily monitoring of the wells. Daily monitoring will consist of natural gas and oil condensate production estimates and pressure readings. Production information is filed monthly with the COGCC. There will be period maintenance of the sales gas meters by either Encana personnel or the gas purchaser. The production phase of the well will continue until it is no longer economical to produce. Based upon current market conditions and existing technology, the anticipated average life of a well in the area is between 25 and 30 years. Once the wells have reached near 80% of their production life span, one surge drum and pump skid and one electrical building will be installed to enable liquid flow to the Hub for production of the remaining resources.

An appropriate sign(s) will be installed according to Commission regulations indicating that Encana Oil & Gas (USA) is the operator of the wells and warning of safety hazards to the public.

### **Associated Traffic**

Please see the associated Traffic Management Plan for additional information.

### **Water Resources for Completions Activities**

The fresh or treated water utilized during the completion phase will be carried to the site from a water service company experienced in providing such service to oil and gas companies. The water will be brought onto location either via pipeline or ditches and canals from approved water resources. Should any trucking of fresh or treated water be necessary, Encana will follow a route agreed upon with the surface owner and through the use of Town and County roads.

### **Daily Production Operations**

- **Hours of operation:** After completion activities, the facility will operate continuously (24/7) except for maintenance outages.
- **Number of employees:** The site will typically be unmanned, although one pumper will visit daily to monitor status of equipment.
- **Required outside storage, parking and loading areas:** During the production phase, no outside storage or loading is required. An unimproved parking area will be required for visits by the pumper. Please see site plan for additional information.

### **Plugging and Abandonment Phase**

If a completed well's production rates have declined to a level where it is no longer profitable to operate the well, the well will be plugged and abandoned. A proposed procedure will be submitted to the COGCC for approval. This typically includes the setting of a cast iron bridge plug above the producing interval and is covered with two sacks of cement; however, several other cement plugs may be set at designated intervals up the hole. A portion of the production casing may be cut off and pulled from the well. The casing is cut off below ground level at a depth approved by the COGCC and a steel plate is welded on the top of the casing. Once plugging of the wellbore is complete, the associated production facilities and flowlines are removed and the final site reclamation will begin.

If a well is determined to be nonproductive after obtaining open-hole logs during the drilling phase, it will be plugged. This normally includes several cement plugs in the open-hole section and a cement plug at the surface. Surface casing would be cut off below ground level at a depth approved by COGCC and a steel plate welded on the top of the casing. The proposed operation is approved by the COGCC prior to execution.

## **SECTION 4: ENVIRONMENTAL AND SAFETY PLAN**

### **Noise Control**

Any operations involving the use of a drilling rig, workover rig, and any equipment used in the drilling, completion, or production of a well are subject to and will comply with the noise regulations of the COGCC Rules and Regulations, Rule 802, and state law and regulations concerning noise abatement (Title 25, Article 12, C.R.S.). Under COGCC Rule 802.b, oil and gas activities are subject to maximum permissible noise levels based on the type of land use of the surrounding area. As a standard, Encana will utilize a temporary sound wall during the drilling and completion operations. The exact physical location of the wall will be determined once a sound survey has been completed.

### **Air and Water Quality**

All drilling, completion, and production activities will be in compliance with the EPA's Clean Air Act and the Colorado Air Quality Control Program, Title 25, Article 7, C.R.S. This production location has been evaluated by Encana representatives with regard to the requirements set forth in Article 7. This team has determined that emissions are below necessary limits for a permit due to the innovative design of this facility.

The COGCC sets forth specific requirements for casing depth in order to protect ground water sources. Produced water will be piped back to the Hub and ultimately reused or disposed of in accordance with COGCC regulations.

The Denver Julesburg Basin, or DJ Basin, has been one of Colorado's most prolific petroleum provinces. The DJ Basin lies in the northeast part of Colorado along the Front Range and extends north from Monument, Colorado to Scottsbluff, Nebraska. The foothills define the western boundary and the eastern boundary extends to the Kansas-Colorado state line. The majority of the production is confined to a fairway extending northeast from Denver, to Kimball, Nebraska.

The Fox Hills Sands of the Late Cretaceous age are important fresh water aquifers in the western DJ Basin of Colorado. In addition, there are discontinuous sands of secondary importance directly below the Fox Hills that are referred to as the transition zone sands. Together, these units exist from the surface to a depth of approximately 500 feet in the northern part of the Basin and from the surface to a depth of approximately 1,000 feet in the southern portion of the Basin.

In order to ensure the protection of fresh water resources, Encana will set all 9-5/8" steel surface casing to a depth of at least 50 feet beneath the base of the Fox Hills Sands, as required by Order A-13 of the Colorado Oil and Gas Commission, with cementing from bottom to surface. Surface casing setting depth is determined from subsurface ground water maps prepared by the State Engineer and supplemented by the latest data available from offsetting wells. The Colorado Oil and Gas Commission (COGCC) review all drilling permits for adequate surface casing setting depths and subsequent cementing programs.

### **Odor**

Encana Oil & Gas (USA) Inc. will adhere to all requirements applicable in the COGCC regulations relating to odor. No noxious, prolonged, or unusually high amounts of odor are expected from the proposed drilling of the wells.

### **Visual Impacts**

All oil and gas facilities or structures shall be painted Encana Tan and will not utilize intense, bright, or fluorescent colors, as indicated in Section 6.9(C)(9) of Title 10 – Unified Development Code.

### **Wildlife**

Encana will adhere to all requirements set forth in the COGCC regulations relating to wildlife. No impact to wildlife is expected at any of the wellhead locations. Please refer to the Endangered Species Report in the Initial Site Assessment report included in this application.

### **Weed Control**

The location will be kept free of weeds, rubbish, and other waste material. During drilling, completion, production, and reclamation operations, all disturbed areas shall be kept reasonably free of noxious weeds and undesirable species. When a well is completed for production, all disturbed areas that are no longer needed will be restored and re-vegetated as soon as practicable. Encana will drag the lease roads and the production site with a “drag” designed to remove weeds as needed. Weeds that cannot be controlled with this method will be sprayed as needed with a systemic herbicide. Any additional weed control required to keep the site free of weeds will be implemented if the standard plan is not sufficient.

Encana Oil & Gas (USA) Inc. annually contracts with a registered weed control service to prevent the reoccurrence of noxious or excessive weed growth (COGCC Rule 1003f).

### **Waste Disposal/Sanitation**

A trash bin will be located on site for any waste accumulated by the crews during all operations.

Portable sanitary facilities, which comply with Section 602(9) of the Colorado Oil and Gas Commission regulations, will be provided and maintained on the location. Because no personnel are on the location for an extended period of time, no Town services or sanitary services of any kind will be required or provided after the well begins to produce. Encana personnel visit the site each weekday and will be responsible for picking up and disposing of any debris.

All waste associated with the drilling operations is included in the attached Waste Management Plan.

### **Well Site Restoration**

Well site restoration begins with plugging and abandonment of the wells. The plugging and abandonment procedure consists of the cementing of a well, the removal of its associated production facilities, the removal of its flowline, and the remediation and reclamation of the entire well site.

All tanks, equipment, lines, and extra material used to enhance the access road will be removed from the site. Once all the equipment has been removed, all earth that may have been sterilized will be removed from the site and replaced with the appropriate or common type of topsoil and seeded with the natural plant and grasses for the area. All site reclamation will be in conformance with the Town of Erie standards as well as the COGCC regulations.

## SECTION 5: EMERGENCY RESPONSE AND FIRE PROTECTION PLAN

### FIRE AND EMERGENCY RESPONSE PLAN AND NOTIFICATION LIST FOR

#### Morgan Hills Wells

Encana Oil & Gas (USA) Inc. emergency operations are designed to comply with the following sections of the 2006 International Fire Code, Drilling Operation:

Section 3406.3 Well Drilling and Operating	Section 3406.3.2 Waste Control
Section 3406.3.1 Location	Section 3406.3.3 Sumps
Section 3406.3.1.1 Storage Tanks and Sources of Ignition	Section 3406.3.4 Prevention of blowouts
Section 3406.3.1.2 Streets and railways	Section 3406.3.6 Soundproofing
Section 3406.3.1.3 Buildings	Section 3406.3.7 Signs
	Section 3406.3.8 Field loading racks

All roads leading to and those in the drilling/storage area will be designed and maintained to support fire apparatus. A turnaround will be constructed as necessary to accommodate fire apparatus. In addition to the above-referenced rules and regulations, Encana is also subject to COGCC Rule 6064 pertaining to Fire Prevention and Protection. Encana has support personnel in the field or on call at all times to provide technical assistance in fire prevention and elimination.

**1. General Information:** The purpose of the Emergency Response Plan is to provide procedures to cover emergency conditions that may arise during the development of oil and gas resources as well as issues that may arise after the completion of the wells. The procedures contain the policies applicable to facility emergencies. The following information may be useful during emergencies:

#### Name and Address:

Encana Oil & Gas (USA) Inc.  
10188 East 1-25 Frontage Road  
Firestone, CO 80504

Mountain View Fire Protection District  
3561 North Stagecoach Road  
Longmont, CO 80504

#### Type of Facility:

Oil and Gas Wells

Location and Access:

A portion of the north half of the Section 7, Township 1 North, Range 68 West of the 6<sup>th</sup> P.M. Town of Erie, County of Weld, Colorado. Access is on the west side of the intersection of County Road 3 and County Road 12.

Access to the location is as follows:

The Morgan Hills wells will be permanently accessed from County Road 12. The access is on the west side of County Road 3 and County Road 12. Signs—a minimum 2 sq./ft. and a maximum 6 sq./ft.—will be posted in conformance with the regulations of the Town of Erie and the COGCC at the entrance of each site or roadway.

The proposed access road for the pad will be approximately 45 feet wide. This is in conformance with the Fire District requirements to allow for safe access of larger vehicles and any emergency equipment. The access road is graded to provide simple drainage from the roadway. All bends in the access road will be constructed to properly accommodate emergency vehicle access. The road will be maintained so as to provide a roadway passable for emergency vehicles and be generally rut free.

Equipment Inspections:

All surface equipment is visually inspected on a regular basis for leakage, malfunction of seals, etc. Inspections are made by Encana personnel and reported to the Firestone office.

Drainage:

Drainage from the bermed area is controlled by Encana personnel. Any fluids that may result inside the bermed areas will be moved by truck to a permitted disposal facility for proper disposal.

Spill Containment:

Facility berms— approximately 1 foot in height— are constructed to enclose the separators, surge drums, and pumps. All berms will be made of steel-rim as outlined in the Memorandum of Understanding between Encana and the Town of Erie. There will be no storage tanks at this facility.

Security:

All proper warning signs and equipment guards will be installed onsite.

**2. Training:** Encana personnel are properly instructed in the operation and maintenance of equipment to prevent discharges of oil condensate and applicable pollution control laws, rules, and regulations.

**3. Emergency Contact List:** The following is a list of Encana personnel and emergency organizations that may be contacted in the event an emergency occurs at the location.

**a. Encana Oil & Gas (USA) Inc.**

The Supervisor On-Call is responsible for responding to an emergency at the facility location:

Name	Office Phone	Cell Number
Supervisor On-Call .....		(303) 435-0904
Emergency Hotline .....	(303) 659-7740	
EHS On-Call .....		(303) 489-0238

All facility emergencies shall be reported immediately to the appropriate Supervisor by the Supervisor On-Call. Further contact information will be provided upon permit approval.

**b. Town and County Agencies:**

Type of Emergency

Town of Erie Administration A.J. Krieger – Town Administrator (303) 926-2710	Contact as emergencies dictate
Local Government Designee R. Martin Ostholthoff (303) 926-2772	Contact as emergencies dictate
Mountain View Fire Protection District 911 or (303) 772-0710	Fires or spills that cannot be contained by employees Fires & spills not contained within the facility or other emergencies
Weld County Sheriff Department To report emergencies, call 911	Contact as emergencies dictate

**c. State Agencies:**

Colorado Oil and Gas Conservation Commission (303) 894-2100	As needed
Colorado Dept. of Public Health and Environment (303) 692-2000	As needed

**d. Federal Agencies:**

Environmental Protection Agency Region VIII Emergency Response Number: (214) 749-3840 (24 hours)	Inland spills into water when U.S.C.G cannot be reached
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Signs will be posted in conformance with the COGCC General Rule 210(b) showing some or all of the names and numbers above.

**4. Emergency Response Procedures:**

Encana Oil & Gas (USA) Inc. has an Emergency Response Plan and a copy is available at Encana's Firestone office. The Senior Production Coordinator is to assume full responsibility for implementing the Emergency Response Plan. Implementation will depend upon the type of emergency at hand.

The appropriate Manager/Supervisor will notify Encana Oil & Gas (USA) Inc. office personnel of any emergency which might result in news media coverage.

The operator shall reimburse the Town of Erie or the Mountain View Fire Protection District for any emergency response costs incurred by the Town or the Fire District in connection with activity at the well site or production site.

**5. Contingency Procedures / (SPCC) Plans:** A Spill Prevention Control and Countermeasure (SPCC) Plan is maintained at Encana's Firestone office. This plan should be referenced if a major spill occurs.

**6. Release of Information:** Release of information is the responsibility of the Encana Firestone office.

## **SECTION 6: PERMITS FROM OTHER AGENCIES**

### **Erie:**

Encana will secure a Grading and Stormwater Quality Permit and Right of Way Permit for any applicable access road and pipelines from the Erie Public Works Department.

Encana will conduct and provide a Burrowing Owl Survey if construction and/or drilling occurs between March 15th and October 31st of any given calendar year.

### **Colorado Department of Public Health and Environment:**

Encana has an approved Storm Water Management Plan on file with CDPHE. A copy is included with this submittal.

### **Federal Aviation Administration:**

A Notice of Proposed Construction or Alteration - Off Airport form has been submitted to the FAA for the temporary drilling rig and the permanent equipment.

### **Weld County:**

A permit to move the drilling rig and other heavy equipment on Weld County roads will be obtained by the drilling contractor prior to moving the rig onto the location.

### **COGCC:**

Copies of the proper COGCC paperwork (Form 2s and the Form 2A) are included with this submittal.

## **SECTION 7: REVIEW CRITERIA FOR SPECIAL REVIEW USE PERMIT**

This application is submitted to the Town of Erie as a Special Review Use for a well site in accordance with Article 10 of the Town of Erie Unified Development Code. This application is for nine horizontal wells and a production facility that contains nine production 3-phase separators, one oil surge drum, one water surge drum, one oil pump skid (with three pumps), one water pump skid (with two pumps), one produced oil pig launcher, one instrument air skid and electrical rack (all grouped together), one sales gas meter, and one sales gas pig launcher. This narrative and the accompanying plans provide the appropriate materials, background, and information needed to evaluate this SRU application. The appropriate permits have been applied for from the Colorado Oil & Gas Conservation Commission (COGCC) to drill the nine wells.

### Approval Criteria

The Board of Trustees may approve Special Review Uses, and the Planning Commission may recommend approval, if the Special Review Use meets all of the following criteria:

1. The proposed use is consistent with the Town's Comprehensive Master Plan and all applicable provisions of the Municipal Code Title 10 - UDC and applicable State and Federal regulations;
2. The proposed use is consistent with the purpose and intent of the zoning district in which it is located;
3. The proposed use is consistent with any applicable use-specific standards set forth in Section 3.2 of the Municipal Code Title 10 - UDC;
4. The proposed use is compatible with adjacent uses in terms of scale, site design, and operating characteristics (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);
5. Any significant adverse impacts anticipated to result from the use will be mitigated or offset to the maximum extent practicable;
6. Facilities and services (including sewage and waste disposal, water, gas, election, police and fire protection, and roads and transportation, as applicable) will be available to serve the subject property while maintaining adequate levels of service for existing development;
7. Adequate assurances of continuing maintenance have been provided; and
8. Any significant adverse impacts on the natural environment will be mitigated to the maximum extent practicable.

## **Appendix:**

1. Completed Land Use Application
2. List of Property Owners within 300 Feet of Site
3. Surface Use Agreement
4. COGCC Form 2 and Form 2A
5. Waste Management Plan
6. Drainage Analysis
7. Stormwater Control Plan
8. Traffic Management Plan
9. Initial Site Assessment Report
10. FAA Permit
11. 24"x36" & 11"x17" Morgan Hills Wells SRU Master Site Plan Sheets



DEVELOPMENT REVIEW FEES			
<b>ANNEXATION</b>		<b>SUBDIVISION</b>	
<input type="checkbox"/> Major (10+ acres)	\$ 4000.00	<input type="checkbox"/> Sketch Plan	\$ 1000.00 + 10.00 per lot
<input type="checkbox"/> Minor (less than 10 acres)	\$ 2000.00	<input type="checkbox"/> Preliminary Plat	\$ 2000.00 + 40.00 per lot
<input type="checkbox"/> Deannexation	\$ 1000.00	<input type="checkbox"/> Final Plat	\$ 2000.00 + 20.00 per lot
<b>COMPREHENSIVE PLAN AMENDMENT</b>		<input type="checkbox"/> Minor Subdivision Plat	\$ 2000.00
<input type="checkbox"/> Major	\$ 3000.00	<input type="checkbox"/> Minor Amendment Plat	\$ 1000.00 + 10.00 per lot
<input type="checkbox"/> Minor	\$ 1200.00	<input type="checkbox"/> Road Vacation (constructed)	\$ 1000.00
<b>ZONING/REZONING</b>		<input type="checkbox"/> Road Vacation (paper)	\$ 100.00
<input type="checkbox"/> Rezoning	\$ 1700.00 + 10.00 per acre	<b>SITE PLAN</b>	
<input type="checkbox"/> PUD Rezoning	\$ 1700.00 + 10.00 per acre	<input type="checkbox"/> Residential	\$ 1400.00 + 10.00 per unit
<input type="checkbox"/> PUD Amendment	\$ 1700.00 + 10.00 per acre	<input type="checkbox"/> Non-Resi. (>10,000 sq. ft.)	\$ 2200.00
<input type="checkbox"/> Major PD Amendment	\$ 3700.00 + 10.00 per acre	<input type="checkbox"/> Non-Resi. (>2,000 sq. ft.)	\$ 1000.00
<input type="checkbox"/> Minor PD Amendment	\$ 500.00	<input type="checkbox"/> Non-Resi. (<2,000 sq. ft.)	\$ 200.00
<b>SPECIAL REVIEW USE</b>		<input checked="" type="checkbox"/> Amendment (major)	\$ 1100.00
<input type="checkbox"/> Major	\$ 1000.00	<input type="checkbox"/> Amendment (minor)	\$ 350.00
<input type="checkbox"/> Minor	\$ 400.00	<b>VARIANCE</b>	\$ 600.00
<input checked="" type="checkbox"/> Oil & Gas	\$ 1200.00	<b>SERVICE PLAN</b>	\$ 10,000.00
All fees <b>include</b> both Town of Erie Planning & Engineering review. These fees <b>do not include</b> referral agency review fees, outside consultant review fees, or review fees incurred by consultants acting on behalf of staff. See Town of Erie Municipal Code, Title 2-10-5 for all COMMUNITY DEVELOPMENT FEES.			

The undersigned is fully aware of the request/proposal being made and the actions being initiated on the referenced property. The undersigned understand that the application must be found to be complete by the Town of Erie before the request can officially be accepted and the development review process initiated. The undersigned is aware that the applicant is fully responsible for all reasonable costs associated with the review of the application/request being made to the Town of Erie. Pursuant to Chapter 7 (Section 7.2.B.5) of the Unified Development Code (UDC) of the Town of Erie, applicants shall pay all costs billed by the Town for legal, engineering and planning costs incurred by staff, including consultants acting on behalf of staff, necessary for project review. By this acknowledgement, the undersigned hereby certify that the above information is true and correct.

Owner: \_\_\_\_\_

Date: \_\_\_\_\_

Owner: \_\_\_\_\_

Date: \_\_\_\_\_

Applicant: Miracle Pfister

Date: 1-13-15

STATE OF COLORADO )

County of Denver )

) ss.

The foregoing instrument was acknowledged before me this 13<sup>th</sup> day of January, 2015, by Miracle Pfister

MELISSA M CHAVEZ  
Notary Public  
State of Colorado  
Notary ID 20064050110  
My Commission Expires Feb 4, 2017

My commission expires: 2/11/2017

Witness my hand and official seal.

Melissa M. Chavez  
Notary Public

**MEMORANDUM OF COMPATIBLE DEVELOPMENT  
AND SURFACE USE AGREEMENT**

Pursuant to the terms of that certain unrecorded Compatible Development and Surface Use Agreement dated ~~October 17~~<sup>November 17, CDG</sup>, 2014 between the undersigned, and subject to the conditions set forth therein, **Mary Alice Billings, and The Mary Alice Billings Trust**, with and address of 2246 Riverside Drive, Lyons, CO 80540, and the **Woolley Family Trust**, with an address of P.O. Box 223, Allenspark, CO 80510 ("Surface Owner"); ~~CGD Morgan Hill, LLC~~ with an address of 2500 Arapahoe, Suite 220, Boulder, CO 80302 ("Developer"); and **Encana Oil & Gas (USA) Inc.**, a Delaware Corporation ("Encana") with an address of 370 17th Street, Suite 1700, Denver, Colorado 80202, agreed to the compatible use of the surface for development and for oil and gas operations including drilling, construction, completion, recompletion, reworking, re-entry, production, maintenance and other operations located on the following land ("Described Premises"):

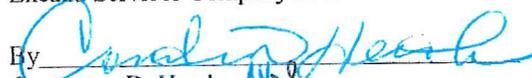
CDG  
Morgan  
Hill, Inc  
/ CDG

Township 1 North, Range 68 West, Weld County, Colorado  
Section 7: N/2 as delineated on Exhibit A attached hereto

This Memorandum of Compatible Development and Surface Use Agreement is executed by Surface Owner, Developer and Encana and placed of record in Weld County, Colorado for the purpose of placing all persons on notice of the existence of the Agreement. A true and complete copy of the Agreement is available at the offices of EnCana.

IN WITNESS WHEREOF, the undersigned parties have executed this Memorandum of Compatible Development and Surface Use Agreement by a duly authorized representative, to be effective on the date and year first above written.

**ENCANA OIL & GAS (USA) INC.,**  
acting by and through its authorized Agent,  
Encana Services Company Ltd.

By   
Constance D. Heath,  
Director, Land Negotiations, Western Operations

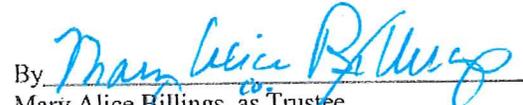
**WOOLLEY FAMILY TRUST**

By 

**MARY ALICE BILLINGS**

By   
Mary Alice Billings

**THE MARY ALICE BILLINGS TRUST**

By   
Mary Alice Billings, as Trustee  
Co-trustee Mary Alice Trust Co, Co-trustee  
By:   
Vice President and Trust Officer

**CDG MORGAN HILL, LLC Inc.**

By   
Jon Lee as: PERSON'S REPRESENTATIVE

STATE OF COLORADO )  
 )ss  
CITY AND COUNTY OF DENVER )

ACKNOWLEDGEMENTS

On this 4<sup>th</sup> day of December, 2014, before me personally appeared Constance D. Heath, who, being by me duly sworn, did say that she is Director, Land Negotiation, Western Operations for Encana Oil & Gas (USA) Inc., acting by and through its authorized agent, Encana Services Company Ltd., and that she signed the foregoing instrument on behalf of said corporation and acknowledged the instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 2/4/2017

Notary Public: Melissa M Chavez

(SEAL)



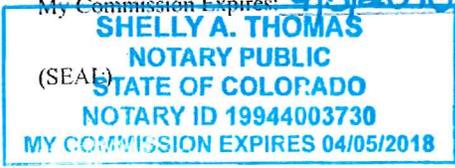
STATE OF COLORADO )  
 )ss  
COUNTY OF Boulder )

On this 17<sup>th</sup> day of November, 2014, before me personally appeared Mary Alice Billings, who, being by me duly sworn, did say that that she signed the foregoing instrument and acknowledged the instrument to be her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 4/5/2018

Notary Public: Shelly A. Thomas



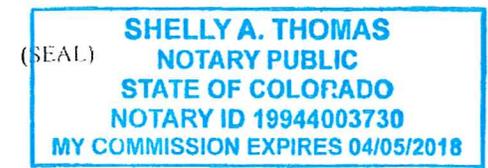
STATE OF COLORADO )  
 )ss  
COUNTY OF Boulder )

On this 17<sup>th</sup> day of November, 2014, before me personally appeared Mary Alice Billings, as Trustee<sup>s</sup> of the Mary Alice Billings Trust, who, being by me duly sworn, did say that that she signed the foregoing instrument and acknowledged the instrument to be her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 4/5/2018

Notary Public: Shelly A. Thomas



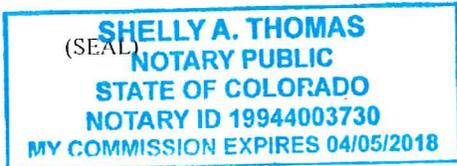
STATE OF COLORADO )  
 )  
COUNTY OF Boulder )ss

On this 17<sup>th</sup> day of November, 2014, before me personally appeared Dona Woolley, as Trustee of the Woolley Family Trust, who, being by me duly sworn, did say that that she signed the foregoing instrument and acknowledged the instrument to be her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 4/5/2018

Notary Public: Shelly A. Thomas



STATE OF COLORADO )  
 )  
COUNTY OF Boulder )ss

On this 17 day of November 2014, before me personally appeared Jen Lee, as Auth Rep of CDG Morgan Hill, LLC, who, being by me duly sworn, did say that that she signed the foregoing instrument and acknowledged the instrument to be her his free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 11-22-2015

Notary Public: Mary Jane Davies

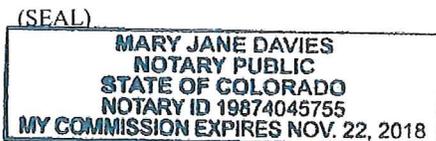
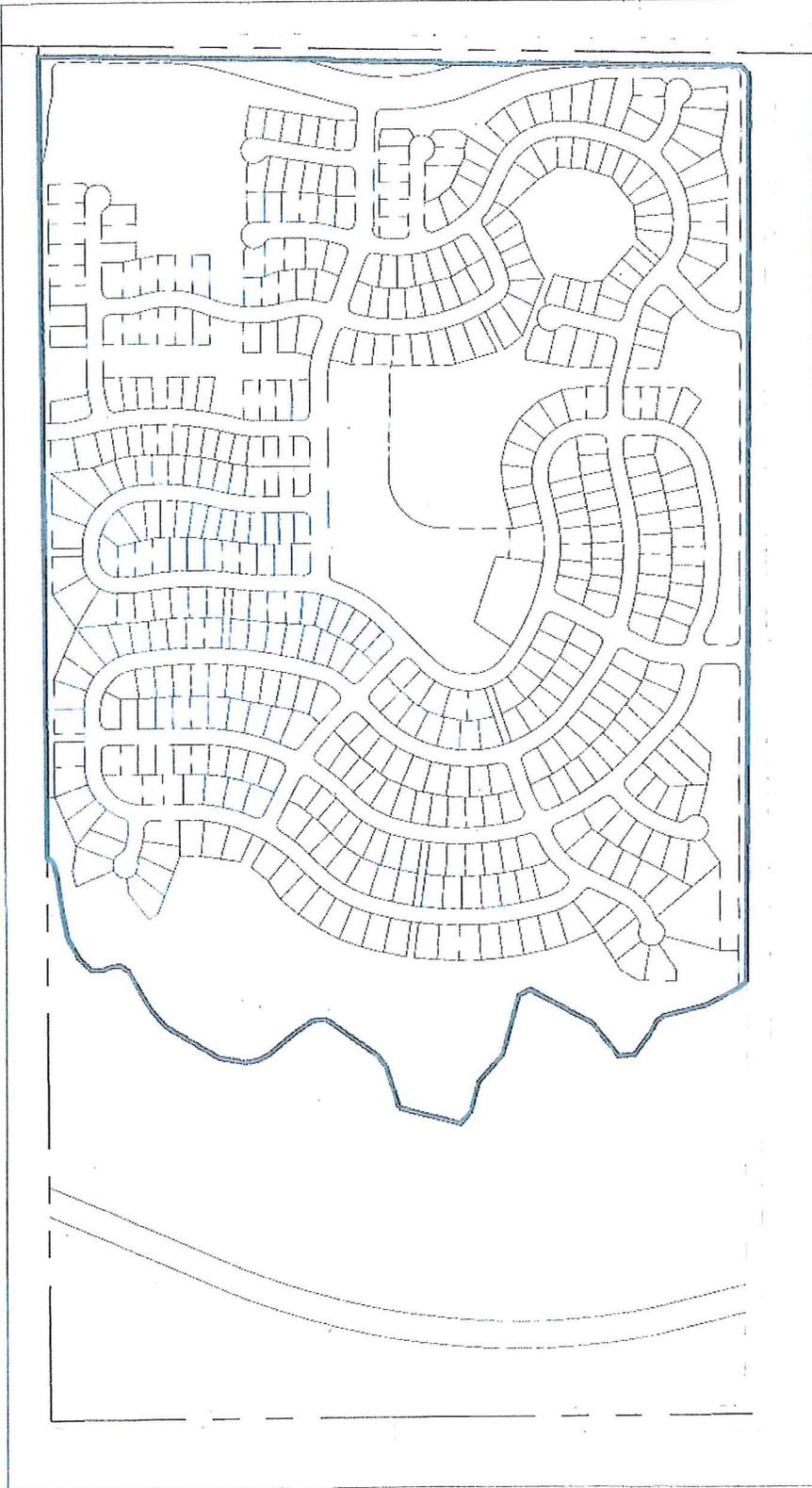


EXHIBIT A: Described Premises  
"The Property"



Described Premises

encana

TOWNSHIP 1 NORTH, RANGE 68 WEST  
SECTION 7: N $\frac{1}{2}$   
WELD COUNTY, COLORADO

SCALE: 1" = 600'

JULY 15, 2014

Property Owners Within 300 ft. of Parcel # 146707100015

Account	Parcel	Owner	Mailing Address
	146708200999	ACCOUNT NOT AVAILABLE	
R5702086	146708200999	BARDAY-ROWLAND DONNA	
R6776717	146707200014	BILLINGS MARY ALICE (2/3 INT)	2246 RIVERSIDE DR LYONS CO 805408960
R6776716	146707200016	BILLINGS MARY ALICE (2/3 INT)	2246 RIVERSIDE DR LYONS CO 805408960
R6776715	146707200018	BILLINGS MARY ALICE (2/3 INT)	2246 RIVERSIDE DR LYONS CO 805408960
R6776717	146707200014	BILLINGS MARY ALICE TRUST (1/3 INT)	
R6776716	146707200016	BILLINGS MARY ALICE TRUST (1/3 INT)	
R6776715	146707200018	BILLINGS MARY ALICE TRUST (1/3 INT)	
R5701286	146708204002	CLARIDGE SUSAN R	
R4260506	146708200999	FOTT JOSEPH WADE	1100 RUE DE TRUST ERIE CO 805169029
R5700886	146708203046	GIBSON GORDON K	4747 ANNE PL ERIE CO 805169008
R4791408	146708200999	HART ROBIN C	
R4791408	146708200999	HART TERENCE R	1234 DORIS CIR ERIE CO 805169046
R4791308	146708200999	HIGERD DAVID A	1206 RUE DE TRUST ERIE CO 805169030
R4791308	146708200999	HIGERD LYNNE M	
R5701986	146708200999	JAMES ROBERT	3275 CODY CT  WHEATRIDGE CO 80033
R2146103	146706400043	K A C HOLDINGS LLC (8.8235% INT)	
R0049601	146708200999	MILLER JANET L	
R0049601	146708200999	MILLER MAHLON L	1636 RUE DE TRUST ERIE CO 805169034
R2146103	146706400043	MORADI ALBERT TRUST (8.8235% INT)	
R2146103	146706400043	MORADI CAROLINE TRUST (8.8235% INT)	
R2146103	146706400043	MORADI FOROUGH-TRUSTEE (52.9413% INT)	SAEED AND FOROUGH MORADI FAMILY TRUST
R2146103	146706400043	MORADI KATINA TRUST (8.8235% INT)	
R2146103	146706400043	MORADI MIKE & SHAHLA TR (11.7647% INT)	C/O ISAAC MORADI 9301 WILSHIRE BLVD STE 315 BEVERLY HILLS CA 902106132
R0032087	146708200999	PAKAN JOHN	PO BOX 876777 WASILLA AK 996876777
R6777903	146705300002	PAQUETTE JENNIFER C	

Account	Parcel	Owner	Mailing Address
R6777903	146705300002	PAQUETTE JOHN A	1151 COUNTY ROAD 12 ERIE CO 805169004
R4260606	146708200999	PARK LAND HOMEOWNERS	NON ASSESSABLE
R5701286	146708204002	RIDDERING TAMMERA L	
R5702086	146708200999	ROWLAND DAVID J	1136 RUE DE TRUST ERIE CO 805169029
R0935001	146706000036	SCHMIDT MICHAEL W	5053 COUNTY ROAD 3 ERIE CO 805169312
R4923707	146707100009	WELD COUNTY	1150 O ST GREELEY CO 806319596
R5701086	146708203048	WEST DONITTA K	
R5701086	146708203048	WEST ROBERT E	4675 ANNE PL ERIE CO 805169008
R5701286	146708204002	WOODS GARY B (BN)	1108 BARBARA CIR ERIE CO 805169043
R5701286	146708204002	WOODS JERILYN J (BN)	10531 MINERAL RD LONGMONT CO 805047791
R6776720	146707100013	WOOLLEY FAMILY TRUST	PO BOX 223 ALLENSPARK CO 805100223
R6776719	146707100015	WOOLLEY FAMILY TRUST	PO BOX 223 ALLENSPARK CO 805100223
R6776718	146707100017	WOOLLEY FAMILY TRUST	PO BOX 223 ALLENSPARK CO 805100223
R5700986	146708203047	YOUNG EVE MARIE	
R5700986	146708203047	YOUNG PHILLIP M	4721 ANNE PL ERIE CO 805169008



**LEASE INFORMATION**

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian  
 Federal or State Lease # \_\_\_\_\_  
 Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:  
 Building: 506 Feet  
 Building Unit: 506 Feet  
 High Occupancy Building Unit: 4476 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 384 Feet  
 Above Ground Utility: 559 Feet  
 Railroad: 3647 Feet  
 Property Line: 358 Feet

**INSTRUCTIONS:**  
 - All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).  
 - Enter 5280 for distance greater than 1 mile.  
 - Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
 - Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

**DESIGNATED SETBACK LOCATION INFORMATION**

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit  
 - Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
 - Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):  
 Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_  
 Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 71 Feet  
 Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)  
 Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

**SPACING & FORMATIONS COMMENTS**

E2W2 & W2E2 7; E2W2 & W2E2 18

**OBJECTIVE FORMATIONS**

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR		640	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 17590 Feet  
 Distance to nearest permitted or existing wellbore penetrating objective formation: 71 Feet (Including plugged wells)  
 Will a closed-loop drilling system be used? Yes  
 Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	30	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	225	800	0
1ST	8+3/4	7	26#	0	8149	544	8149	500
2ND	6+1/8	4+1/2	13.5#	0	17590	549	17590	7849

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments Encana Oil and Gas requests omission of open-hole logging for the subject well; please see request letter attached.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

**API NUMBER**

05

### Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

## Best Management Practices

No	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells
12	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations

Total: 12 comment(s)

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651401	FORM 2 SUBMITTED
400652221	EXCEPTION LOC REQUEST
400652224	PROPOSED SPACING UNIT
400659184	ANTI-COLLISION WAIVER
400659747	OPEN HOLE LOGGING EXCEPTION
400699281	DEVIATED DRILLING PLAN
400699283	WELL LOCATION PLAT
400699291	DIRECTIONAL DATA
400742579	OffsetWellEvaluations Data
400742582	EXCEPTION LOC WAIVERS
400742583	EXCEPTION LOC WAIVERS

Total Attach: 11 Files

### General Comments

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)

FORM

2

Rev 08/13

State of Colorado

Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

400651403

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL GAS COALBED OTHER

Refiling

Date Received:

01/12/2015

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Sidetrack

Well Name: Morgan Hills Well Number: 1B-7H-A168
Name of Operator: ENCANA OIL & GAS (USA) INC COGCC Operator Number: 100185
Address: 370 17TH ST STE 1700
City: DENVER State: CO Zip: 80202-5632
Contact Name: Bonnie Lamond Phone: (720)876-5156 Fax: ( )
Email: bonnie.lamond@encana.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100017

WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 7 Twp: 1N Rng: 68W Meridian: 6
Latitude: 40.071988 Longitude: -105.038784

Footage at Surface: 368 feet FNL/FSL FNL 389 feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5023 County: WELD

GPS Data:

Date of Measurement: 08/25/2014 PDOP Reading: 1.9 Instrument Operator's Name: Ryan Christi

If well is Directional Horizontal (highly deviated) submit deviated drilling plan.

Footage at Top of Prod Zone: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL
740 FNL 1824 FEL 470 FSL 1900 FEL
Sec: 7 Twp: 1N Rng: 68W Sec: 18 Twp: 1N Rng: 68W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: Fee State Federal Indian

The Surface Owner is: is the mineral owner beneath the location.
(is check all that apply) is committed to an Oil and Gas Lease.
has signed the Oil and Gas Lease.
is the applicant.

The Mineral Owner beneath this Oil and Gas Location is: Fee State Federal Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: Surface Surety ID:

**LEASE INFORMATION**

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

**INSTRUCTIONS:**

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

Building: 507 Feet

Building Unit: 507 Feet

High Occupancy Building Unit: 4486 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 374 Feet

Above Ground Utility: 552 Feet

Railroad: 3646 Feet

Property Line: 348 Feet

**DESIGNATED SETBACK LOCATION INFORMATION**

- Check all that apply. This location is within a:
- Buffer Zone
  - Exception Zone
  - Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 178 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

**SPACING & FORMATIONS COMMENTS**

E2 Sec. 7 & E2 Sec. 18

**OBJECTIVE FORMATIONS**

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		640	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 17776 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 178 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

### GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

### DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

### CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	8331	1025	8331	500
2ND	6+1/8	4+1/2	13.5#	0	17751	798	17751	8031

Conductor Casing is NOT planned

### DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

### GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

### RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application?  Yes  No

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

API NUMBER

05

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

### Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations;
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil;
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400651403	FORM 2 SUBMITTED
400652255	EXCEPTION LOC REQUEST
400659748	OPEN HOLE LOGGING EXCEPTION
400699349	DEVIATED DRILLING PLAN
400699353	WELL LOCATION PLAT
400699356	DIRECTIONAL DATA
400699412	OffsetWellEvaluations Data
400742590	EXCEPTION LOC WAIVERS
400742593	EXCEPTION LOC WAIVERS
400742595	PROPOSED SPACING UNIT
400769579	SURFACE AGRMT/SURETY

Total Attach: 11 Files

**General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>

Total: 0 comment(s)

FORM  
2  
Rev  
08/13

State of Colorado  
Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
400651407

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

TYPE OF WELL OIL  GAS  COALBED  OTHER \_\_\_\_\_

Refiling

Date Received:  
01/12/2015

ZONE TYPE SINGLE ZONE  MULTIPLE ZONES  COMMINGLE ZONES

Sidetrack

Well Name: Morgan Hills Well Number: 1C-7H-A168  
Name of Operator: ENCANA OIL & GAS (USA) INC COGCC Operator Number: 100185  
Address: 370 17TH ST STE 1700  
City: DENVER State: CO Zip: 80202-5632  
Contact Name: Bonnie Lamond Phone: (720)876-5156 Fax: ( )  
Email: bonnie.lamond@encana.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100017

WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 7 Twp: 1N Rng: 68W Meridian: 6  
Latitude: 40.071987 Longitude: -105.038748

Footage at Surface: 368 feet FNL/FSL FNL 379 feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5022 County: WELD

GPS Data:

Date of Measurement: 08/25/2014 PDOP Reading: 1.9 Instrument Operator's Name: Ryan Christi

If well is  Directional  Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL 740 FNL 1524 FEL/FWL FEL Bottom Hole: FNL/FSL 470 FSL 1650 FEL/FWL FEL  
Sec: 7 Twp: 1N Rng: 68W Sec: 18 Twp: 1N Rng: 68W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership:  Fee  State  Federal  Indian

The Surface Owner is:  is the mineral owner beneath the location.  
(check all that apply)  is committed to an Oil and Gas Lease.  
 has signed the Oil and Gas Lease.  
 is the applicant.

The Mineral Owner beneath this Oil and Gas Location is:  Fee  State  Federal  Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: \_\_\_\_\_ Surface Surety ID: \_\_\_\_\_

**LEASE INFORMATION**

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 508 Feet  
 Building Unit: 508 Feet  
 High Occupancy Building Unit: 4496 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 364 Feet  
 Above Ground Utility: 546 Feet  
 Railroad: 3645 Feet  
 Property Line: 338 Feet

**INSTRUCTIONS:**

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).  
 - Enter 5280 for distance greater than 1 mile.  
 - Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
 - Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

**DESIGNATED SETBACK LOCATION INFORMATION**

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit  
 - Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
 - Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 500 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

**SPACING & FORMATIONS COMMENTS**

E2 Sec. 7 & E2 Sec. 18

**OBJECTIVE FORMATIONS**

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR		640	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 17490 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 59 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than \_\_\_\_\_

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	8042	988	8042	500
2ND	6+1/8	4+1/2	13.5#	0	17465	799	17465	7742

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application?  Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

API NUMBER

05

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

## Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable ; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651407	FORM 2 SUBMITTED
400652263	EXCEPTION LOC REQUEST
400659749	OPEN HOLE LOGGING EXCEPTION
400699408	DEVIATED DRILLING PLAN
400699409	ANTI-COLLISION WAIVER
400699410	WELL LOCATION PLAT
400699411	DIRECTIONAL DATA
400701800	OffsetWellEvaluations Data
400742599	EXCEPTION LOC WAIVERS
400742600	EXCEPTION LOC WAIVERS
400742601	PROPOSED SPACING UNIT
400769582	SURFACE AGRMT/SURETY

Total Attach: 12 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)



### LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

### CULTURAL DISTANCE INFORMATION

Distance to nearest:

#### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).  
- Enter 5280 for distance greater than 1 mile.  
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

Building: 538 Feet

Building Unit: 538 Feet

High Occupancy Building Unit: 4510 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 353 Feet

Above Ground Utility: 564 Feet

Railroad: 3615 Feet

Property Line: 328 Feet

### DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:  Buffer Zone  Exception Zone  Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit  
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

### SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 247 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

### SPACING & FORMATIONS COMMENTS

E2 Sec. 7 & E2 Sec. 18

### OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		640	GWA

### DRILLING PROGRAM

Proposed Total Measured Depth: 17701 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 247 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

### GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

### DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

### CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	8251	1015	8251	500
2ND	6+1/8	4+1/2	13.5#	0	17676	799	17676	7951

Conductor Casing is NOT planned

### DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

### GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

### RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

API NUMBER

05

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

## Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651415	FORM 2 SUBMITTED
400652277	EXCEPTION LOC REQUEST
400659750	OPEN HOLE LOGGING EXCEPTION
400701834	OffsetWellEvaluations Data
400702024	WELL LOCATION PLAT
400702029	DIRECTIONAL DATA
400742607	PROPOSED SPACING UNIT
400769588	SURFACE AGRMT/SURETY
400769589	EXCEPTION LOC WAIVERS
400769590	EXCEPTION LOC WAIVERS
400769591	DEVIATED DRILLING PLAN

Total Attach: 11 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)

FORM  
2  
Rev  
08/13

State of Colorado  
Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
400651417

APPLICATION FOR PERMIT TO:

Drill  Deepen  Re-enter  Recomplete and Operate

Date Received:  
01/12/2015

TYPE OF WELL OIL  GAS  COALBED  OTHER \_\_\_\_\_

Refilling

ZONE TYPE SINGLE ZONE  MULTIPLE ZONES  COMMINGLE ZONES

Sidetrack

Well Name: Morgan Hills Well Number: 1E-7H-A168  
Name of Operator: ENCANA OIL & GAS (USA) INC COGCC Operator Number: 100185  
Address: 370 17TH ST STE 1700  
City: DENVER State: CO Zip: 80202-5632  
Contact Name: Bonnie Lamond Phone: (720)876-5156 Fax: ( )  
Email: bonnie.lamond@encana.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100017

WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 7 Twp: 1N Rng: 68W Meridian: 6

Latitude: 40.071987 Longitude: -105.038677

Footage at Surface: 368 feet FNL/FSL FNL 359 feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5022 County: WELD

GPS Data:

Date of Measurement: 08/25/2014 PDOP Reading: 1.9 Instrument Operator's Name: Ryan Christi

If well is  Directional  Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL 765 FNL 1072 FEL/FWL 470 FSL 1150 FEL  
Sec: 7 Twp: 1N Rng: 68W Sec: 18 Twp: 1N Rng: 68W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership:  Fee  State  Federal  Indian

The Surface Owner is:  is the mineral owner beneath the location.  
(check all that apply)  is committed to an Oil and Gas Lease.  
 has signed the Oil and Gas Lease.  
 is the applicant.

The Mineral Owner beneath this Oil and Gas Location is:  Fee  State  Federal  Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: \_\_\_\_\_ Surface Surety ID: \_\_\_\_\_

### LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

### CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 510 Feet  
 Building Unit: 510 Feet  
 High Occupancy Building Unit: 4516 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 344 Feet  
 Above Ground Utility: 534 Feet  
 Railroad: 3643 Feet  
 Property Line: 318 Feet

#### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

### DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

### SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 117 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

### SPACING & FORMATIONS COMMENTS

E2 Sec. 7 & E2 Sec. 18

### OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR		640	GWA

### DRILLING PROGRAM

Proposed Total Measured Depth: 17440 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 117 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than \_\_\_\_\_

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	7985	980	7985	500
2ND	6+1/8	4+1/2	13.5#	0	17415	799	17415	7685

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

**OTHER LOCATION EXCEPTIONS**

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

**OPERATOR COMMENTS AND SUBMITTAL**

Comments Encana request the omission of open-hole logging for subject well; request letter attached.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

<b>API NUMBER</b>
05

**Conditions Of Approval**

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

### Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651417	FORM 2 SUBMITTED
400652284	EXCEPTION LOC REQUEST
400659244	ANTI-COLLISION WAIVER
400659751	OPEN HOLE LOGGING EXCEPTION
400701838	OffsetWellEvaluations Data
400702044	PROPOSED SPACING UNIT
400702045	DEVIATED DRILLING PLAN
400702046	WELL LOCATION PLAT
400702047	DIRECTIONAL DATA
400769592	EXCEPTION LOC WAIVERS
400769593	EXCEPTION LOC WAIVERS
400769594	SURFACE AGRMT/SURETY

Total Attach: 12 Files

### General Comments

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)

FORM

2

Rev  
08/13

State of Colorado

Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

400651420

Date Received:

01/12/2015

APPLICATION FOR PERMIT TO:

Drill  Deepen  Re-enter  Recomplete and Operate

TYPE OF WELL OIL  GAS  COALBED  OTHER \_\_\_\_\_ Refilling   
ZONE TYPE SINGLE ZONE  MULTIPLE ZONES  COMMINGLE ZONES  Sidetrack

Well Name: Morgan Hills Well Number: 1F-7H-A168  
Name of Operator: ENCANA OIL & GAS (USA) INC COGCC Operator Number: 100185  
Address: 370 17TH ST STE 1700  
City: DENVER State: CO Zip: 80202-5632  
Contact Name: Bonnie Lamond Phone: (720)876-5156 Fax: ( )  
Email: bonnie.lamond@encana.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100017

WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 7 Twp: 1N Rng: 68W Meridian: 6  
Latitude: 40.071987 Longitude: -105.038641  
Footage at Surface: 368 feet FNL/FSL FNL 349 feet FEL/FWL FEL  
Field Name: WATTENBERG Field Number: 90750  
Ground Elevation: 5021 County: WELD  
GPS Data:  
Date of Measurement: 08/25/2014 PDOP Reading: 1.9 Instrument Operator's Name: Ryan Christi  
If well is  Directional  Horizontal (highly deviated) **submit deviated drilling plan.**  
Footage at Top of Prod Zone: FNL/FSL 740 FNL 857 FEL 470 FEL/FWL 900 FEL  
Sec: 7 Twp: 1N Rng: 68W Sec: 18 Twp: 1N Rng: 68W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership:  Fee  State  Federal  Indian  
The Surface Owner is:  is the mineral owner beneath the location.  
(check all that apply)  is committed to an Oil and Gas Lease.  
 has signed the Oil and Gas Lease.  
 is the applicant.  
The Mineral Owner beneath this Oil and Gas Location is:  Fee  State  Federal  Indian  
The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes  
The right to construct the Oil and Gas Location is granted by: Surface Use Agreement  
Surface damage assurance if no agreement is in place: \_\_\_\_\_ Surface Surety ID: \_\_\_\_\_

## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 511 Feet

Building Unit: 511 Feet

High Occupancy Building Unit: 4526 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 334 Feet

Above Ground Utility: 528 Feet

Railroad: 3642 Feet

Property Line: 308 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).

- Enter 5280 for distance greater than 1 mile.

- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.

- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit  
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 86 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## SPACING & FORMATIONS COMMENTS

E2 Sec. 7 & E2 Sec. 18

## OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		640	FWA

## DRILLING PROGRAM

Proposed Total Measured Depth: 17664 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 86 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than \_\_\_\_\_

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	8206	1009	8206	500
2ND	6+1/8	4+1/2	13.5#	0	17639	799	17639	7906

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application?  Yes \_\_\_\_\_

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

API NUMBER

05

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

### Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations, thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651420	FORM 2 SUBMITTED
400652293	EXCEPTION LOC REQUEST
400659261	ANTI-COLLISION WAIVER
400659752	OPEN HOLE LOGGING EXCEPTION
400701848	OffsetWellEvaluations Data
400702122	PROPOSED SPACING UNIT
400702123	WELL LOCATION PLAT
400742678	DIRECTIONAL DATA
400742681	DEVIATED DRILLING PLAN
400769597	SURFACE AGRMT/SURETY
400769599	EXCEPTION LOC WAIVERS
400769601	EXCEPTION LOC WAIVERS

Total Attach: 12 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)



### LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

### CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 513 Feet

Building Unit: 513 Feet

High Occupancy Building Unit: 4536 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 324 Feet

Above Ground Utility: 522 Feet

Railroad: 3641 Feet

Property Line: 298 Feet

#### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

### DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:  Buffer Zone  Exception Zone  Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

### SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 167 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

### SPACING & FORMATIONS COMMENTS

E2 Sec. 7 & E2 Sec. 18

### OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR		640	GWA

### DRILLING PROGRAM

Proposed Total Measured Depth: 17411 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 167 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

### GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

### DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

### CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	7950	976	7950	500
2ND	6+1/8	4+1/2	13.5#	0	17386	800	17386	7650

Conductor Casing is NOT planned

### DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

### GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

### RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

**OTHER LOCATION EXCEPTIONS**

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

**OPERATOR COMMENTS AND SUBMITTAL**

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

<b>API NUMBER</b>
05

**Conditions Of Approval**

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

## Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651422	FORM 2 SUBMITTED
400659753	OPEN HOLE LOGGING EXCEPTION
400701988	OffsetWellEvaluations Data
400702479	DEVIATED DRILLING PLAN
400702481	PROPOSED SPACING UNIT
400702482	WELL LOCATION PLAT
400702484	DIRECTIONAL DATA
400769606	SURFACE AGRMT/SURETY
400769607	EXCEPTION LOC WAIVERS
400769608	EXCEPTION LOC WAIVERS
400769609	EXCEPTION LOC REQUEST

Total Attach: 11 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)



## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 514 Feet  
Building Unit: 514 Feet  
High Occupancy Building Unit: 4546 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 314 Feet  
Above Ground Utility: 516 Feet  
Railroad: 3640 Feet  
Property Line: 288 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 359 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## SPACING & FORMATIONS COMMENTS

E2E2 7; W2W2 8; E2E2 18; W2W2 17

## OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		640	GWA

## DRILLING PROGRAM

Proposed Total Measured Depth: 17653 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 359 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	36#	0	800	198	800	0
1ST	8+3/4	7	26#	0	8188	1007	8188	500
2ND	6+1/8	4+1/2	13.5#	0	17628	800	17628	7888

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

**OTHER LOCATION EXCEPTIONS**

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

**OPERATOR COMMENTS AND SUBMITTAL**

Comments Encana request the omission of open-hole logging for subject well; request letter attached.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

<b>API NUMBER</b>
05

**Conditions Of Approval**

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

## Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651423	FORM 2 SUBMITTED
400701996	OffsetWellEvaluations Data
400702492	DEVIATED DRILLING PLAN
400702495	WELL LOCATION PLAT
400702496	PROPOSED SPACING UNIT
400702497	DIRECTIONAL DATA
400769613	SURFACE AGRMT/SURETY
400769614	EXCEPTION LOC WAIVERS
400769615	EXCEPTION LOC WAIVERS
400769616	EXPEDITED APPROVAL REQUEST

Total Attach: 10 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)

FORM

2

Rev  
08/13

## State of Colorado

## Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number:

400651427

## APPLICATION FOR PERMIT TO:

 Drill
  Deepen
  Re-enter
  Recomplete and Operate

Date Received:

01/12/2015

TYPE OF WELL OIL  GAS  COALBED  OTHER \_\_\_\_\_Refiling ZONE TYPE SINGLE ZONE  MULTIPLE ZONES  COMMINGLE ZONES Sidetrack Well Name: Morgan HillsWell Number: 11-7H-A168Name of Operator: ENCANA OIL & GAS (USA) INCCOGCC Operator Number: 100185Address: 370 17TH ST STE 1700City: DENVERState: COZip: 80202-5632Contact Name: Bonnie LamondPhone: (720)876-5156Fax: ( )Email: bonnie.lamond@encana.com

## RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100017

## WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 7 Twp: 1N Rng: 68W Meridian: 6Latitude: 40.071987Longitude: -105.038534Footage at Surface: 368 feet FNL 319 feet FELField Name: WATTENBERGField Number: 90750Ground Elevation: 5021County: WELD

GPS Data:

Date of Measurement: 08/25/2014 PDOP Reading: 1.9 Instrument Operator's Name: Ryan ChristiIf well is  Directional  Horizontal (highly deviated) **submit deviated drilling plan.**Footage at Top of Prod Zone: 741 FNL 73 FEL Bottom Hole: 470 FSL 150 FELSec: 7 Twp: 1N Rng: 68W Sec: 18 Twp: 1N Rng: 68W

## LOCATION SURFACE &amp; MINERALS &amp; RIGHT TO CONSTRUCT

Surface Ownership:  Fee  State  Federal  IndianThe Surface Owner is:  is the mineral owner beneath the location.  
(check all that apply)  is committed to an Oil and Gas Lease. has signed the Oil and Gas Lease. is the applicant.The Mineral Owner beneath this Oil and Gas Location is:  Fee  State  Federal  IndianThe Minerals beneath this Oil and Gas Location will be developed by this Well: YesThe right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: \_\_\_\_\_

Surface Surety ID: \_\_\_\_\_

**LEASE INFORMATION**

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

N2 Section 7 T1NR68W

Total Acres in Described Lease: 320 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 516 Feet  
 Building Unit: 516 Feet  
 High Occupancy Building Unit: 4556 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 304 Feet  
 Above Ground Utility: 511 Feet  
 Railroad: 3639 Feet  
 Property Line: 278 Feet

**INSTRUCTIONS:**

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).  
 - Enter 5280 for distance greater than 1 mile.  
 - Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
 - Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

**DESIGNATED SETBACK LOCATION INFORMATION**

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit  
 - Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
 - Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 309 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

**SPACING & FORMATIONS COMMENTS**

E2E2 7; W2W2 8; E2E2 18; W2W2 17

**OBJECTIVE FORMATIONS**

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR		640	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 17421 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 309 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted?                     

Reuse Facility ID:                      or Document Number:                     

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	30#	0	80	80	80	0
SURF	12+1/4	9+5/8	40#	0	800	198	800	0
1ST	8+3/4	7	26#	0	7953	976	7953	500
2ND	6+1/8	4+1/2	13.5#	0	17396	800	17396	7653

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application?  Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Bonnie Lamond

Title: Regulatory Analyst Date: 1/12/2015 Email: bonnie.lamond@encana.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

API NUMBER

05

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

## Best Management Practices

No	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.
2	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
3	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
4	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
5	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
6	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
7	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
8	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
9	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
10	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
11	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
12	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 12 comment(s)

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400651427	FORM 2 SUBMITTED
400702502	DEVIATED DRILLING PLAN
400702504	PROPOSED SPACING UNIT
400702507	DIRECTIONAL DATA
400702509	OffsetWellEvaluations Data
400769617	SURFACE AGRMT/SURETY
400769618	EXCEPTION LOC WAIVERS
400769619	EXCEPTION LOC WAIVERS
400769620	EXPEDITED APPROVAL REQUEST
400769621	OPEN HOLE LOGGING EXCEPTION
400769622	WELL LOCATION PLAT

Total Attach: 11 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>

Total: 0 comment(s)



## RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

**This proposed Oil and Gas Location is:**                      **LOCATION ID #**    **FORM 2A DOC #**  
 Well Site is served by Production Facilities                      435499                      400480337

## FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells 9                      Oil Tanks\*                             Condensate Tanks\*                             Water Tanks\*                             Buried Produced Water Vaults\*         
 Drilling Pits                             Production Pits\*                             Special Purpose Pits                             Multi-Well Pits\*                             Modular Large Volume Tanks 3  
 Pump Jacks                             Separators\* 9                      Injection Pumps\*                             Cavity Pumps\*                             Gas Compressors\*         
 Gas or Diesel Motors\*                             Electric Motors                             Electric Generators\*                             Fuel Tanks\*                             LACT Unit\*         
 Dehydrator Units\*                             Vapor Recovery Unit\*                             VOC Combustor\*                             Flare\*                             Pigging Station\*       

## OTHER FACILITIES\*

<u>Other Facility Type</u>	<u>Number</u>
Instrument Air Skid/Electric Rack	1
Oil Pump Skid (with 3 pumps)	1
Oil Surge Drum	1
Produced Oil Pig Launcher	1
Sales Gas Meter	1
Sales Gas Pig Launcher	1
Water Pump Skid	1
Water Surge Drum	1

\*Those facilities indicated by an asterisk (\*) shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

Oil, water and gas will flow combined to the Hub facility about 5 miles southeast from the proposed pad with DOT 195 pipeline. Gas pipeline will be determined by KMG at a later date.

## CONSTRUCTION

Date planned to commence construction: 03/01/2015                      Size of disturbed area during construction in acres: 11.00  
 Estimated date that interim reclamation will begin: 03/01/2016                      Size of location after interim reclamation in acres: 3.50  
 Estimated post-construction ground elevation: 5026

## DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes  
 Is H<sub>2</sub>S anticipated? No  
 Will salt sections be encountered during drilling: No  
 Will salt based mud (>15,000 ppm Cl) be used? No  
 Will oil based drilling fluids be used? Yes

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE

Drilling Fluids Disposal Method: Land application

Cutting Disposal: OFFSITE

Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

We currently have two sites that are being used for land application. Both are approved through the COGCC and have facility IDs: Bella 18, #431606 and McDonald Farm, #431609

Beneficial reuse or land application plan submitted?           

Reuse Facility ID:                      or Document Number:                     

Centralized E&P Waste Management Facility ID, if applicable:                     

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: CDG Morgan Hills, Inc.

Phone:                                     

Address: 2500 Arapahoe, Suite 220

Fax:                                     

Address:                                     

Email:                                     

City: Boulder State: CO Zip: 80302

Surface Owner:  Fee  State  Federal  Indian

Check all that apply. The Surface Owner:  is the mineral owner

is committed to an oil and Gas Lease

has signed the Oil and Gas Lease

is the applicant

The Mineral Owner beneath this Oil and Gas Location is:  Fee  State  Federal  Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: Yes

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place:                                      Surface Surety ID:                                     

Date of Rule 306 surface owner consultation                                     

## CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP

Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe):                                     

Subdivided:  Industrial  Commercial  Residential

Future Land Use (Check all that apply):

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP

Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe):                                     

Subdivided:  Industrial  Commercial  Residential

## CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	510 Feet	355 Feet
Building Unit:	510 Feet	355 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	344 Feet	204 Feet
Above Ground Utility:	534 Feet	331 Feet
Railroad:	3643 Feet	3643 Feet
Property Line:	318 Feet	178 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(\*) on the Facilities Tab.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

Buffer Zone

Exception Zone

Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit.
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: 06/13/2014

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/13/2014

## FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (onll or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*

By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

## SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 47 - Olney fine sandy loam, 1 to 3 percent slopes

NRCS Map Unit Name: \_\_\_\_\_

NRCS Map Unit Name: \_\_\_\_\_

**PLANT COMMUNITY:**

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes  No

Plant species from:  NRCS or,  field observation Date of observation: \_\_\_\_\_

List individual species:

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): \_\_\_\_\_

**WATER RESOURCES**

Is this a sensitive area:  No  Yes

Distance to nearest

downgradient surface water feature: 577 Feet

water well: 750 Feet

Estimated depth to ground water at Oil and Gas Location 16 Feet

Basis for depth to groundwater and sensitive area determination:

Is the location in a riparian area:  No  Yes

Was an Army Corps of Engineers Section 404 permit filed  No  Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer No zone:

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: \_\_\_\_\_

**GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING**

Water well sampling required per Rule 318A

**DESIGNATED SETBACK LOCATION EXCEPTIONS**

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## RULE 502.b VARIANCE REQUEST

☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

### OPERATOR COMMENTS AND SUBMITTAL

Comments A temporary completions area of approximately five acres will be utilized for 3 fresh water storage tanks to be used during completions operations. The state-licensed manufacturer for the subject site will either be MWS or Pinnacle Manufacturing. The tanks will hold between 40,000-42,000 barrels, are between 153'-158' in diameter, and plan to be used for the subject location for 84 days. Once all completions operations are complete, this area will be completely reclaimed. Encana certifies that the MLVTs are designed and implemented consistent with the June 13, 2014 "Policy on the Use of Modular Large Volume Tanks in Colorado." Please see attached map for the location of the tanks. The closest Building Unit to the MLVTs is 1700' away. This pad will be reclaimed to match the land surrounding the area, as seen in the attached location pictures. Encana certifies that is has complied with the meeting requirements of Rule 306.e.

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: \_\_\_\_\_ Date: 01/12/2015 Email: bonnie.lamond@encana.com

Print Name: Bonnie Lamond

Title: Regulatory Analyst

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_

### Conditions Of Approval

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

### Best Management Practices

No	BMP/COA Type	Description
1	General Housekeeping	604.c.(2)N. Any material not in use that might constitute a fire hazard will be removed a minimum of twenty-five (25) feet from the wellhead, tanks and separator. Any electrical equipment installations inside the bermed area will comply with API RP 500 classifications and comply with the current national electrical code as adopted by the State of Colorado.
2	General Housekeeping	604.c.(2)P. All surface trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises or disposed of in a legal manner.
3	General Housekeeping	604.c.(2)T. The well site will be cleared of all non-essential equipment, trash and debris after ninety days of a well P&A.
4	General Housekeeping	604.c.(2)U. & 319.a.(5) Encana will identify plugged and abandoned wellbores according to Rule 319.a.(5). including the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). Encana will also inscribe or imbed the well number and date of plugging upon the permanent monument.
5	Material Handling and Spill Prevention	604.c.(2)O. All loadlines will be capped for every location in the DJ.
6	Material Handling and Spill Prevention	805.b.(3)B.iii. Well effluent containing more than ten (10) barrels per day of condensate or within two (2) hours after first encountering hydrocarbon gas of salable quality will be directed to a combination of sand traps, separators, surge vessels, and tanks as needed to ensure safe separation of sand, hydrocarbon liquids, water, and gas and to ensure salable products are efficiently recovered for sale or conserved and that non-salable products are disposed of in a safe and environmentally responsible manner.

7	Material Handling and Spill Prevention	<ul style="list-style-type: none"> <li>• Annual hydrostatic test on the oil dump line from the separator to the tank battery.</li> <li>• Annual hydrostatic "static" tests on our oil tanks.</li> <li>• Annual hydrostatic "static" tests on our produced water tank and water dump line from the separator to the produced water tank.</li> <li>• Lease Operator inspections of all equipment not to exceed 48 hours.</li> <li>• Monthly documented inspections (EU).</li> <li>• Annual environmental inspections of all battery and well equipment and pads.</li> <li>• Annual UT inspections of the pressure vessels and input into Encana's RIPL Predictive Integrity Maintenance Program. (HLP separators and fuel gas separators)</li> </ul>
8	Construction	604.c.(2)E.ii. The pad will be constructed in such a manner that noise mitigation may be installed and removed without disturbing the site or landscaping.
9	Construction	604.c.(2)E.iii. Subject pad will have all weather access roads to allow for operator and emergency response.
10	Construction	604.c.(2)G. Encana utilizes 24" tall corrugated galvanized metal berm walls with a capacity in excess of 150% of the largest tank contained within the wall. In addition, Encana best practices mandates the use of impervious liners that extends under each storage tank and up the walls, permanently affixed to the top of the metal berm wall. Protrusions of piping that come through the liner include a fully sealed "boot" to prevent leakage.
11	Construction	604.c.(2)M. Encana will install fencing to restrict access to wellheads and equipment.
12	Construction	604.c.(2)S. At the time of construction, all leasehold roads will be constructed to accommodate local emergency vehicle access requirements, and will be maintained in a reasonable condition.
13	Noise mitigation	604.c.(2)A., 802.c, 802.d Encana will perform a baseline noise survey prior to any operational activity measuring dBA at a distance 350 feet from the noise source (unless there is an occupied structure closer than that – then measurement will be taken 25 feet from the structure). If low frequency noise is a concern, measurement of dBC will be taken 25 feet from the occupied structure towards the noise source. As necessary, based on the survey, Encana will install temporary sound walls to minimize noise and light impacts during drilling and completions and will install permanent noise mitigation at the facility location as necessary to meet all COGCC regulations.
14	Emissions mitigation	604.c.(2)C.i. Flow lines, separators, and sand traps capable of supporting green completions as described in Rule 805 will be installed on subject location at which commercial quantities of gas are reasonably expected to be produced based on existing adjacent wells within 1 mile.
15	Emissions mitigation	604.c.(2)C.iii. Temporary flowback flaring and oxidizing equipment will include: adequately sized equipment to handle 1.5 times the largest flowback volume of gas experienced in a ten mile radius. If there is overrun, Encana will shut in the well versus freely venting.
16	Emissions mitigation	604.c.(2)F. Encana will follow and comply with all leak detection and repair and storage tank emission management plan conditions as required by Colorado Air Quality Control Commission Regulation Number 7. This will include at least monthly Audible, Visual and Olfactory (AVO) inspections of the components and tanks at our Production Facilities at most weekly or at least monthly starting on January 1, 2015. In addition, Encana will perform infra-red camera inspections of these components and the storage tanks at most monthly or at least annually.
17	Drilling/Completion Operations	604.c.(2)B.i. Encana will utilize a closed-loop system for drilling operations at this location.
18	Drilling/Completion Operations	604.c.(2)B.ii.-v. Encana will not utilize pits.
19	Drilling/Completion Operations	604.c.(2)H.i. & ii. Encana will employ a rig without kelly that has double ram with blind and pipe ram and an annular preventer. At least one person at the well site during drilling operations will have Mineral Management certification or Director approved training for blowout prevention.

20	Drilling/Completion Operations	604.c.(2)I. Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
21	Drilling/Completion Operations	604.c.(2)J.i Adequate blowout prevention equipment will be used on all well servicing operations.
22	Drilling/Completion Operations	604.c.(2)J.ii. Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
23	Drilling/Completion Operations	604.c.(2)L. No drill stem tests will be performed.
24	Drilling/Completion Operations	604.c.(2)Q. Guy line anchors in the DJ Basin are not installed. Encana will use an engineered base beam that we guy wire anchor the derricks to.
25	Drilling/Completion Operations	604.c.(2)R. All newly installed or replaced crude oil and condensate storage tanks will be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). Encana will maintain written records verifying proper design, construction, and maintenance, and will make these records available for inspection by the Director. In addition, onsite inspections are conducted internally to insure guidelines are met.
26	Drilling/Completion Operations	Prior to drilling operations, Encana will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, the Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
27	Drilling/Completion Operations	Encana will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
28	Construction	Maximize equipment and wellhead setbacks from occupied buildings and residences
29	Community Outreach and Notification	Prior to any new operations, provide notification to landowners within 1/2 mile
30	Community Outreach and Notification	Prior to any new operations, provide designated staff member the following: A site plan for site preparation, mobilization, and demobilization; A plan for interim reclamation and re-vegetation and final reclamation of the site; A plan for noise, light, and dust mitigation, to the extent feasible and where applicable; A traffic management plan; Update of this information if any plans change during operations
31	Material Handling and Spill Prevention	Utilize steel-rim berms around tanks and separators instead of sand or soil
32	Drilling/Completion Operations	Utilize close-loop system for drilling and completion operations
33	Drilling/Completion Operations	Utilize multistage pressure separation in conjunction with a vapor recover unit for new wells

Total: 33 comment(s)

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400651431	FORM 2A SUBMITTED
400769623	NRCS MAP UNIT DESC
400769625	ACCESS ROAD MAP
400769626	MULTI-WELL PLAN
400769627	FACILITY LAYOUT DRAWING
400769628	LOCATION PICTURES
400769629	LOCATION DRAWING
400769631	SURFACE AGRMT/SURETY
400769632	OTHER
400769633	HYDROLOGY MAP
400769634	OTHER
400769635	WASTE MANAGEMENT PLAN

Total Attach: 12 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>

Total: 0 comment(s)



# encana



## DJ-BASIN WASTE MANAGEMENT PLAN

Revised October 9, 2013



## TABLE OF CONTENTS

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## REGULATORY REVIEW

**COLORADO OIL & GAS CONSERVATION COMMISSION '900' RULES:** The rules and regulations of this series establish permitting, construction, operating, and closure requirements for pits, exploration and production (E&P) waste management, procedures for spill/release response reporting, sampling, and analysis for remediation activities. The 900 series rules apply to E&P waste, as defined in §34-60-103, C.R.S., or other solid waste where the Colorado Department of Public Health And Environment (CDPHE) has allowed remediation and oversight by the Colorado Oil and Gas Conservation Commission (COGCC).

## WASTE IDENTIFICATION AND DISPOSAL

**Production Water:** Produced water is generated as a by-product in the production of oil and gas. Produced water is separated from oil and gas during production operations.

Disposal of produced water is regulated under *COGCC rule No. 907.c.2*. Produced water is either disposed of at a Class II UIC facility for down-hole injection or treated and reused during operations. Produced water is transported under "trip ticket" which is submitted to the disposal facility when the produced water is off loaded at the disposal facility. The disposal facility maintains a record of each load delivered and forwards a copy of the disposal transaction to Encana for tracking purposes.

**Oil stained Soils:** Accidental release of E&P waste can cause oil stained soils. The removal of these oil stained soils is required by Encana environmental management guidelines, COGCC 900 rules, and in the event waters of the State are impacted, CDPHE water quality control regulations.

Disposal of oil stained soils is regulated under *COGC rule No. 907 e*. Oil stained soils are sampled under guidelines described in *COGCC Rule No. 910.b.(3) entitled "Soil sampling & analysis"*. Oil stained soils are transported and disposed of at a Class II land fill facility under a pre-determined waste profile characterization. Once a waste characterization is completed, a "Waste Manifest Profile" number is assigned and waste manifest are provided to Encana. Under this disposal manifest system, contract waste disposal transporters haul "oil stained soils" to the disposal facility using the assigned waste disposal documentation.

**Drilling Mud/Cuttings:** Drilling mud/cuttings are generated during drilling operations. Drilling mud/cuttings typically involve fresh water, bentonite, and a blend of bio-degradable polymers. Soda Ash or caustic soda is added in small concentrations to



control fluid pH to a range of 9.0 – 10.0. Drilling mud/cuttings are considered E&P waste and therefore exempt from RCRA.

Disposal of drilling mud/cuttings may be reclaimed as a soil amendment to surface soils under *COGCC Rule No. 907.d(3).B*. The drilling mud/cuttings are transported to an approved site and are applied to the surface in accordance with the COGCC rule. Prior to application of drilling mud/cuttings, the surface owner must sign a “*Letter of Agreement*” with Encana authorizing application of drilling mud/cuttings. A copy of this letter of agreement is retained by Encana.

**Drilling Waste:** Drilling waste is regulated under *COGCC rule No. 907.d(2)* and is disposed of at a Class II land fill facility if it meet the waste profile standards for E&P exempt wastes under RCRA Subtitle C.

**Non-E&P Waste:** Non-E&P waste is regulated under *COGCC rule 907A*. – Wastes that are non-exempt under RCRA subtitle C must be managed as follows:

- a. Certain wastes generated by oil and gas-related activities are not E&P wastes and are properly identified and disposed of in accordance with state and federal regulations.
- b. The hazardous waste regulations require that a hazardous waste determination be made for any non-E&P solid waste. Hazardous wastes require storage, treatment, and disposal practices in accordance with 6 C.C.R. 1007-3. All non-hazardous/non-E&P wastes are considered solid waste, which require storage, treatment, and disposal in accordance with 6 C.C.R. 1007-2. The most common example of a “Non E&P Waste” is hydraulic oil. Hydraulic oil does not meet any of the RCRA threshold standards and is not listed as a hazardous product or waste by the EPA.

**Universal Wastes:** Specific universal wastes that may be generated at all levels of Encana operations and activities may include batteries, florescent light bulbs, printer cartridges, and used electronics.

**Hazardous Wastes:** Materials that have specific characteristics or are generated by specific processes may be hazardous waste. The specific characteristics can include:

- **Ignitability (D001):**
  - Liquids with a flash point < 140 ° F
  - Solids that readily ignite and burn vigorously
- **Reactive (D002):**



- Normally unstable and readily undergoes violent changes without detonation
- Violent reaction to water
- Explosive mixture with water
- Generates toxic gases, vapors, or forms with water
- **Corrosive (D003):**
  - Aqueous liquids with a pH  $\leq 2$  or  $\geq 12$
- **Toxic (D004-D043):**
  - Harmful or fatal when ingested, or adsorbed
  - When land disposed contamination may leach out of the waste and pollute ground water
  - Exhibits concentration of the RCRA 8 heavy metals in excess of threshold limits

When necessary, the appropriate personnel will dispose of hazardous waste in a timely manner such that any unforeseen circumstances (e.g., rejection by the treatment, storage, and disposal facility) do not cause the extension of storage times to exceed regulatory limits.

*Figure 1.0 provided at the end of this document describes the process flow Encana uses to properly categorize and manage waste.*

## **STORAGE OF WASTE**

**Hazardous Waste:** Hazardous waste can be stored on location in 55 gallon approved drums that are:

- Properly labeled with DOT and CAS numbers and placards
- Well maintained to prevent leaks
- Sealed when not filling

**Universal Waste:** Universal waste is stored in a manner to prevent contamination. Universal waste is stored in an approved container that is:

- Properly labeled with DOT and CAS numbers and placards
- Labeled as "Universal Waste (enter waste type)" (e.g., "Universal Waste Pesticides")
- Well maintained to prevent leaks
- Sealed when not filling



Universal waste is only held on site for up to one year. In order to track the amount of time that Universal Waste is held on site, Encana staff will complete one of the following:

- Marking the container holding the waste with the date the material was initially accumulated
- Using an inventory tracking system

Generator status for Universal Waste is determined solely by the total amount (in kilograms) held on site at any given point in time. Encana will track and record waste and comply with applicable federal rules.

**Used Oil:** When storing used oil, Encana does the following:

- Used oil must be stored in tanks or containers with appropriate secondary containment
- Containers must be in good condition and not leaking
- Used oil storage units must clearly be labeled with the words "Used Oil."

Used oil should not be mixed with hazardous waste, however, some mixtures of used oil and hazardous waste can be treated as used oil.

**Exploration and Production Waste:** Exploration and production waste (E&P waste) is exempt from RCRA regulations, but is regulated under COGCC 900 series rules. Encana waste management practices are consistent with COGCC requirements, including the following:

- Store E&P waste in a manner to prevent contamination
- Do not mix E&P waste with hazardous or other waste
- Track the disposal of E&P waste

**Non-Hazardous Solid Waste:** Non-hazardous solid wastes are stored in a manner that prevents contamination and releases by ensuring containers are:

- Undamaged
- Sealed or leak proof covers, if appropriate
- Labeled as "Trash" or "Recycle"
- Wildlife proof where necessary



## **HANDLING & TRANSPORTATION OF WASTE**

Safety Data Sheets for waste and associated materials should be referenced when handling and transporting wastes.

Transportation of waste is recorded and tracked utilizing Waste Manifests. Properly trained and designated personnel will prepare a manifest for waste and material shipments, to ensure proper tracking and reporting. Hazardous Waste Manifests must have an original signature of an authorized representative of Encana. A copy of each manifest is given to the Encana environmental employee responsible for waste for tracking purposes.

## **REUSE, REDUCE, RECYCLE, RECOVER**

The Encana EH&S Management System specifies the 4 R's must be at the forefront of any process that generates waste. Comprehensive industrial ecology analyses may be completed annually by Waste Specialists on materials used and wastes generated by Encana. Industrial ecology includes the study of finding reuses for generated "waste" streams. Encana strives to find new environmentally and economically sound methods to reuse, reduce, recycle and/or recover waste.

## **SEGREGATION OF WASTE**

Waste streams should be kept separate and only combine when doing so in accordance with an SOP reviewed and approved by Encana environmental personnel.

The following provides a few examples of recommended waste segregation guidelines:

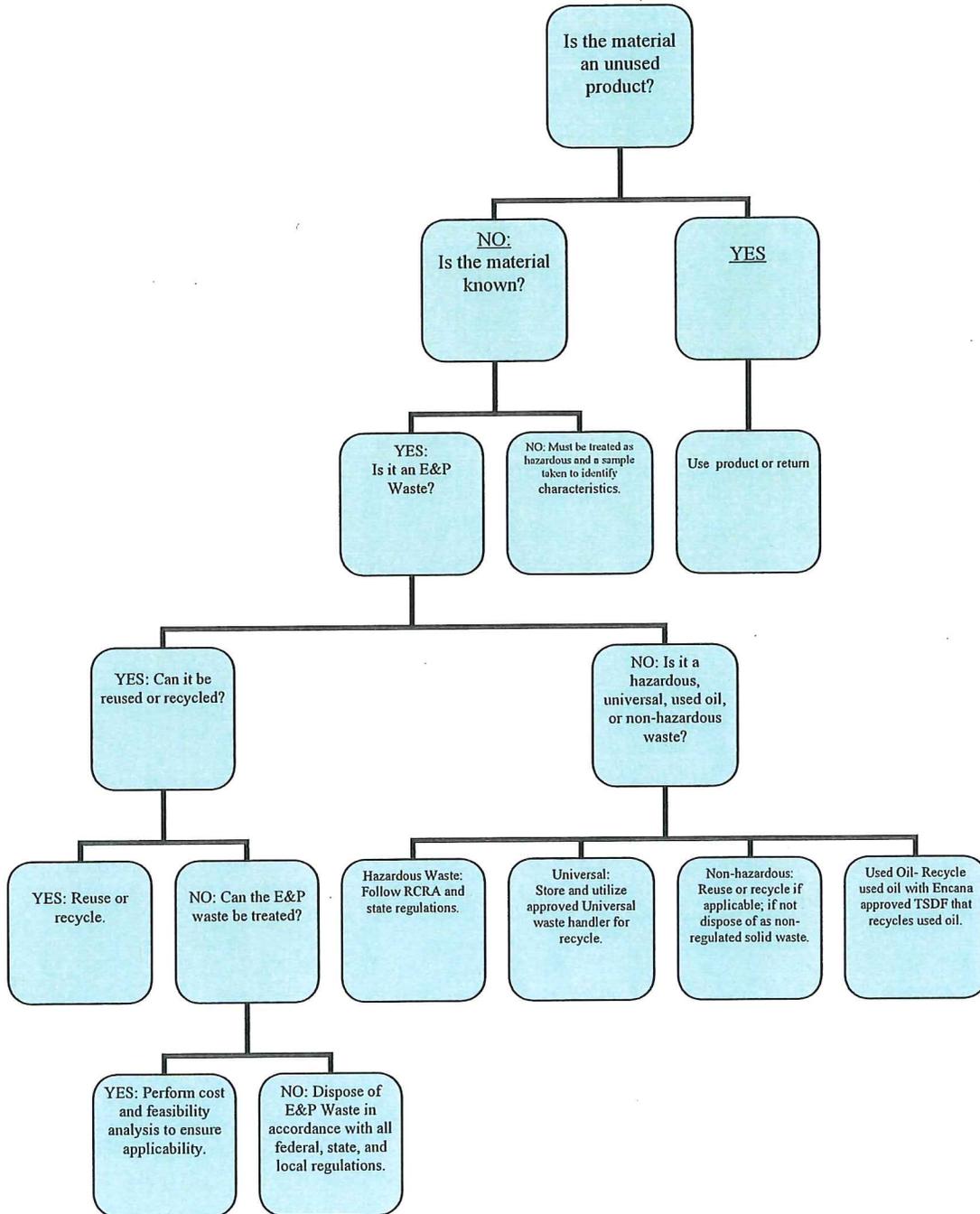
- Do not mix methanol with used oil
- Do not mix triethylene glycol (TEG) with used oil
- Do not mix unknown chemicals

Encana facilities generating very small quantities of hazardous waste may be able to accumulate all hazardous waste in a single drum, as long as the waste streams are compatible and will not react violently. This procedure will help eliminate the hazards associated with maintaining several partial drums for several years. Records should be kept of the type and quantity of each waste that is put into the drum.

Attachments:

FIGURE 1, Encana's Process Flow to Properly Categorize and Manage Waste

Figure 1: Encana’s Process Flow to Properly Categorize and Manage Waste.



# MEMORANDUM



**To:** Public Works Department – Town of Erie  
**CC:** Bonnie Lamond – Encana, Project Folder  
**From:** Rick Behning, Baseline Engineering  
**Date:** December 12<sup>th</sup>, 2014  
**Re:** **Morgan Hill Oil and Gas Facility – Drainage Summary**

---

This memorandum is intended to serve as a drainage summary for a proposed oil and gas facility in the Town of Erie. The “Phase 3 Drainage Report, Morgan Hill, Erie, Colorado” (Revised April 4, 2014) referred to herein as the Report, prepared by Hurst and Associates, Inc. is the primary drainage analysis for the project site. The project site is within the limits of the residential development considered in the Report. The Report and this summary will support a Special Use Review (SRU) application to accommodate the drilling of nine (9) oil and gas wells and the establishment of a production facility to support the wells.

## **Introduction/Overview**

Encana is pursuing a SRU permit for a proposed oil and gas use within the Morgan Hill Subdivision. The Report is on file at the Town of Erie and fulfills the requirement for a drainage analysis to accompany the SRU application for the above referenced Oil and Gas use. This memo will briefly describe the Oil and Gas use and Facility layout within the residential development. The proposed Oil and Gas Facilities including the Temporary Completions Pad and Morgan Hill Pad are outlined by Baseline on the attached plan sheets from Hurst. Plan sheets 9, 10, and 11 include the Stormwater Management Plan, Overall Drainage Plan, and Site Specific Drainage Plan.

The proposed Morgan Hill Well Pad and Production Facility are located in the NE quarter of Section 7, T1N, R68W, in Erie, Colorado. The site is accessed at the future WCR 12 extension west of WCR 3. This property is Residential zoned land that is currently vacant but has an active development application in process.

A proposed Temporary Completions Pad is shown directly west of the Morgan Hill Pad on Sheet 9 attached. The proposed Temporary Completions Pad shown near the western limits of the proposed residential development is located near an existing Oil and Gas Facility. The pad dimensions are approximately 400' x 400' and will be graded flat to accommodate water storage tanks to support the completions operations.

The proposed production phase improvements consist of installing a gravel access road (Note: The access road will be paved within 100 feet of the existing edge of asphalt on WCR 3), gravel production site pad and separators and associated equipment. The oil and water holding tanks that normally support oil and gas wells will not be placed on site. The tank battery will be remote and fluids will be transferred from the well head site to the tank battery via underground pipelines.

December 15, 2014

The separators and associated equipment are impervious but are located inside a bermed containment area to provide a means to impound accidental oil releases to prevent a release from spilling off-site. As a result, the storm runoff from these tanks and separators will also be captured and prevented from becoming concentrated flow downstream. All storm water captured in the berms will be pumped out and disposed of properly off site in accordance with the daily site inspection and maintenance program standards.

### **Morgan Hill Pad**

The proposed well pad in the NE ¼ of Section 7 will be graded to provide a flat drilling pad. During the drilling phase the drill pad will be protected from upstream runoff by implementing diversion ditches or berms. Erosion control measures will be installed as per the SWMPP. Following drilling and completions, the pad will be re-graded to the dimensions required during the production phase. The grading plan as provided in the SRU application is designed to match the proposed grading of the detention pond as per the residential plans provided by others. A berm at the top of the final pad slopes will direct runoff to several rip rap rundowns in order to mitigate erosion with regard to long term maintenance on the site.

The residential development is anticipated to be constructed concurrent with or after the drilling operations take place. The Oil and Gas Wells and Facility are located within Basin A24 as described in the Report. This basin is primarily characterized by residential lots, a drainage swale, the Oil and Gas Facility, and a detention pond and adjacent open space to serve the property. The Report and residential construction plans consider the oil and gas operations and includes them in the analysis, design, and final site disposition. Please refer to the attached drainage plans for reference.

### **Temporary Completions Pad**

The Temporary Completions Pad is located directly west of the Morgan Hills Pad on the residentially zoned property. Following completion operations the pad will be removed and the grades will be restored to match the existing grades. The site will then be re-seeded. Erosion control measures will be installed as per the SWMPP.

### **Summary**

Encana proposes the installation of well heads and associated production facilities in Erie to develop their interest in underlying mineral reserves. The improvements associated with this proposal are designed to be incorporated into the Morgan Hills residential subdivision improvements.

Baseline has provided detailed grading and erosion control plans for each phase of development as a part of the SRU application.



**HURST**  
 CIVIL ENGINEERING  
 2550 BUCKINGHAM BLVD  
 SUITE 200  
 FARMING PLAINS, MO 64529  
 PHONE: (417) 335-5500  
 FAX: (417) 335-5501

**MORGAN HILL PHASE 2**  
 CONSTRUCTION PLANS  
 OVERALL DRAINAGE PLAN

COMMUNITY DEVELOPMENT GROUP

DATE: 08/20/02  
 DRAWN BY: J. HURST  
 CHECKED BY: J. HURST  
 PROJECT NO: 02-001

SCALE: 1" = 200'

NO. REVISIONS

DATE

BY

REASON

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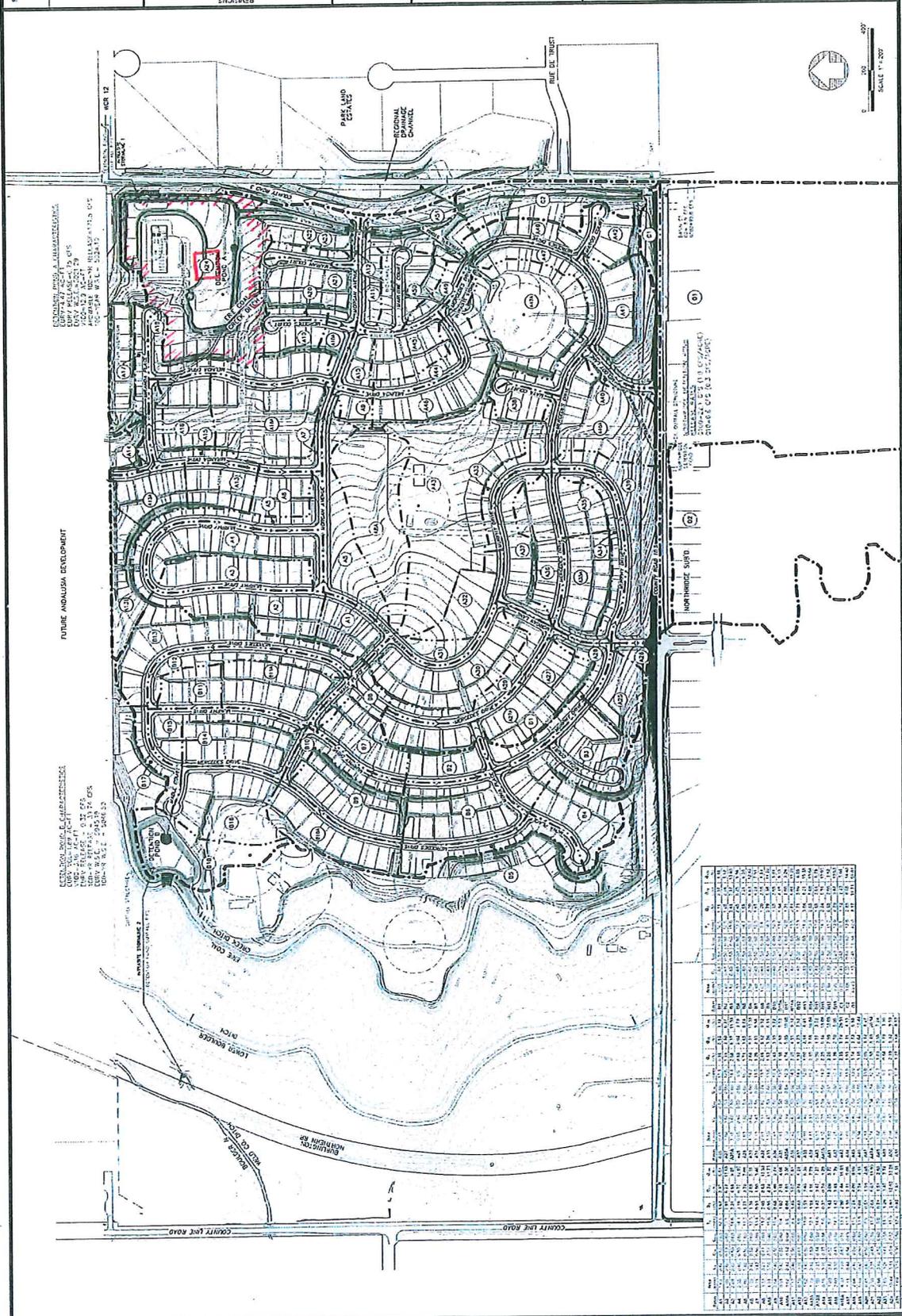
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 CHECKED BY: J. HURST  
 PROJECT NO: 02-001

SCALE: 1" = 200'

NO. REVISIONS

DATE

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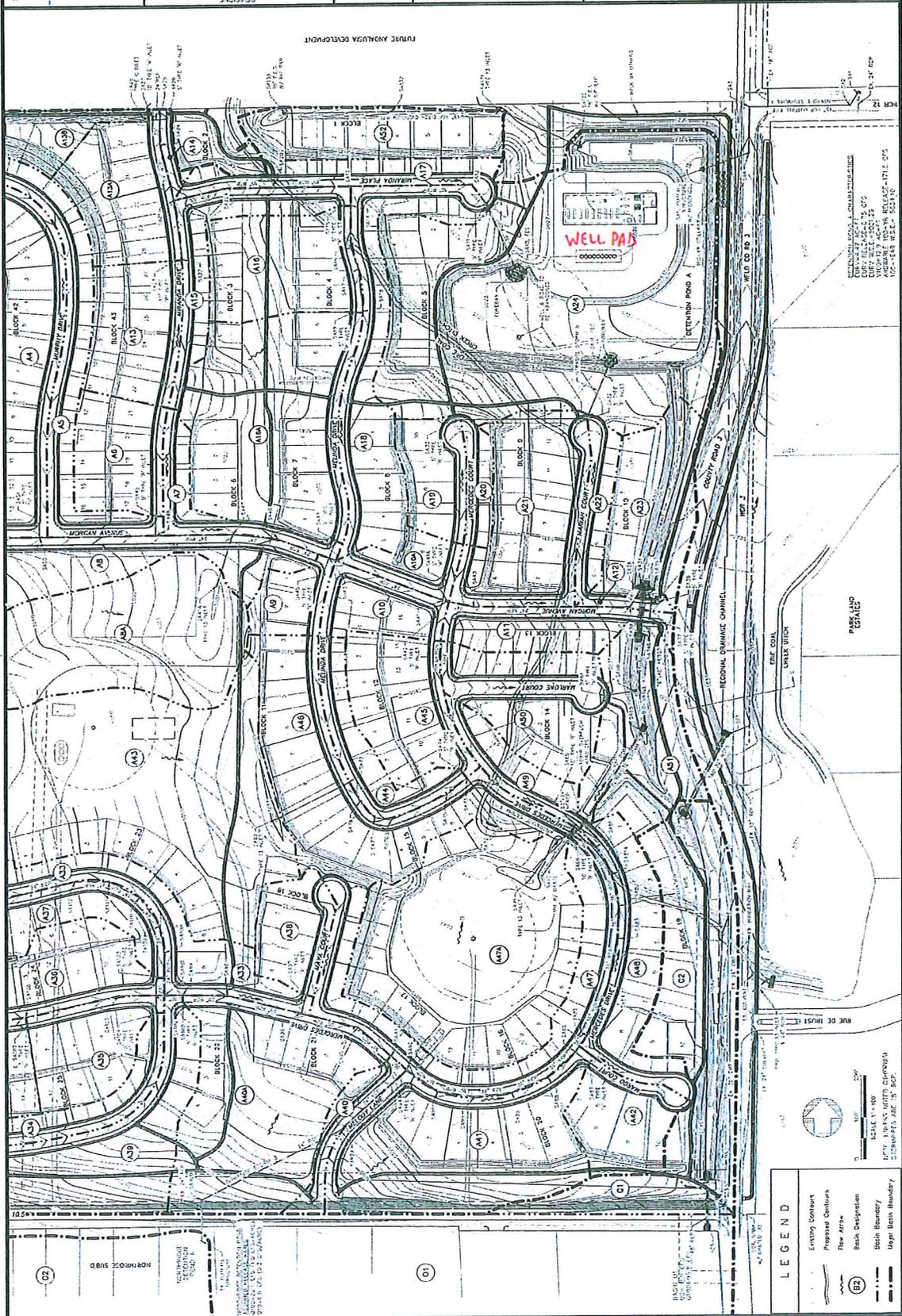
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**LEGEND**

- Existing Contours
- Proposed Contours
- Flow Arrows
- Block Designation
- Block Boundary
- Map Block Boundary

SCALE: 1" = 400'  
 N.T.S. (NOT TO SCALE)  
 DATE: 08/15/2014

THE INFORMATION CONTAINED HEREIN IS FOR THE USE OF THE CLIENT ONLY AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.



Colorado Department  
of Public Health  
and Environment

**CERTIFICATION TO DISCHARGE  
UNDER  
CDPS GENERAL PERMIT COR-0300000  
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

Certification Number: COR03M560

**This Certification to Discharge specifically authorizes:**

**Encana Services Co Ltd**  
to discharge stormwater from the facility identified as

**West Wattenberg Gas Field**

**To the waters of the State of Colorado, including, but not limited to:**

**- South Platte River**

**Facility Industrial Activity :**

Oil and gas production

**Facility Located at:**

CR 7 and CR 52 Erie CO 80516

Weld County

Latitude 40.088295 Longitude -104.999135

**Specific Information (if applicable):**

**Certification is effective:** 7/29/2014

**Expiration Date:** 6/30/2012

**\*ADMINISTRATIVELY CONTINUED**

This certification under the permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the permit.

Signed,

Lillian Gonzalez, Environmental Protection Specialist  
Permits Unit 1 Mgr  
Water Quality Control Division

\*explanation of Admin Continued in cover letter

# STATE OF COLORADO

John W. Hickenlooper, Governor  
Larry Wolk, MD, MSPH  
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

Laboratory Services Division  
8100 Lowry Blvd.  
Denver, Colorado 80230-6928  
(303) 692-3090

www.colorado.gov/cdphe/lab



Colorado Department  
of Public Health  
and Environment

Jeff Balmer, Western Ops VP  
Encana Services Co Ltd  
370 17 St Ste 1700  
Denver, CO 80202

DATE: 7/29/2014

**MEMO RE: Certification, Colorado Discharge Permit System**  
Permit No., COR030000, Certification Number: COR03M560

**DIVISION CONTACTS:** Lillian Gonzalez, Environmental Protection Specialist, at 303-692-3655, or Karen Harford, Admin, at 303-691-4019

**ATTACHMENTS:** Certification COR03M560, General Permit, Highlight Sheet, Inactivation form

The Water Quality Control Division (the Division) has reviewed the application submitted for the **West Wattenberg Gas Field** facility and determined that it qualifies for coverage under the CDPS General Permit for Stormwater Discharges Associated with Construction Activities (the permit). Enclosed please find a copy of the permit certification, which was issued under the Colorado Water Quality Control Act.

**FEE INFORMATION:**

The Annual Fee for this certification is \$245.00 [category 7, subcat 9 – Stormwater Construction per CRS 25-8-502] is invoiced every July. Do Not Pay This Now. The initial prorated invoice will be sent to the legal contact shortly.

**CERTIFICATION RECORDS INFORMATION:**

The following information is what the Division records show for this certification.  
For any changes to Contacts – Legal, Facility, or Billing – a “Notice of Change of Contacts form” must be submitted to the Division. This form is also available on our web site and must be signed by the legal contact.

**Facility:** West Wattenberg Gas Field  
Construction Activities  
Oil and gas production

WeldCounty

**Legal Contact** (receives all legal documentation pertaining to the permit certification):

Jeff Balmer, Western Ops VP  
Encana Services Co Ltd  
370 17 St Ste 1700  
Denver, CO 80202

Phone number: 720-876-3467  
Email: jeff.balmer@encana.com

**Facility Contact** (contacted for general inquiries regarding the facility):

Nathan Fons, Env Specialist  
Encana Services Co Ltd  
370 17 St Ste 1700  
Denver, CO 80202

Phone number: 303-513-7504  
Email: nathan.fons@encana.com

**Billing Contact** (receives the invoice pertaining to the permit certification):

Nathan Fons, Env Specialist  
Encana Services Co Ltd  
370 17 St Ste 1700  
Denver, CO 80202

Phone number: 303-513-7504  
Email: nathan.fons@encana.com

**ADMINISTRATIVE CONTINUATION EXPLANATION:**

The Division is currently developing a renewal permit and associated certification for the above permitted facility. The development and review procedures required by law have not yet been completed. The Construction Stormwater General Permit, which expired June 30, 2012, is administratively continued and will remain in effect under Section 104(7) of the Administrative Procedures Act, C.R.S. 1973, 24-4-101, et seq (1982 repl. vol. 10) until a renewal permit/certification is issued and effective. The renewal for this facility will be based on the application that was received 7/28/2014. The expiration date identified on the enclosed certification (6/30/2012) is correct; all effluent limits, terms and conditions of the administratively continued permit are in effect until the renewal is complete.

# HIGHLIGHTS

## CONSTRUCTION ACTIVITY STORMWATER GENERAL PERMIT

### PERMIT REQUIREMENTS:

- \* **Inspections:** Inspection of stormwater management system required at least every 14 days **and** after any precipitation or snowmelt event that causes surface erosion. (See Inspections, page 12 of the permit, enclosed.)
- \* **Records:** Records of inspections must be kept and be available for review by the Division.
- \* **Stormwater Management Plan (SWMP):** A copy of the SWMP must be kept on the construction site at all times.

### PERMIT FEE:

- \* Send payment only when you receive an invoice (sent once a year).

### PERMIT TERMINATION AND TRANSFER:

- \* If the facility is *finally stabilized*, you may inactivate the permit, using the enclosed Division form.
- \* “*Final stabilization*” is reached when all the construction is complete, paving is finished, and the vegetation (grass, etc.) is established, **not just reseeded**. See permit, page 9.
- \* If the *entire* site changes ownership, you should transfer the permit to the new owner.
- \* If *part* of the site will be sold to a new owner, you will need to reassign permit coverage.
- \* Forms for these actions are available on our website, below. Also see page 5 of the permit.

### QUESTIONS?

- \* [www.coloradowaterpermits.com](http://www.coloradowaterpermits.com)
- \* Email [cdphe\\_wqcd\\_permits@state.co.us](mailto:cdphe_wqcd_permits@state.co.us)
- \* Or call (303)692-3517

# STATE OF COLORADO

Bill Ritter, Jr., Governor  
James B. Martin, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S. Laboratory Services Division  
Denver, Colorado 80246-1530 8100 Lowry Blvd.  
Phone (303) 692-2000 Denver, Colorado 80230-6928  
TDD Line (303) 691-7700 (303) 692-3090  
Located in Glendale, Colorado  
<http://www.cdphe.state.co.us>



Colorado Department  
of Public Health  
and Environment

## Colorado Water Quality Control Division Notice of Termination Construction Stormwater Inactivation Notice

[www.coloradowaterpermits.com](http://www.coloradowaterpermits.com)

Print or type all information. All items must be filled out completely and correctly. If the form is not complete, it will be returned. All permit terminations dates are effective on the date approved by the Division.

MAIL ORIGINAL FORM WITH INK SIGNATURES TO THE FOLLOWING ADDRESS:

Colorado Dept of Public Health and Environment  
Water Quality Control Division  
4300 Cherry Creek Dr South, WQCD-P-B2  
Denver, CO 80246-1530

FAXED OR EMAILED FORMS WILL NOT BE ACCEPTED.

- **PART A. IDENTIFICATION OF PERMIT** Please write the permit certification number to be terminated

Permit Certification Number (four digits, not "0000"): **COR03** \_\_\_ \_\_\_ \_\_\_

- **PART B. PERMITTEE INFORMATION**

Company Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip code \_\_\_\_\_

Legal Contact Name \_\_\_\_\_ Phone number \_\_\_\_\_

Title \_\_\_\_\_ Email \_\_\_\_\_

- **PART C. FACILITY/PROJECT INFORMATION**

Facility/Project Name \_\_\_\_\_

Location (address) \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ Zip code \_\_\_\_\_

Local Contact Name \_\_\_\_\_ Phone number \_\_\_\_\_

Title \_\_\_\_\_ Email \_\_\_\_\_

**PART D. TERMINATION VALIDATION CRITERIA**

One of the criteria (1 or 2) below must be met, the appropriate box checked, and the required additional information provided. Part E includes a certification that the criteria indicated has been met.

**1: Finally Stabilized or Construction Not Started** - The permitted activities covered under the certification listed in Part A meet the requirements for FINAL STABILIZATION in accordance with the permit, the Stormwater Management Plan, and as described below. This criterion should also be selected if construction was never started and no land was disturbed, and an explanation of this condition provided in the description below.

Final stabilization is reached when: all ground surface disturbing activities at the site have been completed including removal of all temporary erosion and sediment control measure, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of predisturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

**REQUIRED** for Criteria 1 - Describe the methods used to meet the final stabilization c described above:

Include an attachment if additional space is required.

-OR-

**2: Separate Permit Coverage or Full Reassignment** - All ongoing construction activities, including all disturbed areas, covered under the permit certification listed in Part A have coverage under a separate CDPS stormwater construction permit, including the permit certification issued when Division's Reassignment Form was used by the permittee to reassign all areas/activities.

**REQUIRED** for Criteria 2 - Provide the permit certification number covering the ongoing activities:

CCR03 \_ \_ \_ \_

**STOP!** One of the two criteria above **MUST BE CHECKED** and the required information for that criterion provided, or this form will not be processed and the permit will remain active.

**PART E. CERTIFICATION SIGNATURE (Required for all Termination Requests)**

I understand that by submitting this notice of inactivation, I am no longer authorized to discharge stormwater associated with construction activity by the general permit. I understand that discharging pollutants in stormwater associated with construction activities to the waters of the State of Colorado, where such discharges are not authorized by a CDPS permit, is unlawful under the Colorado Water Quality Control Act and the Clean Water Act.

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (See 18 U.S.C 1001 and 33 U.S.C. 1319.)

I also certify that I am a duly authorized representative of the permittee named in Part B.

Signature of Legally Responsible Party

Date Signed

Name (printed)

Title

Signatory requirements: This form shall be signed, dated, and certified for accuracy by the permittee in accordance with the following criteria:

1. In the case of a corporation, by a principal executive officer of at least the level of vice-president, or his or her duly authorized representative, if such representative is responsible for the overall operation of the operation from which the discharge described herein originates;
2. In the case of a partnership, by a general partner;
3. In the case of a sole proprietorship, by the proprietor;
4. In the case of a municipal, state, or other public operation, by wither a principal executive officer, ranking elected official, or other duly authorized employee.

CDPS GENERAL PERMIT  
STORMWATER DISCHARGES ASSOCIATED WITH  
CONSTRUCTION ACTIVITY  
AUTHORIZATION TO DISCHARGE UNDER THE  
COLORADO DISCHARGE PERMIT SYSTEM

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), this permit authorizes the discharge of stormwater associated with construction activities (and specific allowable non-stormwater discharges in accordance with Part I.D.3 of the permit) certified under this permit, from those locations specified throughout the State of Colorado to specified waters of the State. Such discharges shall be in accordance with the conditions of this permit.

This permit specifically authorizes the facility listed on page 1 of this permit to discharge, as of this date, in accordance with permit requirements and conditions set forth in Parts I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

This permit and the authorization to discharge shall expire at midnight, **June 30, 2012**.

Issued and Signed this 31<sup>st</sup> day of May, 2007

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

  
Janet S. Kieler  
Permits Section Manager  
Water Quality Control Division

**SIGNED AND ISSUED MAY 31, 2007**

**EFFECTIVE JULY 1, 2007**

**ADMINISTRATIVELY  
CONTINUED EFFECTIVE  
JULY 1, 2012**

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PART I

A. COVERAGE UNDER THIS PERMIT

1. Authority to Discharge

Under this permit, facilities are granted authorization to discharge stormwater associated with construction activities into waters of the state of Colorado. This permit also authorizes the discharge of specific allowable non-stormwater discharges, in accordance with Part I.D.3 of the permit, which includes discharges to the ground. This includes stormwater discharges from areas that are dedicated to producing earthen materials, such as soils, sand and gravel, for use at a single construction site (i.e., borrow or fill areas). This permit also authorizes stormwater discharges from dedicated asphalt batch plants and dedicated concrete batch plants. (Coverage under the construction site permit is not required for batch plants if they have alternate CDPS permit coverage.) This permit does not authorize the discharge of mine water or process water from such areas.

- a) **Applicable Sections:** In accordance with Part I.A.3 of this permit, some parts of this permit do not apply to sites covered under a Qualifying Local Program, as defined in I.A.2.d. For sites not covered by a Qualifying Local Program, all parts of the permit apply except Part I.A.3. The permittee will be responsible for determining and then complying with the applicable sections.
- b) **Oil and Gas Construction:** Stormwater discharges associated with construction activities directly related to oil and gas exploration, production, processing, and treatment operations or transmission facilities are regulated under the Colorado Discharge Permit System Regulations (5CCR 1002-61), and require coverage under this permit in accordance with that regulation. However, references in this permit to specific authority under the Federal Clean Water Act (CWA) do not apply to stormwater discharges associated with these oil and gas related construction activities, to the extent that the references are limited by the federal Energy Policy Act of 2005.

2. Definitions

- a) **Stormwater:** Stormwater is precipitation-induced surface runoff.
- b) **Construction activity:** Construction activity refers to ground surface disturbing activities, which include, but are not limited to, clearing, grading, excavation, demolition, installation of new or improved haul roads and access roads, staging areas, stockpiling of fill materials, and borrow areas. Construction does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.
- c) **Small construction activity:** Stormwater discharge associated with small construction activity means the discharge of stormwater from construction activities that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres.
- d) **Qualifying Local Program:** This permit includes conditions that incorporate qualifying local erosion and sediment control program (Qualifying Local Program) requirements by reference. A Qualifying Local Program is a municipal stormwater program for stormwater discharges associated with small construction activity that has been formally approved by the Division.

Other Definitions: Definitions of additional terms can be found in Part I.E. of this permit.

3. Permit Coverage Without Application – for small construction activities under a Qualifying Local Program only

If a small construction site is within the jurisdiction of a Qualifying Local Program, the operator of the construction activity is authorized to discharge stormwater associated with small construction activity under this general permit without the submittal of an application to the Division.

- a) **Applicable Sections:** For sites covered by a Qualifying Local Program, only Parts I.A.1, I.A.2, I.A.3, I.D.1, I.D.2, I.D.3, I.D.4, I.D.7, I.D.8, I.D.11, I.E and Part II of this permit, with the exception of Parts II.A.1, II.B.3, II.B.8, and II.B.10, apply.

A. **COVERAGE UNDER THIS PERMIT (cont.)**

- b) **Local Agency Authority:** This permit does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control discharges of stormwater to storm drain systems or other water courses within their jurisdiction.
- c) **Permit Coverage Termination:** When a site under a Qualifying Local Program has been finally stabilized, coverage under this permit is automatically terminated.
- d) **Compliance with Qualifying Local Program:** A construction site operator that has authorization to discharge under this permit under Part I.A.3 shall comply with the requirements of the Qualifying Local Program with jurisdiction over the site.
- e) **Full Permit Applicability:** The Division may require any operator within the jurisdiction of a Qualifying Local Program covered under this permit to apply for and obtain coverage under the full requirements of this permit. The operator must be notified in writing that an application for full coverage is required. When a permit certification under this permit is issued to an operator that would otherwise be covered under Part I.A.3 of this permit, the full requirements of this permit replace the requirements as per Part I.A.3 of this permit, upon the effective date of the permit certification. A site brought under the full requirements of this permit must still comply with local stormwater management requirements, policies or guidelines as required by Part I.D.1.g of this permit.

4. **Application, Due Dates**

- a) **Application Due Dates:** At least **ten calendar days** prior to the commencement of construction activities, the applicant shall submit an application form as provided by the Division, with a certification that the Stormwater Management Plan (SWMP) is complete.

One original completed discharge permit application shall be submitted, by mail or hand delivery, to:

Colorado Department of Public Health and Environment  
Water Quality Control Division  
WQCD-Permits-B2  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530

- b) **Summary of Application:** The application requires, at a minimum, the following:
  - 1) The applicant's company name; address; telephone number; and email address (if available); whether the applicant is the owner, developer, or contractor; and local contact information;
  - 2) Project name, address, county and location of the construction site, including the latitude and longitude to the nearest 15 seconds of the approximate center of the construction activity;
  - 3) Legal description or map of the construction site;
  - 4) Estimates of: the total area of the site, the area of the site that is expected to be disturbed, and the total area of the larger common plan of development or sale to undergo disturbance;
  - 5) The nature of the construction activity;
  - 6) The anticipated start date and final stabilization date for the project;
  - 7) The name of the receiving water(s), or the municipal separate storm sewer system and the ultimate (i.e., named) receiving water(s);
  - 8) Certification that the SWMP for the construction site is complete (see Part I.C. below); and
  - 9) The signature of the applicant, signed in accordance with Part I.F.1 of this permit.

5. **Permit Certification Procedures**

If this general permit is appropriate for the applicant's operation, then a certification will be developed and the applicant will be authorized to discharge stormwater under this general permit.

- a) **Request for Additional Information:** The Division shall have up to **ten calendar days** after receipt of the above information to request additional data and/or deny the authorization for any particular discharge. Upon receipt of additional information, the Division shall have an additional **ten calendar days** to issue or deny authorization for the particular discharge. (Notification of denial shall be by letter, in cases where coverage under an alternate general permit or an individual permit is required, instead of coverage under this permit.)

A. COVERAGE UNDER THIS PERMIT (cont.)

- b) **Automatic Coverage:** If the applicant does not receive a request for additional information or a notification of denial from the Division dated within ten calendar days of receipt of the application by the Division, authorization to discharge in accordance with the conditions of this permit shall be deemed granted.
- c) **Individual Permit Required:** If, after evaluation of the application (or additional information, such as the SWMP), it is found that this general permit is not appropriate for the operation, then the application will be processed as one for an individual permit. The applicant will be notified of the Division's decision to deny certification under this general permit. For an individual permit, additional information may be requested, and 180 days may be required to process the application and issue the permit. At the Division's discretion, temporary coverage under this general permit may be allowed until the individual permit goes into effect.
- d) **General vs. Individual Permit Coverage:** Any permittee authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual CDPS permit. The permittee shall submit an individual application, with reasons supporting the request, to the Division at least 180 days prior to any discharge.
- e) **Local Agency Authority:** This permit does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control discharges of stormwater to storm drain systems or other water courses within their jurisdiction.

6. **Inactivation Notice**

When a site has been finally stabilized in accordance with the SWMP, the permittee must submit an **Inactivation Notice** form that is signed in accordance with Part I.F.1. of this permit. The Inactivation Notice form is available from the Division and includes:

- a) Permit certification number;
- b) The permittee's name, address, telephone number;
- c) Name, location, and county for the construction site for which the inactivation notice is being submitted; and
- d) Certification that the site has been finally stabilized, and a description of the final stabilization method(s).

7. **Transfer of Permit**

When responsibility for stormwater discharges at a construction site changes from one entity to another, the permittee shall submit a completed **Notice of Transfer and Acceptance of Terms** form that is signed in accordance with Part I.F.1. of this permit. The Notice of Transfer form is available from the Division and includes:

- a) Permit certification number;
- b) Name, location, and county for the construction site for which the Notice of Transfer is being submitted;
- c) Identifying information for the new permittee;
- d) Identifying information for the current permittee; and
- e) Effective date of transfer.

If the new responsible party will not complete the transfer form, the permit may be inactivated upon written request to the Division and completion of the Inactivation Notice if the permittee has no legal responsibility, through ownership or contract, for the construction activities at the site. In this case, the new owner or operator would be required to obtain permit coverage separately.

8. **Reassignment of Permit**

When a permittee no longer has control of a specific portion of a permitted site, and wishes to transfer coverage of that portion of the site to a second party, the permittee shall submit a completed **Notice of Reassignment of Permit Coverage** form that is signed in accordance with Part I.F.1. of this permit. The Notice of Reassignment of Permit Coverage form is available from the Division and includes:

- a) Current permit certification number;
- b) Identifying information and certification as required by Part I.A.4.b for the new permittee;
- c) Identifying information for the current permittee, revised site information and certification for reassignment; and
- d) Effective date of reassignment.

A. COVERAGE UNDER THIS PERMIT (cont.)

If the new responsible party will not complete the reassignment form, the applicable portion of the permitted site may be removed from permit coverage upon written request to the Division if the permittee has no legal responsibility, through ownership or contract, for the construction activities at the portion of the site. In this case, the new owner or operator would be required to obtain permit coverage separately.

9. Sale of Residence to Homeowners

For residential construction only, when a residential lot **has been conveyed to a homeowner** and all criteria in paragraphs a through e, below, are met, coverage under this permit is no longer required and the conveyed lot may be removed from coverage under the permittee's certification. At such time, the permittee is no longer responsible for meeting the terms and conditions of this permit for the conveyed lot, including the requirement to transfer or reassign permit coverage. The permittee remains responsible for inactivation of the original certification.

- a) The lot has been sold to the homeowner(s) for private residential use;
- b) the lot is less than one acre of disturbed area;
- c) all construction activity conducted by the permittee on the lot is completed;
- d) a certificate of occupancy (or equivalent) has been awarded to the home owner; and
- e) the SWMP has been amended to indicate the lot is no longer covered by permit.

Lots not meeting all of the above criteria require continued permit coverage. However, this permit coverage may be transferred (Part I.A.7, above) or reassigned (Part I.A.8, above) to a new owner or operator.

10. Permit Expiration Date

Authorization to discharge under this general permit shall expire on June 30, 2012. The Division must evaluate and reissue this general permit at least once every five years and must recertify the permittee's authority to discharge under the general permit at such time. Therefore, a permittee desiring continued coverage under the general permit must reapply by March 31, 2012. The Division will initiate the renewal process; however, it is ultimately the permittee's responsibility to ensure that the renewal is submitted. The Division will determine if the permittee may continue to operate under the terms of the general permit. An individual permit may be required for any facility not reauthorized to discharge under the reissued general permit.

11. Individual Permit Criteria

Various criteria can be used in evaluating whether or not an individual (or alternate general) permit is required instead of the general permit. This information may come from the application, SWMP, or additional information as requested by the Division, and includes, but is not limited to, the following:

- a) the quality of the receiving waters (i.e., the presence of downstream drinking water intakes or a high quality fishery, or for preservation of high quality water);
- b) the size of the construction site;
- c) evidence of noncompliance under a previous permit for the operation;
- d) the use of chemicals within the stormwater system; or
- e) discharges of pollutants of concern to waters for which there is an established Total Maximum Daily Load (TMDL).

In addition, an individual permit may be required when the Division has shown or has reason to suspect that the stormwater discharge may contribute to a violation of a water quality standard.

B. STORMWATER MANAGEMENT PLAN (SWMP) - GENERAL REQUIREMENTS

1. A SWMP shall be developed for each facility covered by this permit. The SWMP shall be prepared in accordance with good engineering, hydrologic and pollution control practices. (The SWMP need not be prepared by a registered engineer.)

B. STORMWATER MANAGEMENT PLAN (SWMP) - **GENERAL REQUIREMENTS** (cont.)

2. The SWMP shall:
  - a) Identify all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the facility;
  - b) Describe the practices to be used to reduce the pollutants in stormwater discharges associated with construction activity at the facility; and ensure the practices are selected and described in accordance with good engineering practices, including the installation, implementation and maintenance requirements; and
  - c) Be properly prepared, and updated in accordance with Part I.D.5.c, to ensure compliance with the terms and conditions of this permit.
3. Facilities must implement the provisions of the SWMP as written and updated, from commencement of construction activity until final stabilization is complete, as a condition of this permit. The Division reserves the right to review the SWMP, and to require the permittee to develop and implement additional measures to prevent and control pollution as needed.
4. The SWMP may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the CWA, or Best Management Practices (BMPs) Programs otherwise required by a separate CDPS permit, and may incorporate any part of such plans into the SWMP by reference, provided that the relevant sections of such plans are available as part of the SWMP consistent with Part I.D.5.b.
5. For any sites with permit coverage before June 30, 2007, the permittee's SWMP must meet the new SWMP requirements as summarized in Section II.I of the rationale. Any needed changes must be made by **October 1, 2007**.

C. STORMWATER MANAGEMENT PLAN (SWMP) - **CONTENTS**

The SWMP shall include the following items, at a minimum.

1. **Site Description.** The SWMP shall clearly describe the construction activity, to include:
  - a) The nature of the construction activity at the site.
  - b) The proposed sequence for major activities.
  - c) Estimates of the total area of the site, and the area and location expected to be disturbed by clearing, excavation, grading, or other construction activities.
  - d) A summary of any existing data used in the development of the site construction plans or SWMP that describe the soil or existing potential for soil erosion.
  - e) A description of the existing vegetation at the site and an estimate of the percent vegetative ground cover.
  - f) The location and description of all potential pollution sources, including ground surface disturbing activities (see Part I.A.2.b), vehicle fueling, storage of fertilizers or chemicals, etc.
  - g) The location and description of any anticipated allowable sources of non-stormwater discharge at the site, e.g., uncontaminated springs, landscape irrigation return flow, construction dewatering, and concrete washout.
  - h) The name of the receiving water(s) and the size, type and location of any outfall(s). If the stormwater discharge is to a municipal separate storm sewer system, the name of that system, the location of the storm sewer discharge, and the ultimate receiving water(s).
2. **Site Map.** The SWMP shall include a legible site map(s), showing the entire site, identifying:
  - a) construction site boundaries;
  - b) all areas of ground surface disturbance;
  - c) areas of cut and fill;
  - d) areas used for storage of building materials, equipment, soil, or waste;
  - e) locations of dedicated asphalt or concrete batch plants;
  - f) locations of all structural BMPs;
  - g) locations of non-structural BMPs as applicable; and
  - h) locations of springs, streams, wetlands and other surface waters.

C. STORMWATER MANAGEMENT PLAN (SWMP) – **CONTENTS** (cont.)

3. Stormwater Management Controls.

The SWMP must include a description of all stormwater management controls that will be implemented as part of the construction activity to control pollutants in stormwater discharges. The appropriateness and priorities of stormwater management controls in the SWMP shall reflect the potential pollutant sources identified at the facility.

The description of stormwater management controls shall address the following components, at a minimum:

- a) **SWMP Administrator** - The SWMP shall identify a specific individual(s), position or title who is responsible for developing, implementing, maintaining, and revising the SWMP. The activities and responsibilities of the administrator shall address all aspects of the facility's SWMP.
- b) **Identification of Potential Pollutant Sources** - All potential pollutant sources, including materials and activities, at a site must be evaluated for the potential to contribute pollutants to stormwater discharges. The SWMP shall identify and describe those sources determined to have the potential to contribute pollutants to stormwater discharges, and the sources must be controlled through BMP selection and implementation, as required in paragraph (c), below.

At a minimum, each of the following sources and activities shall be evaluated for the potential to contribute pollutants to stormwater discharges, and identified in the SWMP if found to have such potential:

- 1) all disturbed and stored soils;
  - 2) vehicle tracking of sediments;
  - 3) management of contaminated soils;
  - 4) loading and unloading operations;
  - 5) outdoor storage activities (building materials, fertilizers, chemicals, etc.);
  - 6) vehicle and equipment maintenance and fueling;
  - 7) significant dust or particulate generating processes;
  - 8) routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.;
  - 9) on-site waste management practices (waste piles, liquid wastes, dumpsters, etc.);
  - 10) concrete truck equipment washing, including the concrete truck chute and associated fixtures and equipment;
  - 11) dedicated asphalt and concrete batch plants;
  - 12) non-industrial waste sources such as worker trash and portable toilets; and
  - 13) other areas or procedures where potential spills can occur.
- c) **Best Management Practices (BMPs) for Stormwater Pollution Prevention** - The SWMP shall identify and describe appropriate BMPs, including, but not limited to, those required by paragraphs 1 through 8 below, that will be implemented at the facility to reduce the potential of the sources identified in Part 1.C.3.b to contribute pollutants to stormwater discharges. The SWMP shall clearly describe the installation and implementation specifications for each BMP identified in the SWMP to ensure proper implementation, operation and maintenance of the BMP.
- 1) Structural Practices for Erosion and Sediment Control. The SWMP shall clearly describe and locate all structural practices implemented at the site to minimize erosion and sediment transport. Practices may include, but are not limited to: straw bales, wattles, sediment control logs, silt fences, earth dikes, drainage swales, sediment traps, subsurface drains, pipe slope drains, inlet protection, outlet protection, gabions, and temporary or permanent sediment basins.
  - 2) Non-Structural Practices for Erosion and Sediment Control. The SWMP shall clearly describe and locate, as applicable, all non-structural practices implemented at the site to minimize erosion and sediment transport. Description must include interim and permanent stabilization practices, and site-specific scheduling for implementation of the practices. The SWMP should include practices to ensure that existing vegetation is preserved where possible. Non-structural practices may include, but are not limited to: temporary vegetation, permanent vegetation, mulching, geotextiles, sod stabilization, slope roughening, vegetative buffer strips, protection of trees, and preservation of mature vegetation.

C. **STORMWATER MANAGEMENT PLAN (SWMP) – CONTENTS (cont.)**

- 3) Phased BMP Implementation. The SWMP shall clearly describe the relationship between the phases of construction, and the implementation and maintenance of both structural and non-structural stormwater management controls. The SWMP must identify the stormwater management controls to be implemented during the project phases, which can include, but are not limited to, clearing and grubbing; road construction; utility and infrastructure installation; vertical construction; final grading; and final stabilization.
- 4) Materials Handling and Spill Prevention. The SWMP shall clearly describe and locate all practices implemented at the site to minimize impacts from procedures or significant materials (see definitions at Part I.E.) that could contribute pollutants to runoff. Such procedures or significant materials could include: exposed storage of building materials; paints and solvents; fertilizers or chemicals; waste material; and equipment maintenance or fueling procedures.

Areas or procedures where potential spills can occur must have spill prevention and response procedures identified in the SWMP.

- 5) Dedicated Concrete or Asphalt Batch Plants. The SWMP shall clearly describe and locate all practices implemented at the site to control stormwater pollution from dedicated concrete batch plants or dedicated asphalt batch plants covered by this certification.
- 6) Vehicle Tracking Control. The SWMP shall clearly describe and locate all practices implemented at the site to control potential sediment discharges from vehicle tracking. Practices must be implemented for all areas of potential vehicle tracking, and can include: minimizing site access; street sweeping or scraping; tracking pads; graveled parking areas; requiring that vehicles stay on paved areas on-site; wash racks; contractor education; and/or sediment control BMPs, etc.
- 7) Waste Management and Disposal, Including Concrete Washout.
  - i) The SWMP shall clearly describe and locate the practices implemented at the site to control stormwater pollution from all construction site wastes (liquid and solid), including concrete washout activities.
  - ii) The practices used for concrete washout must ensure that these activities do not result in the contribution of pollutants associated with the washing activity to stormwater runoff.
  - iii) Part I.D.3.c of the permit authorizes the conditional discharge of concrete washout water to the ground. The SWMP shall clearly describe and locate the practices to be used that will ensure that no washout water from concrete washout activities is discharged from the site as surface runoff or to surface waters.
- 8) Groundwater and Stormwater Dewatering.
  - i) The SWMP shall clearly describe and locate the practices implemented at the site to control stormwater pollution from the dewatering of groundwater or stormwater from excavations, wells, etc.
  - ii) Part I.D.3.d of the permit authorizes the conditional discharge of construction dewatering to the ground. For any construction dewatering of groundwater not authorized under a separate CDPIS discharge permit, the SWMP shall clearly describe and locate the practices to be used that will ensure that no groundwater from construction dewatering is discharged from the site as surface runoff or to surface waters.

4. **Final Stabilization and Long-term Stormwater Management**

- a) The SWMP shall clearly describe the practices used to achieve final stabilization of all disturbed areas at the site, and any planned practices to control pollutants in stormwater discharges that will occur after construction operations have been completed at the site.
- b) Final stabilization practices for obtaining a vegetative cover should include, as appropriate: seed mix selection and application methods; soil preparation and amendments; soil stabilization practices (e.g., crimped straw, hydro mulch or rolled erosion control products); and appropriate sediment control BMPs as needed until final stabilization is achieved; etc.

C. STORMWATER MANAGEMENT PLAN (SWMP) – CONTENTS (cont.)

- c) Final stabilization is reached when all ground surface disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

The Division may, after consultation with the permittee and upon good cause, amend the final stabilization criteria in this section for specific operations.

5. Inspection and Maintenance

Part I.D.6 of the permit includes requirements for site inspections. Part I.D.7 of the permit includes requirements for BMP maintenance. The SWMP shall clearly describe the inspection and maintenance procedures implemented at the site to maintain all erosion and sediment control practices and other protective practices identified in the SWMP, in good and effective operating condition.

D. TERMS AND CONDITIONS

1. General Limitations

The following limitations shall apply to all discharges covered by this permit:

- a) Stormwater discharges from construction activities shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any water quality standard, including narrative standards for water quality.
- b) Concrete washout water shall not be discharged to state surface waters or to storm sewer systems. On-site permanent disposal of concrete washout waste is not authorized by this permit. Discharge to the ground of concrete washout waste that will subsequently be disposed of off-site is authorized by this permit. See Part I.D.3.c of the permit.
- c) Bulk storage structures for petroleum products and any other chemicals shall have secondary containment or equivalent adequate protection so as to contain all spills and prevent any spilled material from entering State waters.
- d) No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by the Division. In granting the use of such chemicals, special conditions and monitoring may be addressed by separate correspondence.
- e) The Division reserves the right to require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants in the effluent. Such monitoring may include Whole Effluent Toxicity testing.
- f) All site wastes must be properly managed to prevent potential pollution of State waters. This permit does not authorize on-site waste disposal.
- g) All dischargers must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts and other local agencies regarding any discharges of stormwater to storm drain systems or other water courses under their jurisdiction, including applicable requirements in municipal stormwater management programs developed to comply with CDPS permits. Dischargers must comply with local stormwater management requirements, policies or guidelines including erosion and sediment control.

2. BMP Implementation and Design Standards

Facilities must select, install, implement, and maintain appropriate BMPs, following good engineering, hydrologic and pollution control practices. BMPs implemented at the site must be adequately designed to provide control for all potential pollutant sources associated with construction activity to prevent pollution or degradation of State waters.

D. TERMS AND CONDITIONS (cont.)

3. Prohibition of Non-Stormwater Discharges

- a) Except as provided in paragraphs b, c, and d below, **all discharges covered by this permit shall be composed entirely of stormwater associated with construction activity.** Discharges of material other than stormwater must be addressed in a separate CDPS permit issued for that discharge.
- b) Discharges from the following sources that are combined with stormwater discharges associated with construction activity may be authorized by this permit, provided that the non-stormwater component of the discharge is identified in the SWMP (see Part I.C.1.g of this permit):
- emergency fire fighting activities
  - landscape irrigation return flow
  - uncontaminated springs
- c) Discharges to the ground of concrete washout water from washing of tools and concrete mixer chutes may be authorized by this permit, provided that:
- 1) the source is identified in the SWMP;
  - 2) BMPs are included in the SWMP in accordance with Part I.C.3(c)(7) and to prevent pollution of groundwater in violation of Part I.D.1.a; and
  - 3) these discharges do not leave the site as surface runoff or to surface waters
- d) Discharges to the ground of water from construction dewatering activities may be authorized by this permit, provided that:
- 1) the source is groundwater and/or groundwater combined with stormwater that does not contain pollutants in concentrations exceeding the State groundwater standards in Regulations 5 CCR 1002-41 and 42;
  - 2) the source is identified in the SWMP;
  - 3) BMPs are included in the SWMP, as required by Part I.C.3(c)(8); and
  - 4) these discharges do not leave the site as surface runoff or to surface waters.

Discharges to the ground from construction dewatering activities that do not meet the above criteria must be covered under a separate CDPS discharge permit. Contaminated groundwater requiring coverage under a separate CDPS discharge permit may include groundwater contaminated with pollutants from a landfill, mining activity, industrial pollutant plume, underground storage tank, or other source.

4. Releases in Excess of Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117 or 40 CFR 302. Any discharge of hazardous material must be handled in accordance with the Division's Noncompliance Notification Requirements (see Part II.A.3 of the permit).

5. SWMP Requirements

- a) **SWMP Preparation and Implementation:** The SWMP shall be prepared prior to applying for coverage under the general permit, and certification of its completion submitted with the application. The SWMP shall be implemented prior to commencement of construction activities. The plan shall be updated as appropriate (see paragraph c, below), below). SWMP provisions shall be implemented until expiration or inactivation of permit coverage.
- b) **SWMP Retention Requirements:** A copy of the SWMP must be retained on site unless another location, specified by the permittee, is approved by the Division.
- c) **SWMP Review/Changes:** The permittee shall amend the SWMP:
- 1) when there is a change in design, construction, operation, or maintenance of the site, which would require the implementation of new or revised BMPs; or
  - 2) if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity; or

D. TERMS AND CONDITIONS (cont.)

- 3) when BMPs are no longer necessary and are removed.

SWMP changes shall be made prior to changes in the site conditions, except as allowed for in paragraph d. below. SWMP revisions may include, but are not limited to: potential pollutant source identification; selection of appropriate BMPs for site conditions; BMP maintenance procedures; and interim and final stabilization practices. The SWMP changes may include a schedule for further BMP design and implementation, provided that, if any interim BMPs are needed to comply with the permit, they are also included in the SWMP and implemented during the interim period.

- d. **Responsive SWMP Changes:** SWMP changes addressing BMP installation and/or implementation are often required to be made in response to changing conditions, or when current BMPs are determined ineffective. The majority of SWMP revisions to address these changes can be made immediately with quick in-the-field revisions to the SWMP. In the less common scenario where more complex development of materials to modify the SWMP is necessary, SWMP revisions shall be made in accordance with the following requirements:
  - 1) the SWMP shall be revised as soon as practicable, but in no case more than 72 hours after the change(s) in BMP installation and or implementation occur at the site, and
  - 2) a notation must be included in the SWMP prior to the site change(s) that includes the time and date of the change(s) in the field, an identification of the BMP(s) removed or added, and the location(s) of those BMP(s).

6. **Inspections**

Site inspections must be conducted in accordance with the following requirements and minimum schedules. The required minimum inspection schedules do not reduce or eliminate the permittee's responsibility to implement and maintain BMPs in good and effective operational condition, and in accordance with the SWMP, which could require more frequent inspections.

- a. **Minimum Inspection Schedule:** The permittee shall, at a minimum, make a thorough inspection, in accordance with the requirements in LD.6.b below, at least once every 14 calendar days. Also, post-storm event inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Provided the timing is appropriate, the post-storm inspections may be used to fulfill the 14-day routine inspection requirement. A more frequent inspection schedule than the minimum inspections described may be necessary, to ensure that BMPs continue to operate as needed to comply with the permit. The following conditional modifications to this Minimum Inspection Schedule are allowed:
  - 1) **Post-Storm Event Inspections at Temporarily Idle Sites** - If no construction activities will occur following a storm event, post-storm event inspections shall be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. The occurrence of any such delayed inspection must be documented in the inspection record. Routine inspections still must be conducted at least every 14 calendar days.
  - 2) **Inspections at Completed Sites/Areas** - For sites or portions of sites that meet the following criteria, but final stabilization has not been achieved due to a vegetative cover that has not become established, the permittee shall make a thorough inspection of their stormwater management system at least once every month, and post-storm event inspections are not required. This reduced inspection schedule is *only* allowed if:
    - i) all construction activities that will result in surface ground disturbance are completed;
    - ii) all activities required for final stabilization, in accordance with the SWMP, have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts; and
    - iii) the SWMP has been amended to indicate those areas that will be inspected in accordance with the reduced schedule allowed for in this paragraph.

D. TERMS AND CONDITIONS (cont.)

- 3) **Winter Conditions Inspections Exclusion** - Inspections are not required at sites where construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions posing a risk of surface erosion do not exist. This exception is applicable only during the period where melting conditions do not exist, and applies to the routine 14-day and monthly inspections, as well as the post-storm-event inspections. The following information must be documented in the inspection record for use of this exclusion: dates when snow cover occurred, date when construction activities ceased, and date melting conditions began. Inspections, as described above, are required at all other times.

When site conditions make the schedule required in this section impractical, the permittee may petition the Division to grant an alternate inspection schedule.

b) **Inspection Requirements**

- 1) **Inspection Scope** - The construction site perimeter, all disturbed areas, material and/or waste storage areas that are exposed to precipitation, discharge locations, and locations where vehicles access the site shall be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters. All erosion and sediment control practices identified in the SWMP shall be evaluated to ensure that they are maintained and operating correctly.
- 2) **Inspection Report/Records** - The permittee shall keep a record of inspections. Inspection reports must identify any incidents of non-compliance with the terms and conditions of this permit. Inspection records must be retained for three years from expiration or inactivation of permit coverage. At a minimum, the inspection report must include:

- i) The inspection date;
- ii) Name(s) and title(s) of personnel making the inspection;
- iii) Location(s) of discharges of sediment or other pollutants from the site;
- iv) Location(s) of BMPs that need to be maintained;
- v) Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
- vi) Location(s) where additional BMPs are needed that were not in place at the time of inspection;
- vii) Deviations from the minimum inspection schedule as provided in Part I.D.6.a above;
- viii) Description of corrective action for items iii, iv, v, and vi, above, dates corrective action(s) taken, and measures taken to prevent future violations, including requisite changes to the SWMP, as necessary; and
- viii) After adequate corrective action(s) has been taken, or where a report does not identify any incidents requiring corrective action, the report shall contain a signed statement indicating the site is in compliance with the permit to the best of the signer's knowledge and belief.

- c) **Required Actions Following Site Inspections** - Where site inspections note the need for BMP maintenance activities, BMPs must be maintained in accordance with the SWMP and Part I.D.7 of the permit. Repair, replacement, or installation of new BMPs determined necessary during site inspections to address ineffective or inadequate BMPs must be conducted in accordance with Part I.D.8 of the permit. SWMP updates required as a result of deficiencies in the SWMP noted during site inspections shall be made in accordance with Part I.D.5.c of the permit.

7. **BMP Maintenance**

All erosion and sediment control practices and other protective measures identified in the SWMP must be maintained in effective operating condition. Proper selection and installation of BMPs and implementation of comprehensive Inspection and Maintenance procedures, in accordance with the SWMP, should be adequate to meet this condition. BMPs that are not adequately maintained in accordance with good engineering, hydrologic and pollution control practices, including removal of collected sediment outside the acceptable tolerances of the BMPs, are considered to be no longer operating effectively and must be addressed in accordance with Part I.D.8, below. A specific timeline for implementing maintenance procedures is not included in this permit because BMP maintenance is expected to be proactive, not responsive. Observations resulting in BMP maintenance activities can be made during a site inspection, or during general observations of site conditions.

D. TERMS AND CONDITIONS (cont.)

8. Replacement and Failed BMPs

Adequate site assessment must be performed as part of comprehensive Inspection and Maintenance procedures, to assess the adequacy of BMPs at the site, and the necessity of changes to those BMPs to ensure continued effective performance. Where site assessment results in the determination that new or replacement BMPs are necessary, the BMPs must be installed to ensure on-going implementation of BMPs as per Part I.D.2.

Where BMPs have failed, resulting in noncompliance with Part I.D.2, they must be addressed as soon as possible, immediately in most cases, to minimize the discharge of pollutants.

When new BMPs are installed or BMPs are replaced, the SWMP must be updated in accordance with Part I.D.5(c).

9. Reporting

No scheduled reporting requirements are included in this permit; however, the Division reserves the right to request that a copy of the inspection reports be submitted.

10. SWMP Availability

A copy of the SWMP shall be provided upon request to the Division, EPA, or any local agency in charge of approving sediment and erosion plans, grading plans or stormwater management plans, and within the time frame specified in the request. If the SWMP is required to be submitted to any of these entities, it must include a signed certification in accordance with Part I.F.1 of the permit, certifying that the SWMP is complete and meets all permit requirements.

All SWMPs required under this permit are considered reports that shall be available to the public under Section 308(b) of the CWA and Section 61.5(4) of the Colorado Discharge Permit System Regulations. The permittee shall make plans available to members of the public upon request. However, the permittee may claim any portion of a SWMP as confidential in accordance with 40 CFR Part 2.

11. Total Maximum Daily Load (TMDL)

If a TMDL has been approved for any waterbody into which the permittee discharges, and stormwater discharges associated with construction activity have been assigned a pollutant-specific Wasteload Allocation (WLA) under the TMDL, the Division will either:

- a) Ensure that the WLA is being implemented properly through alternative local requirements, such as by a municipal stormwater permit; or
- b) Notify the permittee of the WLA, and amend the permittee's certification to add specific BMPs and/or other requirements, as appropriate. The permittee may be required to do the following:
  - 1) Under the permittee's SWMP, implement specific management practices based on requirements of the WLA, and evaluate whether the requirements are being met through implementation of existing stormwater BMPs or if additional BMPs are necessary. Document the calculations or other evidence that show that the requirements are expected to be met; and
  - 2) If the evaluation shows that additional or modified BMPs are necessary, describe the type and schedule for the BMP additions/revisions.

Discharge monitoring may also be required. The permittee may maintain coverage under the general permit provided they comply with the applicable requirements outlined above. The Division reserves the right to require individual or alternate general permit coverage.

E. ADDITIONAL DEFINITIONS

For the purposes of this permit:

1. **Best Management Practices (BMPs):** schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, pollution prevention, and practices to control site runoff, spillage or leaks, waste disposal, or drainage from material storage.
2. **Dedicated asphalt plants and concrete plants:** portable asphalt plants and concrete plants that are located on or adjacent to a construction site and that provide materials only to that specific construction site.
3. **Final stabilization:** when all ground surface disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed. For purposes of this permit, establishment of a vegetative cover capable of providing erosion control equivalent to pre-existing conditions at the site will be considered final stabilization.
4. **Municipal separate storm sewer system:** a conveyance or system of conveyances (including: roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), owned or operated by a State, city, town, county, district, or other public body (created by state law), having jurisdiction over disposal of sewage, industrial waste, stormwater, or other wastes; designed or used for collecting or conveying stormwater.
5. **Operator:** the entity that has day-to-day supervision and control of activities occurring at the construction site. This can be the owner, the developer, the general contractor or the agent of one of these parties, in some circumstances. It is anticipated that at different phases of a construction project, different types of parties may satisfy the definition of 'operator' and that the permit may be transferred as the roles change.
6. **Outfall:** a point source at the point where stormwater leaves the construction site and discharges to a receiving water or a stormwater collection system.
7. **Part of a larger common plan of development or sale:** a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules.
8. **Point source:** any discernible, confined and discrete conveyance from which pollutants are or may be discharged. Point source discharges of stormwater result from structures which increase the imperviousness of the ground which acts to collect runoff, with runoff being conveyed along the resulting drainage or grading pattern.
9. **Pollutant:** dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal or agricultural waste.
10. **Process water:** any water which, during manufacturing or processing, comes into contact with or results from the production of any raw material, intermediate product, finished product, by product or waste product. This definition includes mine drainage.
11. **Receiving Water:** any classified stream segment (including tributaries) in the State of Colorado into which stormwater related to construction activities discharges. This definition includes all water courses, even if they are usually dry, such as borrow ditches, arroyos, and other unnamed waterways.
12. **Significant Materials** include, but are not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharge.
13. **Stormwater:** precipitation-induced surface runoff.

F. GENERAL REQUIREMENTS

1. Signatory Requirements

- a) All reports required for submittal shall be signed and certified for accuracy by the permittee in accordance with the following criteria:
- 1) In the case of corporations, by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates;
  - 2) In the case of a partnership, by a general partner;
  - 3) In the case of a sole proprietorship, by the proprietor;
  - 4) In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates.
- b) **Changes to authorization.** If an authorization under paragraph a) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph a) of this section must be submitted to the Division, prior to or together with any reports, information, or applications to be signed by an authorized representative.
- c) **Certification.** Any person signing a document under paragraph a) of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

2. Retention of Records

- a) The permittee shall retain copies of the SWMP and all reports required by this permit and records of all data used to complete the application to be covered by this permit, for three years after expiration or inactivation of permit coverage.
- b) The permittee shall retain a copy of the SWMP required by this permit at the construction site from the date of project initiation to the date of expiration or inactivation of permit coverage, unless another location, specified by the permittee, is approved by the Division.

3. Monitoring

The Division reserves the right to require sampling and testing, on a case-by-case basis (see Part I.D.1.e), for example to implement the provisions of a TMDL (see Part I.D.11 of the permit). Reporting procedures for any monitoring data collected will be included in the notification by the Division of monitoring requirements.

If monitoring is required, the following definitions apply:

- a) The **thirty (30) day average** shall be determined by the arithmetic mean of all samples collected during a thirty (30) consecutive-day period.
- b) A **grab sample**, for monitoring requirements, is a single "dip and take" sample.

## PART II

### MANAGEMENT REQUIREMENTS

#### 1. Amending a Permit Certification

The permittee shall inform the Division (Permits Section) in writing of changes to the information provided in the permit application, including the legal contact, the project legal description or map originally submitted with the application, or the planned total disturbed acreage. The permittee shall furnish the Division with any plans and specifications which the Division deems reasonably necessary to evaluate the effect on the discharge and receiving stream. If applicable, this notification may be accomplished through submittal of an application for a CDPS process water permit authorizing the discharge. The SWMP shall be updated and implemented prior to the changes (see Part I.D.5.c).

Any discharge to the waters of the State from a point source other than specifically authorized by this permit or a different CDPS permit is prohibited.

#### 2. Special Notifications - Definitions

- a) **Spill:** An unintentional release of solid or liquid material which may cause pollution of state waters.
- b) **Upset:** An exceptional incident in which there is unintentional and temporary noncompliance with permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

#### 3. Noncompliance Notification

- a) The permittee shall report the following instances of noncompliance:
  - 1) Any noncompliance which may endanger health or the environment;
  - 2) Any spill or discharge of hazardous substances or oil which may cause pollution of the waters of the state.
  - 3) Any discharge of stormwater which may cause an exceedance of a water quality standard.
- b) For all instances of noncompliance based on environmental hazards and chemical spills and releases, all needed information must be provided orally to the Colorado Department of Public Health and Environment spill reporting line (24-hour number for environmental hazards and chemical spills and releases: 1-877-518-5608) within 24 hours from the time the permittee becomes aware of the circumstances.

For all other instances of noncompliance as defined in this section, all needed information must be provided orally to the Water Quality Control Division within 24 hours from the time the permittee becomes aware of the circumstances.

For all instances of noncompliance identified here, a written submission shall also be provided within 5 calendar days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of:

- 1) The noncompliance and its cause;
- 2) The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue;
- 3) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

A. **MANAGEMENT REQUIREMENTS** (cont.)

4. **Submission of Incorrect or Incomplete Information**

Where the permittee failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or report to the Division, or relevant new information becomes available, the permittee shall promptly submit the relevant application information which was not submitted or any additional information needed to correct any erroneous information previously submitted.

5. **Bypass**

a) A bypass, which causes effluent limitations (i.e., requirements to implement BMPs in accordance with Parts I.B.3 and I.D.2 of the permit) to be exceeded is prohibited, and the Division may take enforcement action against a permittee for such a bypass, unless:

- 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities (e.g., alternative BMPs), retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment (e.g., implemented additional BMPs) to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
- 3) The permittee submitted notices as required in "Non-Compliance Notification," Part II.A.3.

6. **Upsets**

a) **Effect of an Upset:** An upset constitutes an affirmative defense to an action brought for noncompliance with permit limitations and requirements if the requirements of paragraph b of this section are met. (No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.)

b) **Conditions Necessary for a Demonstration of Upset:** A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that:

- 1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;
- 2) The permitted facility was at the time being properly operated;
- 3) The permittee submitted notice of the upset as required in Part II.A.3. of this permit (24-hour notice); and
- 4) The permittee complied with any remedial measures required under 40 CFR Section 122.41(d) of the federal regulations or Section 61.8(3)(h) of the Colorado Discharge Permit System Regulations.

c) **Burden of Proof:** In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. **Removed Substances**

Solids, sludges, or other pollutants removed in the course of treatment or control of discharges shall be properly disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State.

8. **Minimization of Adverse Impact**

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from noncompliance with any terms and conditions specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

A. MANAGEMENT REQUIREMENTS (cont.)

9. Reduction, Loss, or Failure of Stormwater Controls

The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the permit requirements. Upon reduction, loss, or failure of any stormwater controls, the permittee shall, to the extent necessary to maintain compliance with its permit, control production, or remove all pollutant sources from exposure to stormwater, or both, until the stormwater controls are restored or an alternative method of treatment/control is provided. It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

10. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

B. RESPONSIBILITIES

1. Inspections and Right to Entry

The permittee shall allow the Director of the State Water Quality Control Division, the EPA Regional Administrator, and/or their authorized representative(s), upon the presentation of credentials:

- a) To enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
- b) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit and to inspect any monitoring equipment or monitoring method required in the permit; and
- c) To enter upon the permittee's premises to investigate, within reason, any actual, suspected, or potential source of water pollution, or any violation of the Colorado Water Quality Control Act. The investigation may include, but is not limited to, the following: sampling of any discharge and/or process waters, the taking of photographs, interviewing permittee staff on alleged violations and other matters related to the permit, and access to any and all facilities or areas within the permittee's premises that may have any effect on the discharge, permit, or any alleged violation.

2. Duty to Provide Information

The permittee shall furnish to the Division, within the time frame specified by the Division, any information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or inactivating coverage under this permit, or to determine compliance with this permit. The permittee shall also furnish to the Division, upon request, copies of records required to be kept by this permit.

3. Transfer of Ownership or Control

Certification under this permit may be transferred to a new permittee if:

- a) The current permittee notifies the Division in writing when the transfer is desired as outlined in Part I.A.7; and
- b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; and
- c) The current permittee has met all fee requirements of the Colorado Discharge Permit System Regulations, Section 61.15.

B. RESPONSIBILITIES (cont.)

4. Modification, Suspension, or Revocation of Permit By Division

All permit modification, inactivation or revocation and reissuance actions shall be subject to the requirements of the Colorado Discharge Permit System Regulations, Sections 61.5(2), 61.5(3), 61.7 and 61.15, 5 C.C.R. 1002-61, except for minor modifications.

- a) This permit, and/or certification under this permit, may be modified, suspended, or revoked in whole or in part during its term for reasons determined by the Division including, but not limited to, the following:
  - 1) Violation of any terms or conditions of the permit;
  - 2) Obtaining a permit by misrepresentation or failing to disclose any fact which is material to the granting or denial of a permit or to the establishment of terms or conditions of the permit;
  - 3) Materially false or inaccurate statements or information in the application for the permit;
  - 4) Promulgation of toxic effluent standards or prohibitions (including any schedule of compliance specified in such effluent standard or prohibition) which are established under Section 307 of the Clean Water Act, where such a toxic pollutant is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit.
- b) This permit, and/or certification under this permit, may be modified in whole or in part due to a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge, such as:
  - 1) Promulgation of Water Quality Standards applicable to waters affected by the permitted discharge; or
  - 2) Effluent limitations or other requirements applicable pursuant to the State Act or federal requirements; or
  - 3) Control regulations promulgated; or
  - 4) Other available information indicates a potential for violation of adopted Water Quality Standards or stream classifications.
- c) This permit, or certification under this permit, may be modified in whole or in part to include new effluent limitations and other appropriate permit conditions where data submitted pursuant to Part I indicate that such effluent limitations and permit conditions are necessary to ensure compliance with applicable water quality standards and protection of classified uses.
- d) At the request of the permittee, the Division may modify or inactivate certification under this permit if the following conditions are met:
  - 1) In the case of inactivation, the permittee notifies the Division of its intent to inactivate the certification, and certifies that the site has been finally stabilized;
  - 2) In the case of inactivation, the permittee has ceased any and all discharges to state waters and demonstrates to the Division there is no probability of further uncontrolled discharge(s) which may affect waters of the State.
  - 3) The Division finds that the permittee has shown reasonable grounds consistent with the Federal and State statutes and regulations for such modification, amendment or inactivation;
  - 4) Fee requirements of Section 61.15 of the Colorado Discharge Permit System Regulations have been met; and
  - 5) Applicable requirements of public notice have been met.

For small construction sites covered by a Qualifying Local Program, coverage under this permit is automatically terminated when a site has been finally stabilized.

B. RESPONSIBILITIES (cont.)

5. Permit Violations

Failure to comply with any terms and/or conditions of this permit shall be a violation of this permit.

Dischargers of stormwater associated with industrial activity, as defined in the EPA Stormwater Regulation (40 CFR 122.26(b)(14) and Section 61.3(2) of the Colorado Discharge Permit System Regulations, which do not obtain coverage under this or other Colorado general permits, or under an individual CDPS permit regulating industrial stormwater, will be in violation of the federal Clean Water Act and the Colorado Water Quality Control Act, 25-8-101, as amended. Failure to comply with CDPS permit requirements will also constitute a violation.

6. Legal Responsibilities

The issuance of this permit does not convey any property or water rights in either real or personal property, or stream flows, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority granted by Section 510 of the Clean Water Act.

7. Severability

The provisions of this permit are severable. If any provisions of this permit, or the application of any provision of this permit to any circumstance, are held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

8. Renewal Application

If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least ninety (90) days before this permit expires. If the permittee anticipates that there will be no discharge after the expiration date of this permit, the Division should be promptly notified so that it can inactivate the certification in accordance with Part II.B.4.d.

9. Confidentiality

Except for data determined to be confidential under Section 308 of the Federal Clean Water Act and Colorado Discharge Permit System Regulations, Section 61.5(4), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division. The permittee must state what is confidential at the time of submittal.

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Commission or the Division, but shall be kept confidential. Any person seeking to invoke the protection of this section shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

10. Fees

The permittee is required to submit payment of an annual fee as set forth in the Water Quality Control Act. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S. 1973 as amended.

B. RESPONSIBILITIES (cont.)

11. Requiring an Individual CDPS Permit

The Director may require the permittee to apply for and obtain an individual or alternate general CDPS permit if:

- a) The discharger is not in compliance with the conditions of this general permit;
- b) Conditions or standards have changed so that the discharge no longer qualifies for a general permit; or
- c) Data/information become available which indicate water quality standards may be violated.

The permittee must be notified in writing that an application for an individual or alternate general CDPS permit is required. When an individual or alternate general CDPS permit is issued to an operator otherwise covered under this general permit, the applicability of this general permit to that operator is automatically inactivated upon the effective date of the individual or alternate general CDPS permit.

## RATIONALE

### STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY

#### GENERAL PERMIT IN COLORADO THIRD RENEWAL COLORADO DISCHARGE PERMIT NUMBER COR-030000

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#### I. INTRODUCTION

*This permit is for the regulation of stormwater runoff from construction activities, and specific allowable non-stormwater discharges in accordance with Part I.D.3 of the permit. The term "construction activity" includes ground surface disturbing activities, including, but not limited to, clearing, grading, excavation, demolition, installation of new or improved haul and access roads, staging areas, stockpiling of fill materials, and borrow areas. "Stormwater" is precipitation-induced surface runoff. This rationale will explain the background of the Stormwater program, activities which are covered under this permit, how to apply for coverage under this permit, and the requirements of this permit.*

*The forms discussed in the rationale and permit are available on the Water Quality Control Division's website at: [www.cdphe.state.co.us/wq/PermitsUnit](http://www.cdphe.state.co.us/wq/PermitsUnit)*

#### II. CHANGES IN THIS GENERAL PERMIT

*Several notable changes from the previous General Permit for Construction Activities have been incorporated into this permit. Significant changes are listed below. Numerous other minor changes were made for clarification purposes only.*

##### A. Authority to Discharge

*This section has been restructured to list all of the types of activities covered by this permit, and to be consistent with the definition of "construction activity." The definition of construction activity has been expanded to provide clarification. See Part I.A.1 of the permit.*

## II. CHANGES IN THIS GENERAL PERMIT (cont.)

### B. Authority to Discharge - Oil and Gas Construction

*This section has been added, to take into account a regulatory change. The federal Energy Policy Act of 2005 exempts nearly all oil and gas construction activities from federal requirements under the Clean Water Act's NPDES stormwater discharge permit program. In January 2006, the Colorado Water Quality Control Commission held a hearing to determine what effects, if any, the change in federal law would have upon Colorado's stormwater regulations. The Commission determined that oil and gas construction sites in Colorado that disturb one or more acres are still required to be covered under Colorado's stormwater permitting regulations (Colorado Discharge Permit System (CDPS) regulations (5CCR 1002-61)). In practice, oil and gas construction sites have the same requirements under this permit as do other types of construction. However, this permit contains some references to the federal Clean Water Act; generally these references are not applicable to oil and gas construction sites to the extent that the references are limited by the federal Energy Policy Act of 2005. See Part I.A.1(b) of the permit.*

### C. Application Requirements

*The permit application requirements have changed slightly, including the addition of an email address, if available. See Part I.A.4(b).*

*The applicant must be either the owner and/or operator of the construction site. An operator at a construction site that is not covered by a certification held by an appropriate entity may be held liable for operating without the necessary permit coverage.*

### D. Temporary Coverage

*Part I.A.5(d) of the previous permit (effective July 1, 2002) dealt with temporarily covering a facility under the general permit even if an individual permit is more appropriate. This permit section essentially duplicated the previous section (see Part I.A.5(c)), and so it has been deleted.*

### E. Reassignment of Permit Coverage

*Procedures have been added to clarify the requirements for the transfer of coverage of specific portions of a permitted site to a second party. See Section VIII.1.3 of the rationale and Part I.A.8 of the permit.*

### F. Individual Permit Criteria

*This section has been modified to include situations involving a Total Maximum Daily Load (TMDL). See Part I.A.11 of the permit.*

### G. Stormwater Management Plan (SWMP)

*The Stormwater Management Plan section has been divided into two parts: Stormwater Management Plan (SWMP) - General Requirements, which provides the basic framework and general requirements for the SWMP, and Stormwater Management Plan (SWMP) - Contents, which specifically identifies each item that must be addressed in the SWMP. See Parts I.B and I.C of the permit.*

### H. Stormwater Management Plan (SWMP) - General Requirements

*The SWMP General Requirements section has been modified to require that the SWMP be updated in accordance with Parts I.D.5(c) and I.D.5(d) of the permit (SWMP Review/Changes). This additional requirement ensures that the SWMP provisions reflect current site conditions. See Part I.B.2(c) of the permit.*

## II. CHANGES IN THIS GENERAL PERMIT (cont.)

### I. Stormwater Management Plan (SWMP) – Contents

The SWMP Contents section has been modified. Some of the changes are limited to organization of information, which does not require modification of an existing permittee's current SWMP. Most of the SWMP changes involve either clarifications, reformatting, or taking recommendations from the Division's SWMP guide and making them permit requirements (e.g., vehicle tracking controls, BMP installation specifications). If an existing permittee (i.e., those with permit coverage before June 30, 2007) followed the recommendations in the SWMP guide (Appendix A of the permit application), then their SWMP will presumably meet the new requirements. However, for any existing permittees who did not follow the applicable SWMP guide recommendations, their SWMP must be amended to include the new required items:

-SWMP Administrator

-Identification of potential pollutant sources

-Best Management Practices descriptions and installation specifications, including dedicated concrete or asphalt batch plants; vehicle tracking control; and waste management and disposal (including concrete washout activities).

For existing permittees, any SWMP changes based on the change in permit requirements must be completed by **October 1, 2007**. The plan is not to be submitted to the Division unless requested, but must be available on site as outlined in Part I.D.5(b) of the permit.

The BMP requirement clarifications included in this renewed permit in no way imply that adequate BMPs to address all pollutant sources at a permitted site were not required in previous permits. The revised requirements are intended only to better clarify SWMP content requirements and provide improved direction to permittees.

The SWMP changes are listed below. All new applicants (after June 30, 2007) for permit coverage for their sites must fully comply with the new SWMP organization, plan requirements, and implementation.

1. **Site Description:** The requirement to provide an estimate of the run-off coefficient has been removed. The run-off coefficient as currently utilized in the SWMP may not contribute sufficiently to permit compliance to justify the effort in determining accurate values. See Part I.C.1 of the permit. However, the Division still encourages use of the coefficient as needed to adequately evaluate site-specific BMP selection and design criteria (e.g., pond capacities, BMP location, etc.) See Section C.2 of the SWMP guidance (Appendix A of the permit application).
2. **Site Map:** The requirement to identify boundaries of the 100-year flood plain has been removed. The boundaries as currently utilized in the SWMP may not contribute sufficiently to permit compliance to justify the effort in determining their location. See Part I.C.2 of the permit.
3. **Stormwater Management Controls:** This section has been modified to require identification of a SWMP Administrator and all potential pollutant sources in the SWMP. See Part I.C.3 of the permit.
  - a) The SWMP Administrator is a specific individual(s), position or title who is responsible for the process of developing, implementing, maintaining, and revising the SWMP. This individual serves as the comprehensive point of contact for all aspects of the facility's SWMP. **This requirement may necessitate changes to existing permittees' SWMPs.**

II. CHANGES IN THIS GENERAL PERMIT (cont.)

- b) *The requirement to identify Potential Pollutant Sources has been expanded to include more details for the evaluation of such sources. This evaluation allows for the appropriate selection of BMPs for implementation at a facility or site. Additionally, this section was added to be consistent with the SWMP guide. This requirement may necessitate changes to existing permittees' SWMPs.*
- c) *Best Management Practices (BMPs) for Stormwater Pollution Prevention: This section was modified to require the following items to be addressed in the SWMP. These requirements may necessitate changes to existing permittees' SWMPs. This section also requires that the SWMP provide installation and implementation specifications for each BMP identified in the SWMP. For structural BMPs, in most cases, this must include a technical drawing to provide adequate installation specifications. See Part I.C.3(c).*
- i) *Dedicated concrete or asphalt batch plants. This section requires that the practices used to reduce the pollutants in stormwater discharges associated with dedicated concrete or asphalt batch plants be identified in the SWMP. (Coverage under the construction site SWMP and permit is not required for batch plants if they have alternate CDPS permit coverage.)*
- ii) *Vehicle tracking control. This section requires that practices be implemented to control sediment from vehicle tracking, and that all such practices implemented at the site be clearly described in the SWMP.*
- iii) *Waste management and disposal. This section requires that the practices implemented at the site to control stormwater pollution from construction site waste, including concrete washout activities, be clearly described in the SWMP. It also requires that concrete washout activities be conducted in a manner that does not contribute pollutants to surface waters or stormwater runoff.*
- iv) *Concrete Washout Water. Part I.D.3(c) of the permit has been revised to conditionally authorize discharges to the ground of concrete wash water from washing of tools and concrete mixer chutes when appropriate BMPs are implemented. The permit prohibits the discharge of concrete washout water to surface waters and to storm sewer systems. Part I.C.3(c)(7) of the permit requires that BMPs be in place to prevent surface discharges of concrete washout water from the site.*

*The use of unlined pits to contain concrete washout water is a common practice in Colorado. The Division has further evaluated the need for a permit for discharge of concrete washout water to the ground. The Division has determined that the use of appropriate BMPs for on-site washing of tools and concrete mixer chutes would prevent any significant discharge to groundwater. BMPs to protect groundwater are required by Part I.C.3(c)(7) of the permit. Because pH is a pollutant of concern for washout activities, the soil must have adequate buffering capacity to result in protection of the groundwater standard, or a liner/containment must be used. The following management practices are recommended to prevent an impact from unlined pits to groundwater:*

- (1) the use of the washout site should be temporary (less than 1 year), and*
- (2) the washout site should be not be located in an area where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.*

## II. CHANGES IN THIS GENERAL PERMIT (cont.)

Where adequate management practices are not followed to protect groundwater quality, the Department may require discharges to unlined pits to cease, or require the entity to obtain alternate regulatory approval through notice from either the Water Quality Control Division or the Hazardous Materials and Waste Management Division.

In addition, Part I.D.1(b) of the permit has been revised to clearly state that the permit does not authorize on-site permanent disposal of concrete washout waste, only temporary containment of concrete washout water from washing of tools and concrete mixer chutes. Upon termination of use of the washout site, accumulated solid waste, including concrete waste and any contaminated soils, must be removed from the site to prevent on-site disposal of solid waste.

- v) *Construction Dewatering.* Part I.D.3(d) of the permit has been revised to conditionally authorize discharges to the ground of water from construction dewatering activities when appropriate BMPs are implemented. The permit does not authorize the discharge of groundwater from construction dewatering to surface waters or to storm sewer systems. Part I.C.3(c)(8) of the permit requires that BMPs be in place to prevent surface discharges. The permittee may apply for coverage under a separate CDPS discharge permit such as the Construction Dewatering general permit, if there is a potential for discharges to surface waters.

The Division has determined that potential pollutant sources introduced into groundwater from construction dewatering operations do not have a reasonable potential to result in exceedance of groundwater standards when the discharge is to the ground. The primary pollutant of concern in uncontaminated groundwater is sediment. Although technology-based standards for sediment do exist in 5 CCR 1002-41, the discharge of sediment to the ground as part of construction dewatering does not have the reasonable potential to result in transport of sediment to the groundwater table so as to result in an exceedance of those standards.

For a discharge of water contaminated with other pollutants that are present in concentrations that may cause an exceedance of groundwater standards, separate CDPS discharge permit coverage is required. Contaminated groundwater may include that contaminated with pollutants from a landfill, mining activity, industrial pollutant plume, underground storage tank, or other source of human-induced groundwater pollution and exceeding the State groundwater standards in Regulations 5 CCR 1002-41 and 42.

### J. Terms and Conditions, General Limitations and Design Standards

This section reiterates the requirement that facilities select, install, implement, and maintain appropriate BMPs, following good engineering, hydrologic and pollution control practices. In addition, requirements for protection of water quality standards (see Part I.D.1.(a) of the permit) and requirements to adequately design BMPs to prevent pollution or degradation of State waters (see Part I.D.2 of the permit) have been revised and are fully discussed in Part III.B of the rationale, below. Additional language was also added to Section III.B of the rationale further clarifying the expectations for compliance with this permit.

#### I. Management of Site Waste

This section has been modified to clarify that on-site waste must be properly managed to prevent potential pollution of State waters, and that this permit does not authorize on-site waste disposal. Solid waste disposal is regulated by the Hazardous Materials and Waste Management Division.

II. CHANGES IN THIS GENERAL PERMIT (cont.)

K. Terms and Conditions, SWMP Requirements

1. **SWMP Review/Changes:** This section now requires that when changes are made to site conditions, the SWMP must be revised immediately, except for some BMP description changes which conditionally may occur within 72 hours. This requirement is included to both ensure that the SWMP be kept accurate and up-to-date, and to clarify that stormwater management at a site typically should be proactive instead of responsive, and be integrated into site management to ensure it is calibrated with those changes. The section was also clarified to state that only changes in site conditions that do not require new or modified BMPs do not need to be addressed in the SWMP. See Part I.D.5(c) of the permit.
2. **SWMP Certification:** The previous permit was unclear on a requirement that the copy of SWMP that remains at the facility had to be signed in accordance with permit signatory requirements. This requirement has been deleted. The signatory requirement of Part I.F.1 only applies to the SWMP if it is to be submitted to the Division or to EPA. See Part I.F.1 of the permit.

L. Terms and Conditions, Post-Storm Inspections

The previous permit required post-storm inspections, but did not specify the timing of inspections. This section now requires that post-storm event inspections generally be conducted within 24 hours of the event. An alternative timeline has been allowed, only for sites where there are no construction activities occurring following a storm event. For this condition, post-storm event inspections shall instead be conducted prior to commencing construction activities, but no later than 72 hours following the storm event, and the delay noted in the inspection report.

Any exception from the minimum inspection schedule is temporary, and does not eliminate the requirement to perform routine maintenance due to the effects of a storm event, including maintaining vehicle tracking controls and removing sediment from impervious areas. In many cases, maintenance needs will require a more frequent inspection schedule than the minimum inspections required in the permit, to ensure that BMPs continue to operate as needed to comply with the permit. See Part I.D.6(a) of the permit.

M. Terms and Conditions, Inspections

1. The Winter Conditions Inspection Exclusion section has been modified to include documentation requirements for this exclusion. See Part I.D.6(a) of the permit. The Inspection Scope has been modified to include the requirement to inspect waste storage areas during inspections conducted in accordance with the permit. See Part I.D.6(b) of the permit.
2. The requirements for sites to qualify for reduced inspection frequencies for completed sites have been slightly modified (see Part I.D.6(a)(2) of the permit.). The requirement now is that only construction activities that disturb the ground surface must be completed. Construction activities that can be conducted without disturbance of the ground surface; for example, interior building construction, and some oil well activities, would not prohibit a site from otherwise qualifying for the reduced inspection frequency. In addition, the requirement for the site to be prepared for final stabilization has been slightly modified to allow for sites that have not yet been seeded to qualify, as long as the site has otherwise been prepared for final stabilization, including completion of appropriate soil preparation, amendments and stabilization practice. This will allow for sites with seasonal seeding limitations or where additional seed application may be needed in the future to still qualify.

II. CHANGES IN THIS GENERAL PERMIT (cont.)

3. *The Inspection Report/Records section (Part I.D.6(b)(2)) was added to clarify requirements for inspection reports generated during an inspection conducted in accordance with Part I.D.6 of the permit. Inspection reports must be signed by the inspector, or the individual verifying the corrective action indicated in the inspection report, on behalf of the permittee. Inspection reports are not typically required to be submitted to the Division, and therefore, are not required to be signed and certified for accuracy in accordance with Part I.F.1 of the permit. However, any inspection reports that are submitted to the Division must follow the signatory requirements contained in that section.*

N. Terms and Conditions, Maintenance, Repair, and Replacement of Control Practices

*These sections have been added to clarify requirements for maintaining the BMPs identified in the SWMP and for addressing ineffective or failed BMPs. BMP maintenance and site assessment to determine the overall adequacy of stormwater quality management at the site must occur proactively, in order to ensure adequate control of pollutant sources at the site. In most cases, if BMPs are already not operating effectively, or have failed, the issue must be addressed immediately, to prevent discharge of pollutants. See Parts I.D.7 and I.D.8 of the permit.*

O. Total Maximum Daily Load (TMDL)

*A section on TMDLs has been added. This section gives a general outline of the additional requirements that may be imposed by the Division if the facility discharges to a waterbody for which a stormwater-related TMDL is in place. See Section VIII.C of the rationale and Part I.D.11 of the permit.*

P. Additional Definitions

*Part I.E of the permit has been modified to remove the definition of runoff coefficient, as it is no longer a permit requirement. The definition for state waters has also been deleted, but can be found in Regulation 61.*

Q. Changes in Discharge

*The section on the types of discharge or facility changes that necessitate Division notification has been clarified. See Part II.A.1 of the permit.*

R. Non-Compliance Notification

*The section on notification to the Division regarding instances of non-compliance has been amended to clarify which types of noncompliance require notification. See Part II.A.3 of the permit.*

S. Short Term Certifications

*The previous permit allowed small short-term construction activities to be authorized for a predetermined period from 3 to 12 months, and then automatically expire (an inactivation request did not need to be submitted). The issuance of these certifications has led to significant confusion and incidents of noncompliance resulting from permittees unintentionally letting their certifications expire prior to final stabilization, as well as issues regarding billing. Therefore, the provisions for short-term certifications have been deleted.*

T. Bypass

*The Division has revised the Bypass conditions in Part II.A.5 of the permit to be consistent with the requirements of Regulation 61.8(3)(i). The revised language addresses under what rare occurrences BMPs may be bypassed at a site.*

### III. BACKGROUND

*As required under the Clean Water Act amendments of 1987, the Environmental Protection Agency (EPA) has established a framework for regulating municipal and industrial stormwater discharges. This framework is under the National Pollutant Discharge Elimination System (NPDES) program (Note: The Colorado program is referred to as the Colorado Discharge Permit System, or CDPS, instead of NPDES.) The Water Quality Control Division ("the Division") has stormwater regulations (5CCR 1002-61) in place. These regulations require specific types of industrial facilities that discharge stormwater associated with industrial activity (industrial stormwater), to obtain a CDPS permit for such discharge. The regulations specifically include construction activities that disturb one acre of land or more as industrial facilities. Construction activities that are part of a larger common plan of development which disturb one acre or more over a period of time are also included.*

#### A. General Permits

*The Division has determined that the use of general permits is the appropriate procedure for handling most of the thousands of industrial stormwater applications within the State.*

#### B. Permit Requirements

*This permit does not impose numeric effluent limits or require submission of effluent monitoring data in the permit application or in the permit itself. The permit instead imposes practice-based effluent limitations for stormwater discharges through the requirement to develop and implement a Stormwater Management Plan (SWMP). The narrative permit requirements include prohibitions against discharges of non-stormwater (e.g., process water). See Part I.D.3 of the permit.*

*The permit conditions for the SWMP include the requirement for dischargers to select, implement and maintain Best Management Practices (BMPs) at a permitted construction site that adequately minimize pollutants in the discharges to assure compliance with the terms and conditions of the permit. Part I.D.2 of the permit includes basic design standards for BMPs implemented at the site. Facilities must select, install, implement, and maintain appropriate BMPs, following good engineering, hydrologic and pollution control practices. BMPs implemented at the site must be adequately designed to control all potential pollutant sources associated with construction activity to prevent pollution or degradation of State waters. Pollution is defined in CDPS regulations (5CCR 1002-61) as man-made or man-induced, or natural alteration of the physical, chemical, biological, and radiological integrity of water. Utilizing industry-accepted standards for BMP selection that are appropriate for the conditions and pollutant sources present will typically be adequate to meet these criteria, since construction BMPs are intended to prevent the discharge of all but minimal amounts of sediment or other pollutants that would not result in actual pollution of State waters, as defined above. However, site-specific design, including ongoing assessment of BMPs and pollutant sources, is necessary to ensure that BMPs operate as intended.*

*The permit further requires that stormwater discharges from construction activities shall not cause, have the reasonable potential to cause, or measurably contribute to an excursion above any water quality standard, including narrative standards for water quality. This condition is the basis for all CDPS Discharge permits, and addresses the need to ensure that waters of the State maintain adequate water quality, in accordance with water quality standards, to continue to meet their designated uses. It is believed that, in most cases, BMPs can be adequate to meet applicable water quality standards. If water quality impacts are noted, or the Division otherwise determines that additional permit requirements are necessary, they are typically imposed as follows: 1) at the renewal of this general permit or through a general permit specific to an industrial sector (if the issue is sector-based); 2) through direction from the Division based on the implementation of a TMDL (if the issue is watershed-based); or 3) if the issue is site-specific, through a revision to the certification from the Division based on an inspection or SWMP review, or through an individual permit.*

### III. BACKGROUND (cont.)

*Some construction sites may be required to comply with a Qualifying Local Program in place of meeting several of the specific requirements in this permit. Sites covered by a Qualifying Local Program may not be required to submit an application for coverage or a notice of inactivation and may not be required to pay the Division's annual fee. See Section VII of the rationale.*

#### C. Violations/Penalties

*Dischargers of stormwater associated with industrial activity, as defined in the CDPS regulations (5CCR 1002-61), that do not obtain coverage under this or other Colorado general permits, or under an individual CDPS permit regulating industrial stormwater, will be in violation of the Federal Clean Water Act and the Colorado Water Quality Control Act, 25-8-101. For facilities covered under a CDPS permit, failure to comply with any CDPS permit requirement constitutes a violation. As of the time of permit issuance, civil penalties for violations of the Act or CDPS permit requirements may be up to \$10,000 per day, and criminal pollution of state waters is punishable by fines of up to \$25,000 per day.*

### IV. STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY

*The stormwater regulations (CDPS regulations (5CCR 1002-61)), require that stormwater discharges associated with certain industrial activities be covered under the permit program. Construction activity that disturbs one acre or more during the life of the project is specifically included in the listed industrial activities. This permit is intended to cover most stormwater discharges from construction facilities required by State regulation to obtain a permit.*

#### A. Construction Activity

*Construction activity includes ground surface disturbing activities including, but not limited to, clearing, grading, excavation, demolition, installation of new or improved haul and access roads, staging areas, stockpiling of fill materials, and dedicated borrow/fill areas. Construction does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility. (The maintenance exclusion is intended for projects such as road resurfacing, and where there will be less than one acre of additional ground disturbed. Improvements or upgrades to existing facilities or roads, where at least one acre is disturbed, would not qualify as "routine maintenance.")*

*Definitions of additional terms can be found in Part I.E of the permit.*

*Stormwater discharges from all construction activity require permit coverage, except for operations that result in the disturbance of less than one acre of total land area and which are not part of a larger common plan of development or sale. A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules.*

#### B. Types of Discharges/Activities Covered

- 1. Stormwater: This permit is intended to cover most new or existing discharges composed entirely of stormwater from construction activities that are required by State regulation to obtain a permit. This includes stormwater discharges associated with areas that are dedicated to producing earthen materials, such as soils, sand, and gravel, for use at a single construction site. These areas may be located at the construction site or at some other location. This permit does not authorize the discharge of mine water or process water from borrow areas. This permit may also cover stormwater discharges associated with dedicated asphalt plants and concrete plants located at a specific construction site.*

IV. *STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (cont.)*

2. **Process water:** Under certain restrictions, discharges to the ground from construction dewatering, and from concrete washout activities, are also covered (see Parts I.C.3(c)(7), I.C.3(c)(8), I.D.3(c) and I.D.3(d) of the permit).

C. Types of Activities NOT Covered

1. **Stormwater:** Aside from the sources listed in subparagraph B.1, above, this permit does not cover stormwater discharged from construction sites that is mixed with stormwater from other types of industrial activities, or process water of any kind. Other types of industrial activities that require stormwater discharge permits pursuant to different sections of the regulations (Regulation 5 CCR 1002-61, Section 61.2(e)(iii)(A-I, K)), are not covered by this permit.
2. **Process water:** This permit also does not cover any discharge of process water to surface waters. If the construction activity encounters groundwater, in order to discharge this groundwater to surface waters, a Construction Dewatering Discharge Permit (permit number COG-070000) must also be obtained. An application for this permit can be obtained from the Division at the address listed in Part I.A.4(a) of the permit, or at the website in Section I of the rationale.

V. *COVERAGE UNDER THIS GENERAL PERMIT*

*Under this general permit, owners or operators of stormwater discharges associated with construction activity may be granted authorization to discharge stormwater into waters of the State of Colorado. This includes stormwater discharges associated with industrial activity from areas that are dedicated to producing earthen materials, such as soils, sand and gravel, for use at a single construction site, and dedicated asphalt plants and dedicated concrete plants.*

*This permit does not pre-empt or supersede the authority of other local, state or federal agencies to prohibit, restrict or control discharges of stormwater to storm drain systems or other water courses within their jurisdiction.*

*Authorization to discharge under the permit requires submittal of a completed application form and a certification that the SWMP is complete, unless the site is covered by a Qualifying Local Program. Upon receipt of all required information, the Division may allow or disallow coverage under the general permit.*

VI. *APPLICATION AND CERTIFICATION*

*At least ten days prior to the commencement of construction activities, the owner or operator of the construction site shall submit an original completed application which includes the signed certification that the SWMP is complete. Original signatures are required for the application to be considered complete. For small construction sites only, if the site is covered by a Qualifying Local Program (see below), submittal of an application is not required.*

*For the purposes of this permit, the "operator" is the person who has day-to-day control over the project. This can be the owner, the developer, the general contractor or the agent of one of these parties, in some circumstances. At different times during a construction project, different types of parties may satisfy the definition of "operator" and the certification may be transferred as roles change.*

*(Note - Under the Federal regulations, this application process is referred to as a Notice of Intent, or NOI. For internal consistency with its current program, the Division will continue to use the term "application.") A summary of the permit application requirements is found in the permit at Part I.A.4(b).*

*If coverage under this general permit is appropriate, then a certification will be developed and the applicant will be certified under this general permit.*

## VII. QUALIFYING LOCAL PROGRAMS

*For stormwater discharges associated with small construction activity (i.e., one to five acre disturbed area sites), the permit includes conditions that incorporate approved qualifying local erosion and sediment control program (Qualifying Local Program) requirements by reference. A Qualifying Local Program is a municipal stormwater program for stormwater discharges associated with small construction activity that has been formally approved by the Division. The requirements for Qualifying Local Programs are outlined in Part 61.8(12) of the Colorado Discharger Permit System Regulations (also see the Division's "Qualifying Local Programs for Small Construction Sites - Application Guidance"). Such programs must impose requirements to protect water quality that are at least as stringent as those required in this permit.*

### A. Approval Termination

*A Qualifying Local Program may be terminated by either the Division or the municipality. Upon termination of Division approval of a Qualifying Local Program, any small construction activity required to obtain permit coverage under Section 61.3(2)(h) of the CDPS regulations (5CCR 1002-61), shall submit an application form as provided by the Division, with a certification that the Stormwater Management Plan (SWMP) is complete as required by Part I.A.3 of the permit, within 30 days of Division notification.*

### B. Approval Expiration

*Division approval of a Qualifying Local Program will expire with this general permit on June 30, 2012. Any municipality desiring to continue Division approval of their program must reapply by March 31, 2012. The Division will determine if the program may continue as a approved Qualifying Local Program.*

## VIII. TERMS AND CONDITIONS OF PERMIT

### A. Coverage under a Qualifying Local Program – For Small Construction Sites Only

*For small construction sites (disturbing less than 5 acres) covered under a Qualifying Local Program (see Section VII, above), only certain permit requirements apply, as outlined below. The local program must have been formally designated by the Division to qualify. Most municipalities have some type of local program and may require permits and fees. However, simply having a program in place does not necessarily mean that it is a qualifying program and that a State permit is not required. The local municipality is responsible for notifying operators and/or owners that they are covered by a Qualifying Local Program. As of May 31, 2007, the only approved Qualifying Local Programs within the state are for Golden, Durango and Lakewood. An updated list of municipalities with Qualifying Local Programs, including contact information, is available on the Division's website at: [http://www.cdphg.state.co.us/wq/Permits/Unit stormwater/construction.html](http://www.cdphg.state.co.us/wq/Permits/Unit%20stormwater/construction.html).*

*The Division reserves the right to require any construction owner or operator within the jurisdiction of a Qualifying Local Program covered under this permit to apply for and obtain coverage under the full requirements of this permit.*

1. **Permit Coverage:** *If a construction site is within the jurisdiction of a Qualifying Local Program, the owner or operator of the construction activity is authorized to discharge stormwater associated with small construction activity under this general permit without the submittal of an application to the Division. The permittee also is not required to submit an inactivation notice or payment of an annual fee to the Division.*

VIII. TERMS AND CONDITIONS OF PERMIT (cont.)

2. **Permit Terms and Conditions:** *The permittee covered by a Qualifying Local Program must comply with the requirements of that Qualifying Local Program. In addition, the following permit sections are applicable:*
    - a) *Parts 1.A.1, 1.A.2, and 1.A.3: Authorization to discharge and discussion of coverage under the permit.*
    - b) *Part 1.D.1: General limitations that must be met in addition to local requirements.*
    - c) *Parts 1.D.2, 1.D.3, 1.D.4: BMP implementation, prohibition of non-stormwater discharges unless addressed in a separate CDPS permit, and requirements related to releases of reportable quantities.*
    - d) *Part 1.D.11: Potential coverage under a Total Maximum Daily Load (TMDL).*
    - e) *Part 1.E: Additional definitions.*
    - f) *Part II (except for Parts II.A.1, II.B.3, II.B.8, and II.B.10): Specifically includes, but is not limited to, provisions applicable in the case of noncompliance with permit requirements, and requirements to provide information and access.*
- B. Stormwater Management Plans (SWMPs)

*Prior to commencement of construction, a stormwater management plan (SWMP) shall be developed and implemented for each facility covered by this permit. A certification that the SWMP is complete must be submitted with the permit application. The SWMP shall identify potential sources of pollution (including sediment) which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the facility. In addition, the plan shall describe the Best Management Practices (BMPs) which will be used to reduce the pollutants in stormwater discharges from the construction site. (Note that permanent stormwater controls, such as ponds, that are used as temporary construction BMPs must be adequately covered in the SWMP.) Facilities must implement the provisions of their SWMP as a condition of this permit. The SWMP shall include the following items:*

1. *Site Description*
2. *Site Map*
3. *Stormwater Management Controls*
4. *Long-term Stormwater Management*
5. *Inspection and Maintenance*

*(See Parts I.B. and I.C of the permit for a more detailed description of SWMP requirements.) The Division has a guidance document available on preparing a SWMP. The document is included as Appendix A of the permit application, and is available on the Division's website at [www.cdpr.state.ca.us/wq/Permits.cfm](http://www.cdpr.state.ca.us/wq/Permits.cfm).*

*Some changes have been made to the SWMP requirements. See Section II.I of the rationale for a discussion on permittee responsibilities regarding those changes.*

VIII. TERMS AND CONDITIONS OF PERMIT (cont.)

**Master SWMP**

Often, a large construction project will involve multiple smaller construction sites that are within a common plan of development, or multiple well pads under construction within an oil and gas well field. Pollutant sources and the types of BMPs used can be relatively consistent in such cases. A permittee could significantly streamline the SWMP development process through the use of a master SWMP. SWMP information must be developed and maintained for all construction activities that exceed one acre (or are part of a common plan of development exceeding one acre) conducted within the permitted area. By developing a single master plan, the permittee can eliminate the need to develop repetitive information in separate plans. Such a plan could include two sections, one containing a reference section with information applicable to all sites (e.g., installation details and maintenance requirements for many standard BMPs, such as silt fence and erosion blankets), and the second containing all of the information specific to each site (e.g., site BMP map, drainage plans, details for BMPs requiring site specific design, such as retention ponds).

As new activities begin, information required in the SWMP is added to the plan, and as areas become finally stabilized, the related information is removed. Records of information related to areas that have been finally stabilized that are removed from the active plan must be maintained for a period of at least three years from the date that the associated site is finally stabilized.

C. Total Maximum Daily Load (TMDL)

If the designated use of a stream or water body has been impaired by the presence of a pollutant(s), development of a Total Maximum Daily Load (TMDL) may be required. A TMDL is an estimate of allowable loading in the waterbody for the pollutant in question. Types of discharges that are or have the potential to be a significant source of the pollutant are also identified. If a TMDL has been approved for any waterbody into which the permittee discharges, and stormwater discharges associated with construction activity have been assigned a pollutant-specific Wasteload Allocation (WLA) under the TMDL, the Division will either:

1. Notify the permittee of the TMDL, and amend the permittee's certification to add specific BMPs and/or other requirements, as appropriate; or
2. Ensure that the TMDL is being implemented properly through alternative local requirements, such as by a municipal stormwater permit. (The only current example of this is the Cherry Creek Reservoir Control Regulation (72.0), which mandates that municipalities within the basin require specific BMPs for construction sites.)

See Part I.D.11 of the permit for further information.

D. Monitoring

Sampling and testing of stormwater for specific parameters is not required on a routine basis under this permit. However, the Division reserves the right to require sampling and testing on a case-by-case basis, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants in the effluent. See Part I.D.1(e) of the permit.

E. Facility Inspections

Construction sites typically must inspect their stormwater management controls at least every 14 days and within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. At sites or portions of sites where ground-disturbing construction has been completed but a vegetative cover has not been established, these inspections must occur at least once per month. (At sites where persistent snow cover conditions exist, inspections are not required during the period that melting conditions do not exist. These

VIII. TERMS AND CONDITIONS OF PERMIT (cont.)

*conditions are only expected to occur at high elevations within the Colorado mountains.) For all of these inspections, records must be kept on file. Exceptions to the inspection requirements are detailed in Part I.D.6 of the permit.*

F. SWMP Revisions

*The permittee shall amend the SWMP whenever there is a change in design, construction, operation, or maintenance of the site, which would require the implementation of new or revised BMPs. The SWMP shall also be amended if it proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity. The timing for completion of SWMP changes is detailed in Parts I.D.5(c) and I.D.5(d) of the permit.*

*SWMP revisions shall be made prior to change in the field, or in accordance with Part I.D.5(d) of the permit.*

G. Reporting

*The inspection record shall be made available to the Division upon request. Regular submittal of an annual report is not required in this permit. See Part I.D.9 of the permit.*

H. Annual Fee

*The permittee is required to submit payment of an annual fee as set forth in the Water Quality Control Act. Permittees will be billed for the initial permit fee within a few weeks of permit issuance and then annually, based on a July 1 through June 30 billing cycle.*

I. Responsibility for Permit

*The permit certification for a site may be inactivated, once coverage is no longer needed. The certification may be transferred, if another party is assuming responsibility for the entire area covered by the certification. In addition, permit responsibility for part of the area covered by the certification may be reassigned to another party. These actions are summarized below. The Stormwater Program construction fact sheet explains these actions in further detail under the section on Multiple Owner/Developer Sites, and is available on the Division website at <http://www.cdphs.state.co.us/wq/Permit%20Unit/stormwater%20constFactSheet.PDF>, Section F.*

1. **Inactivation Notice:** *When a site has been finally stabilized in accordance with the SWMP, the permittee shall submit an **Inactivation Notice** that is signed in accordance with Part I.F.1 of the permit. A summary of the Inactivation Notice content is described in Part I.A.6 of the permit. A copy of the Inactivation Notice form will be mailed to the permittee along with the permit certification. Additional copies are available from the Division.*

*For sites where all areas have been removed from permit coverage, the permittee may submit an inactivation notice and terminate permit coverage. In such cases the permittee would no longer have any land covered under their permit certification, and therefore there would be no areas remaining to finally stabilize. Areas may be removed from permit coverage by:*

- reassignment of permit coverage (Part I.A.8 of the permit);
- sale to homeowners (Part I.A.9 of the permit); or
- amendment by the permittee, in accordance with Division guidance for areas where permit coverage has been obtained by a new operator or returned to agricultural use.

VIII. TERMS AND CONDITIONS OF PERMIT (cont.)

2. **Transfer of Permit:** When responsibility for stormwater discharges for an entire construction site changes from one individual to another, the permit shall be transferred in accordance with Part I.A.7 of the permit. The permittee shall submit a completed **Notice of Transfer form**, which is available from the Division, and at [www.cdphe.state.co.us/wq/Permits.html](http://www.cdphe.state.co.us/wq/Permits.html). If the new responsible party will not complete the transfer form, the permit may be inactivated if the permittee has no legal responsibility, through ownership or contract, for the construction activities at the site. In this case, the new owner or operator would be required to obtain permit coverage separately.
3. **Reassignment of Permit:** When a permittee no longer has control of a specific portion of a permitted site, and wishes to transfer coverage of that portion of the site to a second party, the permittee shall submit a completed **Notice of Reassignment of Permit Coverage form**, which is available from the Division, and at [www.cdphe.state.co.us/wq/Permits.html](http://www.cdphe.state.co.us/wq/Permits.html). The form requires that both the existing permittee and new permittee complete their respective sections. See Part I.A.8 of the permit.

J. Duration of Permit

The general permit will expire on June 30, 2012. The permittee's authority to discharge under this permit is approved until the expiration date of the general permit. Any permittee desiring continued coverage under the general permit past the expiration date must apply for recertification under the general permit at least 90 days prior to its expiration date.

Kathleen Rosow  
December 18, 2006

IX. PUBLIC NOTICE -- 12/22/06

The permit was sent to public notice on December 22, 2006. A public meeting was requested, and was held on February 2, 2007. Numerous comments were received on the draft permit. Responses to those comments, and a summary of changes made to the draft permit, are in a separate document entitled "Division Response To Public Comments." The permit will be sent to a second public notice on March 23, 2007. Any changes resulting from the second public notice will be summarized in the rationale.

Kathleen Rosow  
March 22, 2007

X. PUBLIC NOTICE - 3/23/07

The permit was sent to public notice for a second time on March 23, 2007. Numerous comments were received on the second draft permit. Responses to those comments, and a summary of the additional changes made to the draft permit, are contained in a separate document entitled "Division Response To Public Comments Part II". This document is part of the rationale. Any changes based on the Division response are incorporated into the rationale and permit. The response document is available online at [http://www.cdphe.state.co.us/wq/Permits.html#stormwater\\_conservation.html](http://www.cdphe.state.co.us/wq/Permits.html#stormwater_conservation.html), or by emailing [cdphe.wqstor@state.co.us](mailto:cdphe.wqstor@state.co.us), or by calling the Division at 303-692-3517.

Kathleen Rosow  
May 31, 2007

# TRAFFIC MANAGEMENT PLAN



**To:** R. Martin Ostholthoff – Community Development Director - Town of Erie  
Matthew Wiederspahn – Development Engineer – Town of Erie  
**CC:** Miracle Pfister – Encana Oil & Gas (USA) Inc.  
**From:** Baseline Corporation – Cory Miller and Vincent Harris, AICP  
**Date:** February 6, 2015  
**Re:** Encana Oil & Gas (USA) Inc. – Morgan Hills - SRU-15-000XX

---

## OVERVIEW

This Traffic Management Plan is prepared to accompany the Special Review Use permit (SRU-15-000XX) for the Encana Oil & Gas (USA) Inc. "Morgan Hills" oil and gas production facility in Erie. The application for the proposed facility is submitted by Encana Oil & Gas (USA) Inc. This facility is located in the Northeast ¼ of Section 7, Township 1 North, Range 68 West of the 6<sup>th</sup> P.M. and will work in tandem with the Encana Liquids Handling Hub located approximately 4 miles to the southeast of the proposed facility (USR14-0017 Weld County). This pad is proposed to have 9 wells.

Encana does not propose to permanently store liquids on the Morgan Hills well site, but rather move liquids (oil and water) to the Hub via pipelines. This process will help to reduce the amount of heavy- truck traffic that is typical of oil and gas production facilities. The need for tanker trucks to haul away the oil and water that is produced on site will be significantly reduced during all phases but most notably during the production phase. This memo provides an outline for the proposed mitigation Encana will take to reduce the effect of associated traffic on Erie's roads.

## TRAFFIC ROUTING

### Proposed Haul Route:

The site will utilize a proposed private access road located southwest and immediately adjacent to the intersection of Weld County Road (WCR) 3 and WCR 12. Both WCR 12 and WCR 3 are paved-asphalt roads with one lane in each direction.

The proposed route to be used during the drilling and completions phases is planned to originate from Interstate 25. Trucks and other vehicles will utilize Exit 235 for Highway 52 toward Dacono/Ft. Lupton on I-25 and travel west along Highway 52 for approximately 3 miles. Vehicles will then turn south onto WCR 3 and travel for approximately 1 mile until they reach the intersection of WCR 3 and WCR 12. The entrance to the site is to the west. Trucks and other employee vehicles will disperse from the site, utilizing the same route mentioned above. Please see the attached Haul Route Map.

### Trip distribution

It is anticipated that 100% of all hauling trips in and out of the proposed site will utilize the route indicated (I-25 – Highway 52 – WCR 3).

**OPERATIONAL TRIP GENERATION**

The following vehicle summaries have been used to determine the anticipated traffic generation numbers.

Proposed Oil and Well Traffic Activity per day for 9 Wells						
	Drilling Phase		Completion Phase		Production Phase	
	Semi-truck	Pick-up trucks	Semi-truck	Pick-up trucks	Semi-truck	Pick-up trucks
Equipment	50	0	10	0	0	0
Personnel	0	10	0	30	0	1
Sand	0	0	20	0	0	0
Water	0	0	0	0	0	0
Flowback	0	0	5	0	0	0
Drillout	0	0	0	7	0	0
Oil	0	0	0	0	0	0
Total # of trips	100	20	70	74	0	2
# of round trips	50	10	35	37	0	1

The daily total number of trips for the proposed facility is significantly lower than that of a typical oil and gas production facility on such a pad. The two phases that experience the largest reduction in number of trips are the Completion phase and Production phase. The Production phase traffic will be greatly reduced from what a typical oil and gas facility normally operates. Production traffic will be limited to two (2) trips a day from the beginning of production to the end of the facility’s production lifespan (approximately 25-30 years).

**OVERHEAD UTILITY IMPACTS ALONG ROUTES**

Encana has identified two areas where overhead utility transmission lines cross over the proposed haul route. Each of these occurs in the following locations.

- Approximately 0.3 miles north of the intersection of WCR 3 and WCR 12
- Approximately 0.3 miles south of the intersection of WCR 3 and Highway 52
- Approximately 0.4 miles south of the intersection of WCR 3 and Highway 52

Encana personnel will drive the haul route and take note of areas where the utilities cross public roads to ensure that these areas will not cause issue with the vehicles that need to travel on the route. None of the proposed trucks or their equipment will exceed normal height restrictions but cautions need to be evaluated to ensure overhead utility lines are not too low.

In addition to overhead transmission lines, overhead traffic signals are positioned along the intersection of Highway 52 and the following streets:

- Interstate 25 ramps requested
- Interstate 25 Frontage Road/Puritan Way

## **INTERSECTIONS WITH LIMITED TURNING MOVEMENT AND POTENTIAL MITIGATION**

No areas were identified along the proposed haul route that will have a turning radius that cannot accommodate the proposed trucks and equipment. The intersection of Highway 52 and WCR 3 can accommodate the required vehicle size that Encana is proposing for this site. In addition, a shoulder is available along the west side of WCR 3 and the south side of Highway 52 if vehicles are unable to complete the turn – again, this is not anticipated.

Encana will monitor the intersection for potential tracking of debris and dirt onto the road. Encana operates street sweepers for all its locations within the DJ Basin and will utilize them as needed.

If Encana determines that vehicles will have problems making a right-hand turn onto WCR 3 or Highway 52 on the return route, flaggers and warning signs will be used during rig-up and rig-down during the drilling and completions phases.

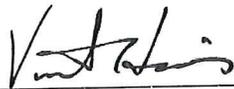
## **MITIGATION OF MUD TRACKING ON ROADWAYS**

Encana will be responsible for the daily inspection of WCR 3, within ¼ mile of the access point, to ensure that any potential tracking of debris and dirt will be cleaned at the end of each day. These cleaners will make periodic visits to the haul route and more frequent visits if necessary based on weather conditions that may warrant more evaluation of mud and debris possibilities.

## **CONCLUSION**

Encana will continue to work with the Town of Erie to ensure that all trucks and equipment will be properly mitigated to have minimal effects on local roads and the community. Please feel free to contact us if you have any additional questions or concerns.

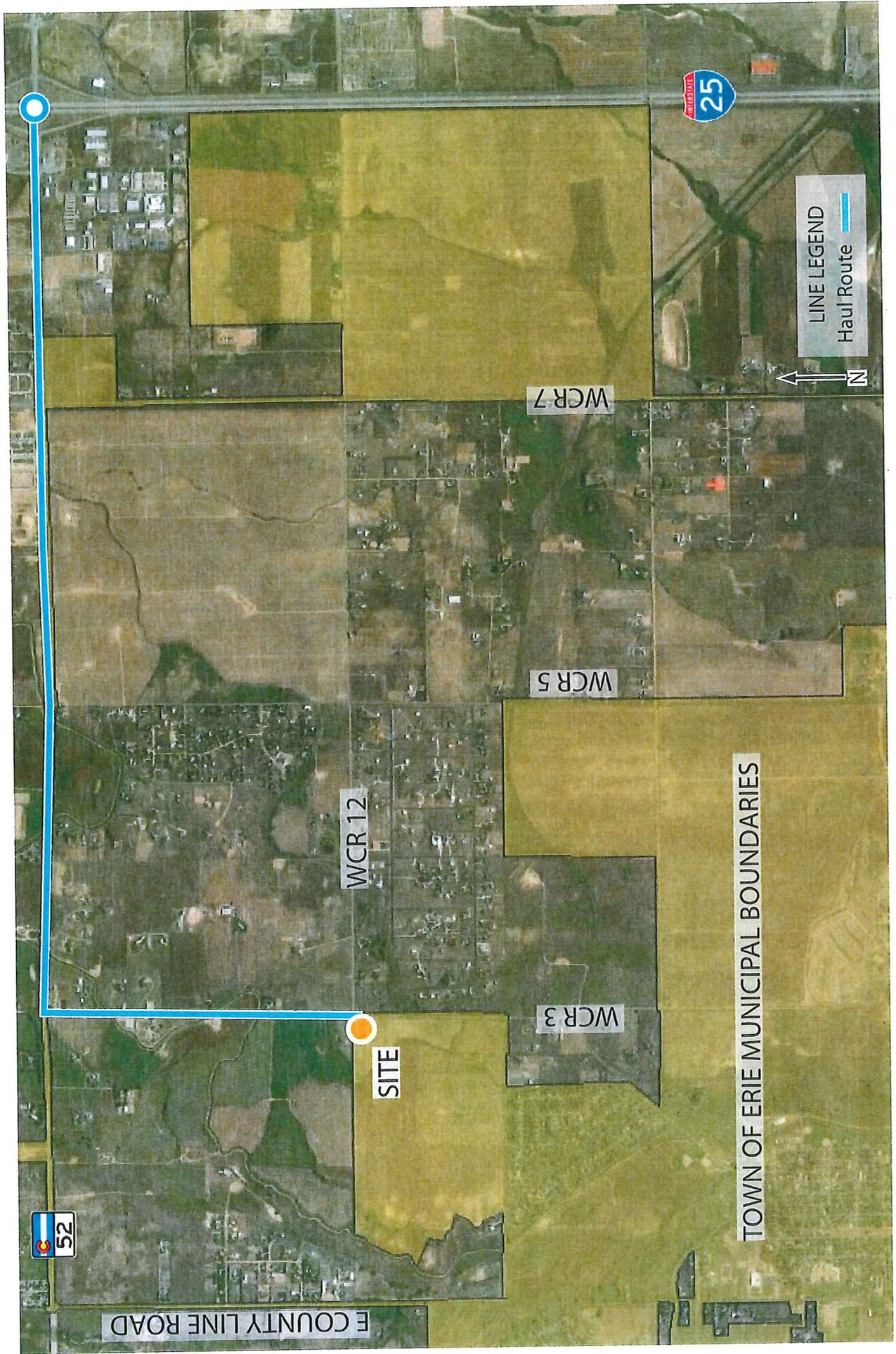
Prepared under the supervision of Vincent Harris, AICP



---

Vincent Harris, AICP  
Baseline Corporation  
1950 Ford Street  
Golden, Colorado 80401  
303-202-5010  
[www.baselinecorp.com](http://www.baselinecorp.com)

# MORGAN HILLS PROPOSED HAUL ROUTE





**Encana Oil & Gas (USA) Inc.**

**Initial Site Assessment Report  
Morgan Hills East 7H-A168 Site, Town of Erie, Weld County, CO**

May 23, 2014

**Prepared for:**

Encana Oil & Gas (USA) Inc.  
DJ Basin Field Office  
3601 Stagecoach Road North  
Longmont, CO 80504

**Prepared by:**



1455 Washburn Street  
Erie, Colorado 80516  
(p): 970-812-3267

Project Number: 2013-8-1-T



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APPENDIX A – REPRESENTATIVE PHOTOGRAPHS AND PHOTO LOCATION MAP  
APPENDIX B – VISUAL RESOURCES ASSESSMENT AND PHOTO LOCATION MAP  
APPENDIX C – OAHP DATABASE SEARCH RESULTS

## LIST OF ACROYNMS AND ABBREVIATIONS

CDA	Colorado Department of Agriculture
CNHP	Colorado Natural Heritage Program
COGCC	Colorado Oil and Gas Conservation Commission
CPW	Colorado Parks and Wildlife
Ecos or ecos	Ecosystem Services, LLC
Encana	Encana Oil & Gas (USA) Inc.
ESA	Endangered Species Act
FEMA	Federal Emergency Management Association
FIRM	Flood Insurance Rate Map
FWS	U.S. Fish and Wildlife Service
Site	Morgan Hills East 7H-A168 Site
NDIS	Colorado Natural Diversity Information Source
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
WCR	Weld County Road

## 1.0 INTRODUCTION

Ecosystem Services, LLC (Ecos or ecos) was authorized by Encana Oil & Gas (USA) Inc. (Encana) to perform an Initial Site Assessment (ISA) for the Morgan Hills East 7H-A168 well pad and associated facilities (Site).

The contact information for the Encana and ecos representatives for this ISA Report is provided below:

### **Encana**

Nathan Fons, Environmental Coordinator  
Encana Oil & Gas (USA) Inc.  
370 17th Street, Suite 1700  
Denver, CO 80202  
Phone: (720) 876-5490

### **Ecos**

Grant E. Gurnée, P.W.S.  
Ecosystem Services, LLC  
1455 Washburn Street  
Erie, Colorado 80516  
Phone: (970) 812-6167

## 1.1 Purpose

The purpose of the ISA Report is to describe the physical/ecological characteristics and conditions of the property and identify potential environmental constraints associated with disturbance/development of the Site. The specific resources and issues of concern addressed in this ISA Report requested by the Town of Erie include:

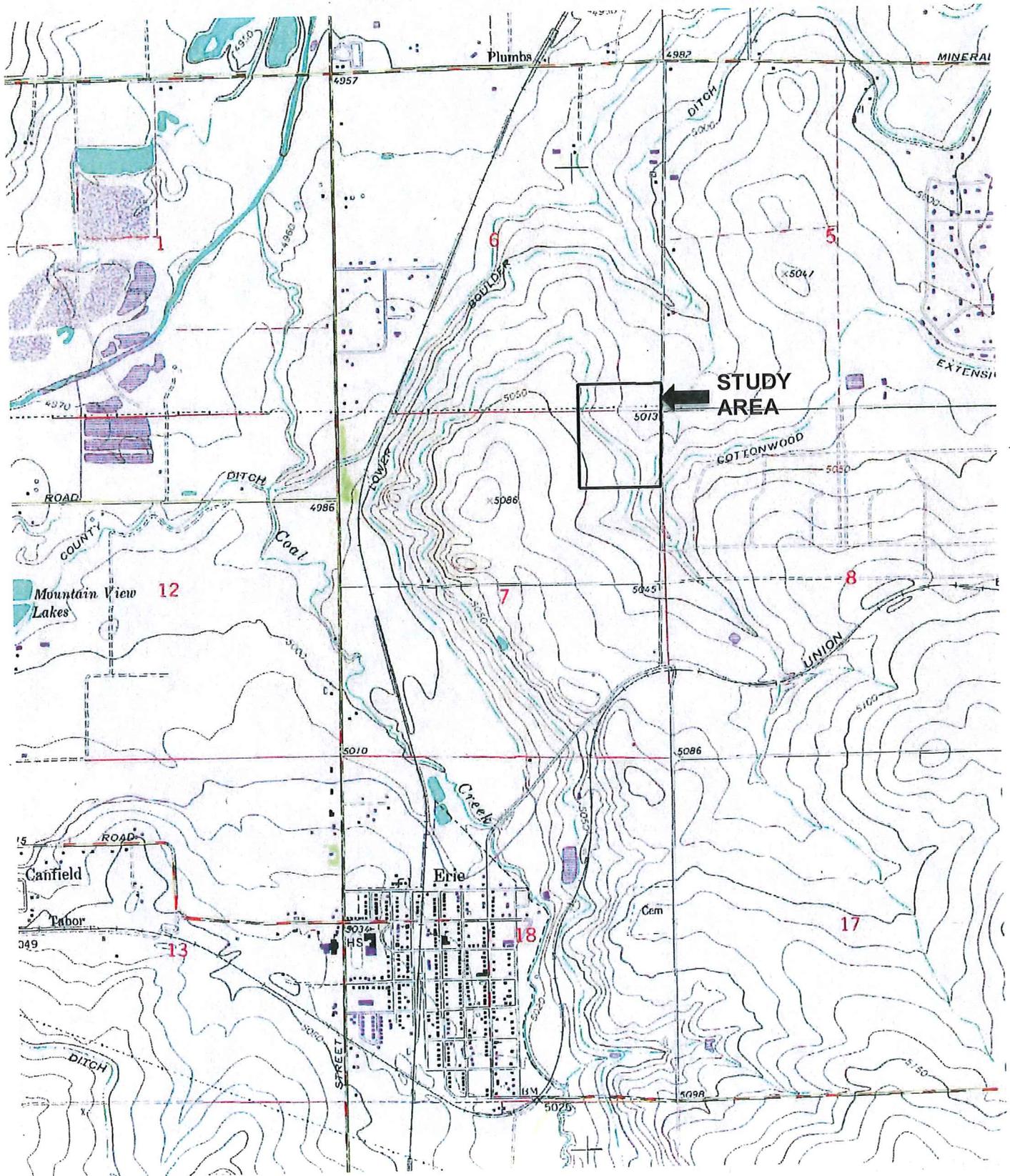
- Vegetation;
- Noxious Weeds;
- Federally and State Listed Candidate, Threatened and Endangered Plant and Animal Species;
- Raptors;
- Visual Resources; and
- Cultural and Archeological Resources.

Additional resources and issues were investigated to provide supplemental information and a broader understanding of Site conditions, including:

- Soils;
- Wildlife;
- Waters of the U.S. and Wetland Habitat;
- Floodplains; and
- Paleontological Resources.

## 1.2 Site Location

The Site is bounded by Weld County Road (WCR) 3 along the east side, and agricultural field on the north, south and west sides. The Site is situated within Section 7, Township 1 North, Range 68 West in the Town of Erie, Weld County, Colorado (Figure 1).



USGS 7.5 min. Quad: Erie  
 Section: 7 Township: 1N Range: 68W  
 Latitude: 40.071878° N Longitude: 105° 2'25.80° W

Figure 1



AERIAL SOURCE: Google Earth 10/6/13  
SITE FACILITIES SOURCE: Encana Oil and Gas (USA) Inc. 5/12/14

## **2.0 METHODOLOGY**

### **2.1 Establishment of Study Area**

Ecoss incorporated an approximate 500-foot setback surrounding the proposed facilities to define the Study Area for the majority of the environmental issues/constraints addressed in this ISA. The entire 500-foot setback was not applied to the east side of the facilities, as this boundary of the Study Area was defined by WCR 3. A 1/3 mile setback from the proposed facilities was utilized for the raptor survey. The Study Area was established to ensure environmental issues/constraints were adequately identified within the potential limits of primary impact (i.e., temporary and permanent Site disturbance), as well as secondary impacts (i.e., noise and other effects associated with Site activities).

### **2.2 Data Collection**

Available resources and literature were reviewed to gather background information on the environmental setting of the Study Area. Ecoss consulted several organizations, agencies, and databases, including the Colorado Natural Heritage Program (CNHP), the Colorado Natural Diversity Information Source (NDIS), U.S. Department of Agriculture (USDA) PLANTS Database, Colorado Oil and Gas Conservation Commission (COGCC) GIS Online, U.S. Fish and Wildlife Service (FWS) Region 6, Colorado Parks and Wildlife (CPW), Colorado Office of Archaeology and Historic Preservation (OAHP), U.S. Geological Survey (USGS), the Town of Erie Comprehensive Plan (2005) and Natural Areas Inventory (2007), current and historic aerial photographs, and field guides on local flora and fauna. Specific data collected from literature and database reviews, solicitations of information, and field reconnaissance surveys are evaluated, discussed and cited in Section 3.0.

### **2.3 Field Reconnaissance Surveys**

Following the collection and review of background information, ecoss conducted a field reconnaissance of the Study Area on May 15, 2014 and a nesting raptor survey on April 4, 2014 (with a follow-up survey on May 20, 2014). The purpose of the onsite assessment was to compare background information with present-day conditions. Photographs were taken during the field reconnaissance survey to assist in describing and documenting Study Area conditions, the affected environment, and potential environmental issues/constraints. Refer to Appendix A for the representative photos and the photo location map.

## 3.0 BASELINE CONDITIONS AND BACKGROUND INFORMATION

### 3.1 Soil Assessment

Ecos reviewed soil unit mapping of the Site utilizing the USDA, Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2014a) (refer to Figure 3). The description for each soil/series within the disturbance area is provided below, and includes typical native vegetation and uses that might be common to the soil type. Additional soil information was gathered from the USDA-NRCS Soil Series Description Query Facility (NRCS 2014b).

#### 40 – Nunn loam, 1 to 3 percent slopes

This deep, well-drained soil formed in calcareous loamy alluvium, and is on slightly dissected plains and stream terraces. Permeability of the Nun soil is low and available water capacity is high. Runoff is medium and the hazard of water erosion is slight to moderate. The hazard of soil blowing is slight to moderate. This unit is used as non-irrigated cropland and rangeland, and winter wheat is the main crop.

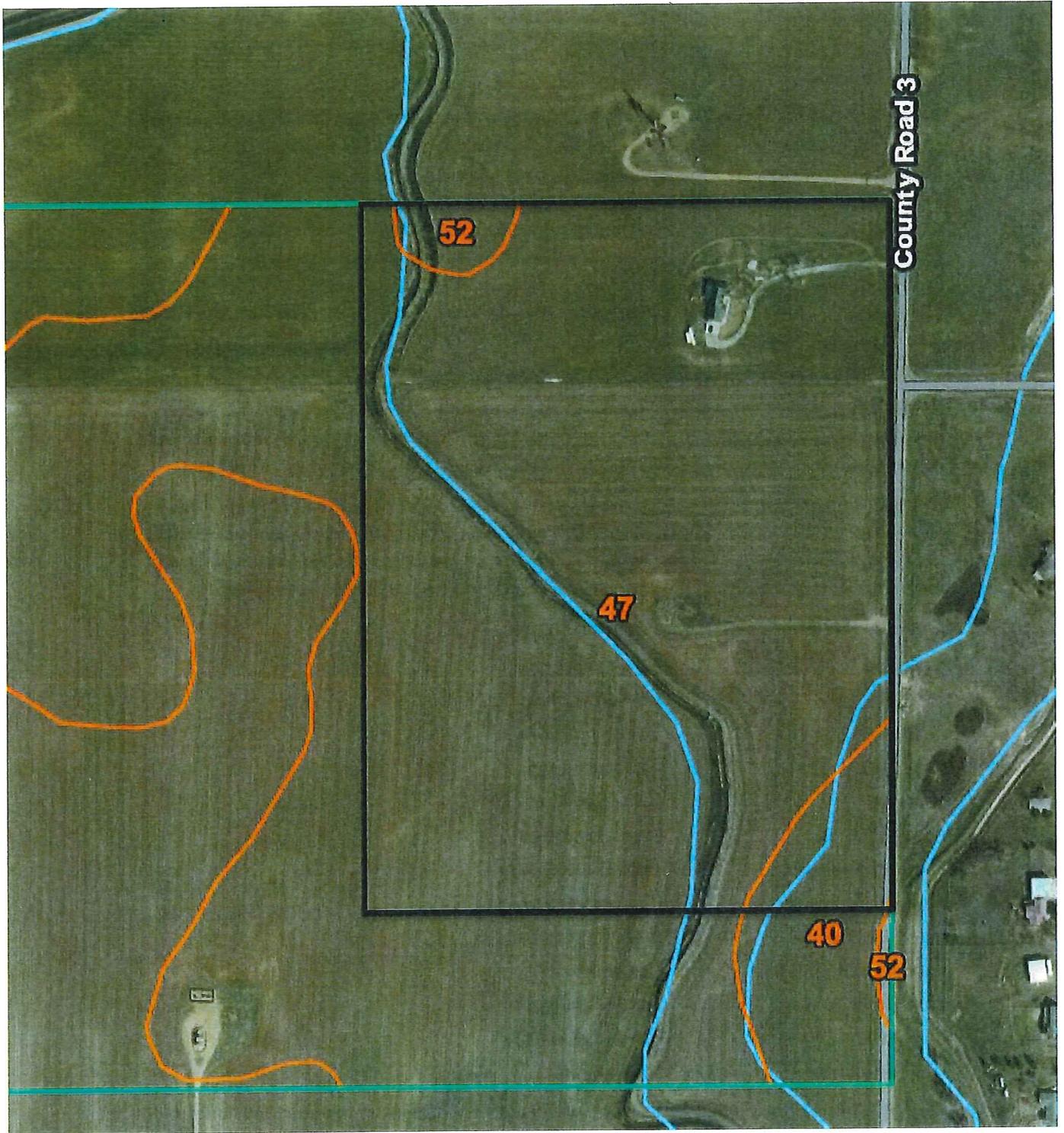
#### 47 – Olney fine sandy loam, 1 to 3 percent slopes

This deep, well-drained soil formed in calcareous loamy alluvium, is on smooth to moderately dissected plains. Permeability is moderate and available water capacity is high. Runoff is slow to medium and the hazard of water erosion is slight to moderate. The hazard of soil blowing is slight. Most areas of this unit are used as non-irrigated cropland and winter wheat is the main crop. A few areas are used as rangeland.

#### 52 – Otero sandy loam, 3 to 5 percent slopes

This deep, well-drained soil formed in calcareous loamy alluvium and colluvium, is on moderately dissected to highly dissected plains and fans. Runoff is medium and the hazard of water erosion is moderate to high. The hazard of soil blowing is moderate. This unit is used as rangeland.

The NRCS soil properties and data for these soil types has been summarized above. The detailed NRCS information may be used by Encana to inform Site restoration planning based on soil properties and native vegetation associations.



Source: USDA Web Soil Survey

**Soil Types:**

- 40 - Nunn loam, 1 to 3 percent slopes
- 47 - Olney fine sandy loam, 1 to 3 percent slopes
- 52 - Otero sandy loam, 3 to 5 percent slopes

### 3.2 Vegetation

To establish the baseline conditions for the vegetation within the Study Area, ecos reviewed aerial photographs, documents and databases, including Google Earth aerial imagery, COGCC GIS Online (COGCC 2014), the Town of Erie Natural Areas Inventory (Town of Erie 2007), the USDA PLANTS Database (USDA 2014), and the Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS 2014a). We utilized several field guides to ensure accurate species identification during the field reconnaissance including: *Illustrated Keys to the Grasses of Colorado* (Wingate 1994), *Noxious Weeds of Colorado* (Colorado Weed Management Association 2009), *Weeds of the West* (Whitson et al 2004), and *Colorado Flora: Eastern Slope* (Weber and Wittmann 2001). Representative photos were taken from key locations to document Study Area conditions (Appendix A).

Historically, short- and mixed-grass prairie was the dominant habitat types on Colorado's eastern plains, including the Town of Erie (Town of Erie 2007). Historic uses of the Site likely included non-crop land, rangeland for livestock grazing, as well as native wildlife habitat.

Dominant vegetation communities and land cover types observed within the Study Area included an alfalfa Cover Crop, Disturbed/Weedy areas, the Cottonwood Extension Ditch, Residential/Disturbed, and Tilled Ground. Given the intense agricultural land use, species diversity was fairly low. The following species were identified within the Study Area:

Common Name	Scientific Name
mustard	<i>Brassica spp.</i>
smooth brome	<i>Bromus inermis</i>
cheatgrass	<i>Bromus tectorum</i>
musk thistle	<i>Carduus nutans</i>
sedges	<i>Carex spp.</i>
Canada thistle	<i>Cirsium arvense</i>
common sunflower	<i>Helianthus annuus</i>
alfalfa	<i>Medicago sativa</i>
reed canarygrass	<i>Phalaris arundinacea</i>
Kentucky bluegrass	<i>Poa pratensis</i>
plains cottonwood	<i>Populus deltoides</i>
curly dock	<i>Rumex crispus</i>
sandbar willow	<i>Salix exigua</i>

The Vegetation Map (Figure 4) illustrates the major vegetation communities and land cover types within the Study Area (listed below) that are named for the dominant vegetation species or characteristics:

**CC (Cover Crop):** This area is covered with alfalfa which is intended to restore nitrogen in the soil while the pasture is rested for the season.

**DI (Disturbed/Weedy):** This includes the shoulder along the west edge of WCR 3, the access road and existing well pad, and the berm along either side of the Cottonwood Extension

Ditch. These areas are comprised primarily of smooth brome and cheatgrass with weeds (including mustard, common sunflower, curly dock, and Canada and musk thistles). These areas also have some sporadic bare spots in them.

**DTCH (Ditch):** The Cottonwood Extension Ditch is a large irrigation ditch. The vegetation growing along the fringes of the ditch include sedges, reed canarygrass, and sporadic stands of coyote willow.

**RD (Residential/Disturbed):** These areas surround the residential dwelling in the northeastern portion of the Study Area and include the dirt driveway. Vegetation is comprised of brome, Kentucky bluegrass, cheatgrass and other weeds with a few plains cottonwood along the driveway.

**TG (Tilled Ground):** These areas have recently been tilled and are not yet planted.



**LEGEND:**

CC = Cover Crop  
 DI = Disturbed/Weedy  
 DTCH = Ditch

TG = Tilled Ground  
 RD = Residential Disturbed

### 3.3 Noxious Weeds

To establish the baseline conditions for the noxious weed assessment ecos reviewed the Town of Erie Natural Areas Inventory (Town of Erie 2007), Colorado Department of Agriculture (CDA) website for the most current Noxious Weed data (CDA 2014), the USDA PLANTS Database (USDA 2014), and the NRCS Web Soil Survey (NRCS 2014a). We utilized several field guides to ensure accurate species identification during the field reconnaissance including: Noxious Weeds of Colorado (Colorado Weed Management Association 2009), and Weeds of the West (Whitson et al 2004).

The three most common noxious weeds known to occur in the Erie area are Canada thistle, musk thistle, and teasel (Town of Erie 2007). The noxious weeds observed within the Study Area include Canada thistle, musk thistle, and cheatgrass. Weeds are pioneer species and tend to proliferate wherever soil is disturbed. No noxious weed species on the CDA List A were observed; however these noxious weed species are included on the CDA List B and List C as noted below.

Two (2) List B noxious weed species listed by the CDA (CDA 2014) were observed in the Study Area. List B noxious weed species are species for which the Commissioner of Agriculture, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, develops and implements state noxious weed management plans designed to stop the continued spread of these species. Until a plan for a particular species is developed and implemented by rule, all persons are recommended to manage these species. The List B Species that were observed in the Study Area include:

- Canada thistle (*Cirsium arvense*); and
- musk thistle (*Carduus nutans*).

One (1) List C noxious weed species listed by the CDA (CDA 2014) was observed in the Study Area. List C weed species are species for which the Commissioner of Agriculture, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands. The goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species. The List C Species that was observed in the Study Area is:

- cheatgrass (*Bromus tectorum*).

### 3.4 Federal and State Listed Candidate, Threatened and Endangered Species

Federally threatened and endangered plant and animal species are protected under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.). Significant adverse effects to a federally listed species or its habitat require consultation with the FWS under Section 7 or 10 of the ESA. Candidate species are species not yet listed as threatened or endangered, but that may be listed in the future.

State listed nongame species, including threatened and endangered species, are protected and their harassment, taking, or possession is prohibited pursuant to the Colorado Nongame

Wildlife Regulations. The CPW monitors all nongame animal species and species of concern (i.e., threatened and endangered species) at the state level.

Prior to the site assessment ecos reviewed the FWS Information, Planning, and Conservation System (2014a), FWS Environmental Conservation Online System (FWS 2014b), the Colorado Natural Heritage Program (CNHP) Conservation Status Handbook Tracking Lists (CNHP 2014), and the Town of Erie Natural Areas Inventory (Town of Erie 2007). A number of species that occur in the general vicinity of the Study Area are listed as candidate, threatened or endangered by the FWS and CNHP. Based on this data the special status species for Weld County have been compiled; and ecos has provided our professional opinion regarding the probability that these species may occur in the Site.

STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
<b>FISH</b>			
Brassy Minnow ( <i>Hybognathus hankinsoni</i> )	State: Threatened	Varied habitats, but typically in cool, clear water with abundant aquatic vegetation and a gravel substrate overlaid by organic sediment. The only tributaries of the South Platte River known to contain brassy minnows are the lower St. Vrain River and Spottlewood Creek.	None. Suitable habitat does not exist on the Site.
Common shiner ( <i>Notropis cornutus</i> )	State: Threatened	Streams of moderate gradient with cool, clear water, gravel bottoms and shaded by brush or trees.	None. Suitable habitat does not exist on the Site.
Iowa darter ( <i>Etheostoma exile</i> )	State: Special Concern	Lakes with rooted aquatic vegetation. Streams with cool, clear water, undercut banks, and vegetation extending from the bank into the water. Occurs in Cache la Poudre and Big Thompson rivers, and St. Vrain Creek.	None. Suitable habitat does not exist on the Site.
Pallid sturgeon ( <i>Scaphirhynchus albus</i> )	Federal: Endangered	Listed for Weld County because water-related activities/use in the South Platte River Basin may affect the species in Nebraska.	None. The proposed project will not alter or deplete flows to the South Platte.
Plains Minnow ( <i>Hybognathus placitus</i> )	State: Endangered	Main channel areas with some current and sandy bottoms.	None. Suitable habitat does not exist on the Site.
<b>REPTILES AND AMPHIBIANS</b>			

STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
Common garter snake <i>(Thamnophis sirtalis)</i>	State: Special concern	Aquatic, wetland, and riparian habitats including marshes, ponds, and the edges of streams.	Low. Minimal suitable habitat occurs along the fringes of the Cottonwood Extension Ditch.
Northern leopard frog <i>(Rana pipiens)</i>	State: Special concern	Wet meadows and the banks and shallows of marshes, ponds, glacial kettle ponds, beaver ponds, lakes, reservoirs, streams, and irrigation ditches.	Low to Moderate. Minimal suitable habitat occurs along the fringes of the Cottonwood Extension Ditch, however chorus frogs and bullfrogs were vocalizing in this area.
<b>BIRDS</b>			
Bald eagle <i>(Haliaeetus leucocephalus)</i>	Federal: Delisted  State: Threatened	Reservoirs and rivers are the typical habitat, but may nest in large trees in uplands. In winter, they may also occur locally in semi-deserts and grasslands, especially near prairie dog towns.	None. No known nests or roosts within ½ mile of Site. The closest bald eagle nest is 1.9 miles northeast of the site (nest #430). The closest winter roost areas are to the north along Boulder Creek (1.6 miles) and north of Highway 52 at the Middle South Platte River Wetland Mitigation Bank (1.4 miles) (COGCC, 2014).
Ferruginous hawk <i>(Buteo regalis)</i>	State: Special Concern	Inhabits grasslands and semi-desert shrublands. Nests in isolated trees, on rock outcrops, structures such as windmills and power poles, or on the ground. Winter residents concentrate around prairie dog towns.	Low. There is foraging habitat on Site, but this species typically nests farther east.

STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
Least tern ( <i>Sternula antillarum</i> )	Federal: Endangered  State: Endangered	Listed for Weld County because water-related activities/use in the South Platte River Basin may affect the species in Nebraska.	None. The proposed project will not alter or deplete flows to the South Platte.
Long-billed curlew ( <i>Numenius americanus</i> )	State: Special Concern	Short-grass grasslands and sometimes in wheat fields or fallow fields. Most nests are close to standing water.	Low. Could forage on Site, but there is no suitable nesting habitat.
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	Federal: Threatened  State: Threatened	Mature, old-growth forests of white pine, Douglas fir, and ponderosa pine; steep slopes and canyons with rocky cliffs.	None. Suitable habitat does not exist on the Site.
Mountain plover ( <i>Charadrius montanus</i> )	State: Special Concern	Rare to fairly common summer resident locally on eastern plains in areas with sparse low grass due to grazing. Often occur in prairie dog colonies. The greatest numbers occur in northern Weld County.	None. The majority of the Site is active agricultural and the cultivated grasses onsite are expected to grow too tall for this species.
Piping plover ( <i>Charadrius melodus</i> )	Federal: Threatened  State: Threatened	Listed for Weld County because water-related activities/use in the South Platte River Basin may affect the species in Nebraska.	None. The proposed project will not alter or deplete flows to the South Platte.
Western burrowing owl ( <i>Athene cunicularia</i> )	State: Threatened	Occurs in grasslands in, or near, prairie dog towns.	None. There are no prairie dog burrows on Site suitable for nesting.
Whooping crane ( <i>Grus americana</i> )	Federal: Endangered  State: Endangered	Listed for Weld County because water-related activities/use in the South Platte River Basin may affect the species in Nebraska.	None. The proposed project will not alter or deplete flows to the South Platte.
<b>MAMMALS</b>			

STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	State: Special Concern	Form large colonies or "towns" in shortgrass or mixed prairie.	None. Prairie dogs and their burrows do not occur on the Site.
Preble's meadow jumping mouse ( <i>Zapus hudsonius preblei</i> )	Federal: Threatened	Inhabits well-developed riparian habitat with adjacent, relatively undisturbed grassland communities, and a nearby water source. Well-developed riparian habitat includes a dense combination of grasses, forbs and shrubs; a taller shrub and tree canopy may be present. Has been found to regularly use uplands at least as far out as 100 meters beyond the 100-year floodplain.	None. Suitable habitat does not exist on the Site. The closest known populations are approximately 9 miles northwest of the Site (in Hygiene) and 9 miles southwest of the Site (in Boulder).
Swift fox ( <i>Vulpes velox</i> )	State: Special Concern	Shortgrass and midgrass prairies over most of the Great Plains. In northeastern Colorado, the swift fox appears to be most numerous in areas with relatively flat to gently rolling topography.	Low. Unlikely to occur on Site due to loss of native grasslands in the area.
<b>PLANTS</b>			
Colorado butterfly plant ( <i>Gaura neomexicana</i> var. <i>coloradensis</i> )	Federal: Threatened	Occurs on sub-irrigated, alluvial (stream deposited) soils on level or slightly sloping floodplains and drainage bottoms at elevations of 5,000-6,400 feet. Requires early-to mid-succession riparian habitat. Colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel. Only known population in Colorado is near the City of Westminster.	None. Suitable habitat does not occur on the Site.
Ute ladies'-tresses orchid ( <i>Spiranthes diluvialis</i> )	Federal: Threatened	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands.	None. Suitable habitat does not occur on the Site.

STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
Western prairie fringed orchid <i>(Platanthera praeclara)</i>	Federal: Threatened	Occurs in tallgrass prairie in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. Upstream depletions to the Platte River system in Colorado and Wyoming may affect the species in Nebraska.	None. The proposed project will not alter or deplete flows to the South Platte.

List rationale:

Federal species are based on the results of the USFWS IPAC results for an oil and gas project in the Morgan Hills East Study Area. The State species are taken from the CNHP species listed for Weld, plus species listed for all counties that might occur in Weld County based on NDIS range descriptions. Two species were added to the State list (common garter snake, northern leopard frog) because they are expected to occur in Weld County, are still listed with Colorado status on the NDIS website, and are known to occur in the Erie area.

**3.5 Wildlife Species of Concern (including Raptors)**

Prior to the site assessment ecos reviewed the CNHP Conservation Status Handbook Tracking Lists (CNHP 2014) and the Town of Erie Natural Areas Inventory (Town of Erie 2007). During the onsite reconnaissance, ecos performed a thorough visual inspection of the Study Area on foot and via vehicle to ensure all species habitat was assessed and documented. The assessment area included a 1/3 mile buffer around the entire Site for raptors; within which a thorough investigation of all potential nest sites was implemented.

The following wildlife species were observed and identified during the Study Area reconnaissance:

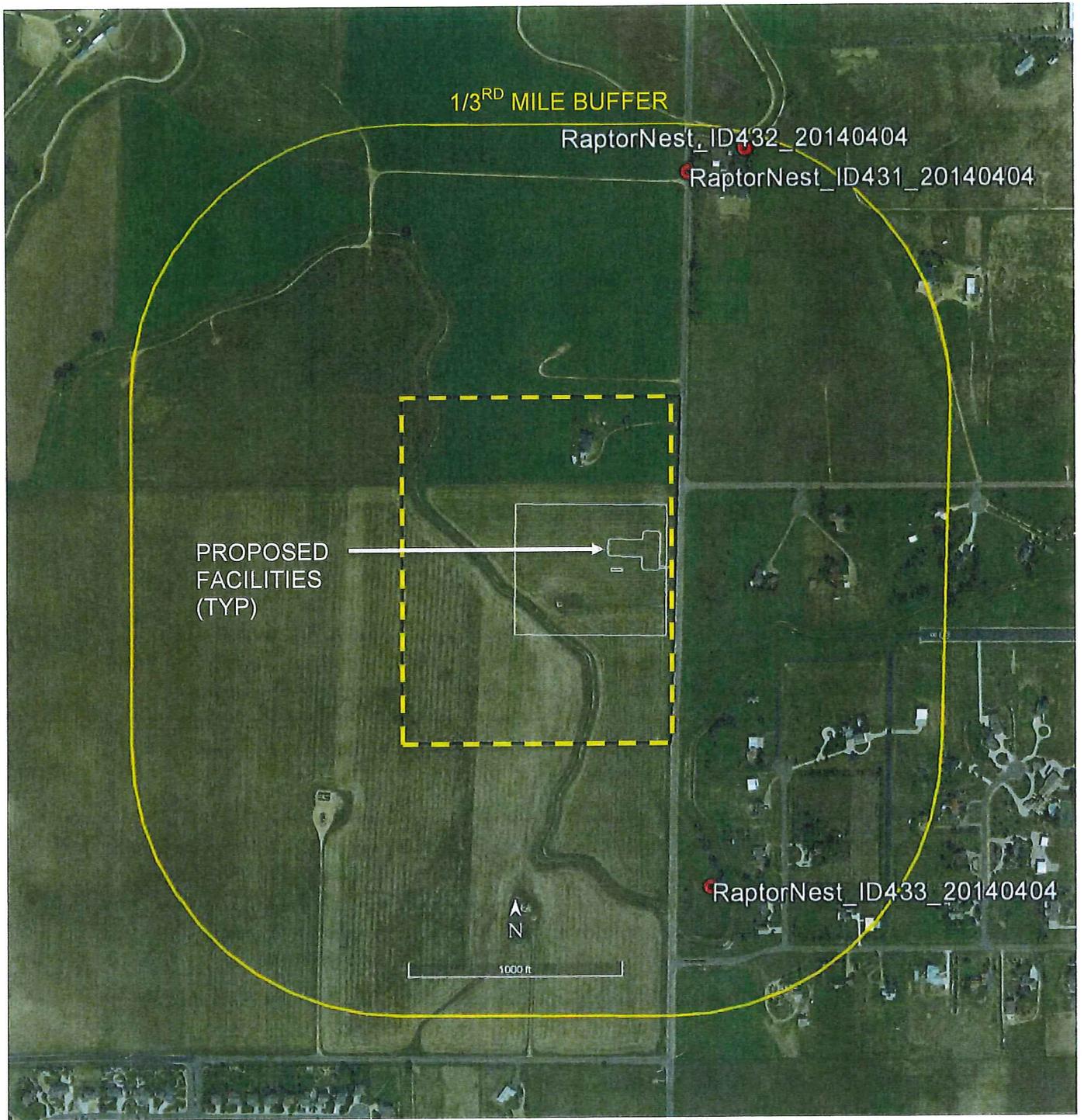
Frogs: Both Western chorus frog (*Pseudacris triseriata*) and the American bullfrog (*Rana catesbeiana*) were heard vocalizing from the banks of the Cottonwood Extension Ditch.

Western meadowlark (*Sturnella neglecta*): This common bird is ubiquitous in the area and was seen and heard throughout the site.

Redwing blackbird (*Agelaius phoeniceus*): Was observed perching along the reed canarygrass along the banks of the Cottonwood Extension Ditch.

One raptor was observed and identified during the raptor survey:

Great horned owl (*Bubo virginianus*): Nest # 431 is 0.30 miles north of the Site. It is a large platform nest near the top of a big cottonwood tree and over the driveway to a doggie daycare (a busy facility with people coming and going). The owl nest was active during the initial survey on 4/4/14, and the owl appeared to be incubating. No visible activity was observed on 5/20/14. The nest is fairly visible, but dense leaves might have been hiding older owlets if they had moved out of the nest and onto adjacent branches.



Aerial Source: Google Earth, 10/6/13

### 3.6 Waters of the U.S and Wetland Habitat

Ecos review of historic aerial photography via NRCS Web Soil Survey (NRCS 2014a) indicates that the Cottonwood Extension Ditch is the only waterbody present in the vicinity of the Study Area.

Ecos reviewed the FWS, National Wetland Inventory (NWI), Wetlands Mapper (FWS 2014c). The NWI data indicate there are no wetlands present in the Study Area, however a small fringe of wetland habitat is present along both sides of the Cottonwood Extension Ditch.

### 3.7 Floodplains

Ecos utilized the Federal Emergency Management Association (FEMA) Map Search tool (<https://msc.fema.gov/webapp/wcs/stores/servlet/mapstore/homepage/MapSearch.html>) to assess the potential occurrence and extent of floodplains associated with the tributaries. Based on the Flood Insurance Rate Map (FIRM) of Boulder County, Colorado, Panel 435 of 615, Map Number 08013C0435J, the existing facilities are not within the 100-year floodplain.

### 3.8 Visual Resources

Ecos reviewed the Town of Erie Comprehensive Plan (Town of Erie 2005), Natural Areas Inventory (Town of Erie 2007), and the Parks, Recreation, Open Space, and Trails Master Plan (Town of Erie 2010) to discern the most important visual resources and viewshed issues defined by the community during the planning processes associated with the preparation of these reports. We also reviewed Google Earth aerial imagery and road maps to discern the closest and potential visual receptors to the Site.

Ecos then performed a visual assessment of the Site by taking photos from the top of the Cottonwood Extension Ditch berm at three locations, as this high vantage point (i.e., 6 to 8-foot tall above grade) allowed visual assessment without trespassing on private property. Following the onsite assessment, the photographs were then correlated to Google Earth imagery via detailed desktop analysis. The photographs utilized for the Visual Assessment, along with descriptive captions, are included in Appendix B, including a photo location map.

The results of the Visual Assessment indicate that views of the Site are very limited as described in detail below:

- The views are completely blocked from the west by the natural rise in topography and the berm of the Cottonwood Extension Ditch.
- The views from the northwest are very limited and blocked by the tree line along the Lower Boulder Ditch, which precludes or severely limits views of the Site from Westview Road (with the exception of the home at the eastern end of Westview Road which may have a partially obscured view).
- The views from the north are blocked by the trees that line the Lower Boulder Ditch, the adjacent lateral ditch, and the adjacent natural drainage. However the home immediately adjacent to the north edge of the Study area has a clear view of the Site.

- The views from the northeast are primarily blocked by the large line of trees along CR 3, with the exception of the first home on the north side of CR 12 and home northeast of that (which is accessed from CR 3).
- The views from the east are primarily blocked by trees with the exception of the first three homes on the south side of CR 12 (Barbara Circle).
- The views from the southeast are primarily blocked by large trees with the exception of the last two homes west of Anne Place (south of the cul-de-sac).
- A clear view corridor extends southward to CR6, as the landfill was visible from the Site; and the view from the homes on the north and east side of Baker Lane, east of Fletcher Drive, are clear to partially obscured by mature vegetation and other homes.
- The views from the southwest are partially obscured by mature vegetation and other homes, however partial views of the Site exist from Baker Lane (west of Fletcher Drive) and the last few homes on the northeast end of the Nothridge Drive cul-de-sac.

The Comprehensive Plan (Town of Erie 2005) defines gateways corridors along which they desire to establish setbacks to preserve site lines and reduce visual impacts of development. These gateway corridors include Leon Wurl Parkway, Highway 52, County Line Road, Highway 7, and Arapahoe Road. The proposed Site will have no impact upon the visual resources of these gateway corridors.

The Parks, Recreation, Open Space, and Trails Master Plan (Town of Erie 2010) states that "Erie's unique setting along Colorado's Front Range is characterized by significant features...", one of which is listed as "Proximity to views of the Rocky Mountains to the west". The proposed Site will not block or obscure any existing views to the west from the nearby residential homes.

### **3.9 Cultural, Archeological and Paleontological Resources**

Ecos requested a database search from the Colorado Office of Archaeology and Historic Preservation (OAHP) for the Study Area. The OAHP database search includes all sites included on the National Register of Historic Places, National Register of Natural Landmarks, or any other known historic, cultural or archaeological site.

The OAHP database search identified 11 sites and 9 surveys within Section 7. Ten of the sites are structures such as irrigation ditches, a railroad, a ranch house, a ceramic fragment and chert flakes that are not located on the Site. However one of the OAHP sites (#5WL.2248.12) is a segment of the Cottonwood Extension Ditch that crosses most of the Study Area and bisects the Site; and it is listed as a "Historical Archaeology/Historic" resource type that is "field eligible" and "supports the eligibility of the entire linear resource" for listing on the National Register of Historic Places. Please refer to Appendix C for an illustration of this segment of the ditch and a copy of the OAHP cover letter (note shape files and the Excel spreadsheet with detailed OAHP data will be transmitted separately to Encana).

## 4.0 SUMMARY OF FINDINGS AND CONCERNS

### 4.1 Soil Assessment

Best Management Practices should be followed during construction to minimize soil erosion. The onsite soils present no concerns, as they are capable of supporting native grasses and other desirable species that will allow restoration and stabilization of the Site following construction of the proposed facilities.

### 4.2 Vegetation

Ecoss recommends that Encana develop Site-specific seeding and planting specifications for restoration of temporary disturbance areas. Restoration specifications should be based on landowner goals, the type and extent of habitat impacted, plant species present in the Study Area, and other relevant data including but not limited to NRCS soil data.

Erie has recommended native seed mixes in their Standard Specifications for Design and Construction of Public Improvements, Section 1000 - Parks and Recreation Construction (Town of Erie 2013a). The mixture included below is intended for seeding of Public Works roadside re-vegetation projects, and as such is applicable to disturbed areas adjacent to access roads and proposed facilities. It is an adaptable mix of short to mid-size native and introduced warm and cool season grasses. This mixture may be applied as a dormant seeding between October 30th and April 30th only:

COMMON NAME	SCIENTIFIC NAME	VARIETY	PLS LBS/ACRE
Western wheatgrass	<i>Pascopyrum smithii</i>	Arriba, Oahe or Rosana	7.0
Crested wheatgrass	<i>Agropyron cristatum</i>	Ephriam	4.0
Streambank wheatgrass	<i>Elymus lanceolatus</i>	Sodar	4.0
Sideoats grama	<i>Bouteloua gracilis</i>	Butte, Niner or El Reno	2.0
Blue grama	<i>Bouteloua gracilis</i>	Lovington, Alma, Native or Hachita	5.0
Buffalograss	<i>Buchloe dactyloides</i>	Native, Bison or Texoka	3.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	Common	1.0
Prairie Junegrass	<i>Loeleria macrantha</i>	Common	3.0
Hard Fescue	<i>Festuca brevipila</i>	'Durar'	3.0
<b>SEEDING RATE POUNDS PLS/ACRE</b>			<b>32.0</b>

### 4.3 Noxious Weeds

Many weeds are present within the Study Area and in the surrounding vicinity. Therefore the primary concerns are immediate stabilization and seeding of all disturbed areas to ensure weeds do not establish (refer to seed mix above).

No noxious weed species on the CDA List A were observed; however two noxious weed species on the CDA List B and one species on the List C are present. Therefore ecos recommends that Encana retain a weed management professional to prepare a plan for the Site that targets the specific weed species present.

The Town of Erie does not have specific weed management plans for the List B and C species referenced above. However the official Erie website offers the following guidance for weeds under their Waste & Weed Requirements: "Weeds are unsightly, troublesome or injurious growing herbaceous plants and include all rank or obnoxious odor producing plants. It is the responsibility of every person owning any lot or parcel of land to cut and maintain all weeds, brush and lawn grasses to a maximum height of 10 inches. The vegetation shall be maintained to the middle of the adjacent alley and to the edge of any adjacent sidewalks." (Town of Erie 2013).

The primary areas of concern that should be addressed are those within all recent and/or ongoing disturbance areas associated with Encana's natural gas operations, including areas disturbed by construction, along all access roads, well pads and other associated facilities. Encana can access and treat the weedy areas adjacent to these well-traveled portions of the Site without causing further disturbance to vegetation communities.

The key to effective control of noxious and other weeds is a combination of several methods. Weed management control methods are species-specific, and generally incorporate the following:

- Biological control - Uses organisms to control noxious weeds. Since we are dealing with living things, a variety of circumstances come into play that impact the success of the establishment of the bio-control and ultimately the control of the noxious weed you are targeting. For example, an organism that works well on the plains may not work in the mountains. Although there has been some success on some noxious weeds, bio-control agents are not available for all species.
- Chemical control - The use of herbicides to control noxious weeds. All herbicides must be used in accordance with the registered label and applied by a Colorado licensed applicator.
- Cultural control - The use of materials or techniques that reduce noxious weed populations. Examples include mulching, rotational grazing, and establishing good vegetation cover.
- Mechanical - Cutting, mowing, and disking.

#### **4.4 Federal and State Listed Candidate, Threatened, Endangered Species**

No action is necessary as no species of special concern are present within the Site.

#### **4.5 Wildlife Species of Concern (including Raptors)**

No wildlife species of concern were observed and identified within the Site during the reconnaissance. However four empty nests were observed:

- One great horned owl nest was observed during the raptor survey approximately 0.30 miles north of the Site near the top of a big cottonwood tree and over the driveway to a doggie daycare. The last survey did not note any inhabitation or activity in this owl nest.
- A possible raptor nest 0.31 miles north of the Site in a cluster of cottonwood trees on the northeast corner of a house by the doggie daycare.
- Two large dove nests or small raptor nests (in one location) approximately 0.22 miles south of the Site in cluster of Russian olive trees.

It is ecos professional opinion that the Morgan Hills construction will not be an issue for any of these empty nests even if they are re-inhabited. All four nests are near the edge of the 1/3 mile buffer, are situated across a moderately busy road from the Site, and located close to a moderately busy, noisy road. Two are next to a busy and loud dog daycare facility. Therefore the birds/raptors that established these nest sites are acclimated to noise and activity.

Regardless of the perceived acclimation to noise and activity, all of the nests should be re-checked immediately prior to Site preparation and construction activities as raptors and most birds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act. Therefore ecos recommends that no actions be taken that may result in causing a bird to abandon an active nest site.

#### **4.6 Waters of the U.S and Wetland Habitat**

The Cottonwood Extension Ditch is likely a Waters of the U.S., and it supports a wetland fringe. The Ditch should be avoided by Encana to the maximum extent practicable, and if impacts are proposed then it must be evaluated to determine jurisdiction and permitting requirements under the Clean Water Act.

#### **4.7 Floodplains**

The Site is not situated within the floodplain. Therefore no action is necessary.

#### **4.8 Visual Resources**

Ecos recommends that Encana follow its normal procedure to provide appropriate visual screening to ameliorate the visual impact of the proposed facilities.

#### **4.9 Cultural, Archeological and Paleontological Resources**

OAHF site #5WL.2248.12 is a segment of the Cottonwood Extension Ditch that crosses most of the Study Area and bisects the Site. It is listed as a "Historical Archaeology/Historic" resource type that is "field eligible" and "supports the eligibility of the entire linear resource" for listing on the National Register of Historic Places (refer to Appendix C for an illustration of this segment of the ditch). The Ditch should be avoided by Encana to the maximum extent practicable, and if impacts are proposed then it must be evaluated further in coordination with the lead Federal permitting agency (e.g., U.S. Army Corps of Engineers) and OAHF.

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**Appendix A**

**Representative Photographs and Photo Location Map**



Aerial Image Source: Google Earth, 10/6/13

**Photos 1 - 5: Panorama of the Site from the existing access road off of the north side of CR 3.**



**Photo 1: Looking south along CR 3 across the east edge of Site.**



**Photo 2: Looking southwest across the Site from the access road off of CR 3.**



Photo 3: Looking west across the Site from the access road.



Photo 4: Looking northwest across the Site from the access road.



Photo 5: Looking north along CR 3 across the east edge of Site.

**Photos 7 - 9: Panorama from the northwest corner of the Study Area, atop the ditch berm.**



Photo 7: Looking southeast across the Site from the northwest corner of the Study Area.



Photo 8: Looking south across the Site from the northwest corner of the Study Area.



Photo 9: Looking southwest across the Site from the northwest corner of the Study Area.

**Photos 30 – 31: Panorama of northern portion of Site from the south-central boundary of the Study Area, atop the ditch berm.**



**Photo 30: Looking west across the northern portion of the Site.**



**Photo 31: Looking northwest across the northern portion of the Site.**

**Photos 35 – 37: Panorama from the northeast corner of the Study Area along CR 3.**



**Photo 35: Looking south along CR 3 at the northeast portion of the Site (i.e., plowed field in the background).**



**Photo 36: Looking southwest at the north-central portion of the Site (i.e., plowed field in the background).**



Photo 37: Looking west along the north boundary of the Study Area from the northeast corner along CR 3.

**Photos 38 – 40: Panorama from the southeast corner of the Study Area, along CR 3.**



Photos 38: Looking west along the south boundary of the Study Area.



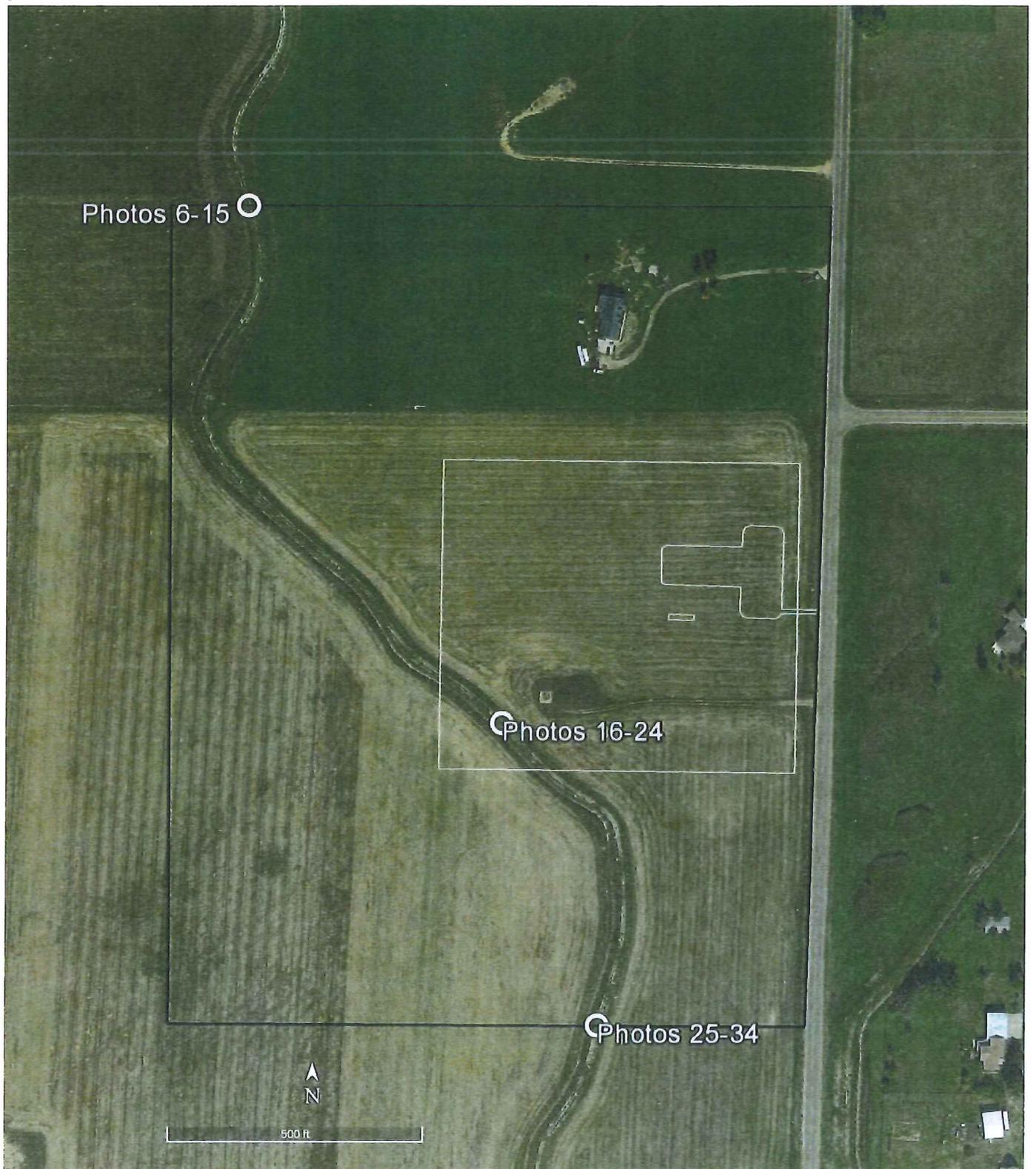
Photos 39: Looking northwest across the Site from the southeast corner of the Study Area.



Photos 40: Looking north along CR 3 and across the eastern portion of the Site.

**Appendix B**

**Visual Resource Assessment and Photo Location Map**



Aerial Image Source: Google Earth, 10/6/13

**Photos 6 – 15: Panorama of views from the northwest corner of the Study Area, atop the ditch berm.**



**Photo 6: Looking east along the north boundary of the Study Area. A limited number of homes have views from the east.**



**Photo 7: Looking southeast from the northwest corner of the Study Area.**



Photo 8: Looking south from the northwest corner of the Study Area.



Photo 9: Looking southwest from the northwest corner of the Study Area. Note the topographic rise that blocks view from the southwest.



Photo 10: Looking west from the northwest corner of the Study Area. Note the topographic rise that blocks views from the west.



Photo 11: Looking west/northwest from the northwest corner of the Study Area. Note the topographic rise that blocks views.



Photo 12: Looking northwest from the northwest corner of the Study Area. Note the topographic rise that blocks views.



Photo 13: Looking north from the northwest corner of the Study Area, with a limited viewshed.



Photo 14: Looking northeast from the northwest corner of the Study Area, with trees obscuring the view.



Photo 15: Looking east/northeast from the northwest corner of the Study Area. Note the large trees that block and obscure the views.

**Photos 16 – 24: Panorama of views from the central region of the Study Area, atop the ditch berm.**



**Photo 16: Looking to the east at homes with clear views of the Site.**



**Photo 17: Looking to the southeast with vegetation obscuring views from the nearby homes, and clear views to the south/southeast (toward the landfill).**



Photo 18: Looking to south with clear views from the closest homes.



Photo 19: Looking to southwest with clear views from the closest homes, and topography blocking views from the west/southwest.



Photo 20: Looking to the west with rising topography blocking views.



Photo 21: Looking to the northwest with topography blocking views.



Photo 22: Looking to the north with topography obscuring views.



Photo 23: Looking to the northeast with large trees limiting the viewshed.



Photo 24: Looking to the east/northeast with large trees limiting the viewshed.

**Photos 25 - 34: Panorama of views from the south-central border of the Study Area, atop the ditch berm.**



Photo 25: Looking to the east with large trees limiting the viewshed of nearby homes.



Photo 26: Looking to the southeast with large trees limiting the viewshed of nearby homes, and a clear view to the south/southeast (toward the landfill).



Photo 27: Looking to the south with a clear view to nearby homes and to the south/southeast (toward the landfill).



Photo 28: Looking to the southwest with large trees limiting some of the viewshed of nearby homes, and topography blocking the view from the west/southwest.



Photo 29: Looking to the west with topography blocking the view from the west.



Photo 30: Looking to the northwest with topography obscuring the view.



Photo 31: Looking to the north with topography obscuring the view.



Photo 32: Looking to the northeast with large trees obscuring the view.



Photo 33: Looking to the east/northeast with large trees obscuring the view.



Photo 34: Looking to the east with large trees and mature vegetation obscuring some of the viewshed.

## **Appendix C**

### **OAHP Database Search Results**

**COLORADO HISTORICAL SOCIETY  
Office of Archaeology and Historic Preservation  
1200 Broadway, Denver, Colorado 80203**

Mr. Jon Dauzvardis  
Ecosystem Services, LLC  
1455 Washburn Street,  
Erie, CO 80516

May 21, 2014

Re: Morgan Hills ISA  
File Search No. 18254

At your request, the Office of Archaeology and Historic Preservation has conducted a search of the Colorado Inventory of Cultural Resources located in the following area:

PM	T	R	S
6th	1N	68W	7

11 sites and 2 surveys were located in the designated area(s).

If information on sites in the project area was found, detailed information follows the summary. If no sites or districts were found, but surveys are known to have been conducted in the project area, survey information follows the summary. We do not have complete information on surveys conducted in Colorado, and our site files cannot be considered complete because most of the state has not been surveyed for cultural resources. There is the possibility that as yet unidentified cultural resources exist within the proposed impact area.

Therefore, in the event there is Federal or State involvement, we recommend that a professional survey be conducted to identify any cultural resources in the project area, which are eligible to be listed in the National Register of Historic Places. We look forward to consulting with you regarding the effect of the proposed project on any eligible cultural resource in accordance with the Advisory Council on Historic Preservation Procedures and the Preservation and Protection of Historic and Cultural Resources (36 CFR 800). Please provide this office with the results of the cultural resource survey for our review of professional adequacy and compliance with regulations.

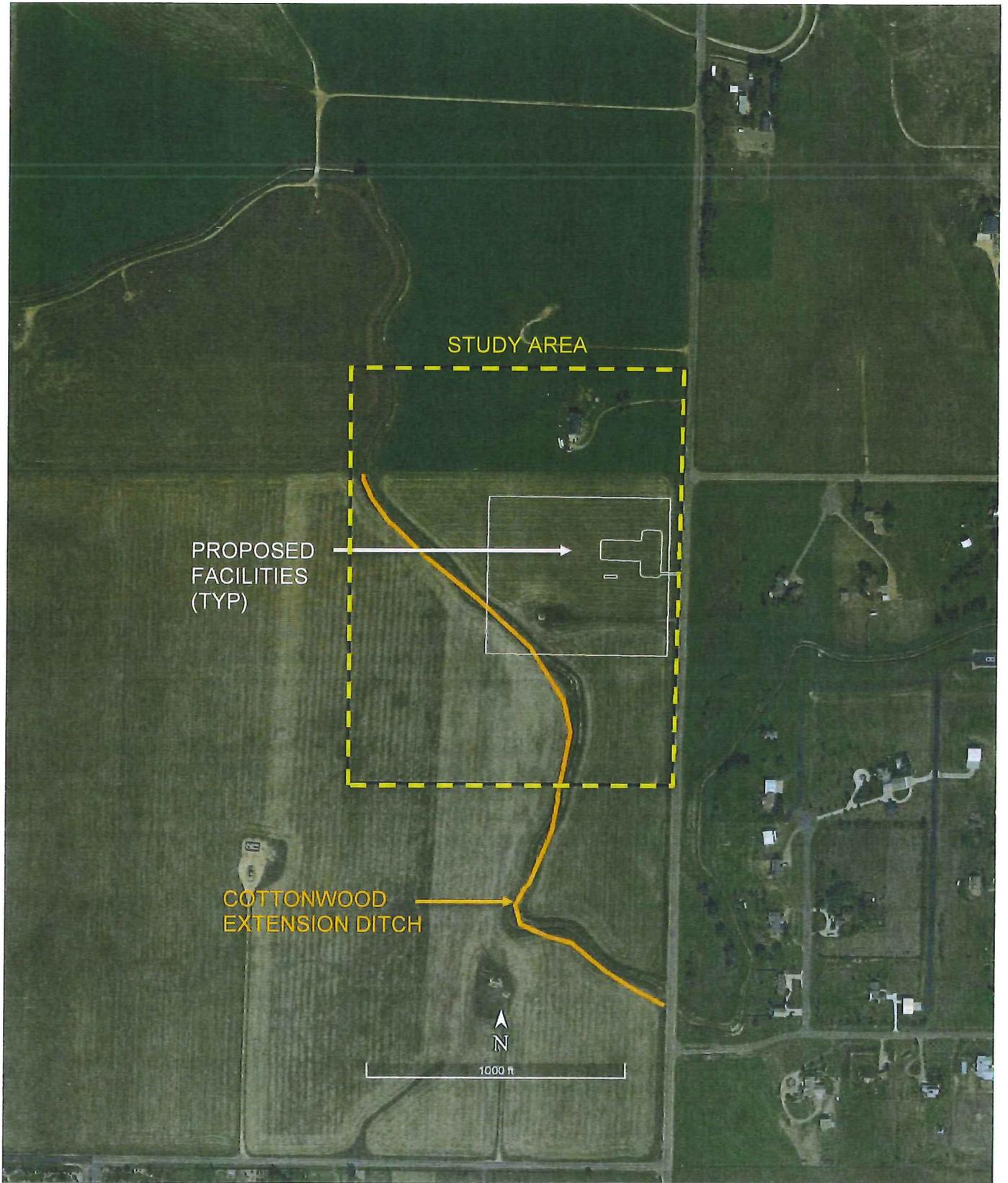
If you have any questions, please contact the Office of Archaeology and Historic Preservation at (303) 866-3395 or 3392. Thank you for your interest in Colorado's cultural heritage.

Richard Wilshusen  
Deputy State Historic Preservation Officer for Archaeology  
State Archaeologist

Kevin Black  
Assistant State Archaeologist

\*Information regarding significant archaeological resources is excluded from the Freedom of Information Act. Therefore, legal locations of these resources must not be included in documents for public distribution.

18254\_s/18254\_sy



Source: OAHP 5/21/14



Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
2601 Meacham Boulevard  
Fort Worth, TX 76193

Aeronautical Study No.  
2014-ANM-2215-OE

Issued Date: 10/27/2014

Bonnie Lamond  
Encana  
370 17th Street, Suite 1700  
Denver, CO 80202

**\*\*DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE\*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Drilling Rig Patterson 272
Location:	Erie, CO
Latitude:	40-04-18.86N NAD 83
Longitude:	105-02-19.24W
Heights:	5022 feet site elevation (SE) 177 feet above ground level (AGL) 5199 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is (are) met:  
Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

This determination expires on 10/27/2015 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. Any changes in coordinates and/or heights will void this determination. Any future construction or alteration, including increase to heights, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

**This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.**

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

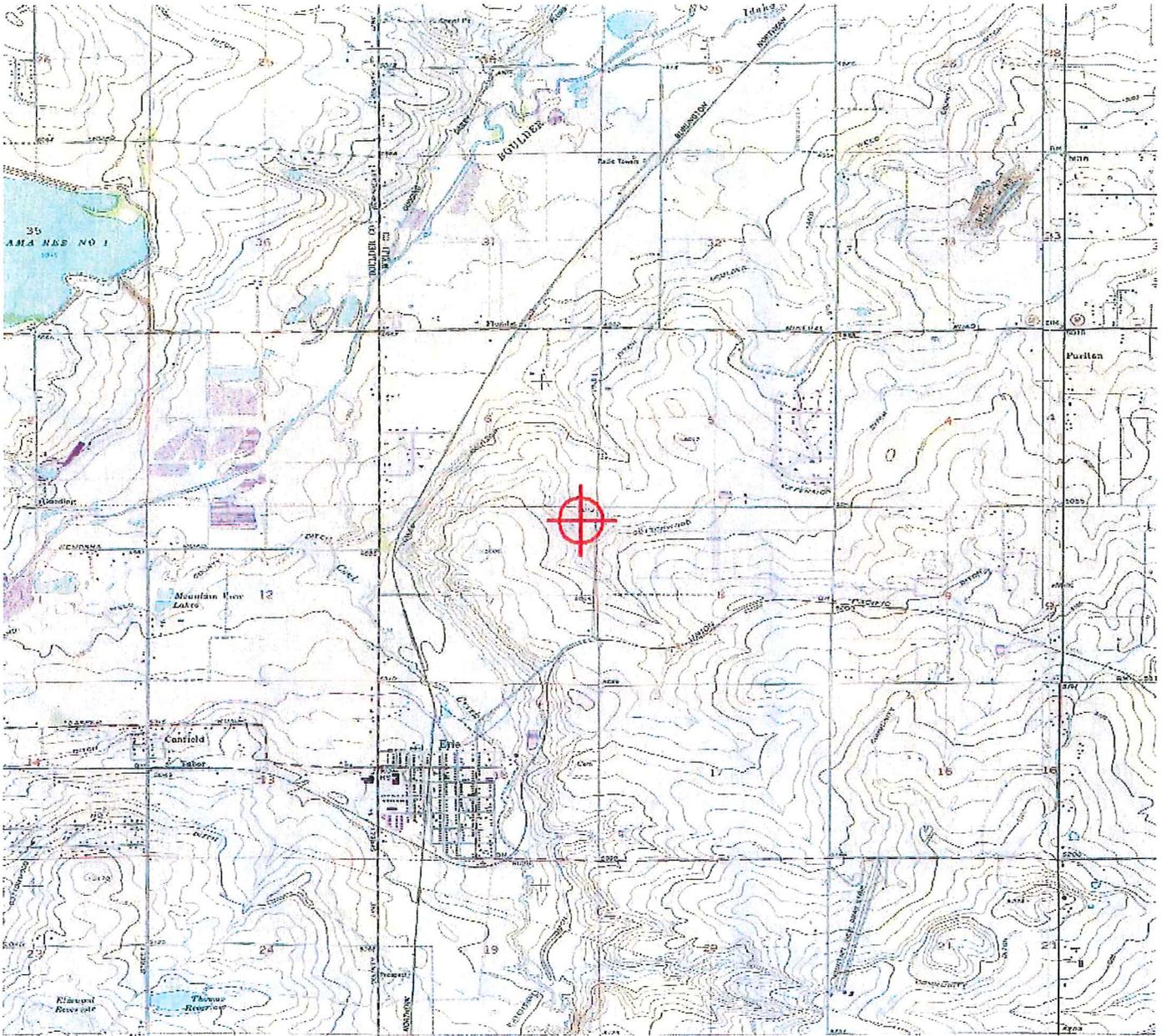
If you have any questions, please contact our office at (816) 329-2523. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANM-2215-OE

**Signature Control No: 225619043-232658390**  
Steve Phillips  
Specialist

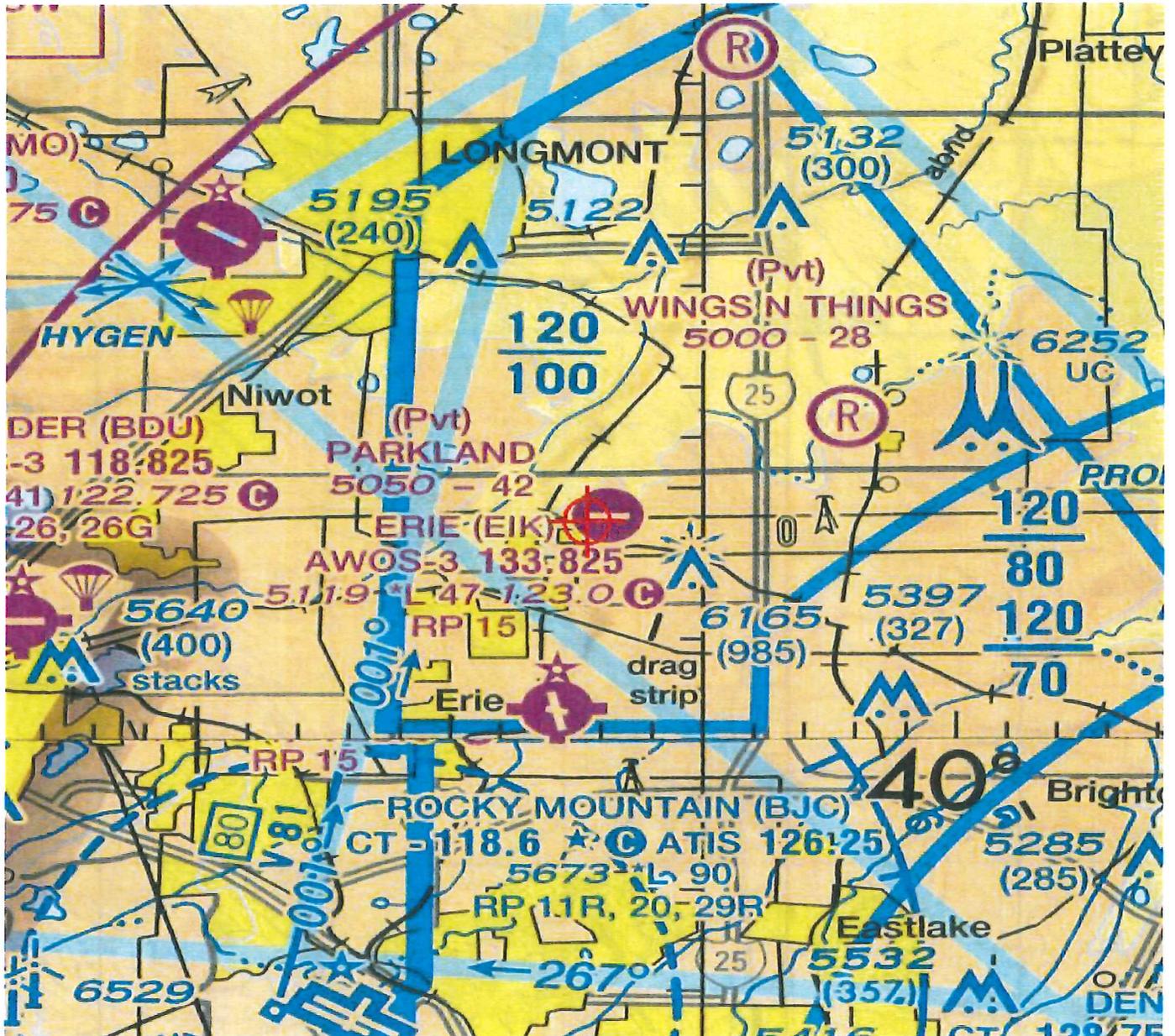
( TMP )

Attachment(s)  
Map(s)

TOPO Map for ASN 2014-ANM-2215-OE



Sectional Map for ASN 2014-ANM-2215-OE



**GENERAL NOTES:**

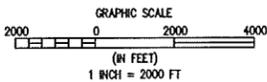
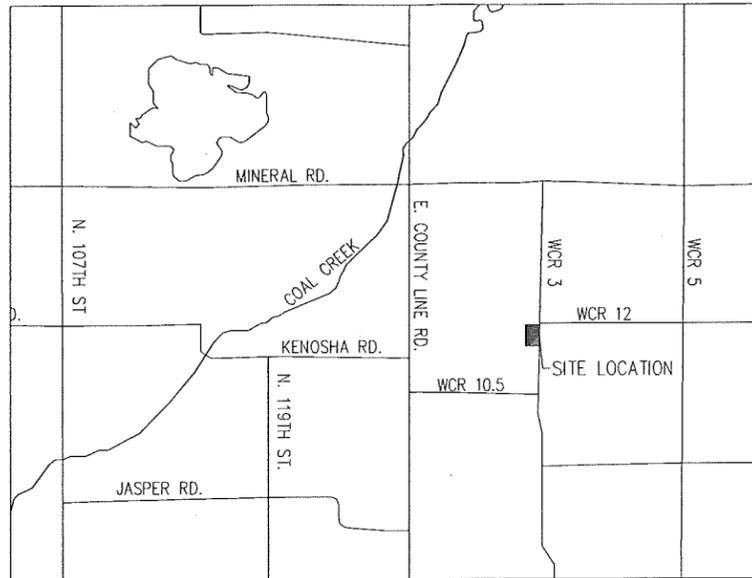
1. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY, OR EASEMENT SHALL CONFORM TO THE TOWN OF ERIE CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PERMIT FROM TOWN OF ERIE PUBLIC WORKS (303) 926-2870 IS REQUIRED FOR ALL CONSTRUCTION IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH TOWN REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THE CONTRACTOR SHALL NOTIFY TOWN OF ERIE CONSTRUCTION SERVICES (303-926-2870) AT LEAST 24 HOURS PRIOR TO REQUIRED INSPECTION.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/ DEVELOPER, AND THE TOWN, OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
5. IT IS THE RESPONSIBILITY OF THE DEVELOPER DURING CONSTRUCTION ACTIVITIES TO RESOLVE CONSTRUCTION PROBLEMS DUE TO CHANGED CONDITIONS, OR DESIGN ERRORS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROJECT. IF, IN THE OPINION OF THE TOWN, THE MODIFICATIONS PROPOSED BY THE DEVELOPER, TO THE ACCEPTED PLANS, INVOLVE SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DEVELOPER SHALL BE RESPONSIBLE FOR RESUBMITTING THE REVISED PLANS TO THE TOWN OF ERIE FOR ACCEPTANCE PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE PROJECT. ANY IMPROVEMENTS NOT CONSTRUCTED IN ACCORDANCE WITH THE ACCEPTED PLANS, OR THE ACCEPTED REVISED PLANS, SHALL BE REMOVED AND RECONSTRUCTED ACCORDING TO THE APPROVED PLAN.
6. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE TOWN TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
7. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE TOWN OF ERIE SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL LICENSED SURVEYOR (PLS) PRIOR TO DISTURBING ANY MONUMENTS.
9. SURFACE FACILITIES SHALL BE PAINTED WITH NORTHERN CLMB C14-2 DUTCH BOY OR APPROVED SIMILAR.
10. 18" MINIMUM DIAMETER CULVERTS SHALL BE UTILIZED TO FACILITATE SURFACE DRAINAGE UNDER ACCESS ROADS AS NECESSARY.
11. DRILLING DISTURBANCE AREAS (DDA) DERIVED FROM NEGOTIATIONS BETWEEN ENCAINA OIL & GAS (USA) INC. CORPORATION AND THE RESPECTIVE SURFACE OWNER.
12. PRIOR TO COMMENCEMENT OF ANY SITE WORK, ENCAINA OIL & GAS (USA) INC. OR THEIR DESIGNEE SHALL OBTAIN AN EROSION CONTROL AND GRADING PERMIT FROM THE TOWN OF ERIE PUBLIC WORKS DEPARTMENT.
13. THE GENERAL APPEARANCE OF THE ENCAINA OIL & GAS (USA) INC. SITE AND FACILITY MAINTENANCE SHALL BE MANAGED AS PER TOWN AND STATE REQUIREMENTS FOR OIL AND GAS OPERATIONS. THE OPERATOR SHALL ROUTINELY RE-PAINT THE SURFACE FACILITIES, TO ELIMINATE RUST AND SPILL SPOTS ON THE SURFACE FACILITIES.
14. MITIGATION MEASURES ARE PROPOSED DURING THE DRILLING PHASE OF THE PROPOSED WELL HEADS. THESE MEASURES WILL INCLUDE SOUND WALLS, CONSIDERATION WITH DRILLING RIG ORIENTATION, AND SHROUDED LIGHTS.
15. THE PROPOSED WELL FACILITY SHALL COMPLY WITH THE MEMORANDUM OF UNDERSTANDING BETWEEN THE TOWN OF ERIE AND ENCAINA OIL & GAS (USA) INC. DATED AUGUST 28, 2012.

**EROSION CONTROL NOTES:**

1. EROSION CONTROL MEASURES MUST BE IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITY COMMENCES.
2. ALL PUBLIC AND PRIVATE PAVED ROADS SHALL BE CLEARED OF DEBRIS AS NEEDED EACH DAY AND AFTER EACH RAIN EVENT DURING CONSTRUCTION ACTIVITIES AND UNTIL THE SITE HAS BEEN STABILIZED TO PREVENT EROSION AND MUD TRACKING FROM VEHICLES.
3. SILT FENCE SHALL BE PLACED AS SHOWN ON THE SITE PLAN OR AS DIRECTED BY TOWN INSPECTOR.
4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES AND SHALL BE RESPONSIBLE FOR ANY AND ALL FINES ASSOCIATED WITH THE DISCHARGE OF SEDIMENTS, EROSION, OR POLLUTANTS LEAVING THE SITE AS A RESULT OF CONSTRUCTION ACTIVITY.
5. NO SOIL STOCKPILE SHALL EXCEED 10 FEET IN HEIGHT. ALL SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING, WATERING, AND PERIMETER SILT FENCING. ANY SOIL STOCKPILES REMAINING AFTER THREE MONTHS FROM THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES SHALL BE SEEDDED WITH A TEMPORARY COVER CROP, OR REMOVED FROM THE SITE.
6. ONCE FINAL GRADING IS COMPLETE, ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RIPPED BY A GRADER IN CORN FURROW FASHION, OR SEEDDED. THE FURROWS SHALL BE PERPENDICULAR TO THE GRADE OF THE LAND. IT IS THE RESPONSIBILITY OF THE DEVELOPER/OWNER TO MAINTAIN THIS EROSION CONTROL MEASURE FOR THE DURATION OF THE 2 YEAR WARRANTY PERIOD.
7. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES THAT WILL REMAIN AS OUTLOTS, OPEN SPACE, DETENTION PONDS, FOREBAYS, OR TRAILS SHALL RECEIVE 4 INCHES OF TOP SOIL AND SHALL BE SEEDDED. SOIL PREPARATION, FERTILIZER, COMPOST, SEEDING, AND MULCHING WILL BE REQUIRED. SEED TAGS WILL BE COLLECTED BY THE TOWN OF ERIE.
8. ALL SEEDING REQUIRED BY EITHER THE TOWN OF ERIE ENGINEERING DIVISION, OR PLANNING DIVISION SHALL UTILIZE THE TOWN OF ERIE SPECIFICATIONS.
9. GRASS SEED SHALL BE PLANTED WITH A GRASS SEED DRILL (NOT A GRAN DRILL) AT A DEPTH OF 1/2" TO 3/4". BROADCAST SEEDING OF GRASS SEED IS NOT ACCEPTABLE. STRAW MULCH SHALL BE SPREAD AND CRIMPED INTO THE SOIL AT A RATE OF 4,000 LBS/ACRE.
10. THE DEVELOPER/OWNER IS RESPONSIBLE FOR HIRING A CONTRACTOR TO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES ONCE CONSTRUCTION IS COMPLETE AND ALL OPEN SPACE AREAS, OUTLOTS, DETENTION PONDS, FOREBAYS, AND TRAIL CORRIDORS ARE STABILIZED WITH AT LEAST 80 PERCENT GROWTH OF SEEDED GROUND COVER.

**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
 LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
 SRU ARBA ± 7.55 ACRES  
 SPECIAL REVIEW USE - SRU-000503-2015, SITE PLAN SP-0000504-2015



**VICINITY MAP**

**CONTACTS**

**APPLICANT** ENCAINA OIL & GAS (USA) INC.  
 BONNIE LAUND  
 REGULATORY ANALYST  
 370 17th STREET  
 SUITE 400  
 DENVER, CO 80202  
 (720) 876-5156

**PROPERTY OWNERS** WOOLLEY FAMILY TRUST  
 PO BOX 223  
 ALLENSPARK CO 80510

**COLORADO OIL & GAS CONSERVATION COMMISSION** (303) 894-2100

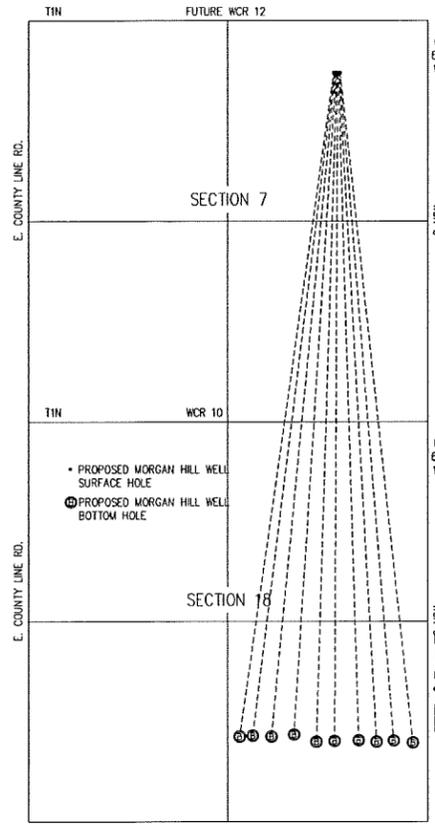
**PROPERTY DESCRIPTION:**

**FOR PRODUCTION SITE (AS SHOWN ON SHEET C2):**

**OWNER:** WOOLLEY FAMILY TRUST  
**ZONING:** LR (LOW DENSITY RESIDENTIAL)

**PART OF SECTION 7**

PROPERTY AS DESCRIBED BY THE WELD COUNTY ASSESSOR AS:  
 PT N2 7-1-88 DESC COM W4 COR SEC 7 LIES NE COR  
 N89D42E 2627.25' N89D42E 424.98' TO POB N89D42E 2172.27'  
 S00D56W 1539.91' W 30' N89D03W 415.23' N01D11E 170'  
 N89D03W 161.11' N00D35E 481.47' N04D20W 70' S72D08W  
 69.61' N55D53W 145.9' N89D59W 362.07' S00D59W 146.1'  
 S01D44W 60.01' S01D03W 763.36' N89D35W 396.08' S00D24W  
 118' N89D35W 317.85' S00D22W 170' N89D35W 725.94'  
 N00D23E 170' S89D51E 14.03' N00D22E 89.93' N05D06E 71.50'  
 N16D26E 71.15' N26D25E 59.05' N28D49E 514.69' N26D57E  
 78.03' N22D05E 79.05' N17D10E 79.05' N12D14E 79.05'  
 N07D19E 79.05' N02D23E 79.35' N00D15W 627.97' TO POB EXC  
 LYING NW4



**KEY MAP**  
 1"=1000'

**SHEET INDEX**

- C1 - COVER SHEET
- C2 - OVERALL SITE PLAN
- C3 - DETAILED SITE PLAN-PRODUCTION PHASE
- C4 - FINAL GRADING PLAN
- C5 - FINAL STORMWATER MANAGEMENT PLAN
- C6 - DETAILS
- C7 - DETAILS
- E1 - DETAILED SITE PLAN-DRILLING PHASE (EXHIBIT)
- E2 - DRILL PHASE GRADING PLAN (EXHIBIT)
- E3 - DRILL PHASE STORMWATER MANAGEMENT PLAN (EXHIBIT)
- E4 - COMPLETION GRADING AND EROSION CONTROL PLAN

**SPECIAL REVIEW USE SITE PLAN APPROVAL-CERTIFICATE**

THIS SPECIAL REVIEW USE SITE PLAN HAS BEEN REVIEWED AND FOUND TO BE COMPLETE AND IN ACCORDANCE WITH APPLICABLE TOWN OF ERIE REGULATIONS.

PLANNING COMMISSION - CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

BOARD OF TRUSTEES - MAYOR \_\_\_\_\_ DATE \_\_\_\_\_

THE UNDERSIGNED AS THE OWNER OR OWNER'S REPRESENTATIVE OF THE LANDS DESCRIBED HEREIN, HEREBY AGREES ON BEHALF OF HIMSELF/HERSELF, THEIR HEIRS, SUCCESSORS, AND ASSIGNS TO DEVELOP AND MAINTAIN THE PROPERTY DESCRIBED HEREON IN ACCORDANCE WITH THIS APPROVED SPECIAL REVIEW USE SITE PLAN AND IN COMPLIANCE WITH THE TOWN OF ERIE UNIFIED DEVELOPMENT CODE AND MUNICIPAL CODE.

OWNER SIGNATURE \_\_\_\_\_ OWNER PRINTED NAME \_\_\_\_\_

ACKNOWLEDGED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

BY \_\_\_\_\_ AS \_\_\_\_\_

WITNESS MY HAND AND OFFICIAL SEAL

NOTARY PUBLIC \_\_\_\_\_ (seal)

MY COMMISSION EXPIRES: \_\_\_\_\_

**BASELINE**  
 Engineering - Planning - Surveying

700 PUEBLO AVENUE, SUITE 400, GREELEY, COLORADO 80637  
 P: 970.333.2000 - F: 970.333.2700 - www.baselinecorp.com

DESIGNED BY	MJW	DATE	05/06/2015
DRAWN BY	MJW	PREPARED BY	ZS
CHECKED BY	NJN	REVISION DESCRIPTION	REVISED PER TOWN OF ERIE COMMENTS

**Encaina Oil & Gas (USA) Inc.**

**MORGAN HILLS WELLS & PRODUCTION FACILITY**  
 NE 1/4 SECTION 7, T1N, R68W  
 COVER

FOR AND ON BEHALF OF BASELINE CORPORATION

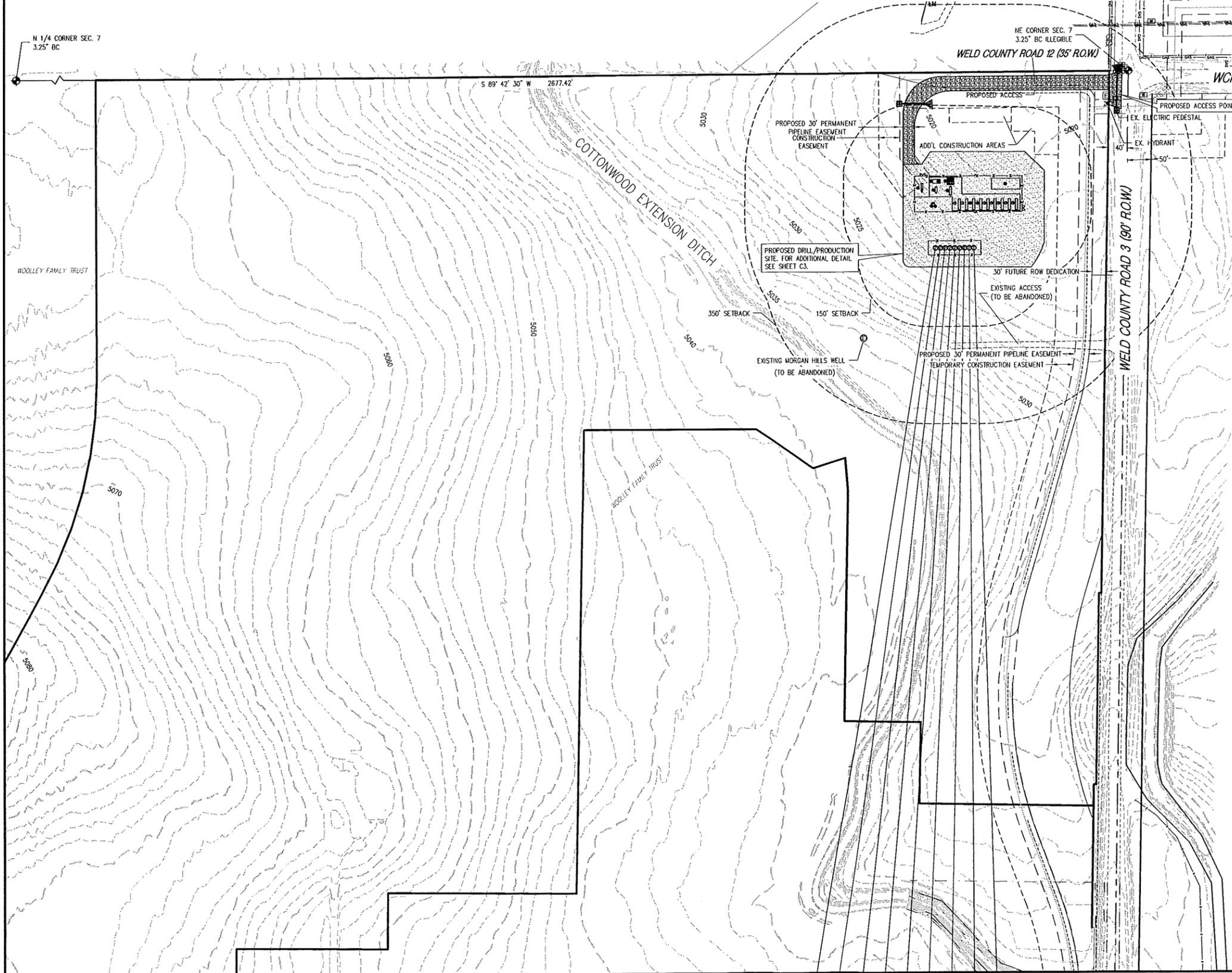
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TIME	2:02
FILE NAME	2202 - SRU.dwg
SHEET	1 of 11

**C1**



**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168,  
1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
SRU AREA ± 7.55 ACRES  
SPECIAL REVIEW USB - SRU-000503-2015, SITE PLAN SP-0000504-2015



**CONTOURS NOTE:**

1. FOR SURVEY CONTROL AND DATUM INFORMATION, CONTACT BASELINE CORP.

**SETBACK NOTE:**

THE 150' SETBACK DELINEATED ON THE OVERALL SITE PLAN CORRESPONDS TO THE "PRODUCTION FACILITY AREAS" AND THE "DRILL SITE AREAS" DEPICTED IN THE SURFACE USE AGREEMENT BETWEEN ENCANNA OIL & GAS (USA) INC. AND THE SURFACE OWNER.

ADDITIONALLY, SETBACKS AS SHOWN FOLLOW COGCC RULES AND REGULATIONS (SECTION 600) AS FOLLOWS:

- 150' SETBACK: WELL HEADS TO OCCUPIED BUILDINGS, MAJOR UTILITIES, PUBLIC ROAD, ACTIVE RAILROAD.
- 350' SETBACK: ABOVE GROUND PRODUCTION FACILITIES TO RESIDENTIAL LOTS AND NON-RESIDENTIAL BUILDINGS (HIGH DENSITY RULES)

**ACCESS NOTE:**

1. A STOP SIGN IS REQUIRED TO BE INSTALLED AT THE ACCESS POINT. ALL SIGNAGE TO BE INSTALLED AS PER THE MUTCD AND LOCAL REQUIREMENTS

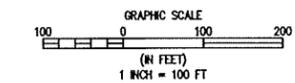


**SYMBOL LEGEND**

- ◆ ALIQUOT CORNER AS DESCRIBED
- FOUND PROPERTY PIN AS DESCRIBED
- △ CONTROL POINT
- ⊙ COMMUNICATIONS PEDESTAL
- ⊕ WATER VALVE
- ⊖ WATER MANHOLE
- ⊗ MONITORING WELL
- ⊘ EXISTING OIL & GAS WELL
- ⊙ PROPOSED OIL & GAS WELL
- ⊙ PROPOSED OIL & GAS WELL BOTTOM HOLE
- ➔ PROPOSED ACCESS POINT

**LINETYPE LEGEND**

- MINOR CONTOUR (10')
- - - MAJOR CONTOUR (50')
- - - EDGE OF GRAVEL ROAD
- - - EDGE OF PAVED ROAD
- - - FENCE
- - - SETBACK AS DESCRIBED
- - - PROPERTY LINE
- - - SUBJECT PROPERTY LINE
- - - APPROXIMATE PROPERTY LINE
- - - SECTION LINE



1  
C2/C2  
OVERALL SITE PLAN



FOR AND ON BEHALF OF BASELINE CORPORATION	
INITIAL SUBMITTAL	
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
bc	7/2013
JOB NO.	226C
DRAWING NAME	
226C - SRU.dwg	
SHEET	2 OF 11

**BASELINE**  
Engineering - Planning - Surveying  
70 0TH AVENUE, SUITE 105 - GREELEY, COLORADO 80637  
P: 970.333.7807 F: 970.333.7807 WWW.BASELINECORP.COM

DESIGNED BY	DATE
MJW	05/08/2015
DRAWN BY	PREPARED BY
MJW	ZS
CHECKED BY	REVISION DESCRIPTION
NJN	REVISED PER TOWN OF ERIE COMMENTS

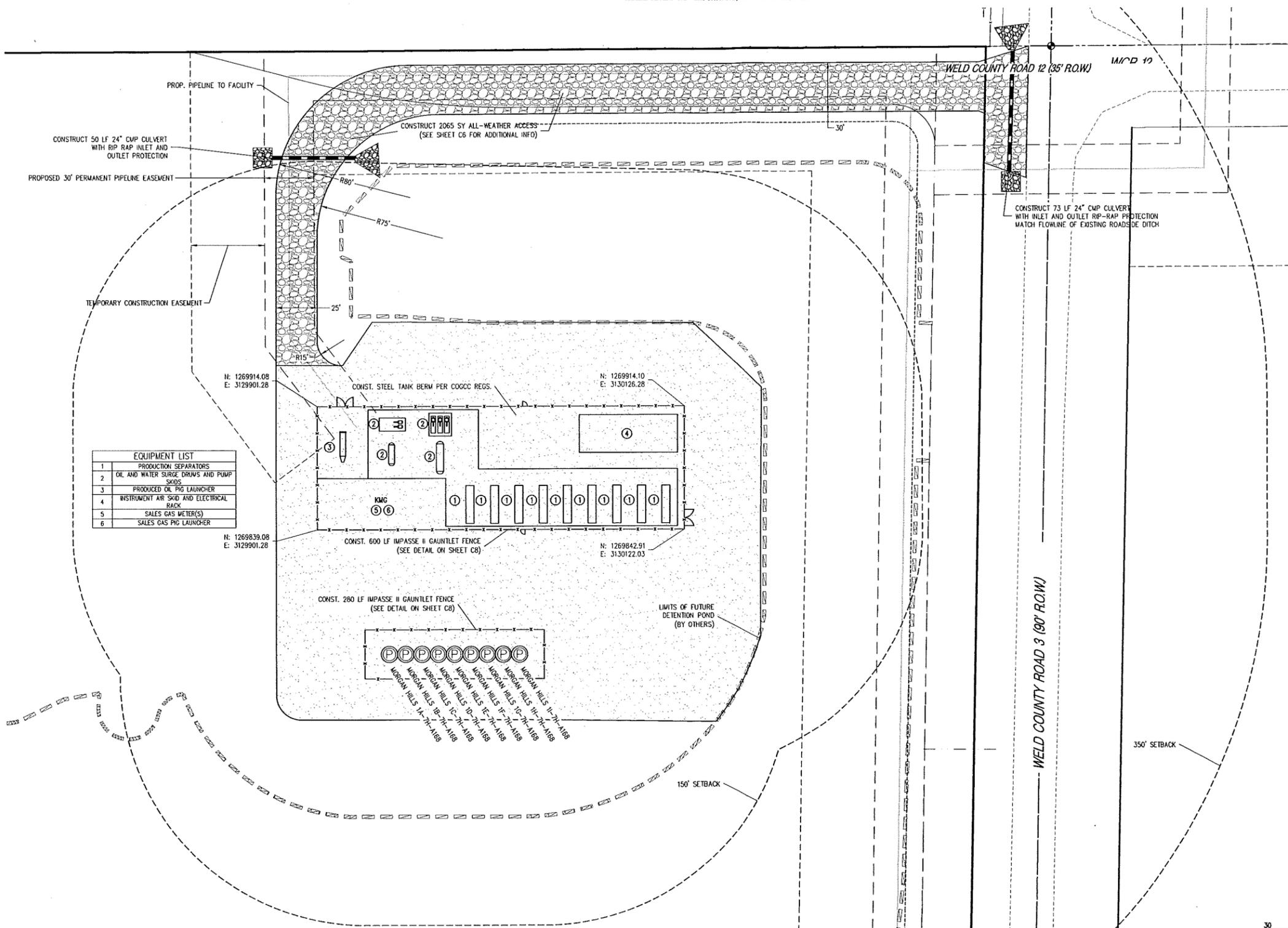
Encanna Oil & Gas (USA) Inc.  
TOWN OF ERIE  
WELD COUNTY  
MORGAN HILLS WELLS & PRODUCTION FACILITY  
NE 1/4 SECTION 7, T1N, R68W  
OVERALL SITE PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

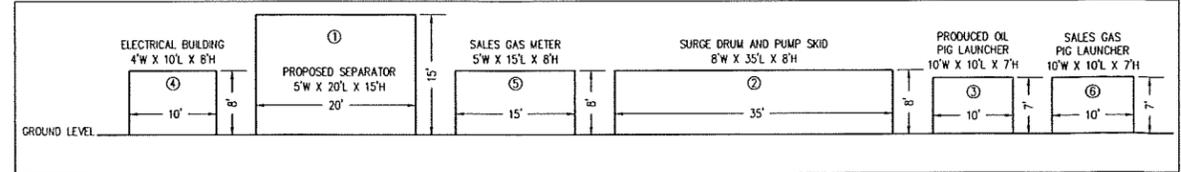
N:\PLANNING LLC\226 Encanna Well CO USR\USR\A\A\Drawings\226E - SRU.dwg, 7/6/2015 11:43:14 AM, Michael White

**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168,  
1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

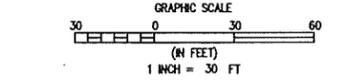
AN OIL AND GAS PRODUCTION FACILITY  
 LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 64 WEST, 6TH P.M.  
 SRU AREA # 155 ACRES  
 SPECIAL REVIEW USE - SRU-00093-2045, SITE PLAN SP-000504-2045



EQUIPMENT LIST	
1	PRODUCTION SEPARATORS
2	OIL AND WATER SURGE DRUMS AND PUMP SKIDS
3	PRODUCED OIL PIG LAUNCHER
4	INSTRUMENT AIR SKID AND ELECTRICAL RACK
5	SALES GAS METER(S)
6	SALES GAS PIG LAUNCHER



2 STANDARD FACILITIES ELEVATIONS  
 SCALE: 1" = 10'



1 DETAILED SITE PLAN PRODUCTION PHASE  
 SCALE: 1" = 30 FT

**BASELINE**  
 Engineering - Planning - Surveying  
 70 7TH AVENUE, SUITE 105 - GREELEY, COLORADO 80637  
 P: 970.533.7800 • F: 970.533.7801 • www.baselinecorp.com

REVISION DESCRIPTION	DATE	PREPARED BY	DESIGNED BY
REVISED PER TOWN OF ERIE COMMENTS	05/06/2015	ZS	MJW

TOWN OF ERIE  
**Encana Oil & Gas (USA) Inc.**  
 WELD COUNTY  
**MORGAN HILLS WELLS & PRODUCTION FACILITY**  
 NE 1/4 SECTION 7, T1N, R68W  
 DETAIL SITE PLAN-PRODUCTION PHASE

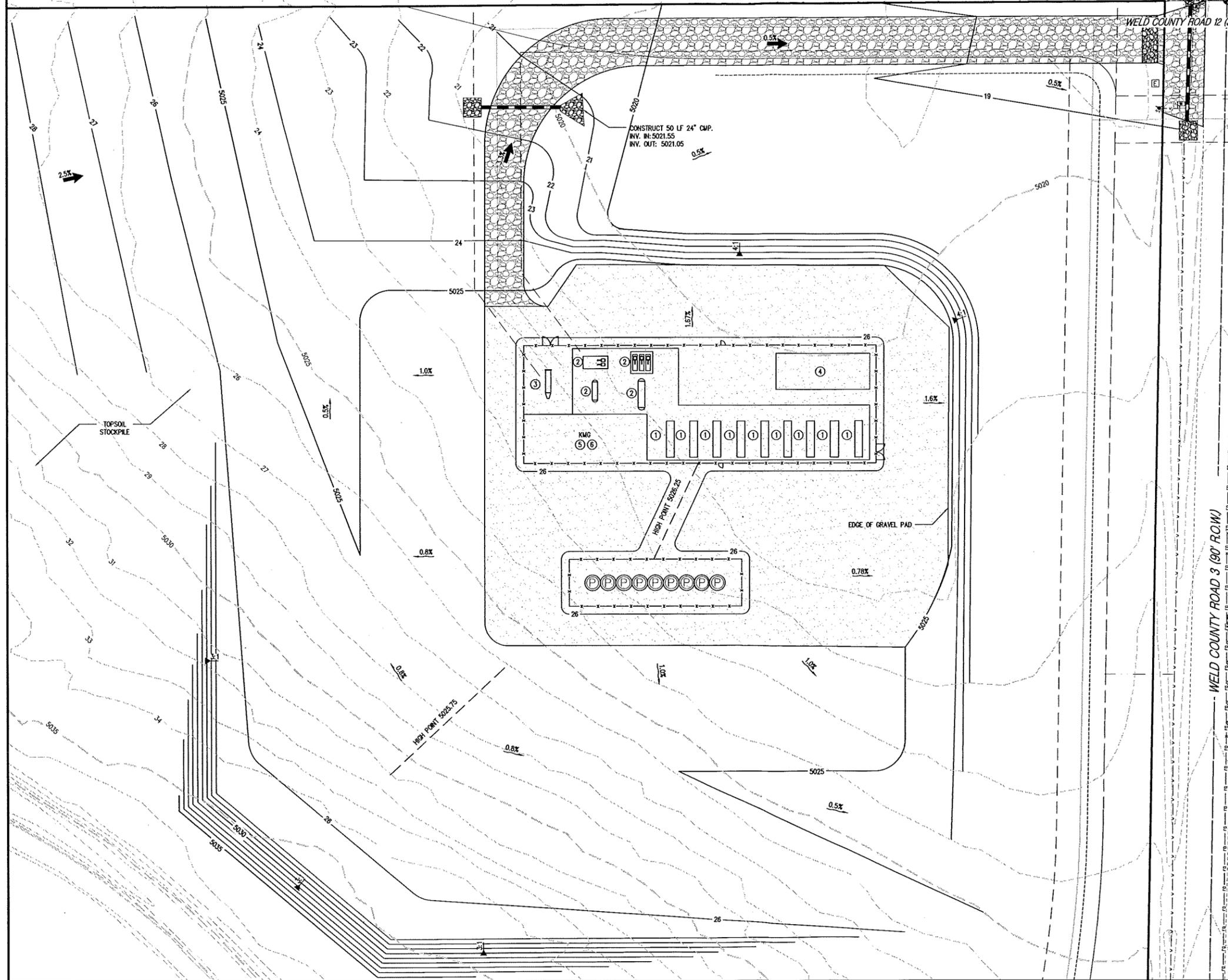
FOR AND ON BEHALF OF BASELINE CORPORATION	
DATE	7/20/13
DRAWING NAME	226E - SRU.dwg
SHEET	3 of 11

N:\PLANNING\LLC\226 Encana Weld CO\SRU\SRU.dwg - Morgan Hills\Drawings\226E - SRU.dwg, 7/16/2015 11:44:05 AM, Michael White

**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168,**

**1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
 LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
 S&U AREA = 155 ACRES  
 SPECIAL REVIEW USB - SRU-00020-205, SITE PLAN SP-0000504-205



EARTHWORK VOLUMES (PRELIMINARY & SUBJECT TO CHANGE)

TOPSOIL STRIPPING EARTHWORK QUANTITIES ESTIMATES (BASED ON 0.5' TOPSOIL DEPTH):

5712 CY (CUT)

TOTAL PRODUCTION PHASE EARTHWORK QUANTITIES ESTIMATES:

11,405 CY (CUT)  
 16,455 CY (FILL)  
 5,050 CY NET (FILL)\*

\*NO SHRINK OR SWELL FACTORS APPLIED TO THESE ESTIMATES. VOLUMES BASED ON COMPARISON OF EXISTING SURFACE TO PROPOSED SURFACE FOR THIS PHASE.

TOTAL FINAL DISTURBED AREA 7.08 AC.

**DRILLING PHASE GRADING NOTES:**

1. ALL ACCESS ROADS SHALL BE AN ALL WEATHER ACCESS ROAD WITH A MINIMUM OF 6" BASE COURSE, SEE DETAIL ON SHEET CS.

2. CREATE SMOOTH TRANSITIONS BETWEEN GRADE CHANGE AS NECESSARY.

**SURVEY NOTES:**

1. EXISTING CONTOUR LINES SHOWN HEREIN ARE BASED ON SURVEY DATA GATHERED BY BASELINE CORP AND HURST & ASSOCIATES.

2. FOR SURVEY CONTROL AND DATUM INFORMATION, CONTACT BASELINE CORP.

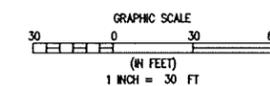
**LINE TYPE LEGEND**

- EX. MINOR CONTOUR (1')
- EX. MAJOR CONTOUR (2')
- FENCE
- DRILLING DISTURBANCE AREA (DDA) LIMITS

**GRADING PLAN LEGEND**

- SPOT ELEVATION
- 2:1 NOMINAL SLOPE ON FILL OR CUT
- FLOW DIRECTION
- FLOW DIRECTION, TYPICALLY IN SWALE
- 5020.00 EXISTING SPOT ELEVATION

EQUIPMENT LIST	
1	PRODUCTION SEPARATORS
2	OIL AND WATER SURGE DRUMS AND PUMP SHEDS
3	PRODUCED OIL PIG LAUNCHER
4	INSTRUMENT AIR SKID AND ELECTRICAL RACK
5	SALES GAS METER(S)
6	SALES GAS PIG LAUNCHER



1  
C4/C4 FINAL GRADING PLAN

**BASELINE**  
 Engineering - Planning - Surveying

DESIGNED BY: MJW  
 DRAWN BY: MJW  
 CHECKED BY: NJN

DATE: 05/06/2015

PREPARED BY: ZS

REVISION DESCRIPTION

REVISED PER TOWN OF ERIE COMMENTS

REVISION DESCRIPTION

REVISED PER TOWN OF ERIE COMMENTS

WELD COUNTY

MORGAN HILLS WELLS & PRODUCTION FACILITY

NE 1/4 SECTION 7, T1N, R68W

FINAL GRADING PLAN

ENCANA OIL & GAS (USA) INC.

TOWN OF ERIE

PREPARED UNDER THE DIRECT SUPERVISION OF

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL

DRAWING SIZE: 24" x 36"

SURVEY FIRM: BSC SURVEY DATE: 7/2013

JOB NO.: 2262

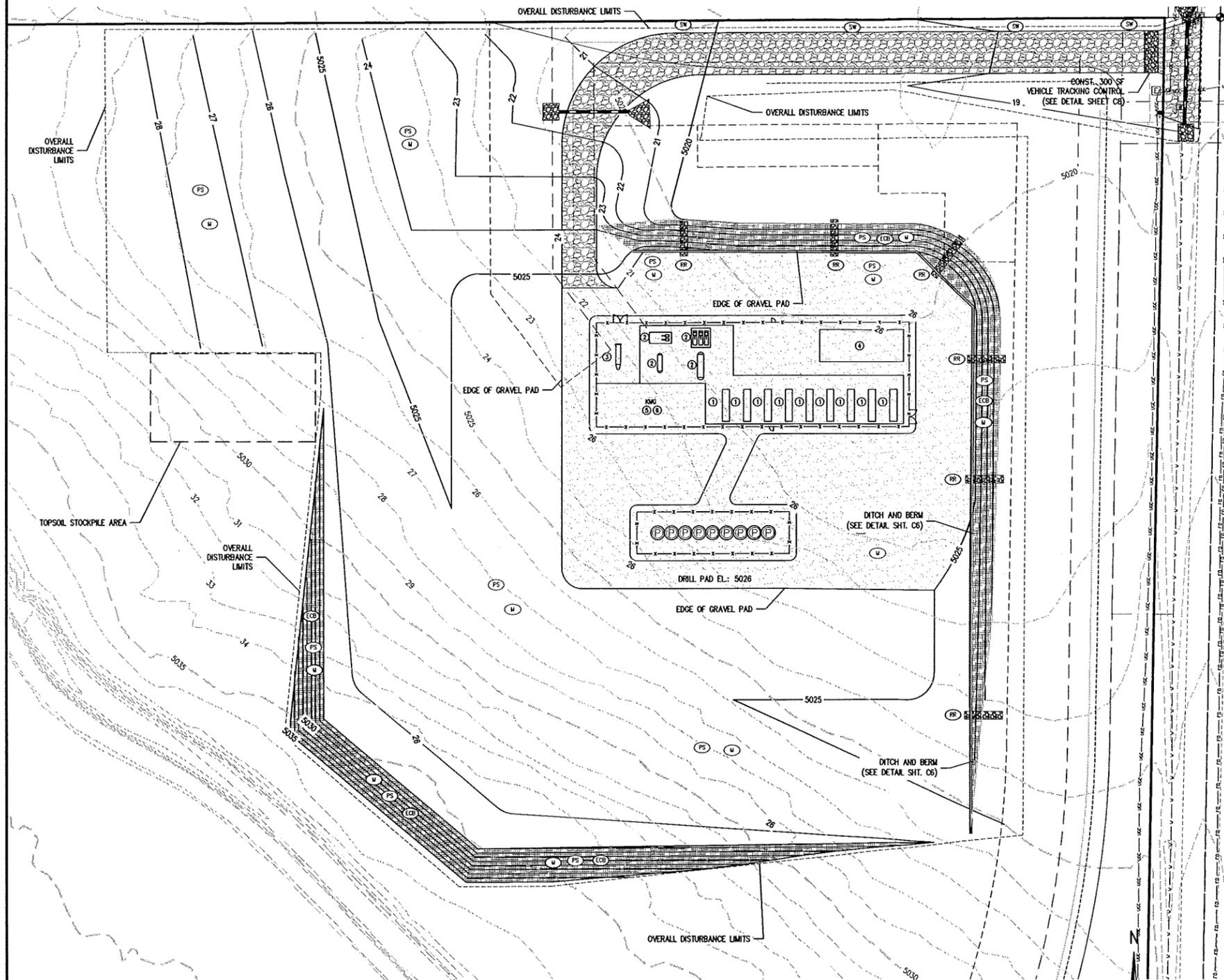
DRAWING NAME: 2262 - SRU.dwg

SHEET 4 OF 11

C4

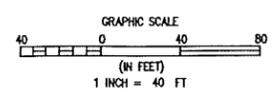
**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168,  
1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
SRU AREA ± 7.55 ACRES  
SPECIAL REVIEW USE - SRU-000503-2015, SITE PLAN SP-0000504-2015



EQUIPMENT LIST	
1	PRODUCTION SEPARATORS
2	OIL AND WATER SURGE DRUMS AND PUMP SKIDS
3	PRODUCED OIL PIG LAUNCHER INSTRUMENT AIR SKID AND ELECTRICAL BACK
4	SALES GAS METERS(S)
5	SALES GAS PIG LAUNCHER

LEGEND	
	GRAVEL SURFACE
	PERMANENT HYDRO SEEDING & MULCH
	CHECK DAM
	EROSION CONTROL BLANKET
	RIP-RAP RUNOFF
	STRAW WATTLES



FINAL STORMWATER MANAGEMENT PLAN

SITE DESCRIPTION	
CONSTRUCTION ACTIVITY	DRILLING OF 9 OIL & GAS WELLS, CONSTRUCTION OF ASSOCIATED PRODUCTION EQUIPMENT, AND CONSTRUCTION OF ACCESS ROAD.
CONSTRUCTION DATES	TBD
AREA OF SITE	7.55 ± ACRES
LOCATION OF SITE	LATITUDE: 40°04'20.65" N LONGITUDE: 105°02'19.52" W
EXISTING VEGETATION	GRASS, NATURAL VEGETATION
SOIL CONDITION	ACCORDING TO THE UNITED STATES DEPARTMENT OF AGRICULTURE, THIS SITE IS 100% DUNEY FINE SANDY LOAM. THE PROPERTY GENERALLY SLOPES TO THE SOUTHWEST WITH SLOPES OF 2-10%.
POTENTIAL POLLUTION SOURCES	DUST FROM DRILLING & ACCESS ROAD CONSTRUCTION, NON-VEGETATED SOILS, FUEL, OIL, AND FLUIDS UTILIZED DURING DRILLING, CONCRETE WASHOUTS, OUTDOOR STORAGE ACTIVITIES, PORTABLE RESTROOMS, GENERAL REFUSE.
LOCATION OF NON-STORMWATER DISCHARGE	NONE
SITE FEATURES & SENSITIVE AREAS TO BE PROTECTED	LOWER BOULDER DITCH LIES NORTH OF THE SITE AND COLLECTS AREA RUNOFF. MITIGATION OF SOIL TRANSFER AND OTHER POLLUTION INTO THIS AREA IS THE PRIMARY CONCERN OF THE PROPOSED EROSION CONTROL MEASURES.
NAME AND LOCATION OF RECEIVING WATERS	STORMWATER RUNOFF TRAVELS NORTH TO THE LOWER BOULDER DITCH, WHICH RUNS NORTHERLY TO BOULDER CREEK.
OVERALL SCOPE / PROJECT CHARACTERISTICS	
INDUSTRIAL ACTIVITIES	OIL AND GAS PRODUCTION
FINAL SITE DISPOSITION	ONCE THE PRODUCTION PHASE FOR THE SITE IS COMPLETE, THE PRODUCTION SITE WILL BE RECLAIMED. THE WELLS WILL BE PLUGGED, CAPPED, & ABANDONED. THE TANK BATTERY WILL BE REMOVED. ANY UNNECESSARY PORTIONS OF THE UPGRADED ACCESS ROAD WILL BE REMOVED. SOILS WILL BE CONTOURED TO THE EXISTING SURROUNDING TERRAIN. (STOCKPILED TOPSOIL WILL BE REDISTRIBUTED ALONG WITH THE SEEDING ACROSS THE DISTURBED SOIL AREA IN ORDER TO REESTABLISH VEGETATION COVERAGE)
BEST MANAGEMENT PRACTICES (BMP'S)	
STORM WATER QUALITY BEST MANAGEMENT PRACTICE SHALL BE IMPLEMENTED TO MINIMIZE SOIL EROSION, SEDIMENTATION, INCREASED POLLUTION LOADS AND CHANGED WATER FLOW CHARACTERISTICS RESULTING FROM LAND DISTURBING ACTIVITY TO THE MAXIMUM EXTENT PRACTICAL, AS TO MINIMIZE POLLUTION OF RECEIVING WATERS.	
IMPLEMENTED BMP'S	
CONSTRUCTION STRUCTURAL BMP'S	PERMANENT STRUCTURAL BMP'S
<input checked="" type="checkbox"/> VTC PAD <input checked="" type="checkbox"/> DITCH & BERM SYSTEM <input type="checkbox"/> INLET PROTECTION <input type="checkbox"/> CULVERT OUTLET PROTECTION <input type="checkbox"/> WASH WATER SEDIMENTATION POND <input type="checkbox"/> SILT FENCING <input checked="" type="checkbox"/> RIP RAP <input type="checkbox"/> STRAW WATTLES <input checked="" type="checkbox"/> SURFACE ROUGHENING AND HYDROMOLDING	<input type="checkbox"/> VTC PAD <input checked="" type="checkbox"/> DITCH & BERM SYSTEM <input checked="" type="checkbox"/> CULVERT OUTLET PROTECTION <input type="checkbox"/> WASH WATER SEDIMENTATION POND <input checked="" type="checkbox"/> COGCC APPROVED CONTAINMENT BERM <input type="checkbox"/> SOIL RIPRAP <input checked="" type="checkbox"/> REVEGETATION <input checked="" type="checkbox"/> EROSION CONTROL BLANKET
ADDITIONAL BMP'S: _____	ADDITIONAL BMP'S: _____
EROSION AND SEDIMENT CONTROL	
1. TO THE EXTENT PRACTICABLE, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO GRADING ACTIVITIES. AT ALL TIMES DURING PROJECT CONSTRUCTION, ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO PREVENT ACCELERATED EROSION ON THE SITE AND ON ANY ADJACENT PROPERTIES. 2. ALL TOPSOIL, WHERE PHYSICALLY PRACTICABLE, SHALL BE SALVAGED AND NO TOPSOIL SHALL BE REMOVED FROM SITE EXCEPT AS SET FORTH IN THE APPROVED PLANS. TOPSOIL AND OVERBURDEN SHALL BE SEGREGATED AND STOCKPILED SEPARATELY. TOPSOIL AND OVERBURDEN SHALL BE REDISTRIBUTED WITHIN THE GRADED AREA AFTER ROUGH GRADING TO PROVIDE A SUITABLE BASE FOR AREAS WHICH WILL BE SEEDING AND PLANTED. RUNOFF FROM STOCKPILED AREA SHALL BE CONTROLLED TO PREVENT EROSION AND RESULTANT SEDIMENTATION OF RECEIVING WATER. 3. PERMANENT OR TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 14 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MEASURES SHALL BE APPLIED WITHIN 14 DAYS TO DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL BE LEFT DORMANT FOR LONGER THAN 30 DAYS. IT IS RECOMMENDED THAT THE PERMANENT SEED MIX BE PLANTED AFTER OCTOBER TO KEEP SEEDLINGS FROM DEVELOPING BEFORE WINTER. TEMPORARY VEGETATIVE COVER CONSISTING OF ANNUAL RYE GRASS SHALL BE HYDRO SEEDING AT 20 POUNDS PURE LIVE SEED PER ACRE. 4. FUGITIVE DUST EMISSIONS RESULTING FROM DRILLING & ACCESS ROAD CONSTRUCTION ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING WATER. 5. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DURING CONSTRUCTION AND SHALL BE INSTALLED AS SOON AS PRACTICAL IF REQUIRED BY THE STORMWATER ADMINISTRATOR OR THEIR REPRESENTATIVE. 6. AREAS WHERE SILT FENCE IS NOT INDICATED MAY REQUIRE SOME FORM OF SEDIMENT CONTROL. STRAW MULCH AND/OR TEMPORARY SEEDING MAY BE UTILIZED AS NECESSARY.	
SEEDING NOTES:	
1. RESTORATION OF ANY AREAS DISTURBED BY PROPOSED GRADING ACTIVITIES SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS OUTLINED IN SECTION 14 - VEGETATION & IRRIGATION OF THE STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION STANDARDS. 2. A TOWN OF ERIE REPRESENTATIVE SHALL BE ON SITE DURING ALL SEEDING ACTIVITIES TO INSPECT THE CONDITIONS AND ENSURE COMPLIANCE WITH THE STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION STANDARDS. 3. TO SCHEDULE THIS REQUIRED INSPECTION, PLEASE CALL (970) 336-4074 AT LEAST 48 HOURS IN ADVANCE OF THE SEEDING ACTIVITIES. 4. ALL SEED BAGS MUST BE TURNED IN TO THE TOWN OF ERIE REPRESENTATIVE	
INSPECTION AND MAINTENANCE	
INSPECTIONS: 1. PERFORM EVERY 14 DAYS, AND FOLLOWING A WEATHER EVENT CAUSING RUNOFF DURING THE CONSTRUCTION PHASE. 2. PERFORM EVERY 30 DAYS DURING THE COMPLETED AND INTERIM PHASES. 3. AN INSPECTION REPORT WILL BE FILLED OUT, & FILED FOR EACH INSPECTION PERFORMED. 4. MAKE A COPY OF EACH INSPECTION REPORT AVAILABLE TO THE COUNTY UPON REQUEST.	
MAINTENANCE: 1. PERFORM MAINTENANCE AND REPAIRS AS SOON AS POSSIBLE ON ITEMS OR AREAS IDENTIFIED IN THE INSPECTION REPORT. 2. PERFORM MAINTENANCE AS INDICATED IN THE URBAN DRAINAGE & FLOOD CONTROL DISTRICT, URBAN STORM DRAINAGE CRITERIA MANUAL, VOL. 3, PER MANUFACTURER'S SPECIFICATIONS OR OTHER SOURCES DETERMINED TO BE ACCEPTABLE	
AN EFFICIENT RECORD-KEEPING SYSTEM IS A HELPFUL TOOL IN MANAGING INSPECTION AND MAINTENANCE REPORTS. INSPECTION REPORTS, MAINTENANCE RECORDS, TRAINING LOGS, AND OTHER SITE RELATED CORRESPONDENCE WILL BE MAINTAINED IN THE MASTER EROSION CONTROL PLAN.	

**BASELINE**  
Engineering · Planning · Surveying

700 W. AVENUE, SUITE 105 - GREELEY, COLORADO 80637  
P: 970.336.3700 F: 970.336.3701 WWW.BASELINECO.COM

DESIGNED BY: MAJW  
DRAWN BY: MAJW  
CHECKED BY: NUNJ

REVISION DESCRIPTION: REVISION PER TOWN OF ERIE COMMENTS  
DATE: 05/06/2015  
PREPARED BY: ZS

Encana Oil & Gas (USA) Inc.  
WELD COUNTY  
MORGAN HILLS WELLS & PRODUCTION FACILITY  
NE 1/4 SECTION 7, T1N, R68W  
FINAL STORMWATER MANAGEMENT PLAN

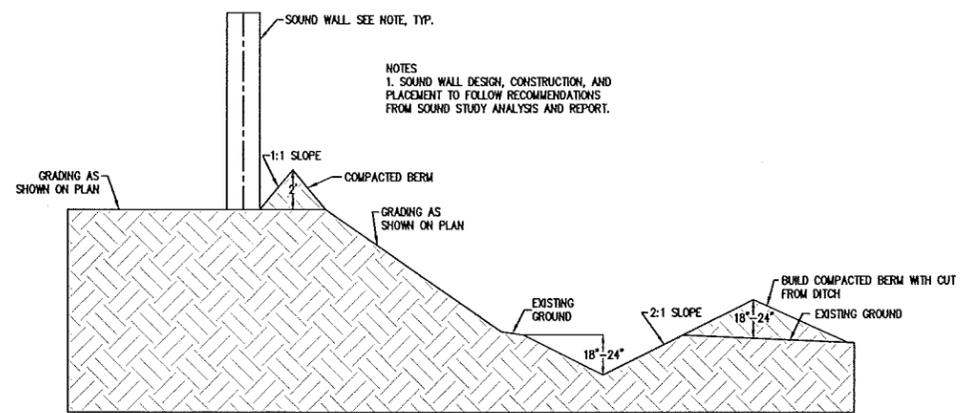
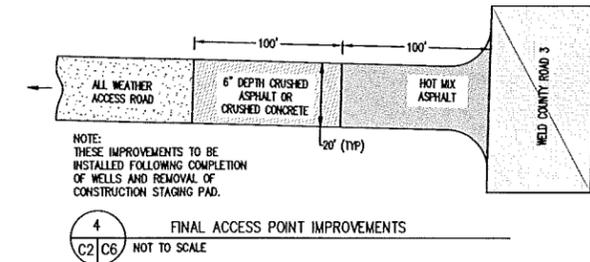
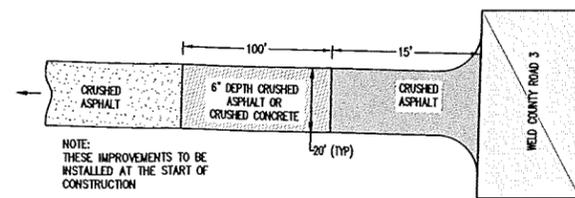
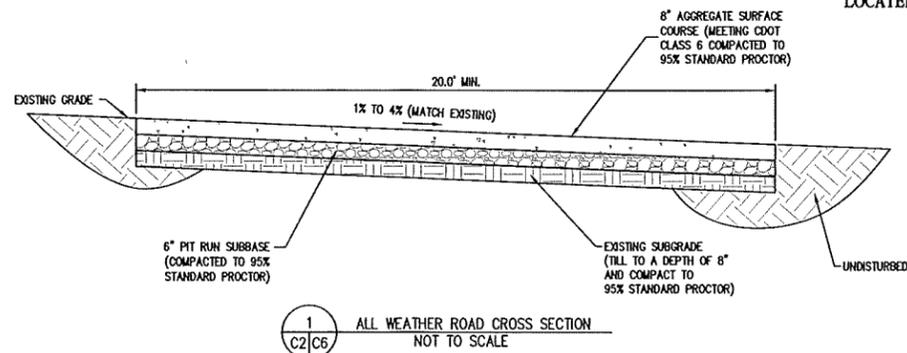
FOR AND ON BEHALF OF BASELINE CORPORATION  
INITIAL SUBMITTAL  
DRAWING SIZE: 24" x 36"  
SURVEY FIRM: SURVEY DATE: 7/20/13  
JOB NO.: 226C  
DRAWING NAME: 226C - SRU.dwg  
SHEET 5 OF 11

C5

N:\PLANNING\LLC\226 Encana Weld CO SRU\USRs\Erie\226E-Morgan Hills Drawings\226E - SRU.dwg, 7/16/2015 11:44:55 AM, Michael White

# MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168

AN OIL AND GAS PRODUCTION FACILITY  
LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH  
P.M.  
SRU AREA ± 7.55 ACRES  
SPECIAL REVIEW USB - SRU-000503-2015, SITE PLAN SP-0000504-2015



NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE LOCAL JURISDICTION.

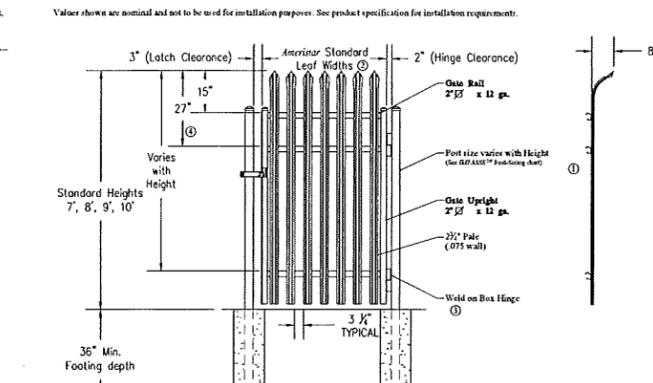
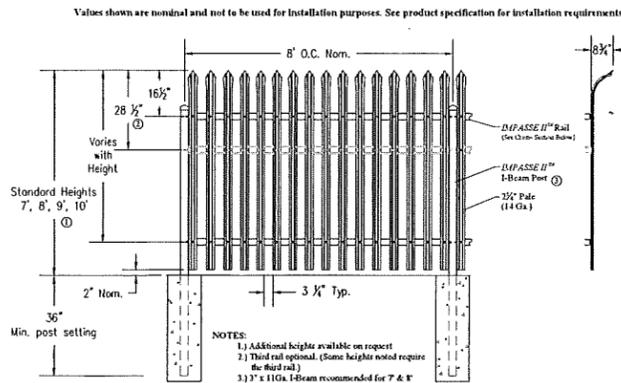
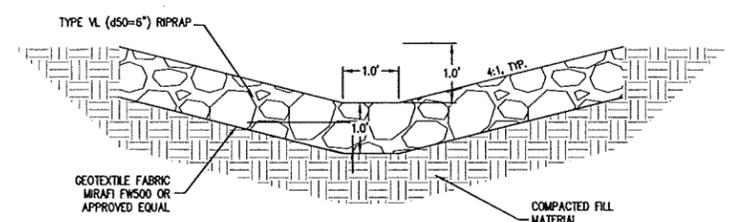
NOTES  
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.  
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT AND DEBRIS AT ALL TIMES.  
3. WHEEL WASH WATER AND COLLECTION PIT MAY BE NECESSARY IN HEAVY TRACKING WEATHER OR SOIL CONDITIONS.

NOTE: THESE IMPROVEMENTS TO BE INSTALLED FOLLOWING COMPLETION OF WELLS AND REMOVAL OF CONSTRUCTION STAGING PAD.

2 DRILL PHASE DITCH & BERM SYSTEM  
NOT TO SCALE

5 VEHICLE TRACKING CONTROL (VTC) PAD  
NOT TO SCALE

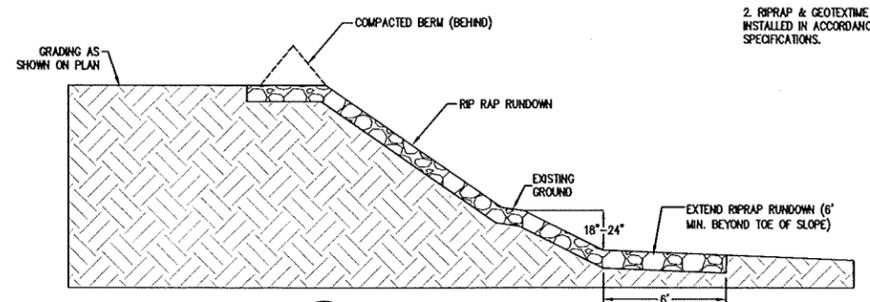
4 FINAL ACCESS POINT IMPROVEMENTS  
NOT TO SCALE



3 RIP-RAP RUNDOWN SECTION  
NOT TO SCALE

NOTES:  
1.) Additional heights available on request  
2.) Third rail optional. (Some heights noted require the third rail)  
3.) 3\"/>

NOTES:  
1.) Post size depends on fence height, weight and wind loads. See IMPASSE II post rating chart.  
2.) See Ameristar gate table for standard out to out. Custom gate openings available for special out to out load widths.  
3.) Additional styles of gate hardware are available on request. This could change the Latch & Hinge Clearance.  
4.) Third rail optional. (Some heights noted require the third rail).



4 PRODUCTION PHASE DITCH & BERM SYSTEM  
NOT TO SCALE

**AMERISTAR**  
1555 N. Mingo  
Tulsa, OK 74116  
1-800-333-3422  
www.ameristarfence.com

6 IMPASSE II GAUNTLET 2/3 - RAIL, RAIL SGL & DBL GATE  
NOT TO SCALE

**BASELINE**  
Engineering - Planning - Surveying  
70 0TH AVENUE, SUITE 05 - GREELEY, COLORADO 80637  
P. 970.535.7600 • F. 970.535.7601 • www.baselinecorp.com

DESIGNED BY: M.J.W.  
DRAWN BY: M.J.W.  
CHECKED BY: N.J.N.

DATE: 05/08/2015  
PREPARED BY: ZS

REVISION DESCRIPTION  
REVISED PER TOWN OF ERIE COMMENTS

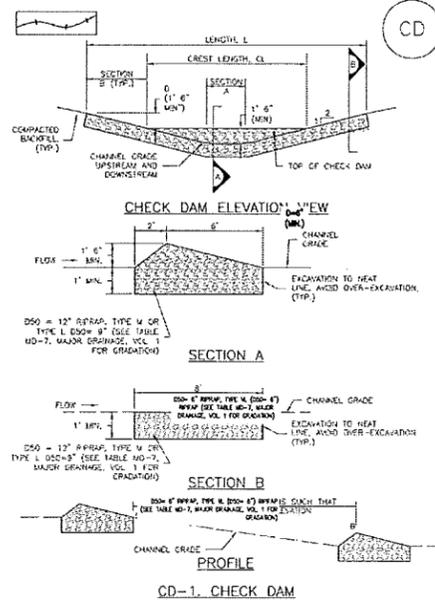
ENCANA OIL & GAS (USA) Inc.  
WELD COUNTY  
MORGAN HILLS WELLS & PRODUCTION FACILITY  
NE 1/4 SECTION 7, T1N, R68W  
DETAILS

FOR AND ON BEHALF OF BASELINE CORPORATION  
METAL SUBMITTAL  
DRAWING SIZE: 24" x 36"  
SURVEY FIRM: SURVEY DATE: 7/2013  
JOB NO.: 226C  
DRAWING NAME: 226C - SRU.dwg  
SHEET 6 OF 11

**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168,  
1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

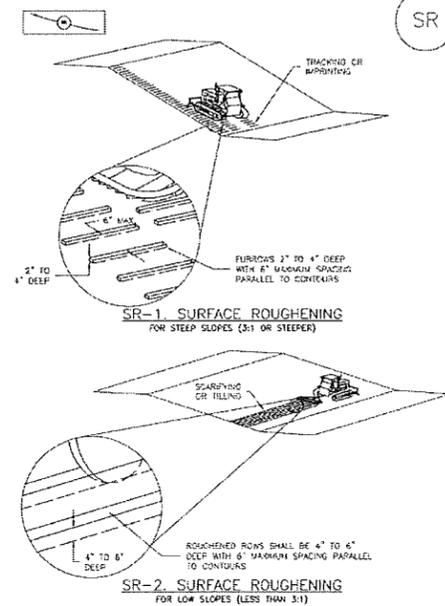
AN OIL AND GAS PRODUCTION FACILITY  
LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
SRU AREA ± 755 ACRES  
SPECIAL REVIEW USB - SRU-000503-2015, SITE PLAN SP-0000504-2015

**Check Dams (CD) EC-12**

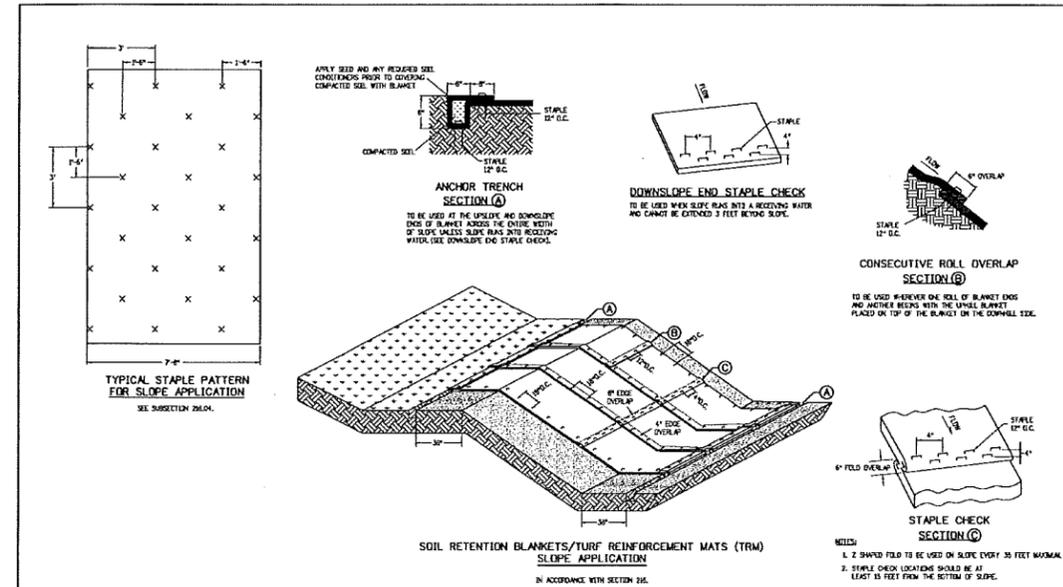


November 2010 Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3 CD-3

**Surface Roughening (SR) EC-1**

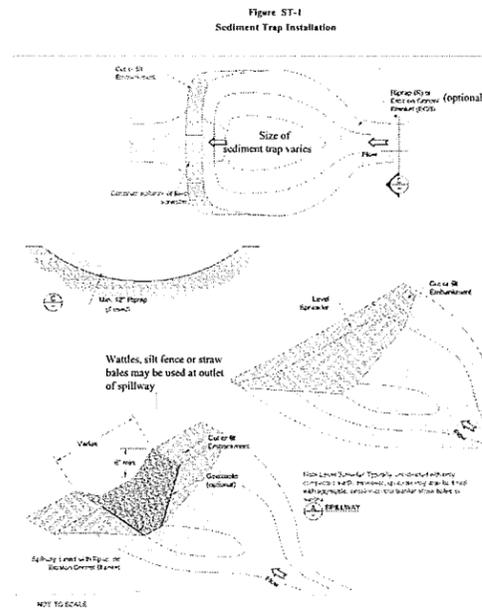


November 2010 Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3 SR-3



<b>Computer File Information</b>		<b>Sheet Revisions</b>		<b>Colorado Department of Transportation</b>		<b>TEMPORARY EROSION CONTROL</b>		<b>STANDARD PLAN NO.</b>	
Creation Date: 03/24/12	Author: SD	Date:	Comments:	4201 East Arkansas Avenue		Issued By: Project Development Branch on July 4, 2012		M-208-1	
Last Modification Date: 07/24/12	Revised: LTA			Denver, Colorado 80217				Sheet No. 5 of 12	
File Path: \\c:\projects\12\120302\120302.dwg	Revised: SD			Phone: (303) 757-2683					
Drawing File Name: 2206SR02.dwg	Revised: SD			Fax: (303) 757-2950					
CD Year: Modification: 15	Scale: 1/8" = 1'-0"	Units: English		Project Development Branch	DD/LTA				

**Sediment Trap**



NOT TO SCALE

**EC-1 Surface Roughening (SR)**

**SURFACE ROUGHENING INSTALLATION NOTES**

1. SEE PLAN VIEW FOR LOCATION OF SURFACE ROUGHENING.
2. SURFACE ROUGHENING SHALL BE PROCEEDED PROMPTLY AFTER COMPLETION OF FINISHED GRADING (FOR AREAS NOT RECEIVING TOP-SOIL) OR PRIOR TO TOP-SOIL PLACEMENT OR ANY FORECASTED RAIN EVENT.
3. AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOIL SHALL BE PLACED WITHOUT DELAY IN THE CONSTRUCTION SEQUENCE, SURFACE ROUGHENING IS NOT REQUIRED.
4. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR THROUGH UP AND DOWN A SLOPE USING EQUIPMENT TRAILS.
5. A FRAMING DISK SHALL NOT BE USED FOR SURFACE ROUGHENING.

**SURFACE ROUGHENING MAINTENANCE NOTES**

1. INSPECT BMPs EACH MORNING, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACE UPON DISCOVERY OF THE FAILURE.
4. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.
5. IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULKING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
6. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER RILL EROSION.

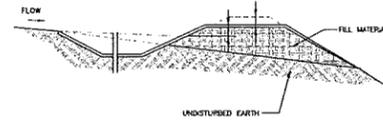
(DETAILS ADAPTED FROM TOWN OF FAYET, COLORADO, NOT AVAILABLE IN PUBLIC)  
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM NRCO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SR-4 Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3 November 2010

**FIGURE DB-1 Temporary Ditch and Berm Installation**



**FIGURE DB-2 Permanent Ditch and Berm Installation**



SCALE: NOT TO SCALE

**BASELINE**  
Engineering • Planning • Surveying  
70 CITY AVENUE, SUITE 105 • GREELEY, COLORADO 80637  
P. 970.333.2267 • F. 970.333.2267 • WWW.BASELINECORP.COM

DESIGNED BY: M.J.W.  
DATE: 05/06/2015  
PREPARED BY: ZS.  
REVISION PER: TOWN OF ERIC COMMENTS

FOR AND ON BEHALF OF  
ENCANA OIL & GAS (USA) INC.  
WELD COUNTY  
MORGAN HILLS WELLS & PRODUCTION FACILITY  
NE 1/4 SECTION 7, T1N, R68W  
DETAILS

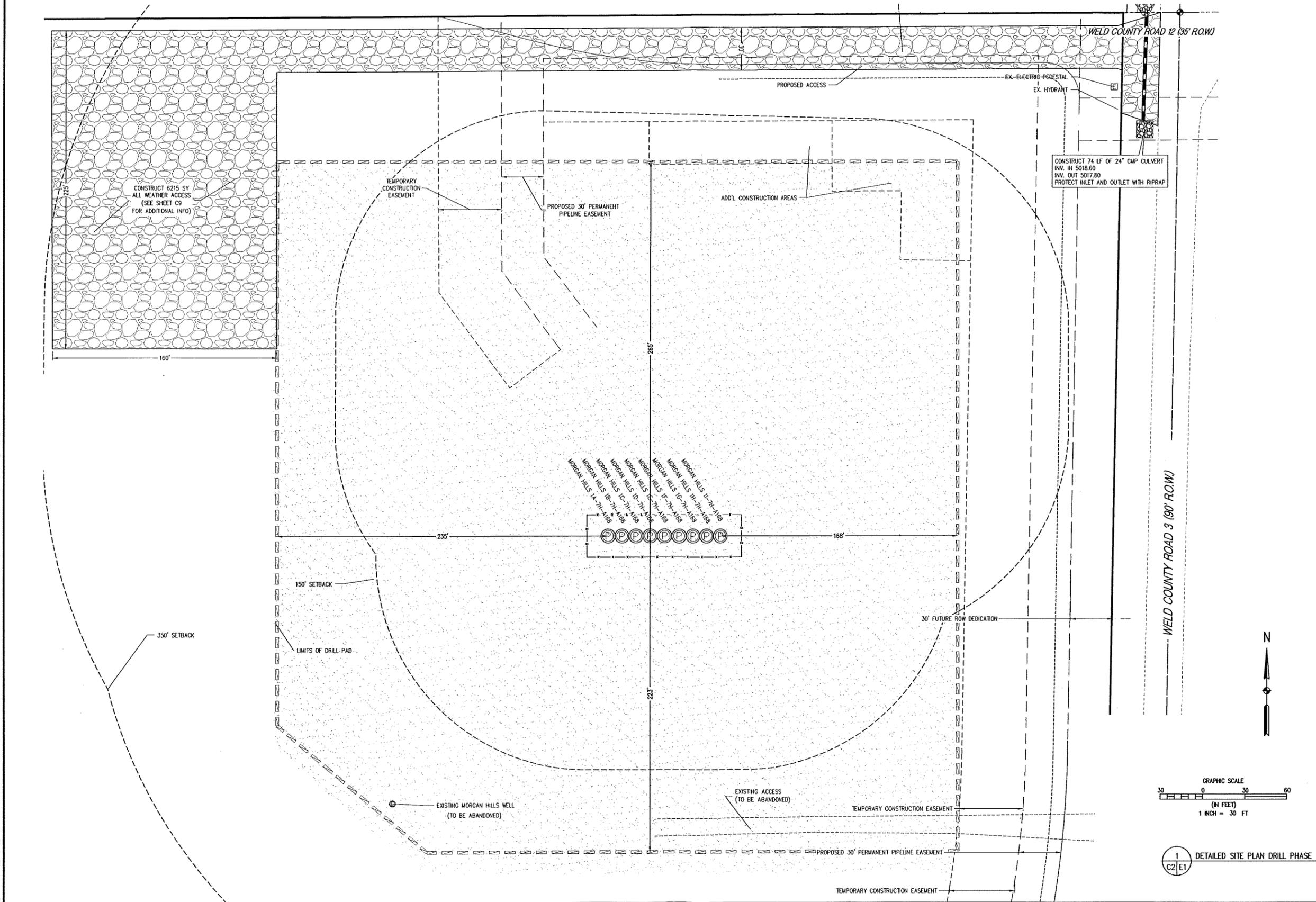
FOR AND ON BEHALF OF  
BASELINE CORPORATION

INITIAL SUBMITTAL  
DRAWING SIZE: 24" x 36"  
SURVEY FIRM: SURVEY DATE: 1/2/2015  
JOB NO.: 2206  
DRAWING NAME: 2206 - SRU.dwg  
SHEET: 7 OF 10  
C7

**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168,**

**1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
 LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
 SRU AREA - 155 ACRES  
 SPECIAL REVIEW USB - SRU-00058-2015, SITE PLAN SP-000094-2015



**BASELINE**  
 Engineering · Planning · Surveying  
 70 11TH AVENUE, SUITE 605 - GREELEY, COLORADO 80637  
 P: 970.333.7200 · F: 970.333.7201 · www.baselinecorp.com

DESIGNED BY	M, LW
DATE	03/09/2015
PREPARED BY	ZS
REVISION DESCRIPTION	REVISED PER TOWN OF ERIE COMMENTS
DRAWN BY	M, LW
CHECKED BY	N, JN

**Encana Oil & Gas (USA) Inc.**  
 WELD COUNTY  
**MORGAN HILLS WELLS & PRODUCTION FACILITY**  
 NE 1/4 SECTION 7, T1N, R68W  
 DETAIL SITE PLAN-DRILL PHASE

PREPARED UNDER THE DIRECT SUPERVISION OF

FOR AND ON BEHALF OF	BASELINE CORPORATION
INITIAL SUBMITTAL	
DRAWING SIZE	24" x 36"
SURVEY FIRM	BASELINE
SURVEY DATE	7/2013
JOB NO.	226E
DRAWING NAME	226E - SRU.dwg
SHEET	8 OF 11

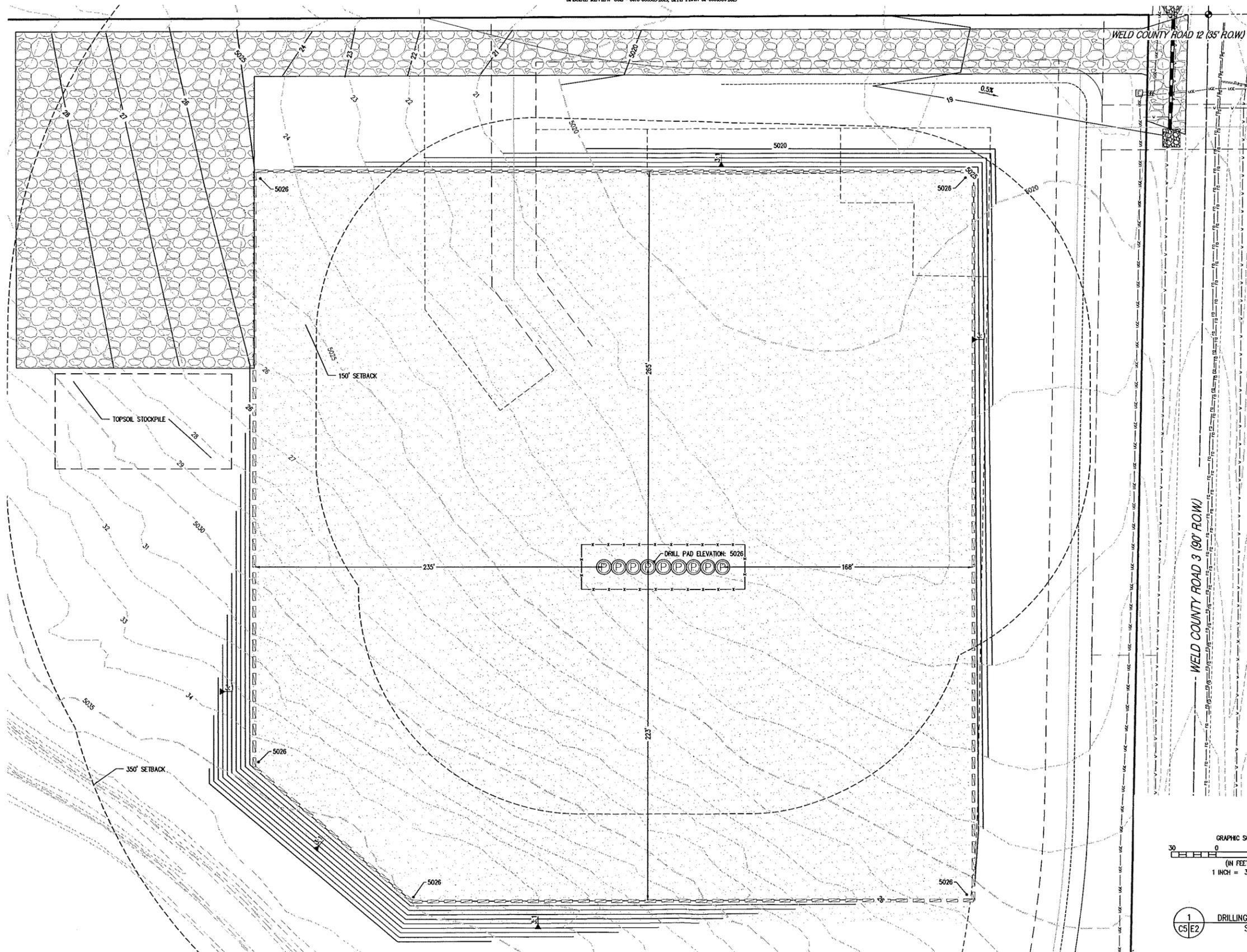
**1**  
**C2/E1**  
 DETAILED SITE PLAN DRILL PHASE

N:\PLANNING LLC\226 Encana Weld CO USR\USRs\Erie\226E--Morgan Hills\Drawings\226E - SRU.dwg, 7/6/2015 11:45:27 AM, Michael White

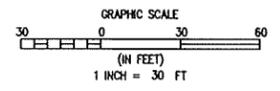
**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168,**

**1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
 LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH PM.  
 SKU AREA ± 7.55 ACRES  
 SPECIAL REVIEW USE - SRU-000003-2045, SETG PLAN SP-000004-2045



TOTAL DRILLING PHASE  
 EARTHWORK QUANTITIES  
 ESTIMATES:  
 10,959 CY (CUT)  
 20,352 CY (FILL)  
 9,393 CY NET (FILL)\*  
 \*NO SHRINK OR SWELL FACTORS  
 APPLIED TO THESE ESTIMATES. VOLUMES  
 BASED ON COMPARISON OF EXISTING  
 SURFACE TO PROPOSED SURFACE FOR  
 THIS PHASE.  
 TOTAL FINAL DISTURBED AREA 7.08 AC.



1  
 C5/E2 DRILLING PHASE GRADING PLAN  
 SCALE: 1" = 30'



**BASELINE**  
 Engineering · Planning · Surveying  
 70 17TH AVENUE, SUITE 105 • GREELEY, COLORADO 80637  
 P. 970.533.7800 · F. 970.533.7801 · www.baselinecorp.com

DESIGNED BY	DATE
M/JW	05/06/2015
DRAWN BY	
M/JW	
CHECKED BY	
N/JN	
REVISION DESCRIPTION	PREPARED BY
REVISED PER TOWN OF ERIE COMMENTS	ZS

**Encana Oil & Gas (USA) Inc.**  
 TOWN OF ERIE  
 MORGAN HILLS WELLS & PRODUCTION FACILITY  
 NE 1/4 SECTION 7, T1N, R68W  
 DRILLING PHASE GRADING PLAN  
 WELD COUNTY

PREPARED UNDER THE DIRECT SUPERVISION OF

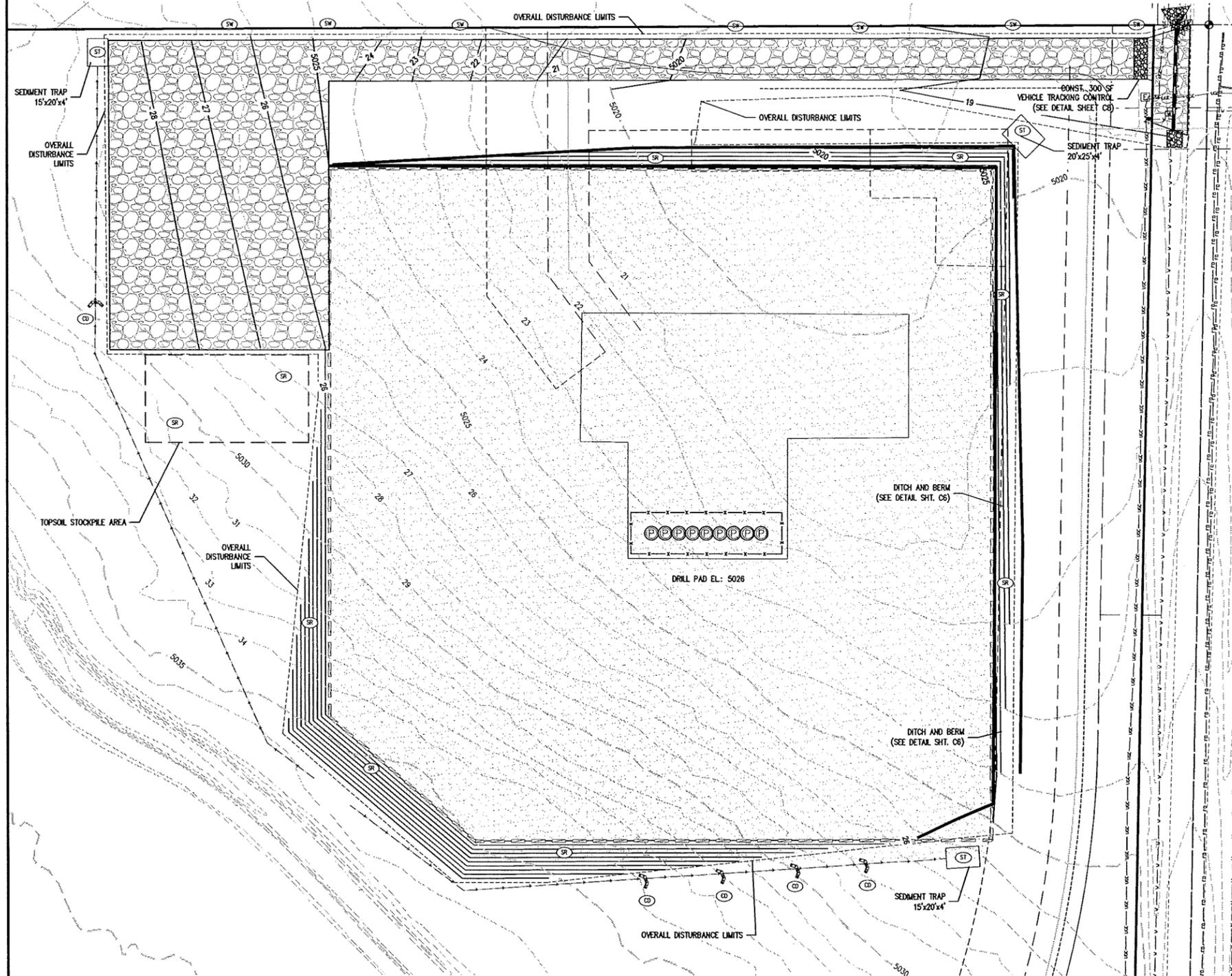
FOR AND ON BEHALF OF	DATE
BASELINE CORPORATION	7/2/15
INITIAL SUBMITTAL	
DRAWING SIZE	24" x 36"
SURVEY FIRM	7/2015
DATE	
DRAWING NAME	2202
2202 - SRU.dwg	
SHEET	9 OF 11

E2

N:\PLANNING LLC\226 Encana Weld CO SRU\USRA\erie\226a-Morgan Hills\Drawings\226E - SRU.dwg, 7/6/2015 11:45:52 AM, Michael White

**MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168,  
1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168**

AN OIL AND GAS PRODUCTION FACILITY  
LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M.  
SRU ARBA ± 7.55 ACRES  
SPECIAL REVIEW USE - SRU-000503-2015, SITE PLAN SP-0000504-2015



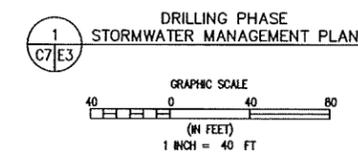
THIS EROSION & SEDIMENT CONTROL PLAN HAS BEEN SUBMITTED TO THE TOWN OF ERIE IN FULFILLMENT OF THE TOWN CRITERIA. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN PROBLEMS OCCUR OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED, OR VOIDED.

NOTE: THIS EROSION & SEDIMENT CONTROL PLAN IN AND OF ITSELF DOES NOT FULFILL THE REQUIREMENTS OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH'S STORMWATER CONSTRUCTION PERMIT FOR A STORMWATER MANAGEMENT PLAN (SWMP).  
\_\_\_\_\_  
THE MINERAL OWNER AND/OR LEGAL AGENT. DATE

**EROSION AND SEDIMENT CONTROL PLAN ENGINEER'S CERTIFICATION:**  
I HEREBY CERTIFY THAT THIS EROSION CONTROL PLAN FOR SYNERGY RESOURCES CORPORATION WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE PROVISIONS OF THE TOWN OF ERIE STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA FOR THE OWNERS THEREOF.  
\_\_\_\_\_  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF COLORADO NO. \_\_\_\_\_  
(AFFIX SEAL)

- LEGEND**
- BERM
  - GRAVEL SURFACE
  - SURFACE ROUGHENING AND HYDRO SEEDING (SEE SHEET C9, DETAIL 1)
  - SEDIMENT TRAP
  - STRAW WATTLES

NOTE:  
ALL DISTURBED AREAS OUTSIDE OF THE DRILL PAD LIMITS TO BE HYDROSEEDED OR STABILIZED AS SHOWN.



**BASELINE**  
Engineering · Planning · Surveying  
70 7TH AVENUE, SUITE 605 - GREELEY, COLORADO 80637  
P: 970.333.7807 · F: 970.333.7807 · www.baselinecorp.com

DESIGNED BY	MJW	DATE	05/06/2015
PREPARED BY	ZS	REVISION DESCRIPTION	REVISED PER TOWN OF ERIE COMMENTS
DRAWN BY	MJW		
DELETED BY	NJN		

**Encana Oil & Gas (USA) Inc.**  
TOWN OF ERIE  
**MORGAN HILLS WELLS & PRODUCTION FACILITY**  
NE 1/4 SECTION 7, T1N, R68W  
WELD COUNTY  
DRILLING PHASE STORMWATER MANAGEMENT PLAN

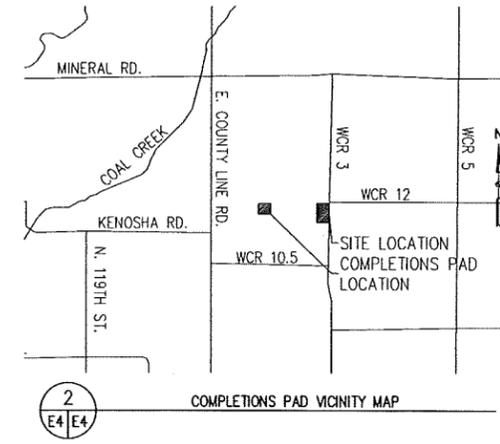
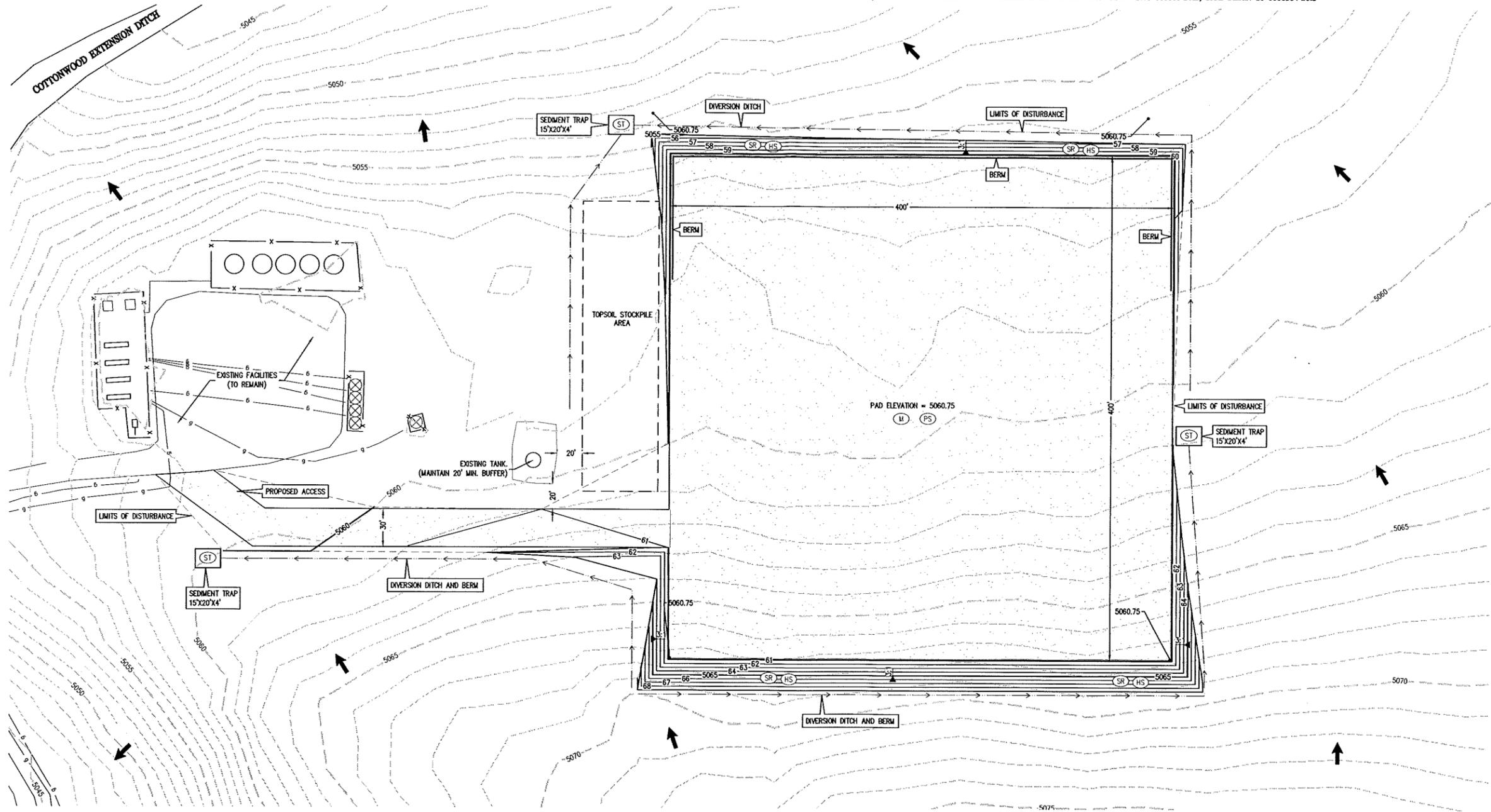
FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	
DRAWING SIZE	24" x 36"
SURVEY FIRM	7/2013
SURVEY DATE	
JOB NO.	226C
DRAWING NAME	226C - SRU.dwg
SHEET NO. OF	11

E3

# MORGAN HILLS WELLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168, 1I-7H-A168

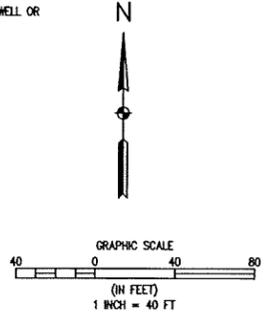
AN OIL AND GAS PRODUCTION FACILITY LOCATED IN THE NE 1/4 OF NE 1/4 OF SECTION 7, TOWNSHIP 1 NORTH, RANGE 68 WEST, 6TH P.M. SRU AREA ± 755 ACRES SPECIAL REVIEW USE - SRU-000503-2015, SITE PLAN SP-0000504-2015



EARTHWORK SUMMARY	
CUT	8,081 CY
FILL	7,713 CY
NET	368 CY

- NOTES:**
1. COMPLETION PAD TO BE REMOVED AND GRADES RESTORED TO EXISTING CONDITIONS AFTER COMPLETION ACTIVITIES ARE DONE.
  2. ALL DISTURBED AREAS TO BE SEED AND MULCHED.
  3. EARTHWORK SUMMARY CALCULATED WITHOUT USE OF SWELL OR COMPACTION FACTORS.

- LEGEND:**
- (HS) HYDRO-SEEDING
  - (SR) SURFACE ROUGHENING
  - (ST) SEDIMENT TRAP
  - BERM
  - DIVERSION DITCH
  - GRAVEL PAD
  - FLOW DIRECTION
  - 3:1 SLOPE, RISE:RUN



1 COMPLETIONS GRADING AND STORMWATER MANAGEMENT PLAN

2 E4 E4

**BASELINE**  
Engineering · Planning · Surveying  
850 FORD STREET · GOLDEN, COLORADO 80401  
P. 303.426.8868 · F. 303.426.9959 · www.baseline.com

REVISION DESCRIPTION	DATE	PREPARED BY	DRAWN BY	CHECKED BY
REVISED PER TOWN OF ERIE COMMENTS	05/08/2015	ZS	M/JW	R/AB

Encana Oil & Gas (USA) Inc.  
WELD COUNTY  
MORGAN HILLS WELLS & PRODUCTION FACILITY  
NE 1/4 SECTION 7, T1N, R68W  
COMPLETIONS GRADING AND STORMWATER MANAGEMENT PLAN

FOR AND ON BEHALF OF BASELINE CORPORATION

DATE SUBMITTED	24 X 36"
DRAWING SIZE	SURVEY DATE
SURVEY FIRM	SURVEY DATE
JOB NO.	226C
DRAWING NAME	Completions pad.dwg
SHEET	11 OF 11

E4

N:\PLANNING\_LLC\226 Encana Weld CO USR\USR5\Erie\Drawings\Completions pad.dwg, 6/26/2015 12:37:55 PM, Heather McDonald

# ATTACHMENT C



**Community Meeting**  
Morgan Hills 7H-A168  
August 26th, 2015  
5:00 – 7:00 pm  
Erie Community Center

**Attendance:**

**Community:**

Jeremiah Henson  
Scott Ratchinson  
Ed Taylor  
Kirby Smith  
Larry Wilson  
Sherri Bennett  
S. Berg  
DeAndrea Arndt  
Skylar Zilliorx

Jim & Margot Hoffmeyer  
Zack Williams  
Brandon Gray  
Scott Walker  
Whitney Bar  
Bob Laidley  
Travis Young  
Reed Boeger  
Mary Jane Mandel

**Media:**

Whitney Bryen

**Encana Staff Representatives:**

Mineral and Surface Land Negotiators  
Regulatory  
Construction Engineers  
Drilling Engineers  
Completion Engineers  
Production Managers

Environmental Managers  
Air Permitting Managers  
Field Safety Managers  
Community Relations  
Development  
Media Relations

**Community Meeting Notifications:**

- Community Meeting Notices were posted at the Morgan Hills location on Aug. 5, 2015.
- Notices were mailed to approximately 200 neighbors within a ½ mile of the location on Aug. 6, 2015.
- Erie emailed the Community Meeting notice to their email list on Aug. 7, 2015.
- Community Meeting Postcard was emailed to Terry Riedel, Parkland Estates HOA President on Aug. 10, 2015, requesting information be shared with all Parkland Estate HOA members.
- Received confirmation from a neighbor that lives in the Northridge neighborhood that the postcard had been posted to the community bulletin board by Aug. 11, 2015.

**Summary of the Community Meeting:**

Members of the Encana team were on-hand to answer questions that the community had regarding the nine proposed horizontal wells. Maps of the proposed location including proposed access route maps, pipeline and wellbore maps, along with various fact sheets were also available for the community to take with them, review and comment on.

**Encana Services Company Ltd.**

Republic Plaza 370 – 17<sup>th</sup> Street Suite 1700 Denver CO 80202 303.623.2300 [encana.com](http://encana.com)

Encana Services Company Ltd. provides operational, corporate, administrative and advisory services to Encana Corporation and its subsidiaries.



There were questions and concerns regarding the distance of the location from homes, drilling impacts, equipment on location – temporary and permanent, noise, light, water usage, hydraulic fracturing, timing of operations, duration of activity and environmental impacts. Specifically, neighbors asked about the close proximity to the Parkland Estates private runway and how drilling and operations would affect that. Questions were also raised about traffic and access routes. Members of Encana's team received questions about The Hub, its status and how it affects what neighbors will see on the Morgan Hills location once these wells begin producing. Residents also inquired what action to take if they smell/observe a leak.

The recently approved Operator Agreement was also a common topic, with general interest on how the guidelines were reached between the Town of Erie and Encana and how the agreement impacted the Morgan Hills location. A few attendees noted that the attendance from the community was much lower than expected. One comment card was received praising the Town of Erie for keeping oil and gas development in the town.

There were attendees from the Parkland Estates and Northridge HOAs, Erie and neighboring towns.

Encana shared community relations and operations contact information with attendees and encouraged them to reach out to the team with any questions or concerns.

Encana adjourned the Community Meeting for Morgan Hills 7H-A168 at 7:00 pm.



M

Name	Address	Email
Zach Williams	Denver, CO	zwilliams@principleenergyservices.com
Brandon Gray	Denver	bgray@principleenergy.com
Scott Walker	Windsor Co.	swalker@principleenergy.com
Whitney Butler	Baldur	wbutner@coloradoenergy.com
Bob Ledley	1904 Clement St	b.ledley@comcast.net
Travis Young	Keenesburg CO	
Reed Boyer	1114 Lassick St Ft. Collins CO 80526	rboeyer@gmail.com
Mary Jane Mandel	1413 Falcon Pl Erie	maryjane.mandel@me.com



Name	Address	Email
Henson, Jeremiah	262 S PEARL ST	JCF-miam@hotmail.com
Batchinsky, Scott	DENVER	SBATCHINSKY@HOTMAIL.COM
ESTAYLOR	167 BAKER LN, ERIE	
KIRBY SMITH	10201 50 HUDSON ST. CENTENNIAL CO 80124	KSKIRBY@AOL.COM
KARLA WILSON	100 NORTHBRIDGE DR	BETJWIL@MSN.COM
Sherril Bennett	1662 Sandy Circle	
S. Ben	371 Tyrone Dr	
DIANDREA ANDT	82 Whigh Cir, Erie	deandreamdt@gmail.com
Skylar Zilliox	1500 JULIUS ST. GORDEN CO	skylar.huzyk@gmail.com
Jim & Margot Hoffmeyer	1168 Fletcher - Dr. Erie, CO	

# ATTACHMENT D

**APPENDIX A**  
**BEST MANAGEMENT PRACTICES FOR PAD SITE LOCATIONS**

**1. Distance to Erie Building Units.** For the Identified Well Pads, the minimum distance between a well or surface equipment, and the nearest exterior wall of an existing Erie Building Unit (as of the Effective Date) shall not be less than the following:

Oskarson	8,990 feet
Morgan Hill	2,190 feet
Woolley Beckey	
Sosa	1,010 feet
Woolley	2,450 feet
Erie Vessels	1,175 feet
Cosslett	1,150 feet
William Peltier	1,900 feet
Vessels Minerals	1,050 feet

Compliance with this requirement shall be determined from the actual as-built locations of the well or surface equipment. Nothing herein shall be construed to grant Encana any surface rights on property owned by the Town or another person. No Pad Site will be located on Town property without authorization by the Town Board of Trustees.

**2. Noise mitigation.** Encana will comply with the following noise mitigation requirements at all pad sites:

- (a) For db(A) scale noise, Encana will insure that the noise level from operations subject to the light industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) does not exceed sixty (60) db(A) and that the noise level from operations subject to the industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) is reduced at least five (5) db(A) below the maximum level permitted by those Regulations. For this purpose, the noise level shall be measured as set forth in COGCC Regulations 802.b & c, except no measurements shall be taken when traffic is passing the sound level meter, Encana shall be present during all measurements, and building units shall be limited to those units existing as of the Effective Date. As set forth in COGCC Regulation 802.b, the noise levels shall be subject to increase for a period not to exceed fifteen (15) minutes in any one (1) hour period and reduction for periodic, impulsive or shrill noises.
- (b) For db(C) scale noise, Encana shall comply with the requirements of COGCC Regulation 802, as such requirements may be amended during the term of this Agreement.

3. **Central Hub.** In an effort to reduce air emissions, Encana intends to construct a central gathering and storage facility at a location in IN-68W-Section 21 (the "Hub") to receive liquids from the wells which are the subject of this Agreement. As a result, Encana will not install hydrocarbon storage tanks at these pad sites, which will eliminate potential sources of hydrocarbons from the sites. However, Encana will still install at the pad sites all other equipment and facilities necessary for the production of hydrocarbons, including wellhead equipment, separation equipment, electrical equipment, and temporary flowback equipment (including temporary storage tanks). In addition, this BMP is subject to Article IV, Sections 3 and 4 of the Agreement.

4. **Well leak detection and repair**

- (a) To identify leaks, Encana will perform audio, visual and olfactory inspections on a monthly basis at all of its new and existing wells and related facilities and equipment within Erie's Town Limits, provided that such related facilities and equipment are located on the pads for such wells, are part of adjacent tanks used for such pad sites, or are part of storage tanks for such pad sites authorized under Article IV, Section 4 of the Operator Agreement. Encana will also inspect each such well with an infra-red camera on a monthly basis. The initial baseline inspections will occur within sixty (60) calendar days after the Effective Date. After a well has produced for twelve (12) months, the frequency of such inspections shall decrease from monthly to quarterly. If Encana determines that any repairs are required based on these inspections, Encana will promptly initiate these repairs.
- (b) Encana will report to Erie on the inspection results and any associated repairs the month after the inspection or repair occurs. This information will be collectively reported on a monthly basis in the same format that Encana uses for reporting to the Air Pollution Control Division under Regulation 7, but that is specific to wells located within the Erie Town Limits. Erie will make this information publicly available.
- (c) This BMP will terminate five (5) years after the Effective Date, after which Encana will continue to comply with the leak detection, repair, and reporting requirements of Regulation 7, as such requirements may be amended.

5. **Contact information.** Encana shall include its contact information on both the mailed notice required by Article III, Section 8 and the posted notice required by Article III, Section 9. This information shall include both a telephone number for Encana and the address and hours of Encana's Erie community office. Members of the public with concerns or complaints regarding the oil and gas development covered by this Agreement may use this information to speak with Encana.

6. **Steel-rim berms.** Encana shall use steel rim berms or some other state of the art technology that will contain fluids and other material instead of sand or soil berms.

7. **Closed-loop systems.** Encana shall use closed-loop systems for drilling and completion operations.

8. **Lighting.** Encana will install down cast lighting or some other form of lighting that mitigates light pollution and spill-over onto adjacent properties; provided, however, that Encana may still use lighting that is necessary for public and occupational safety.

9. **Class II underground injection control wells.** Encana shall not develop any new Class II underground injection control wells within the Operator Agreement Area during the Term of this Agreement.

10. **Recycling and reuse.** Encana will recycle and reuse water at the pad sites and otherwise minimize waste water production to the extent that it determines such recycling, reuse, and waste water minimization is technically and economically feasible.

12. **Town water supply.** To reduce truck traffic, Erie and Encana will encourage the use of nearby water resources for the drilling and hydraulic fracturing of wells at the pad sites, including the use of Erie municipal water when determined technically feasible and economically practicable by Encana.

13. **Traffic.** Encana will implement the Traffic Management Plan required by Article III, Section 3, Subpart 10.

14. **Road repairs.**

(a) Erie and Encana recognize that truck traffic accessing the Identified Well Pads may cause damage to Erie roads and that road repairs may be needed to mitigate such damage. To this end, Encana will arrange for a qualified outside consultant to perform a road impact study for all Erie roads that are used to access an Identified Well Pad during the Term of this Agreement. The consultant will conduct the first part of the study prior to Encana's operations at such Well Pad and the second part of the study after Encana completes all drilling and hydraulic fracturing at such Well Pad. Encana and Erie will use these studies to determine the extent of any damage accruing to the road during the study period. Encana will then promptly pay Erie to repair such damage or else arrange and pay the cost of such repairs itself whichever Erie prefers.

(b) Encana shall maintain Financial Assurance to secure its road repair obligations under this Agreement. The amount of such Financial Assurance shall equal Erie's annual road maintenance budget as of the Effective Date multiplied by the percentage yielded by dividing the total number of Erie road miles as of the Effective Date into the number of such road miles that Encana will use to access the Identified Well Pads. Encana shall select the form of such Financial Assurance and shall maintain such Assurance until Encana fulfills its obligation to repair road damage under Subsection (a).

15. **Access roads.** Access roads to well and production facilities that connect to a street within Erie shall be improved from the point of connection to a street within Erie a minimum distance of two hundred (200) feet on the access road as specified by the then current requirements of the Code.

16. **Fencing.** Oil and gas well facilities (above ground) within the Erie Town Limits shall be fenced as specified by the then current requirements of the Code.

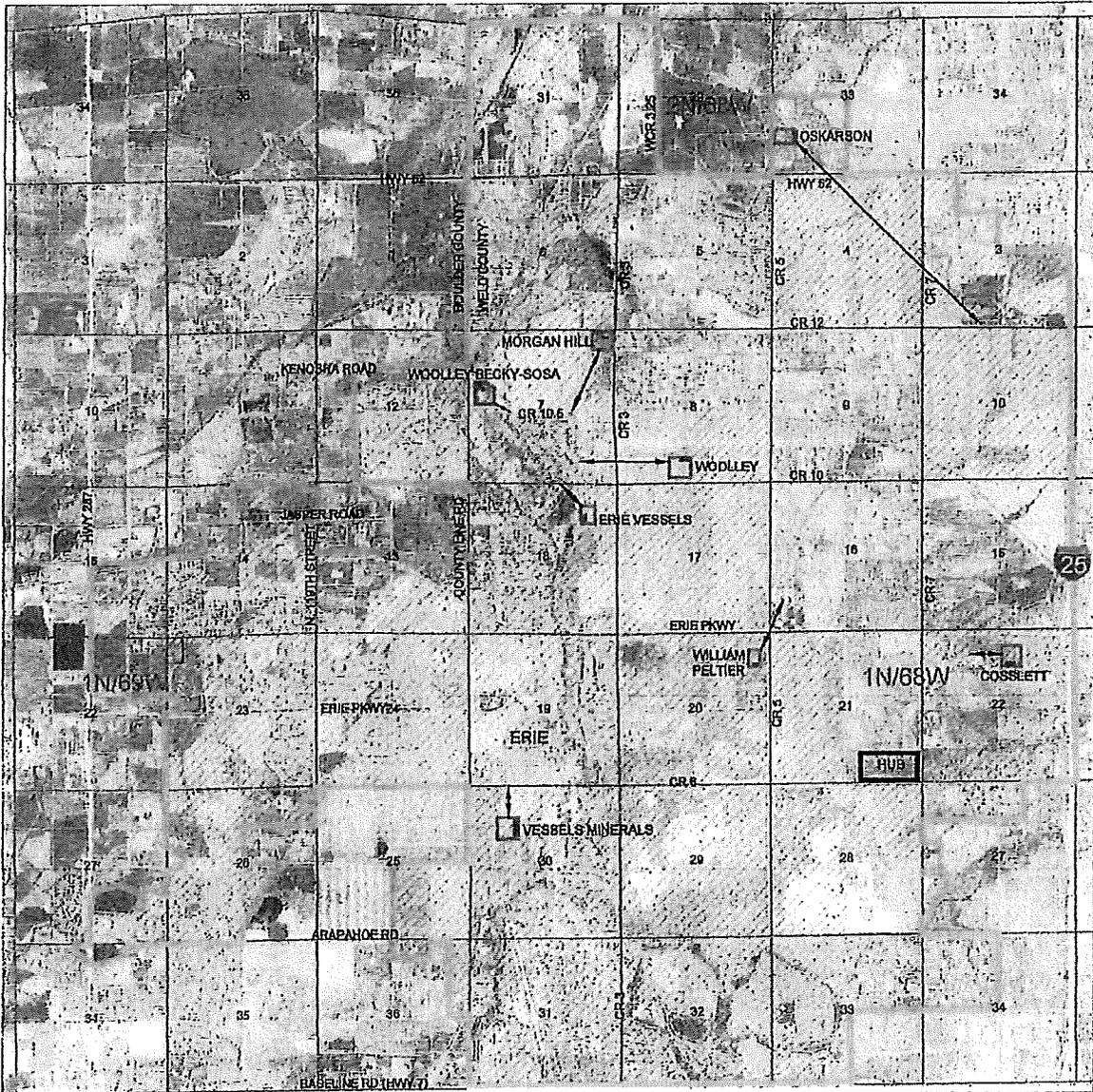
17. **Operations conducted in accordance with plans.** Encana shall conduct all operations in accordance with the plans discussed during the Conceptual Review Process as updated from time to time.

18. **Hydraulic Fracturing Responsible Products Program.** Encana has developed and implemented a company-wide Responsible Products Program to manage the fluid products used in its hydraulic fracturing operations. This Responsible Products Program helps Encana evaluate the hydraulic fracturing fluid products it uses in its operations for safety, effectiveness and potential public health and environmental impacts. As part of this program, Encana has informed all of its hydraulic fracturing fluid product suppliers that any products containing diesel fuels (as defined by EPA 816-R-12-004), 2-Butoxyethanol (2-BE), benzene or heavy metals (i.e. lead, mercury, arsenic, cadmium and chromium) cannot be used in hydraulic fracturing at Encana operations. Encana will continue to conduct its hydraulic fracturing operations within the Erie town limits in accordance with its Responsible Products Program.

19. **Revision of best management practices.** Upon the request of either party, the Parties may revise one or more of these BMPs if they mutually agree such revision would better avoid or mitigate impacts the BMP(s) is intended to address.

# APPENDIX B

## OPERATOR AGREEMENT AREA MAP



LEGEND	
	Pad Site Within the Erie Town Limits
	Pad Site Outside the Erie Town Limits
	Parcel Boundary
	Incorporated Erie
	
	Operator Agreement Area
	Well Pad Facilities

**encana**

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**IDENTIFIED WELL PADS WITHIN THE  
OPERATOR AGREEMENT AREA**

WELD COUNTY, COLORADO

SCALE: 1" = 4000' JULY 22, 2015

**TOWN OF ERIE  
PLANNING COMMISSION MEETING  
Wednesday, September 2, 2015**

---

**SUBJECT:** Public Hearing – Site Plan  
EnCana Morgan Hills Wells (1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168).

**PURPOSE:** Review of Morgan Hills Oil and Gas Wells for compliance with Municipal Code regulations. The applicant is proposing to drill nine horizontal wells from a new drilling location.

**PROJECT FILE NO:** SP-000504-2015

**LOCATION:** Southwest corner of WCR 3 and WCR 12.

**APPLICANT:** EnCana Oil & Gas (USA) Inc.  
Attn: Miracle Pfister  
370 17<sup>th</sup> Street, Suite 1700  
Denver, CO 80202

**SURFACE OWNER:** Mary Alice Billings  
2246 Riverside Drive  
Lyons, CO 80540

Mary Alice Billings Trust  
Guaranty Bank and Trust, Co-Trustee  
Mary Alice Billings, Co-Trustee  
2246 Riverside Drive  
Lyons, CO 80540

Woolley Family Trust  
Donna Woolley, Trustee  
PO Box 223  
Allenspark, CO 80510

**CODE:** Town of Erie Municipal Code, Title 10

**DEPARTMENT:** Community Development Department  
R. Martin Ostholthoff, Director

**ACTION REQUESTED:** Consideration of Resolution No. P15-27: A Resolution Making Certain Findings Of Fact And Conclusions Favorable To The Site Plan For The Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site.

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**STAFF RECOMMENDATION:**

Staff finds the Site Plan application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site in compliance with the Approval Criteria and recommends the Planning Commission approve Resolution No. P15-27 recommending approval of the application to the Board of Trustees with the following conditions:

- a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
- b. Prior to construction a Right of Way Permit shall be obtained from the Town.
- c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
- d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
- e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/EnCana Operator Agreement.

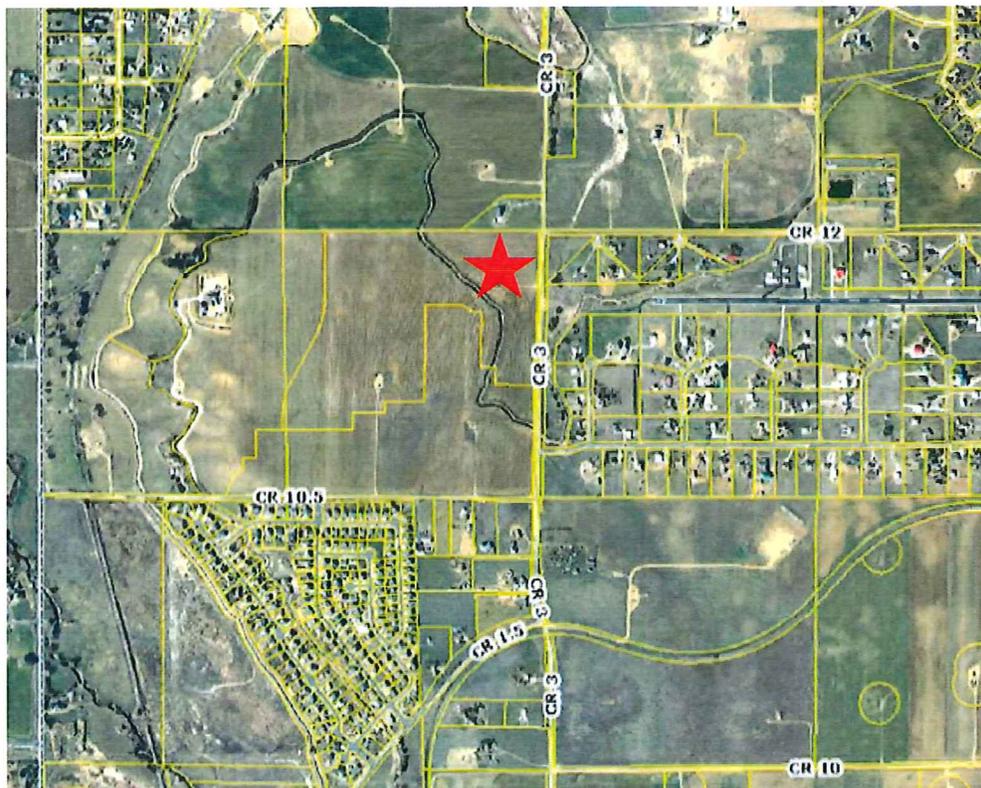
**SUMMARY AND BACKGROUND OF SUBJECT MATTER**

**Purpose:**

The applicant is requesting approval for the Morgan Hills well site that includes nine horizontal wells on a new production site.

**Location:**

The site is located that the southwest corner of WCR 3 and WCR 12. A new access road is to be constructed aligning with WCR 12.



**Existing Conditions:**

Existing Zoning: LR – Low Density Residential  
Existing Use: Agricultural and oil/gas operations

**Adjacent Land-Use/Zoning:**

	<b>ZONING</b>	<b>LAND USE</b>
<b>NORTH</b>	LR – Low Density Residential A – Agricultural (Weld County)	Vacant land Single-family residential
<b>SOUTH</b>	LR – Low Density Residential	Vacant land
<b>EAST</b>	PUD – Planned Unit Development (Weld County)	Single-family residential (Parkland Estates)
<b>WEST</b>	LR – Low Density Residential	Vacant land

**State Oil and Gas Regulations:**

Under Colorado State law, surface and mineral estates are separate and distinct interests in land, and may be “severed” from one another. The Colorado Oil and Gas Conservation Commission (COGCC) govern the permitting and regulation of oil and gas wells throughout the State according to the Oil and Gas Conservation Act. The Act and its associated Rules sets minimum standards for all aspects of oil and gas well drilling and production, including permitting, siting, setbacks, and adjacent development.

**Town of Erie Oil and Gas Regulations:**

The Town of Erie Municipal Code regulates the access roads, fencing, and color of the oil and gas well above ground facilities through the review of the required Site Plan and Special Review Use applications for the proposed oil and gas well facilities. Other operational aspects of an oil/gas facility are regulation by the State of Colorado through the COGCC.

**Town of Erie/EnCana Operator Agreement**

The Town of Erie and EnCana entered into an Operator Agreement on August 25, 2015. The Operator Agreement includes Best Management Practices (BMP’s) relative to the drilling and operations of oil/gas facilities.

**Oil and Gas Well Installation:**

The Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 well site will include installation of well heads, well related facilities and equipment, access roads and pipelines.

**Drill Site Size:**

- Approximately 11 acres of disturbed area that will be reduced to approximately 3.5 acres after initial drilling and completion operations are finished.
- Construction of the pad site and access road will take approximately 8 weeks to complete, prior to the commencement of drilling.

Access:

- The applicant will be constructing a new access road into the proposed site as shown on the Site Plan. The proposed access will eventually become an extension of the WCR 12 when the property to the north (Andalusia) is developed.

Drilling Operations:

- Drilling rig on site approximately 120 to 140 days to complete the nine wells.
- Drilling occurs 24 hours per day.
- Completion operations performed on each well will be in accordance with COGCC rules and regulations.
- Permanent production facilities installed.
- Process completed with regrading and reclamation of site.

Mitigation Measures:

- A temporary sound wall will be installed around the operations area for sound and lighting control to the maximum extent practicable.
- Shrouding of lights will be provided to the maximum extent practicable.
- A closed loop water system will be utilized to reduce truck traffic and minimize site disturbance.

Production equipment and facilities:

- All production equipment and facilities located at the well site, including the nine well heads, will be fenced and painted according to Town Code requirements. No permanent liquid hydrocarbon and water storage tanks are included at this facility as liquid hydrocarbons and produced water from the wells will be piped to EnCana's centralized Liquids Handling Hub currently under construction at the northwest corner of WCR 6 and WCR 7, or approximately 5 miles from the Morgan Hills well site.

Pipeline:

- Flow lines and gathering lines are proposed as depicted on the Site Plan.

**Endangered Species:**

The drilling window for the wells is not located in an area identified in the Town of Erie's Natural Areas Inventory. In addition, the applicant has provided a Site Assessment Report that describes the physical and ecological character and conditions of the well site to identify potential environmental issues.

**SITE PLAN ANALYSIS:**

The Site Plan application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site was reviewed for conformance with Erie Municipal Code, Title 10, Section 7.12.F.9 Approval Criteria. Staff makes the following findings.

- a. The Site Plan is consistent with the Town's Comprehensive Master Plan;  
**Staff:** *The proposed well facility is consistent with the Town of Erie Comprehensive Plan. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*
- b. The Site Plan is consistent with any previously approved subdivision plat, planned development, or any other precedent plan or land use approval as applicable;

**Staff:** *The Site Plan is consistent with previously approved land use actions for the subject property.*

- c. The Site Plan complies with all applicable development and design standards set forth in this Code, including but not limited to the provisions in Chapter 2, Zoning Districts, Chapter 3, Use Regulations, Chapter 4 Dimensional Requirements, and Chapter 6, Development and Design Standards;

**Staff:** *The Site Plan is consistent with applicable design and development standards of the Code. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

- d. Any significant adverse impacts reasonably anticipated to result from the use will be mitigated or offset to the maximum extent practicable; and

**Staff:** *The applicant will utilize sound walls and light shrouding to mitigate operational issues to the maximum extent practicable. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

- e. The development proposed on the Site Plan and its general location is or will be compatible with the character of surrounding land uses.

**Staff:** *The proposed drilling meets applicable COGCC setback standards. In addition, the applicant will meet the BMP standards outlined in the Town of Erie/EnCana Operator Agreement.*

#### **STAFF RECOMMENDATION:**

Staff finds the Site Plan application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 and 1I-7H-A168 Well Site in compliance with the Approval Criteria and recommends the Planning Commission approve Resolution No. P14-12 recommending approval of the application to the Board of Trustees with the following conditions:

- a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
- b. Prior to construction a Right of Way Permit shall be obtained from the Town.
- c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
- d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
- e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/EnCana Operator Agreement.

#### **PUBLIC NOTICE:**

Notice of this Public Hearing has been provided as follows:

Published in the Colorado Hometown Weekly:	August 12, 2015
Property Posted as required:	August 14, 2015
Letters to Adjacent Property Owners:	August 14, 2015

**NEIGHBORHOOD MEETING:**

As required by the Municipal Code a Neighborhood Meeting was held on August 26, 2015 at 6:00 p.m. at the Erie Community Center. The required notice for the Neighborhood Meeting was provided.

**Approved by:**



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**R. Martin Ostholthoff  
Community Development Director**

**Attachments:**

- A. Resolution No. P15-27

# ATTACHMENT A

**RESOLUTION NO. P15-27**

**A RESOLUTION MAKING CERTAIN FINDINGS OF FACT AND CONCLUSIONS FAVORABLE TO THE SITE PLAN FOR THE MORGAN HILLS 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 WELL SITE.**

**WHEREAS**, the Planning Commission of the Town of Erie, Colorado, has received and considered the Special Review Use application for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 Well Site, on Wednesday, September 2, 2015, on the application of EnCana Oil & Gas (USA) Inc., 370 17<sup>th</sup> Street, Suite 1700, Denver, Colorado, 80202 for the following real property; to wit:

A Portion of Northeast Quarter, Section 7, Township 1 North, Range 68 West of the 6<sup>th</sup> Principal Meridian, Town of Erie, County of Weld, State of Colorado; and

**NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE TOWN OF ERIE, COLORADO, as follows:**

**Section 1. Findings of Fact.**

1. The applicant's application and supporting documents are in substantial compliance with the Town of Erie Municipal Code, Title 10.
2. The Site Plan has met Erie Municipal Code, Title 10, Section 7.12.F.9 Approval Criteria:
  - a. The Site Plan is consistent with the Town's Comprehensive Master Plan;
  - b. The Site Plan is consistent with any previously approved subdivision plat, planned development, or any other precedent plan or land use approval as applicable;
  - c. The Site Plan complies with all applicable development and design standards set forth in this Code, including but not limited to the provisions in Chapter 2, Zoning Districts, Chapter 3, Use Regulations, Chapter 4 Dimensional Requirements, and Chapter 6, Development and Design Standards;
  - d. Any significant adverse impacts reasonably anticipated to result from the use will be mitigated or offset to the maximum extent practicable; and
  - e. The development proposed on the Site Plan and its general location is or will be compatible with the character of surrounding land uses.
3. The Site Plan as proposed, with the following conditions, preserves the health, safety, welfare and interest of the citizens of the Town of Erie, Colorado:

- a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
- b. Prior to construction a Right of Way Permit shall be obtained from the Town.
- c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
- d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
- e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/ EnCana Operator Agreement.

**Section 2. Conclusions and Order Recommending Approval to the Board of Trustees for the Site Plan for the Morgan Hills 1A-7H-A168, 1B-7H-A168, 1C-7H-A168, 1D-7H-A168, 1E-7H-A168, 1F-7H-A168, 1G-7H-A168, 1H-7H-A168 AND 1I-7H-A168 Well Site.**

1. The applicant's application and supporting documents are in substantial compliance with the Town of Erie Municipal Code, Title 10.
2. The Site Plan has met Town of Erie Municipal Code, Title 10, Section 7.12.F.9 Approval Criteria.
3. The Site Plan as proposed, with the following conditions, preserves the health, safety, welfare and interest of the citizens of the Town of Erie, Colorado:
  - a. Prior to construction a Grading and Stormwater Quality Permit shall be obtained from the Town.
  - b. Prior to construction a Right of Way Permit shall be obtained from the Town.
  - c. A burrowing owl survey will be required if prairie dogs are euthanized or colonies are disturbed by proposed pad development or drilling between March 15<sup>th</sup> and October 31<sup>st</sup>. The applicant shall use the recommended Survey Protocol and Actions in Protecting Nesting burrowing owls from Colorado Parks and Wildlife.
  - d. Abandoned flowlines shall be removed, by the operator, at the Town's discretion.
  - e. Applicant shall amend COGCC Form 2A (Oil and Gas Location Assessment) to include the BMP's from Appendix A of the Town of Erie/ EnCana Operator Agreement.

**INTRODUCED, READ, SIGNED AND APPROVED this 2<sup>nd</sup> day September 2015.**

TOWN OF ERIE, PLANNING COMMISSION

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J. Eric Bottenhorn, Chair

ATTEST:

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Hallie S. Sawyer, Secretary