



## **Substantially Equivalent Water Plan**

This document is being submitted as a substantially equivalent Water Plan for the Washington Pad Form 2A. This water plan was developed as a part of the operator agreement process with City of Thornton. This document complies with all requirements outlined in Colorado Oil and Gas Conservation Commission Rule 304.c.(18). For this reason, Extraction believes this satisfies the substantially equivalent information requirements and requests that it is accepted pursuant to Rule 304.e.

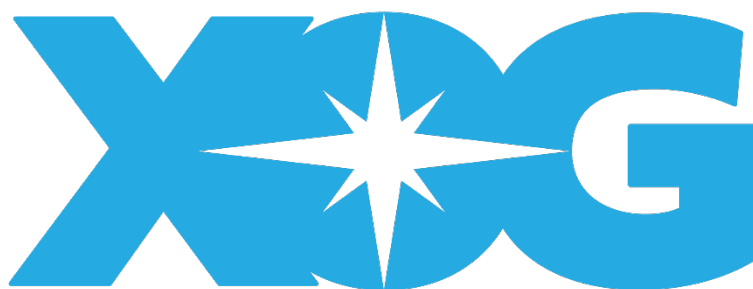
**Thornton Operator Agreement Submittal  
Materials**

**Section 18 - 870**

**Section f (7)**

**Water Availability Plan**

**Washington Pad**



**EXTRACTION OIL & GAS**

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# 1.0 INTRODUCTION

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The following document outlines Extraction Oil & Gas, Inc.'s ("Extraction", "Operator", or "The Operator") Water Availability Plan for the development of minerals within the municipal boundaries of the City and County of Thornton ("Thornton", "City", or "The City") at the location described as the proposed Washington Pad Site ("Washington", "The Development").

Thornton sets forth requirements for water usage in the Thornton City Code at Chapter 18, Division 2, Section 18-870(7) as follows:

*Water availability plan. The plan shall identify the anticipated volume of water needed for each phase of the oil and gas operation, and verification of all sources of water for the life of the operation. The plan shall take into consideration that the city will not provide city water for use by an oil and gas operation.*

This document fulfills the above review requirement and is submitted as part of the application materials in support of Extraction's pursuit of an Operator Agreement with the City.

## 2.0 WATER OVERVIEW

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The following document outlines Extraction's Water Availability Plan in furtherance of the Operator Agreement. The plan identifies the anticipated volume of water needed for each phase of the oil and gas operation, including the source of water supply. All oil and gas operational phases requiring water will utilize water resources that are not reliant on the City of Thornton. Extraction verifies that it has the legal right to access all its planned water sources.

The initial operational phase is the pad and pad access construction. It is anticipated that 1,000-barrels (bbl.) of municipal water sourced from outside the City of Thornton will be utilized for this operational phase. Water utilized during construction will support dust control and the achievement of target soil moisture content for compaction. The water will be transported to the site via truck.

It is anticipated that a total of 18,000-bbl. of water will be required to drill the 10 planned wells on the Washington Pad. Water is a vital component in the drilling mud that is utilized to drill the portion of the borehole that transits through shallow aquifers. Additionally, the water is utilized during cementing of the well casing. The water will be transported to the site via truck.

The completions phase will use an anticipated combined total of ~5,400-Mbbls of water. The final actual volumes used will be reported to the COGCC via FracFocus (<https://fracfocus.org/>). Water will be transported to the site from the irrigation ditch through lay-flat hoses and stored on location in a temporary large tank (MLVT). This practice significantly reduces truck trips. Exhibit A: Lay-flat Pipeline Water Delivery reflects the planned water delivery route during completion operations.

No water is anticipated to be needed during the flowback or production phase. Once the flowback phase is finished and the wells begin production, interim reclamation activities begin on the pad. It is estimated that only about 750-bbls of water will be required to support these efforts and will be transported to location via truck.

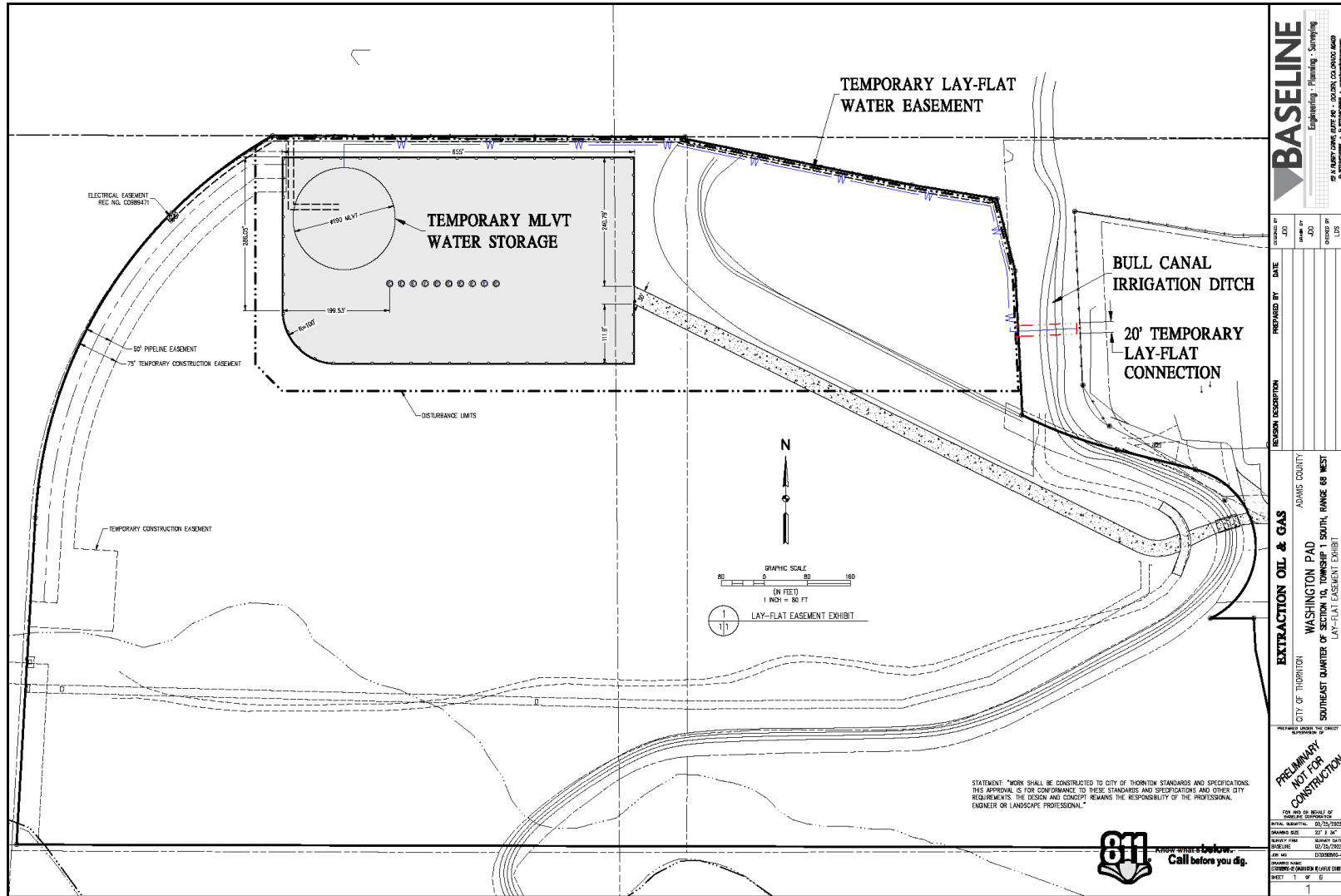
Table 1: Washington Pad Water Availability Plan provides a summary of the anticipated volume per phase. Exhibit B: Completions Layout and On-Location Water Storage provides a representation of how water will be stored during completions operations.

**Table 1: Washington Pad Water Availability Plan**

<b>Operation Phase</b>	<b>Anticipated Water Volume</b>		<b>Source</b>
Pad & Access Construction (dust control)	1,000	bbl.	Municipal Water (Not from Thornton)
Drilling	18,000	bbl.	Municipal Water (Not from Thornton)
Completions (Frac)	5,375	Mbbl.	Fresh Water from Irrigation Ditch
Well Clean Out & Tubing Installation	25,000	bbl.	Fresh Water from Irrigation Ditch
Next Generation Flowback & Production	0	bbl.	Not Required
Interim Reclamation (Dust Control)	750	bbl.	Municipal Water (Not from Thornton)

# 3.0 EXHIBITS

## 3.1 Exhibit A: Lay-Flat Pipeline Water Delivery



<b>BASELINE</b> Engineering - Planning - Surveying 1910 S. UNIVERSITY AVENUE, SUITE 200, DENVER, CO 80202-3000 P: 303.733.8800 F: 303.733.8801	
DESIGNED BY: JDO	DRAWN BY: JDO
CHECKED BY: JDO	DATE: 6/20/2022
APPROVED BY: JDO	DATE: 6/20/2022
PROJECT NO: 22-0000	SHEET NO: 1 OF 6
EXTRACTION OIL & GAS WASHINGTON PAD CITY OF THORNTON ADAMS COUNTY SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 1 SOUTH, RANGE 68 WEST LAY-FLAT EASEMENT EXHIBIT	
PRELIMINARY NOT FOR CONSTRUCTION	
FOR ANY TO BE MADE BY THE CLIENT OR CONTRACTOR	
DATE: 6/20/2022	DRAWING SIZE: 24" x 36"
DESIGNED BY: JDO	CHECKED BY: JDO
DRAWN BY: JDO	DATE: 6/20/2022
PROJECT NO: 22-0000	SHEET NO: 1 OF 6
811 Call before you dig.	





## Water Plan – Washington Pad

The following information is intended to summarize water usage during Operations on the Extraction's Washington Pad. The information presented herein have been forecast using the best available information and may be subject to change prior to or during operations as a result of variables beyond Operator's control.

### Water Sourcing

- Water will be sourced and withdrawn from the Bull Canal
- Location of Withdrawal
  - Latitude: 39.978752N / Longitude: -104.98020W
  - Legal Description: NESE of Sec 10, T1S R68W

### Transportation of Water

- Operator will utilize lay-flat waterline from the source to the Washington Pad
- Lay-flat waterline is temporary and laid across the land surface; the line is secured via staking or similar methods at fixed distances throughout its traverse.

### Contract to Purchase Water

- Operator has a contract to purchase water at the above-captioned location from the following water provider:
  - Farmers Reservoir and Irrigation Company (FRICO)
  - 80 S 27th Ave,  
Brighton, CO 80601
  - Attn: Scott Edgar
  - (303)659-7373

### Potential Use of Recycled or Reused Water ("Graywater")

Although contemplated, the use of Graywater is not feasible at the Washington Pad. There are a number of variables precluding the use of Graywater at this location including but not limited to the following:

- Lack of a reliable Graywater source(s) proximal to the Oil & Gas Location for in the quantities and intervals needed to sustain operations
- Transportation of Graywater will require a significant amount of truck traffic that has been eliminated through the use of freshwater and lay-flat waterline. Transport of water via truck with a carrying capacity of 150 bbls results in more than 47,000 one-way trips (i.e., source to location) to meet the operation demand for water.
- On-site storage and treatment of Graywater will require additional disturbance area dedicated for Graywater handling. Relative to the proposed location, an increase in the disturbance footprint (e.g., bigger Oil & Gas Location) would be required.