

Flood Shut-In Plan

Petro Operating Company, LLC

**LG Everist Pad – 40.11362, -104.82615
NWNW Sec. 30 – T1N – R66W
Fort Lupton, CO**

Petro Operating Company, LLC (Petro) plan for the appropriate handling of equipment shut-in during a flood event for the LG Everist location is described below:

Location Inventory

- Existing oil and gas wells
 - Counter 1-AD, API# 05-123-10282. Will be plugged and abandoned by Petro prior to commencing operations.
- Proposed oil and gas wells
 - 12 horizontal wells to be drilled from the LG Everist Pad
- There are no facilities on location related to existing wells
- Planned Storage Tanks and Separation Equipment
 - 2 Water Tanks – Approximately 1000 barrels
 - 4 Oil Tanks – Approximately 2000 barrels
 - 1 Oil Surge Vessel
 - 1 LACT Unit
 - 4 Vapor Recovery Units (VRU)
 - 2 ECDs
 - 4 Heater Treaters
 - 8 Separators
 - 2 Emission Control Combustors

In accordance with COGCC Rule 421.b.(2)-(4), all tanks and separation equipment on location will be anchored to the ground. Anchors will be engineered to support the tank and separation equipment, and to resist flotation, collapse, lateral movement, or subsidence. Containment berms around tanks will be constructed of steel rings or another engineered technology that provides equivalent protection from floodwaters and debris. No pits will be used at this location.

Shut-In Plan

In the event of a flood, imminent threat of a flood, or flood occurrence; the following plan will be followed.

1. Notify affected personnel that may be on site
2. If the site is inaccessible, use the remote shut down feature available from the ZdScada system to shut the wells in and verify with the system that flow has stopped. (This shut down closes valves at both well head and separator)



3. Notify pipeline operators of shut down.
4. If the site is accessible or becomes accessible after a remote shut down these additional steps will take place.
 - a. Well head master valves to be shut and locked out.
 - b. Well head and separator control valves to be shut.
 - c. Pilot lights/Burners turn to off position.
 - d. Main disconnect on power distribution panel switched to off position.
 - e. Shut main isolation valves on gas sales, oil, and water lines.
5. Monitor site conditions during event via scada and in person if well site remains safely accessible.
6. Once the event is over, site is safely accessible, and the threat of flooding is no longer in the forecast, return to site for the following safety and environmental assessments. (use third party where applicable)
 - a. Lease road integrity
 - b. Site stormwater BMPs
 - c. This site is next to gravel pits with slurry wall berms. If these are visibly damaged, be sure to notify the LG Everist Mining Company, to whom these gravel pits belong.
 - d. Inspect well site, tank battery and separation facility for any settling.
 - e. Inspect tank battery and separation facility for any signs that the equipment was unsettled/moved by floodwaters.
 - f. Have an electrician inspect and test the electrical components on site to ensure safe operation when brought back on line.
 - g. Inspect all above ground piping for damage or leaks.
 - h. Test automation functions
 - i. Submit report(s) as necessary to facilitate any repairs needed.

Triggers for Flood Shut-In Plan

Petro will monitor the National Weather Service and local weather alert systems for this location, with the following warnings applicable as a trigger to this plan:

1. Flash Flood Warning
2. Flood Warning
3. Flash Flood Watch
4. Flood Advisory

Reporting

In the event of wells being shut-in due to a flood, notice of the event and the well(s) status change to “shut-in” will be filed with the COGCC via Form 4 Sundry. A notice of return to service will be filed with the COGCC via Form 42 at least 48 hours prior to the anticipated date of the well’s return to production. Additionally, the City of Fort Lupton will be properly notified of the flood event, well status changes, and plans to bring wells back to production in a timely manner.



Relevant Contact Information

Operator:

Alex Corey
713-408-7174
alex.corey@iptenergyservices.com

Petro Operating Company, LLC
9033 E. Easter Place, Suite 112
Centennial, Colorado 80122

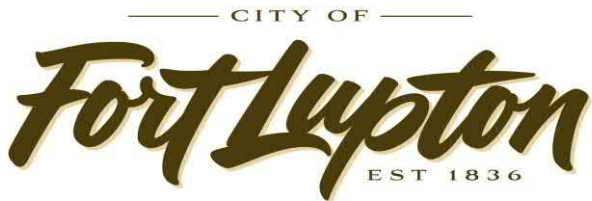
Local Government Floodplain Administrator:

Todd Hodges
720-466-6106
thodges@fortluptonco.gov

City of Fort Lupton, Planning & Building Division
130 S. McKinley Avenue
Fort Lupton, CO 80621

City of Fort Lupton Floodplain Permit

Petro has obtained an approved floodplain permit from the City of Fort Lupton prior to the LG Everist OGD application. This floodplain permit is attached in the following pages of this document.



COME PAINT YOUR FUTURE WITH US

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Fax: 303.857.0351

Phone: 303.857.6694
www.fortluptonco.gov

| | |
|--|--|
| Date: March 30, 2020 | Applicant: Petro Operating Company, Inc. – Andy Peterson |
| Address / Location of Project: 1/4NW Section 30, T2N and R66W, Southwest Corner of S. Platte River and WCR 18, Approximately 12546 County Rd 18, Fort Lupton, 80621. | |
| Telephone: (970) 669-7411 | |

Description of work (Complete for All Work):

Proposed Development Description:

- ☐ New Building
☐ Manufactured Home
☒ Other O&G Facilities
- ☐ Improvement to Existing Building
☐ Filling

1. Size and location of proposed development (attach site plan):

The proposed facilities will be located on an ~3 acres located on existing ground that is predominately elevated above the existing 100-year floodplain. The site is located in the SW Corner of the S. Platte River and Weld County Road 18. See Attachment A for Site Plan

2. Is the proposed development in a Special Flood Hazard Area (SFHA Zones A, AE, A1-A30, AH or AO)?

☒ Yes ☐ No

3. Per the Floodplain Map, what is the zone and panel number of the area of the proposed development?

Zone AE Panel Number 08123C2102E (See Attachment B)

4. Are other Federal, State or Local permits obtained?

☐ Yes ☒ No

Type: _____

5. Is the proposed development in an identified floodway?

☒ Yes ☐ No

6. If Yes to No.6, is a "No Rise Certification" with supporting data attached?

☒ Yes ☐ No See Attachment C

B. Complete for New Structures and Building Sites:

1. Base Flood Elevation at the site: ~4874.0 feet NAVD88
2. Required lowest floor elevation (including basement): N/A feet NAVD88
3. Elevation to which all attendant utilities, including all heating and electrical equipment will be protected from flood damage: N/A feet NAVD88

C. Complete for Alterations, Additions, or Improvements to Existing Structure?

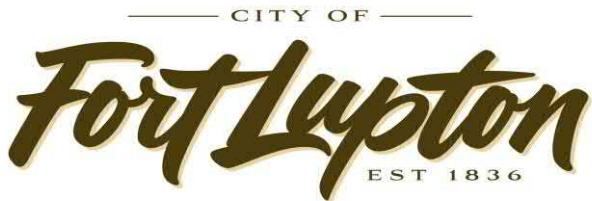
1. What is the estimated market value of the existing structure? \$ N/A
2. What is the cost of the proposed construction? \$ N/A
3. If the cost of the proposed construction equals or exceeds 50 percent of the market value of the structure, then the substantial improvement provisions shall apply.

D. Complete for Non-Residential Flood proofed Construction:

1. Type of flood proofing method: N/A
2. The required flood proofing elevation is: N/A feet NGVD
3. Flood proofing certification by a registered engineer is attached: ☐ Yes ☐ No N/A

E. Complete for Subdivisions and Planned Unit Developments (PUD):

1. Will the subdivision or other development contain 50 lots or 5 acres?
☐ Yes ☒ No
2. If yes, does the plat or proposal clearly identify base flood elevations?
☐ Yes ☐ No N/A
3. Are the 100-Year Floodplain and Floodway delineated on the Site Plan?
☒ Yes ☐ No (See Attachment D)



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For Office Use Only

1. Permit approved ☐ Permit denied ☐ (Statement attached)
2. Floodplain Review Fee: \$ **1750.00** (1,000 escrow +750 application fee) (Due at time of application)
3. Elevation Certificate attached: ☐ Yes ☐ No
4. As-Built lowest floor elevation: _____ feet NGVD
5. Work inspected by: _____
6. City Engineer Signature: _____ Date _____













Conditions: _____

SITE PLAN

LG EVERIST 2N66W30

A PORTION OF LOT 2 OF THE LUPTON MEADOWS
LAND CO. MAP OF DIVISION NO. 3
SITUATE IN THE NORTHWEST QUARTER OF SECTION 30,
TOWNSHIP 2 NORTH, RANGE 66 WEST, 6TH P.M.
CITY OF FOR LUPTON, COUNTY OF WELD,
STATE OF COLORADO

LEGEND

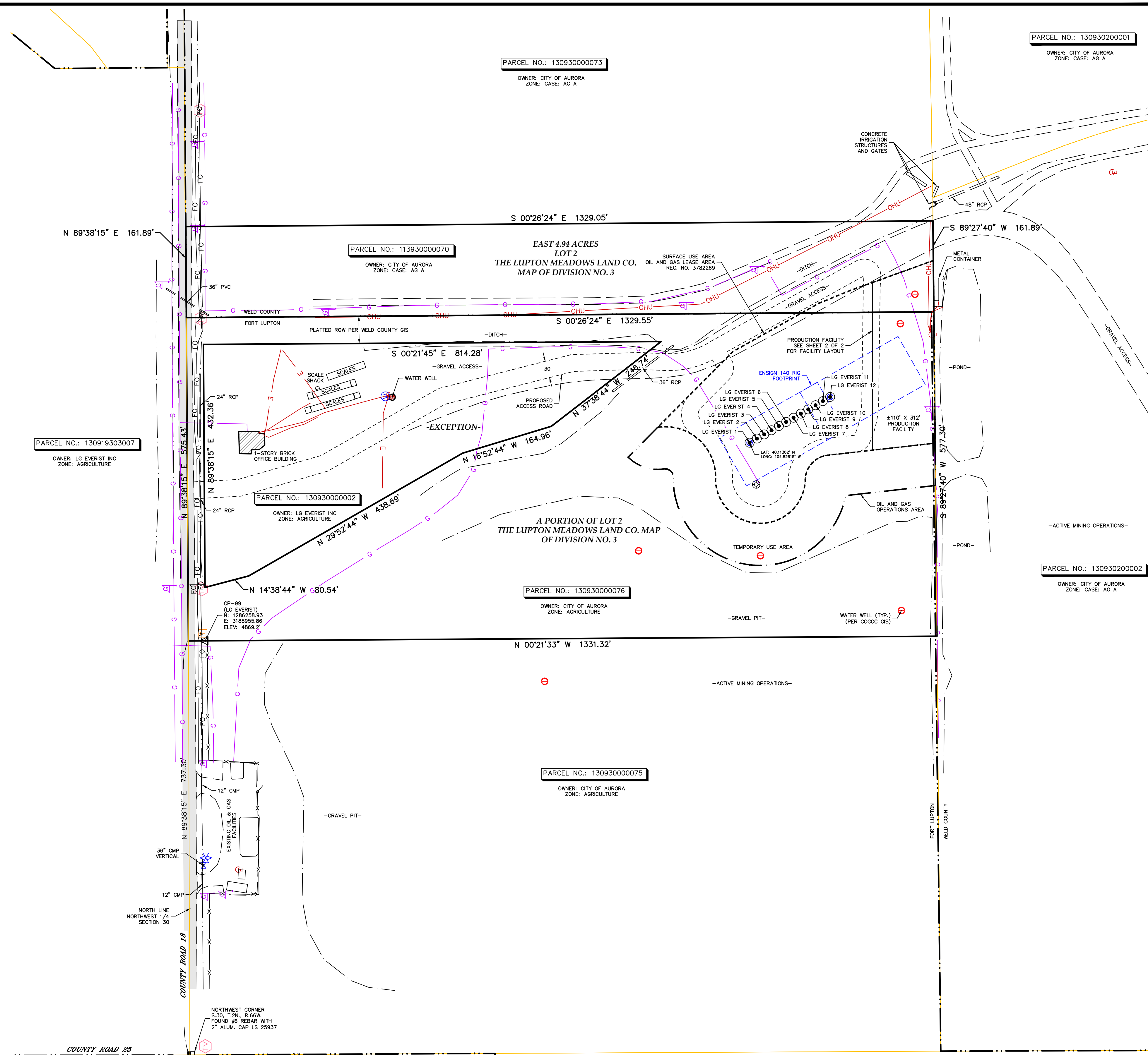
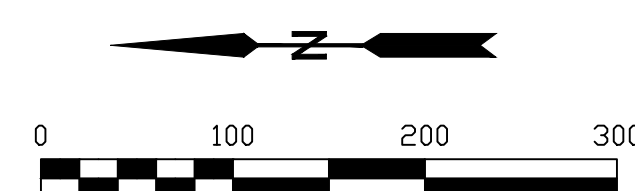
- | | |
|---|---------------------------------------|
| ---- | SECTION LINE |
| ----- | EXISTING CONTOUR INDEX (10' INTERVAL) |
| ----- | SECTION LINE FRACTIONAL |
| ===== | PARCEL LINE |
| ----- | RIGHT-OF-WAY LINE |
| == .. == .. | CITY LIMITS |
| ----- | EXISTING CONTOUR (2' INTERVAL) |
| -----4700----- | |
| ==== | PIPE |
| -----W----- | WATER LINE |
| -----G----- | GAS LINE |
| -----T----- | TELEPHONE LINE |
| -----E----- | UNDERGROUND ELECTRIC |
| -----OH----- | OVERHEAD UTILITY |
| -----FO----- | FIBER OPTIC LINE |
| -----X-----X----- | FENCE |
| ----- | SURFACE WATER |
| ----- | ASPHALT |
|  | BUILDING |
|  | CONTROL POINT |
|  | CABLE TV PEDESTAL |
|  | FIBER OPTIC MARKER |
|  | TELEPHONE PEDESTAL |
|  | ELECTRIC SERVICE |
|  | AIR VALVE |
|  | WATER MANHOLE |
|  | WATER VALVE |
|  | GAS MARKER |
|  | EXISTING WELL HEAD |
|  | PROPOSED WELL HEAD |

VERTICAL DATUM:
NAVD 1988, BASED ON GPS OBSERVATIONS USING TRIMBLE VRS NETWORK

HORIZONTAL DATUM:
COLORADO STATE PLANE COORDINATES, NORTH ZONE, NAD 83. BASED ON GPS OBSERVATIONS USING
TRIMBLE VRS NETWORK

NOTE:

- NOTE:**
1. THIS DRAWING IS AT MODIFIED STATE PLANE. TO REDUCE TO STATE PLANE COORDINATES, SCALE AT 0.9992135370 (1.00026470) ABOUT THE ORIGIN 0,0.
 2. ALL PROPERTY PINS, INTERSECTION MONUMENTS, AND SECTION CORNERS DISTURBED DURING CONSTRUCTION MUST BE REFERENCED AND REPLACED UNDER THE SUPERVISION OF A LICENSED SURVEYOR.
 3. THIS AUTOCAD DRAWING CONTAINS INFORMATION THAT IS NOT VISIBLE ON THE PLOTTED COPY. TO OBTAIN ALL THE INFORMATION THAT IS AVAILABLE IN THIS DRAWING, ALL THE AUTOCAD LAYERS MUST BE TURNED ON AND THAWED.
 4. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL KNOWN UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL UNKNOWN UNDERGROUND UTILITIES.
 5. ALL PROJECT CONTROL LISTED HEREON IS PROVIDED AS A COURTESY. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THE ACCURACY OF THE COORDINATES AND ELEVATIONS SHOWN PRIOR TO USING THEM FOR ANY PURPOSES.
 6. ENTIRE PROPERTY IS IN FLOOD ZONE "AE", AREAS OF "SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY 1% ANNUAL CHANCE FLOOD". PER FEMA FLOOD MAP 08123C1915E AND 08123C2102E



Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

| | | | | | | | | | | | |
|--------------------|--|-------------------------------|-------|------------------|--|--------------------|--|---------------------|--|--|--|
| DATE: 6/18/2019 | | FILE NAME: 2018223SITE.dwg | | DRAWN BY: SLR | | CHECKED BY: BTB | | SCALE: 1" = 100' | | PROJECT #: 2018223 | |
| REVISIONS: | | | DATE: | | <p style="text-align: center;">SITE PLAN</p> <p style="text-align: center;">FOR</p> <p style="text-align: center;">PETRO OPERATING COMPANY, LLC</p> <p style="text-align: center;">9033 EAST EASTER PLACE, STE 112</p> <p style="text-align: center;">CENTENNIAL, CO 80112</p> | | | | | <p style="font-size: 48pt; text-align: center;">1</p> <p style="text-align: right;">SHEET 1 OF 2</p> | |
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| | | | | | | | | | | | |
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FACILITY LAYOUT

LG EVERIST 2N66W30

A PORTION OF LOT 2 OF THE LUPTON MEADOWS

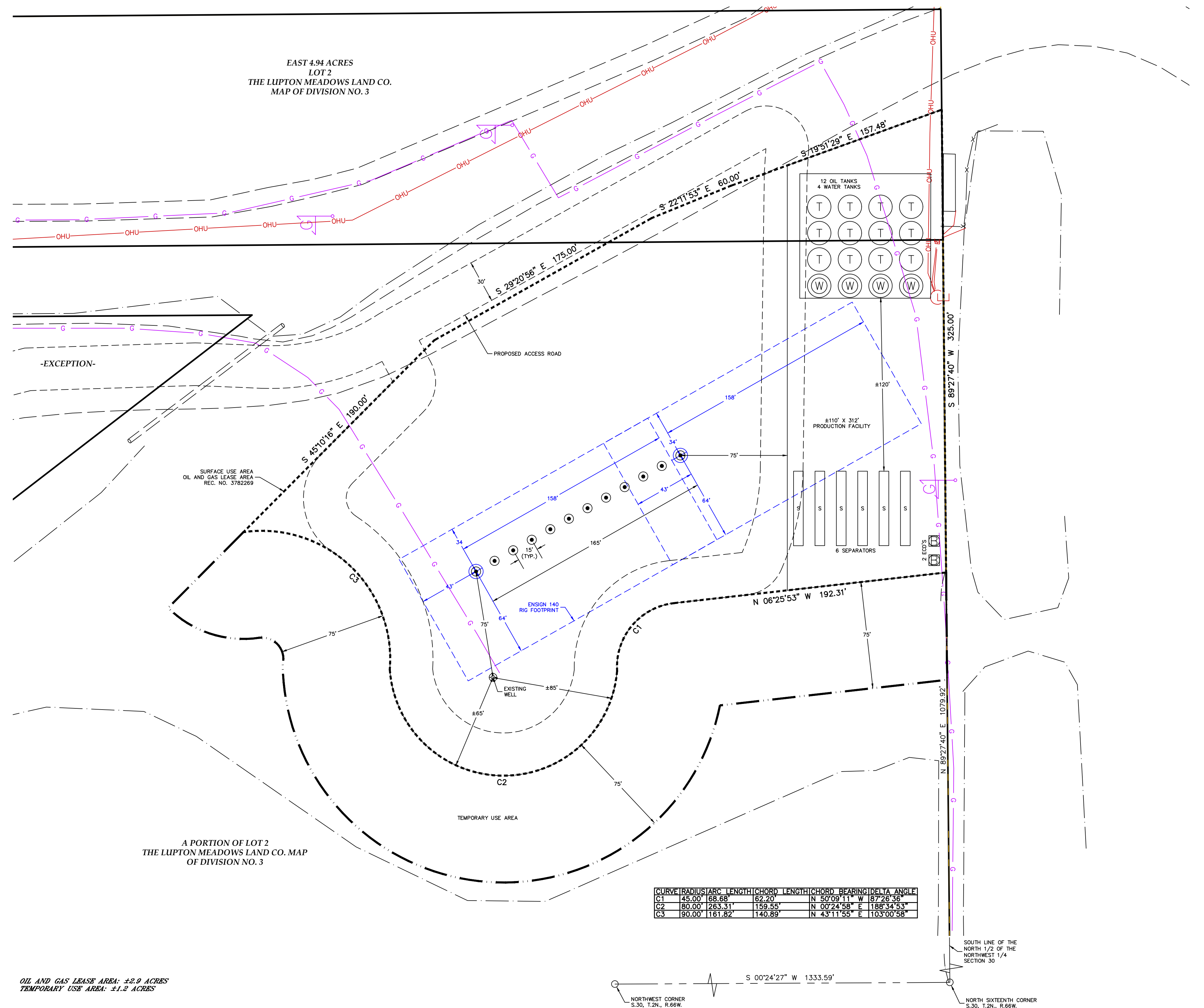
LAND CO. MAP OF DIVISION NO. 3

SITUATE IN THE NORTHWEST QUARTER OF SECTION 30,

TOWNSHIP 2 NORTH, RANGE 66 WEST, 6TH P.M.

CITY OF FOR LUPTON, COUNTY OF WELD,

STATE OF COLORADO



LEGEND

- PROPOSED WELL HEAD
- TANK BATTERY
- WATER TANK
- WATER VAULT
- SEPARATOR
- ECD
- METER
- VRU- VAPOR RECOVERY UNIT



Lat40, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

| | | | | | |
|--------------------|-------------------------------|---|--------------------|--------------------|-----------------------|
| DATE: 6/18/2019 | FILE NAME: 2018223SITE.dwg | DRAWN BY: SLR | CHECKED BY: BTB | SCALE: 1" = 40' | PROJECT #: 2018223 |
| REVISIONS: | DATE: | FACILITY LAYOUT FOR PETRO OPERATING COMPANY, LLC 9033 EAST EASTER PLACE, STE 112 CENTENNIAL, CO 80112 | | | |
| | | 2 | | | |
| | | SHEET 2 OF 2 | | | |

**ATTACHMENT
B**

Galloway & Company, Inc.

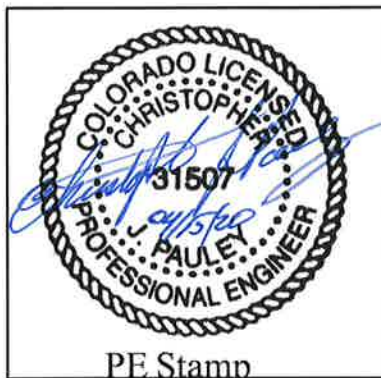
“NO-RISE” CERTIFICATION

This is to certify that I am a duly qualified registered professional engineer licensed to practice in the State of Colorado.

It is further to certify that the attached technical data supports the fact that the proposed/~~constructed~~ LG EVERIST SITE (Name of Development) will not impact the 100-year flood elevations on SOUTH PLATTE RIVER (Name of Stream) at published or unpublished cross-sections in the FEMA Flood Insurance Study for WELD COUNTY dated JANUARY 20, 2016 (Study Date) and/or other “Best Available Data” in the vicinity of the proposed development beyond that allowed by FEMA regulations for flooding sources with established Base Flood Elevations and no regulatory floodway cited in 44 CFR 60.3(c)(10) or with a regulatory floodway cited in 44 CFR 60.3(d)(3).

Attached are the following documents that support my findings:

1. Attachment D.2 CHAMP Model HEC-RAS Cross Section 1590972 showing site located on ground elevated above the BFE
2. Attachments E.1 & E.2 Recreated CHAMP Study Workmaps based on 2013 LiDAR Topography. Presents CHAMP Floodplain/Floodway delineations and BFEs with a 100-Year Flood Depth Grid showing subject site predominantly dry with a small amount of ineffective backwater on the site.
3. LG Everist Site Floodplain Permitting Summary Letter, Galloway, April 15, 2020.



PE Stamp

Signature: _____

Name (printed): Chris J. Pauley

Company Name: Galloway & Company, Inc.

Date: 04/15/20

18

1582472

1583721

1584044

1584700

1584267

1585481

1586467

1587473

1588472

1589124

1589830

1589711

**LG EVERIST SITE
2N66W30**

1590348

1590972

1591472

1591972

1592415

1592972

1593607

1594472

1595431

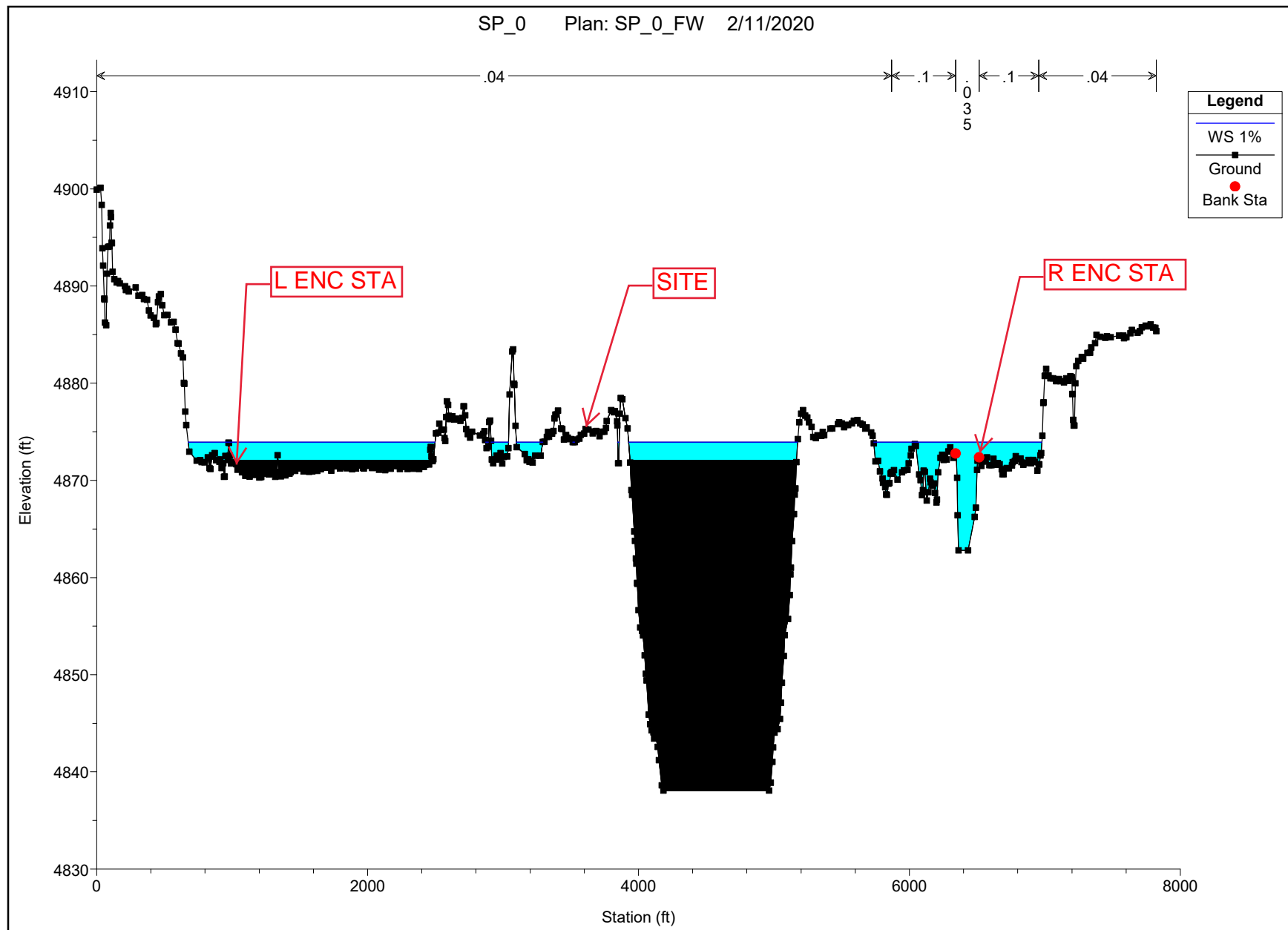
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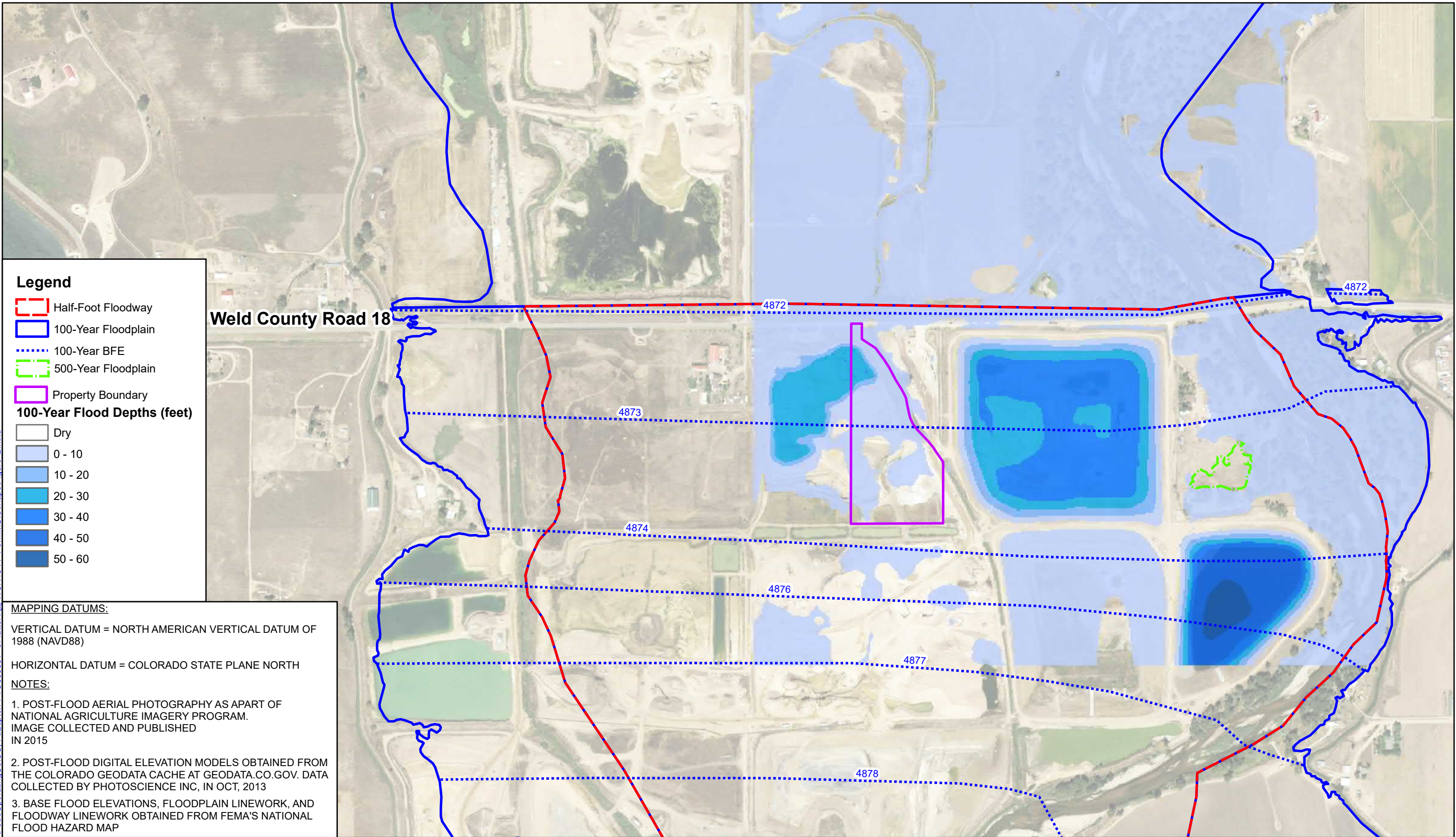
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SOUTH PLATTE RIVER

ATTACHMENT D.2



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Legend

- Half-Foot Floodway
 - 100-Year Floodplain
 - 100-Year BFE
 - 500-Year Floodplain
 - Property Boundary
- 100-Year Flood Depths (feet)**
- Dry
 - 0 - 10
 - 10 - 20
 - 20 - 30
 - 30 - 40
 - 40 - 50
 - 50 - 60

MAPPING DATUMS:

VERTICAL DATUM = NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

HORIZONTAL DATUM = COLORADO STATE PLANE NORTH

NOTES:

1. POST-FLOOD AERIAL PHOTOGRAPHY AS PART OF NATIONAL AGRICULTURE IMAGERY PROGRAM. IMAGE COLLECTED AND PUBLISHED IN 2015
2. POST-FLOOD DIGITAL ELEVATION MODELS OBTAINED FROM THE COLORADO GEODATA CACHE AT GEODATA.CO.GOV. DATA COLLECTED BY PHOTOSCIENCE INC, IN OCT, 2013
3. BASE FLOOD ELEVATIONS, FLOODPLAIN LINEWORK, AND FLOODWAY LINEWORK OBTAINED FROM FEMA'S NATIONAL FLOOD HAZARD MAP

Galloway
Planning, Architecture, Engineering
5265 Ronald Reagan Blvd., Suite 210
Johnstown, CO 80534
970.800.3300 GallowayUS.com



Original Scale: 1" = 600'



DRAWN BY:
PMO
DESIGNED BY:
PMO
CHECKED BY:
CJP

PROJECT NUMBER: PTO000001
PROJECT FILE: Figure_2
DATE: 04/15/2020

**PETRO OPERATIONG CO.
LG EVERIST SITE
SOUTH PLATTE RIVER
FLOODPLAIN PERMITTING**

**EFFECTIVE
FLOODPLAIN WORKMAP
RIVER WIDE VIEW**

**ATTACHMENT
E.1**

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