# ENGINEERING REVIEW

## Transmittal Items

Primary Mandatory Items

- [ ] 1. Engineering Review Universal Application
- [ ] 2. Review fee (refer to fee schedule)
- [ ] 3. Construction plans/documents*
- [ ] 4. Drainage Report*
- [ ] 5. Traffic Impact Study*
- [ ] 6. Stormwater Operations and Maintenance Manual*

All construction documents must be stamped and signed by a Licensed Professional Engineer (PE) prior to submittal.

All construction documents must be in PDF format, with a separate PDF for each document. Do not combine into one PDF document.

*Contact Community & Economic Development - Engineering Review to determine if this item is required.

Community & Economic
Development Department
www.adcogov.org

ADAMS COUNTY
COLORADO

4430 South Adams County Parkway
1st Floor, Suite W2000
Brighton, CO 80601-8204
PHONE 720.523.6800
FAX 720.523.6998

# Engineering Review Application

**Application Type:**

| | |
|---|---|
| Construction Documents | Subdivision |
| Erosion and Sediment Control Plans | X Other – EGR (associated with OGF) |

Have you attended a Conceptual Review? YES X NO [ ]

If Yes, please list PRE#: **2025-00045**

**APPLICANT**

Name(s): John Piekara Company: Extraction Oil & Gas Inc.

Address: 555 17th St, Suite 3700

City, State, Zip: Denver, CO 80202

Phone #: 3032947824 Email: jpiekara@civiresources.com

---

**OWNER**

Name(s): State Land Board c/o Steve Freese Phone #: 3039052808

Address: 1127 Sherman Street - Suite 300

City, State, Zip: Denver, CO 80203

2nd Phone #: [ ] Email: steve.freese@state.co.us

---

**TECHNICAL REPRESENTATIVE (Consultant, Engineer, Surveyor, Architect, etc.)**

Name: Jake Edmunds Company: 609 Consulting

Address: 1095 Saberton Avenue

City, State, Zip: Sheridan, WY 82801

Phone #: 3076740609 Email: jedmunds@609consulting.com

---

**DESCRIPTION OF SITE**

Address: E. 120th Ave (pending street number)

City, State, Zip: Commerce City, CO 80022

Area (acres or square feet): 17.03 ac

Tax Assessor Parcel Number 0156900000077

Existing Zoning: A-3

Existing Land Use: agriculture

Proposed Land Use: agriculture

I hereby certify that I am making this application as owner of the above described property or acting under the authority of the owner (attached authorization, if not owner). I am familiar with all pertinent requirements, procedures, and fees of the County. I understand that the Application Review Fee is non-refundable. All statements made on this form and additional application materials are true to the best of my knowledge and belief.

Name: John Piekara Date: 12/11/2025

Owner's Printed Name

Name: 

Owner's Signature

COLORADO
Department of Public Health & Environment

**CERTIFICATION TO DISCHARGE**
**UNDER**
**CDPS GENERAL PERMIT COR400000**
**STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY**

Certification Number: **COR401178**

**This Certification to Discharge specifically authorizes:**

**Owner Civitas Resources**
**Operator Civitas Resources**
to discharge stormwater from the facility identified as

**East Wattenberg Gas Field**

**To the waters of the State of Colorado, including, but not limited to:**

**South Platte River**

| | |
|---|---|
| **Facility Activity :** | OilGas |
| **Disturbed Acres:** | 2880 acres |
| **Facility Located at:** | CR 7 and CR 52 Erie 80516<br>Weld County<br>Latitude 40.088295 Longitude -104.999135 |
| **Specific Information (if applicable):** | |

**Certification is issued: 4/12/2024**
**Certification is effective: 4/1/2024**
**Expiration date of general permit: 3/31/2029**

This certification under the general 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 COR400000 permit.

This certification was approved by:
Andrew Sayers-Fay Permits Section Manager
Clean Water Program
Water Quality Control Division

T6N R67W
T6N R66W
T6N R65W
T6N R64W
T6N R63W
T6N R62W
T5N R67W
T5N R66W
T5N R65W
T5N R64W
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T4N R67W
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T1N R62W
WELD COUNTY
T1S R67W
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T1S R65W
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T1S R63W
T1S R62W
ADAMS COUNTY
T2S R67W
T2S R66W
T2S R65W
T2S R64W
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T2S R62W
DENVER COUNTY
T3S R67W
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T3S R62W
T4S R67W
T4S R66W
T4S R65W
T4S R64W
T4S R63W
T4S R62W
ARAPAHOE COUNTY
85
34
76
470
70

**LEGEND**

- HIGHWAY
- INTERSTATE
- EAST PROJECT AREA
- COUNTY BOUNDARY
- TOWNSHIP AND RANGE LINES

0 4 8
Miles

N

FIGURE 1
STORMWATER MANAGEMENT PLAN PERMIT BOUNDARY
EAST WATTENBERG GAS FIELD
WELD COUNTY, COLORADO

**ENCANA OIL & GAS (USA) INC.**

P:\Encana\GIS\MXD\SWMP_032814\SWMP_EAST_PROJECT_AREA.mxd

# CONSTRUCTION PLANS
# EAGLE PAD
## SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

**CONTACTS:**

**PROPERTY OWNER:**
STATE OF COLORADO
0156900000077
1127 NORTH SHERMAN STREET, SUITE 300
DENVER, CO 80203

**APPLICANT/OPERATOR:**
EXTRACTION OIL & GAS, INC.
*A WHOLLY-OWNED SUBSIDIARY OF CIVITAS RESOURCES, INC.*
555 17TH STREET, SUITE 3700
DENVER, CO 80202

**ENGINEER/CONSULTANT:**
609 CONSULTING, LLC
1095 SABERTON AVENUE
SHERIDAN, WY 82801
JAKE EDMUNDS
(307) 674-0609

**ADAMS COUNTY:**
PLANNING & DEVELOPMENT
4430 SOUTH ADAMS COUNTY PARKWAY
BRIGHTON, CO 80601
(702) 523-6800

ADAMS COUNTY SHERIFF'S DEPARTMENT
GENE CLAPS, ADAMS COUNTY SHERIFF
(303) 654-1850

BRIGHTON FIRE PROTECTION DISTRICT
(303) 659-4101

**LEGAL DESCRIPTION:**

SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO.

**EXISTING ZONING:** A-3

**GENERAL CONSTRUCTION NOTES**

1. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. TO SCHEDULE A PRE-CONSTRUCTION MEETING CONTACT THE ADAMS COUNTY CONSTRUCTION INSPECTOR SUPERVISOR AT 720-523-6965.
2. ALL CONCRETE CURB, GUTTER AND WALK MUST BE POURED MONOLITHICALLY USING 4,500 PSI CONCRETE WITH FIBER MESH.
3. ALL MATERIAL SUBMITTALS MUST BE APPROVED, STAMPED AND SIGNED, BY THE ENGINEER OF RECORD AND, SUBMITTED TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR FOR APPROVAL PRIOR TO CONSTRUCTION/INSTALLATION.
4. THE CONTRACTOR IS REQUIRED TO SUBMIT COPIES OF ALL CONCRETE AND ASPHALT TICKETS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING AND, IS REQUIRED TO SUBMIT ALL TEST RESULTS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.
6. THE CONTRACTOR IS REQUIRED TO REMOVE A MINIMUM OF TWO (2) FEET OF EXISTING ASPHALT FOR ALL CURB AND GUTTER REPLACEMENT.
7. ALL UTILITY CUTS IN EXISTING STREETS ARE REQUIRED TO BE BACKFILLED WITH FLOWFILL AND, PATCHED WITH A MINIMUM OF 9-INCH ASPHALT PATCH.
8. A COPY OF THE GEOTECHNICAL REPORT SPECIFYING THE PAVEMENT THICKNESS DESIGN MUST BE SUBMITTED FOR REVIEW.
9. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL UTILITIES. THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE LINEAL FOOTAGES AND THE NUMBER OF SERVICE CUTS REQUIRED FOR ALL UTILITIES.
10. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL CONCRETE AND ASPHALT FACILITIES. PRIOR TO THE ISSUANCE OF THESE PERMITS, THE DEVELOPER/ CONTRACTOR/ENGINEER, MUST SUPPLY THE SQUARE YARDAGE/SQUARE FOOTAGES OF ALL CONCRETE AND ASPHALT BEING INSTALLED.
11. THE SIA MUST BE COMPLETED WITH APPROPRIATE COLLATERAL, ALONG WITH THE PROPOSED PLAT, PRIOR TO THE ISSUANCE OF ANY ROW ACCESS/CONSTRUCTION PERMIT.
12. NO C.O.'S WILL BE ISSUED FOR ANY BUILDING CONSTRUCTION UNTIL ALL ROW IMPROVEMENTS HAVE BEEN COMPLETED AND HAVE BEEN GRANTED PRELIMINARY ACCEPTANCE.
13. UPON COMPLETION OF ALL CONSTRUCTION, A DRAINAGE CERTIFICATION LETTER, AND APPROPRIATE AS-BUILT CONSTRUCTION DRAWINGS AND INFORMATION WILL BE REQUIRED. THIS LETTER WILL BE STAMPED AND SIGNED BY THE ORIGINAL DESIGN ENGINEER.




**VICINITY MAP**
0 1000' 2000'
1" = 2000'

## SHEET INDEX

| CONSTRUCTION PLANS | |
|---|---|
| SHEET NO. | SHEET NAME |
| SHEET-1 | COVER SHEET |
| SHEET-2 | SITE PLAN |
| SHEET-3 | CONSTRUCTION LAYOUT SITE PLAN |
| SHEET-4 | DRILLING LAYOUT SITE PLAN |
| SHEET-5 | COMPLETIONS LAYOUT SITE PLAN |
| SHEET-6 | PRODUCTION LAYOUT SITE PLAN |
| SHEET-7 | CONSTRUCTION PHASE GRADING PLAN |
| SHEET-8 | CROSS SECTIONS |
| SHEET-9 | PRODUCTION PHASE GRADING PLAN |
| SHEET-10 | CONSTRUCTION PHASE DRAINAGE AND EROSION CONTROL PLAN |
| SHEET-11 | PRODUCTION PHASE DRAINAGE AND EROSION CONTROL PLAN |
| SHEET-12 | CONSTRUCTION PHASE DETENTION BASIN (DB) DETAILS |
| SHEET-13 | PRODUCTION PHASE DETENTION BASIN (DB) DETAILS |
| SHEET-14 | OUTLET DETAILS |
| SHEET-15 | BMP TYPICALS |

## WELLS

| | |
|---|---|
| 1 | EAGLE 02W-25-01 |
| 2 | EAGLE 02W-25-03 |
| 3 | EAGLE 02W-25-05 |
| 4 | EAGLE 02W-20-07 |
| 5 | EAGLE 02W-25-02 |
| 6 | EAGLE 02W-25-04 |
| 7 | EAGLE 02W-25-06 |
| 8 | EAGLE 02W-20-08 |
| 9 | EAGLE STATE 36NU-20-03 |
| 10 | EAGLE STATE 36NU-20-02 |
| 11 | EAGLE STATE 36NU-20-01 |
| 12 | EAGLET 11W-20-01 |
| 13 | EAGLET 11W-20-02 |
| 14 | EAGLET 11W-20-03 |
| 15 | EAGLET 11W-20-04 |
| 16 | EAGLET 11W-15-05 |
| 17 | EAGLET 11W-15-06 |
| 18 | EAGLET 11W-15-07 |
| 19 | EAGLET 11W-15-08 |

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER


609 CONSULTING, LLC
LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331
SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*COVER SHEET*

| | | | |
|---|---|---|---|
| DATE: | 4/10/26 | SHEET: | 1 OF 15 |
| SURVEY DATE: | 6/10/25 | DRAFTED BY: | KMG |

K:\CIVITAS RESOURCES\2024\2024_118_EAGLE_T1S_R66W_SEC_36\DWG\EAGLE_T1S_R66W_SEC_36.dwg, 4/9/2026 8:04:57 PM, jedmunds

# EAGLE PAD
# SITE PLAN
S1/2 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

OWNER: ADAMS COUNTY
PARCEL NUMBER: 01569000000068
ZONING: A-3
LAND USE: EXEMPT

NW. COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 25379

OWNER: DAVIDSON JOHN R AND DAVIDSON KAREN L
PARCEL NUMBER: 0156925300003
ZONING: A-3
LAND USE: AGRICULTURAL

OWNER: HUNTER SARA E AND HUNTER JEFF D
PARCEL NUMBER: 0156925300004
ZONING: A-3
LAND USE: RESIDENTIAL

OWNER: GARCIA MARIA ALMA
PARCEL NUMBER: 0156925400003
ZONING: A-3
LAND USE: AGRICULTURAL

OWNER: ARTHUR B HENRY TRUST
PARCEL NUMBER: 0156925400004
ZONING: A-3
LAND USE: RESIDENTIAL

NE. COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 25379

GUN CLUB ROAD

OWNER: MATHIS BETTY H
PARCEL NUMBER: 0156700000233
ZONING: A-3
LAND USE: AGRICULTURAL

OWNER: TRINH MEILING
PARCEL NUMBER: 0156730300002
ZONING: A-3
LAND USE: RESIDENTIAL

EAST 128TH AVENUE

N. 1/4 COR.
SEC. 36, T1S, R66W
SET 2 1/2" ALUM. CAP
P.L.S. NO. 38512

EXISTING VARYING WIDTH
PIPELINE EASEMENT
RECEPTION #114866

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #110695

OWNER: LUONG ANDY
PARCEL NUMBER: 0156935100003
ZONING: A-3
LAND USE: RESIDENTIAL

OWNER: SARVESTANI NASSER HAJI
PARCEL NUMBER: 0156935100002
ZONING: A-3
LAND USE: AGRICULTURAL

CO STATE A 21-36 (PA)

CO STATE A 41-36 (PA)

STATE OF CO 1S-66-36-0108CH (PA)
STATE OF CO 1S-66-36-1609BH (PA)
STATE OF CO 1S-66-36-1724BH (PA)
STATE OF CO 1-66-36-3225CDH (PA)
STATE OF CO 1S-66-36-3225CH (PA)

STATE OF CO 1S-66-36-0108BH (PA)
STATE OF CO 1-66-36-1609CDH (PA)
STATE OF CO 1S-66-36-1609CH (PA)
STATE OF CO 1S-66-36-1724CH (PA)
STATE OF CO 1S-66-36-3225BH (PA)

STATE A 1 (PA)

OWNER: SARVESTANI NASSER HAJI
PARCEL NUMBER: 0156935100004
ZONING: A-3
LAND USE: RESIDENTIAL

OWNER: COLORADO STATE LAND
PARCEL NUMBER: 0156900000077
ZONING: A-3
LAND USE: EXEMPT

PICCADILLY ROAD

STATE A 5 (PA)

OWNER: SCOTT MICHAEL P AND SCOTT LORI A
PARCEL NUMBER: 0156935100005
ZONING: A-3
LAND USE: AGRICULTURAL

W. 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 38318

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #104416

CENTER 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
L.S. NO. 9133

OWNER: ADAMS COUNTY
PARCEL NUMBER: 0156731200001
ZONING: A-3
LAND USE: EXEMPT

E. 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 25379

EXISTING 10' WIDE
POWERLINE EASEMENT
RECEPTION #104410

CO STATE A 33-36 (PA)

STATE A 6 (PA)

OWNER: SHELBOURN MARVIN R AND SHELBOURN SONDRA R
PARCEL NUMBER: 0156935400002
ZONING: A-3
LAND USE: AGRICULTURAL

STATE A 2 (PA)

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #104398

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #104403

OWNER: LUCERO JAY E
PARCEL NUMBER: 0156935400004
ZONING: A-3
LAND USE: RESIDENTIAL

OWNER: RODRIGUEZ ANSELMO AND DEL VAL EDITH
PARCEL NUMBER: 0156935400003
ZONING: A-3
LAND USE: AGRICULTURAL

STATE A 4 (PA)

CO STATE A 24-36 (PA)

STATE A 3 (PA)

CO STATE A 44-36 (PA)

PROPOSED
DETENTION
POND

APPROXIMATE
PROPERTY LINE
(TYP.)

OWNER: ADAMS COUNTY
PARCEL NUMBER: 0156731300001
ZONING: A-3
LAND USE: EXEMPT

EXISTING 20' WIDE
PIPELINE EASEMENT
RECEPTION #114866

EXISTING 50' X 50' VALVE SITE
EASEMENT RECEPTION #114866

ACCESS
POINT

EXISTING VARYING WIDTH
ACCESS ROW
RECEPTION #104983

EXISTING 20' WIDE
PIPELINE EASEMENT
RECEPTION #110695

S. 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
ILLEGIBLE

SW. COR.
SEC. 36, T1S, R66W
SET 2 1/2" ALUM. CAP
P.L.S. NO. 38512

SE. COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 14592

EAST 120TH AVENUE

COLORADO LICENSED
KAILEEN M. GOLDEN
38868
4/10/26
PROFESSIONAL ENGINEER

## LEGEND

- EXISTING FENCE
- PROPOSED OIL AND GAS LOCATION
- EXISTING STRUCTURE
- DITCH / POND
- SUBJECT PARCEL PROPERTY LINE
- PROPOSED WELL
- PLUGGED AND ABANDONED WELL
- PROPOSED FACILITY EQUIPMENT
- INTERIM RECLAMATION BOUNDARY
- PROPOSED 6' WOOD FENCE
- PROPOSED ACCESS ROAD
- TRAFFIC FLOW DIRECTION
- EASEMENT
- SECTION CORNER

N

0 300' 600'

1" = 300'

## NOTES:

- PUBLICLY AVAILABLE DATA SOURCES HAVE NOT BEEN INDEPENDENTLY VERIFIED BY 609 CONSULTING, LLC.
- ORIGINAL DOCUMENT SIZE: 24" x 36"
- PARKING: DURING PRE-PRODUCTION ACTIVITIES PARKING CAN OCCUR ANYWHERE NEAR THE PERIMETER OF THE OIL AND GAS FACILITY AT A SAFE DISTANCE FROM ONGOING OPERATIONS.
- SANITATION: PORTABLE SANITATION FACILITIES WILL BE LOCATED NEAR THE PERIMETER OF THE OIL AND GAS FACILITY BEHIND SOUND WALLS.


609 CONSULTING, LLC

LOVELAND OFFICE
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SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

DRAWING REVISIONS

| REV. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 7/3/25 | CONCEPTUAL REVIEW |
| 2 | 7/28/25 | REVISION #1 |
| 3 | 3/1/26 | REVISION #2 |
| 4 | 3/11/26 | REVISION #3 |
| 5 | 4/10/26 | REVISION #4 |
| | | |

EAGLE PAD
*SITE PLAN*

DATE: 4/10/26

SURVEY DATE: 6/10/25

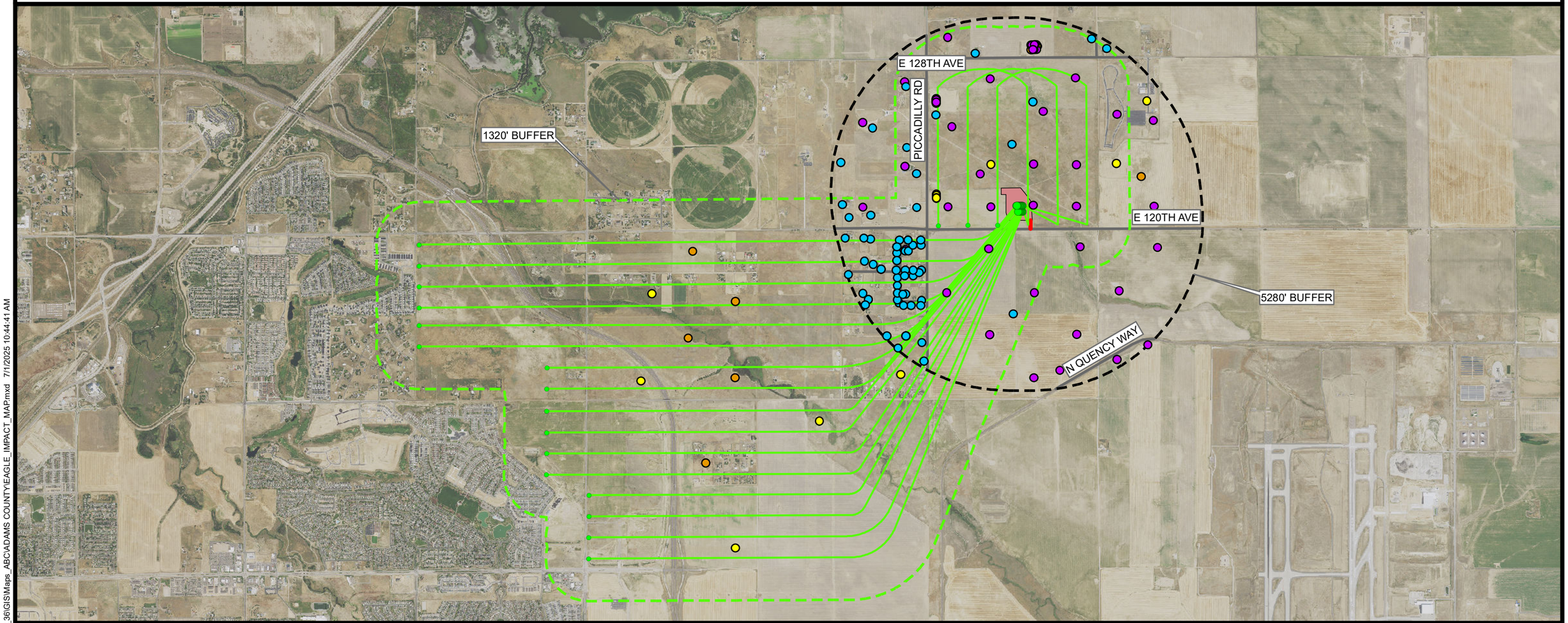
SHEET NO: 2 2 OF 15

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# IMPACT MAP

# EAGLE PAD

## S 1/2 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




**Legend**

- WELL - PROPOSED
- BOTTOM HOLE - PROPOSED
- WELL PATH - PROPOSED
- PROPOSED OIL AND GAS LOCATION
- PROPOSED OIL AND GAS LOCATION BUFFER
- WELL BORE BUFFER
- EXISTING WATER WELL
- ECMC OIL AND GAS WELL
- ABANDONED OIL AND GAS WELL
- SHUT-IN OIL AND GAS WELL
- PROPOSED ACCESS ROAD
- EXISTING ROAD

NOTE:
WELL LOCATIONS DERIVED FROM ENERGY AND CARBON MANAGEMENT COMMISSION (ECMC)(cogcc.state.co.us).
THE ESTIMATED DISTANCES FROM PROPOSED BORE LOCATIONS TO THE NEAREST EXISTING WELL SURFACE LOCATIONS ARE BASED ON ECMC DATA.

Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

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1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

N

NAD83 CO-Nft
Scale: 1" = 3,000ft

SHEET 2 OF 8

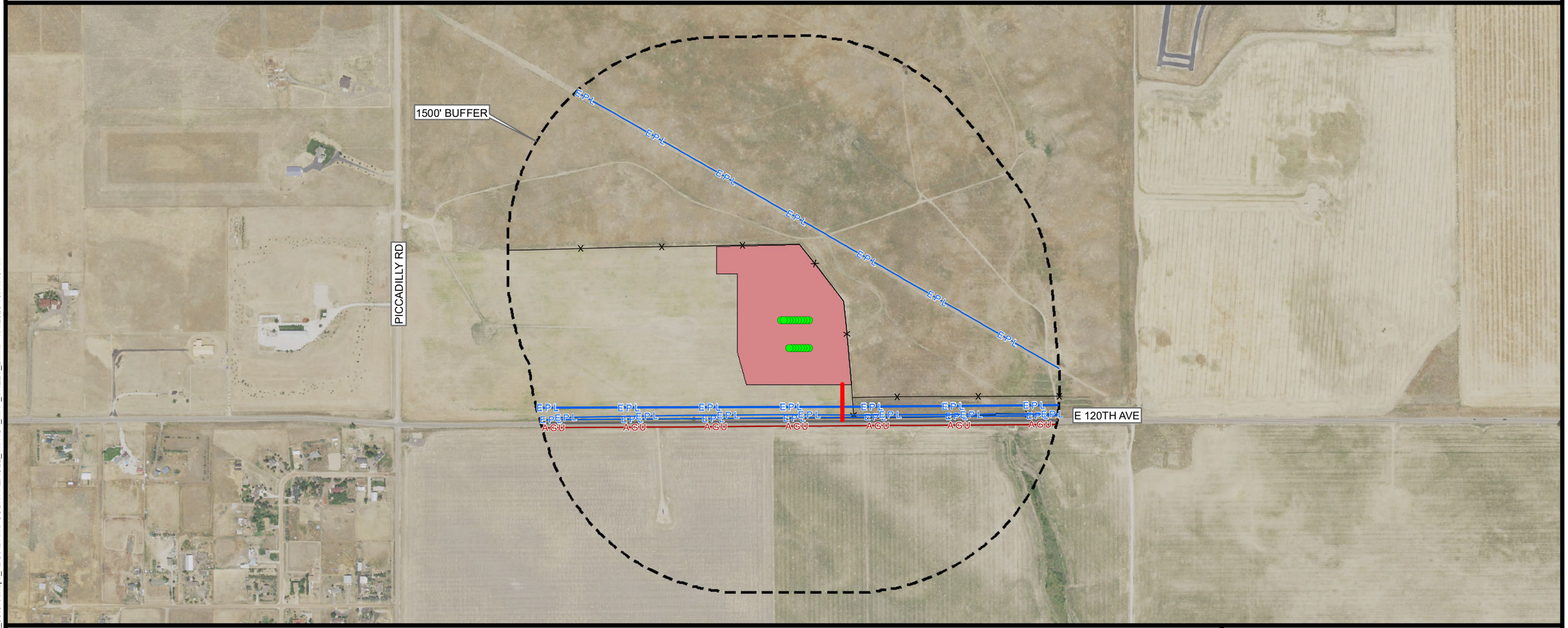
Drawn by: KMG Date: 3 Jul 2025
Revised: Date:

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# IMPACT MAP

# EAGLE PAD

## S 1/2 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




### Legend

- WELL - PROPOSED
- PROPOSED OIL AND GAS LOCATION
- PROPOSED OIL AND GAS LOCATION BUFFER
- PROPOSED ACCESS ROAD
- EXISTING ROAD
- EXISTING FENCE
- A-G-U EXISTING ABOVE GROUND UTILITY
- E-P-L EXISTING PIPELINE

NOTE:
THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA. THE ACCURACY AND COMPLETENESS OF SAID DATA HAS NOT BEEN VERIFIED BY 609 CONSULTING, LLC. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.

Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

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SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

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NAD83 CO-Nft

SHEET 3 OF 8

Drawn by: KMG Date: 3 Jul 2025
Revised: Date:

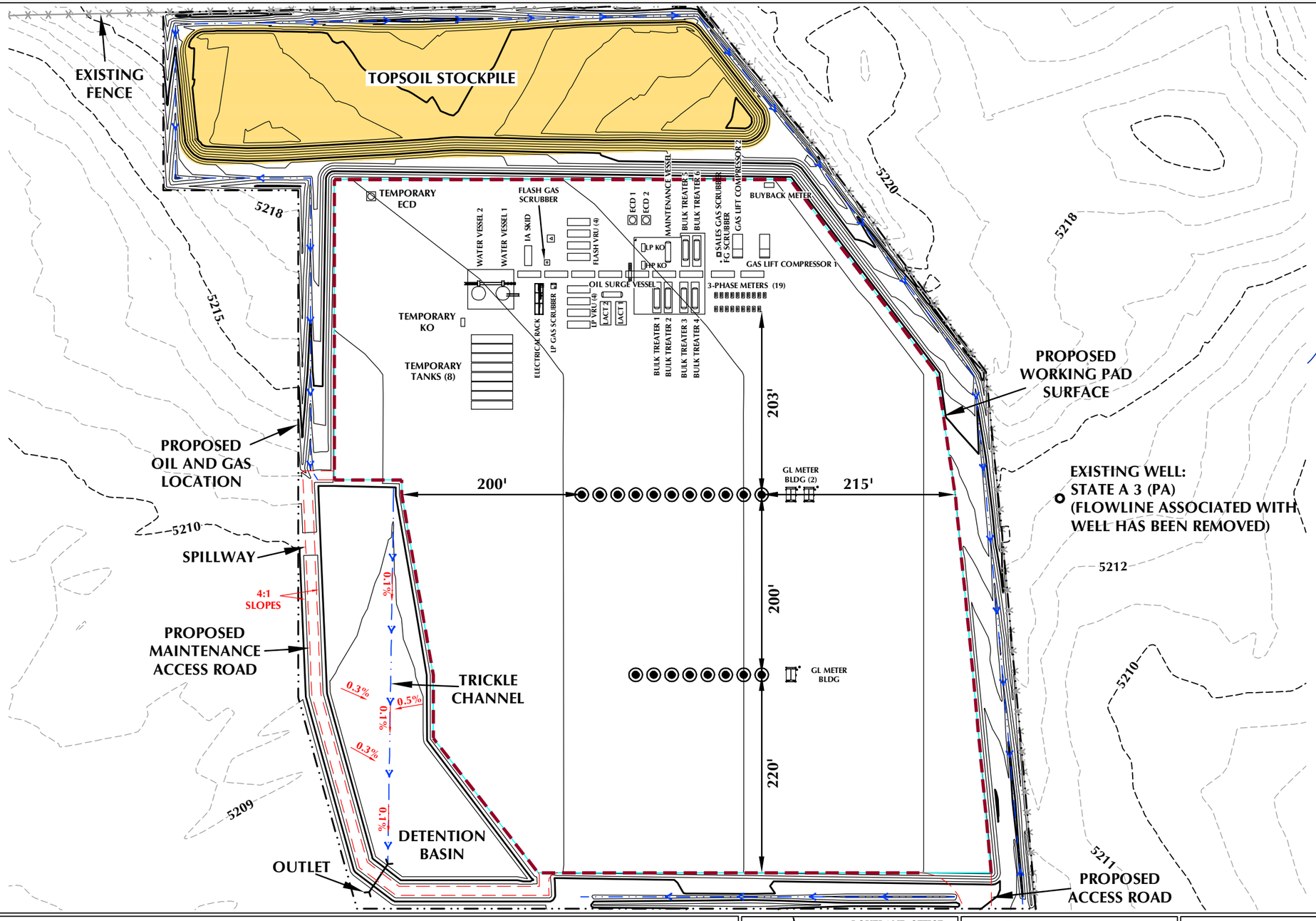
Scale: 1" = 700ft

K:\CIVITAS RESOURCES\2024\2024_118_EAGLE_T1S_R66W_SEC_36\GIS\Maps_ABC\ADAMS COUNTY\EAGLE_IMPACT_MAP_SHEET_2.mxd 7/1/2025 10:41:19 AM

# CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED ACCESS ROAD
- PROPOSED OIL AND GAS LOCATION (17.03 ACRES)
- PROPOSED WORKING PAD SURFACE (10.65 ACRES)
- SOUND WALLS
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- EXISTING FENCE
- DIVERSION DITCH


609 CONSULTING, LLC

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Phone 307-674-0609


Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**

*CONSTRUCTION LAYOUT SITE PLAN*

| | | | |
|---|---|---|---|
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| SURVEY DATE: | 6/10/25 | DRAFTED BY: | KMG |

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# CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

EXISTING FENCE

TOPSOIL STOCKPILE

5218

5215

5220

5218

350'

PROPOSED WORKING PAD SURFACE

PROPOSED OIL AND GAS LOCATION

200'

215'

200'

5210

EXISTING WELL:
STATE A 3 (PA)
(FLOWLINE ASSOCIATED WITH WELL HAS BEEN REMOVED)

5212

TANK FARM

HOPPER | SUCTION TANK | INTERMEDIATE TANK | SHAKER TANK | TRIP TANK

BOILER | PUMP | SUCTION | PUMP | SPUDDER | PUMP | FESTOON | FLOWLINES | FLOWLINES

WATER TANK

STAND ALONE DRIVE HOUSE

SUBSTRUCTURE

AC DRIVE HOUSE

LUBE HOUSE | PARTS HOUSE | FUEL TANK | GENERATOR | GENERATOR | GENERATOR | DRIVE HOUSE

RIG DECK

CATWALK

220'

CUTTINGS DRY | CUTTINGS DRY | CUTTINGS WET | CUTTINGS WET

40'

160'

DETENTION BASIN

5210

5209

PROPOSED MAINTENANCE ACCESS ROAD

CO-MAN | COMMAND | PUSHER | DBL ENDER

SUPER INT. | DBL ENDER | DBL ENDER | DBL ENDER | CHANGE HOUSE | CREW HOUSE | RIG MANAGER HOUSE

5211

PROPOSED ACCESS ROAD

0 60' 120'

1" = 120'

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

Kathleen M. Goles

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED ACCESS ROAD
- PROPOSED OIL AND GAS LOCATION
- PROPOSED WORKING PAD SURFACE
- SOUND WALLS
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- EXISTING FENCE

NOTE:
- RIG PROFILE IS APPROXIMATE AND SUBJECT TO MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.


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Phone 307-674-0609


Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*DRILLING LAYOUT SITE PLAN*

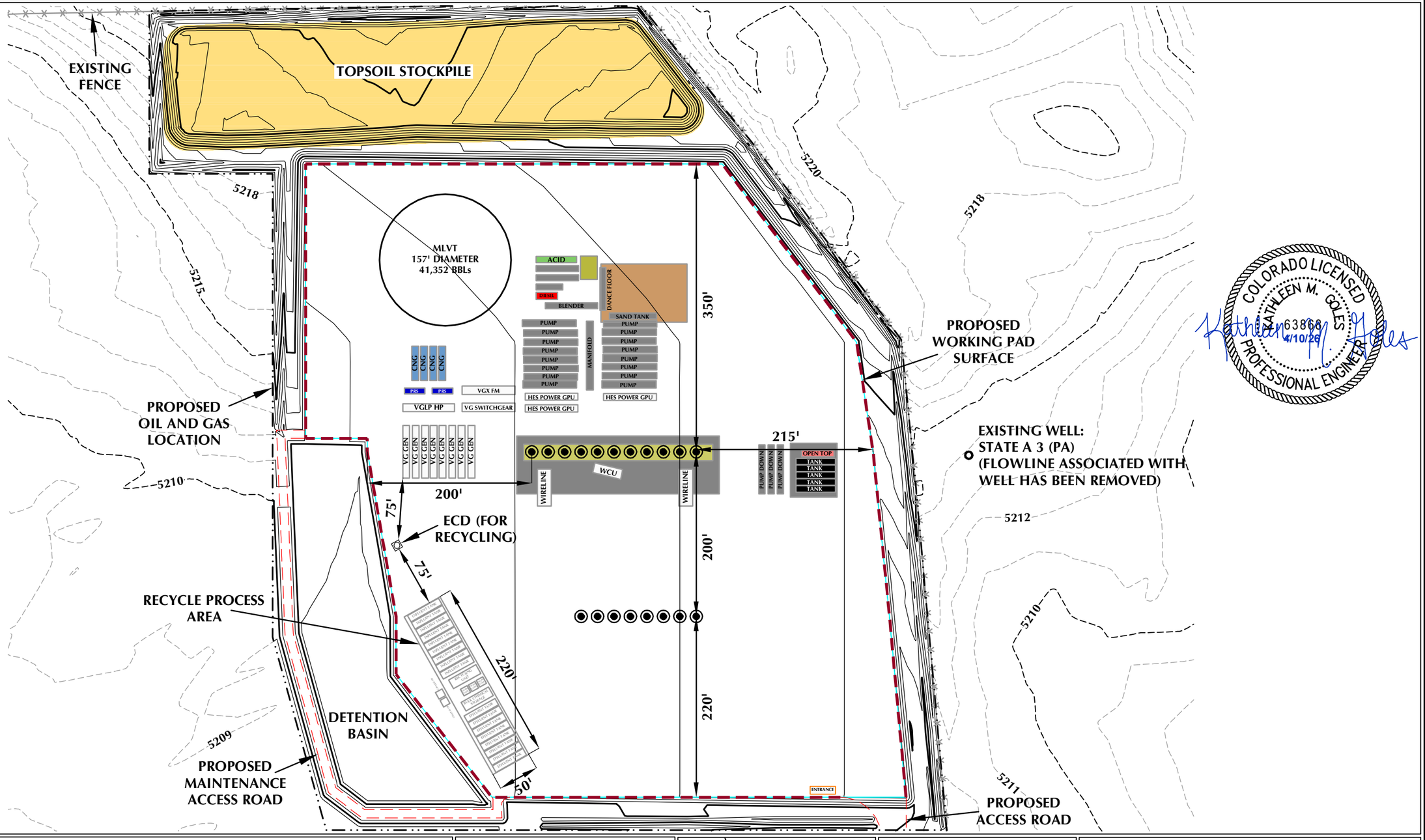
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# CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED OIL AND GAS LOCATION
- PROPOSED WORKING PAD SURFACE
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- CNG
- DIESEL
- DANCE FLOOR
- OPEN TOP
- FRAC SHACK
- EQUIPMENT - OTHER
- EQUIPMENT - UN
- DESIGNATED AREA
- ACID
- PRS
- VG GEN
- ENTRANCE
- SOUND WALLS
- EXISTING FENCE
- PROPOSED ACCESS ROAD

NOTE:
- COMPLETIONS LAYOUT IS APPROXIMATE AND SUBJECT TO MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.


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Prepared For:
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Extraction Oil & Gas, Inc.

**EAGLE PAD**
*COMPLETIONS LAYOUT SITE PLAN*

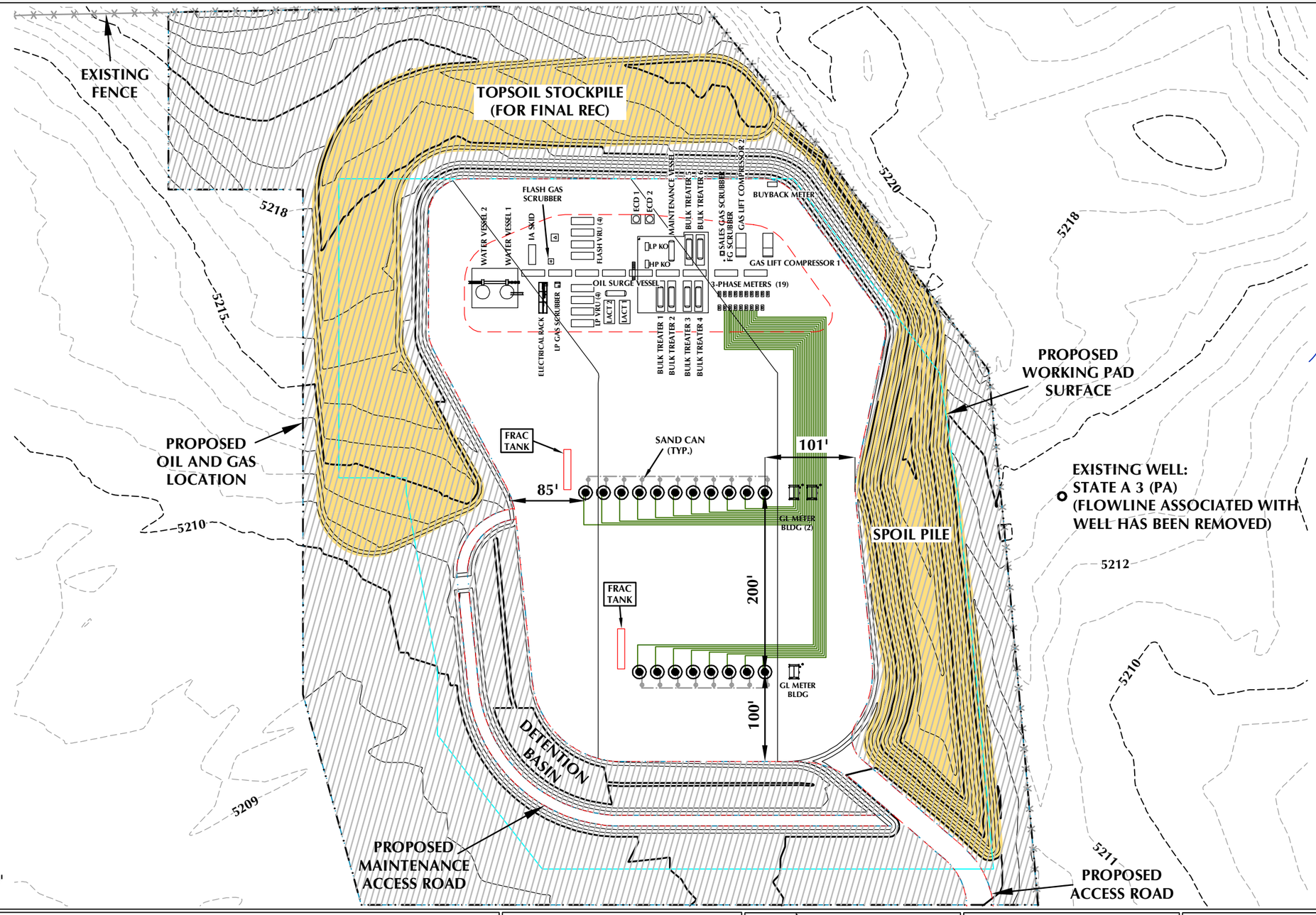
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# CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




NOTES:

1. SEE SEED MIX IN THE DRAINAGE REPORT INCLUDED WITH THE ENGINEERING DOCUMENTS.
2. TENTATIVE SCHEDULES FOR PRE-PRODUCTION OPERATIONS ARE INCLUDED IN THE WRITTEN NARRATIVE.

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED OIL AND GAS LOCATION (17.03 ACRES)
- PROPOSED WORKING PAD SURFACE (10.65 ACRES)
- RECLAMATION AREA (10.51 ACRES)
- UNRECLAIMED AREA (6.52 ACRES)
- PROPOSED ACCESS ROAD
- PROPOSED FLOWLINE
- PROPOSED PIPELINE
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- EXISTING FENCE

NOTE:

- WELLHEADS AND FACILITY EQUIPMENT WILL REMAIN PERMANENT AFTER FLOWBACK IS COMPLETE. SAND CANS AND FRAC TANKS ARE TEMPORARY AND WILL BE REMOVED FOLLOWING FLOWBACK OPERATIONS


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Extraction Oil & Gas, Inc.

**EAGLE PAD**

*PRODUCTION LAYOUT SITE PLAN*

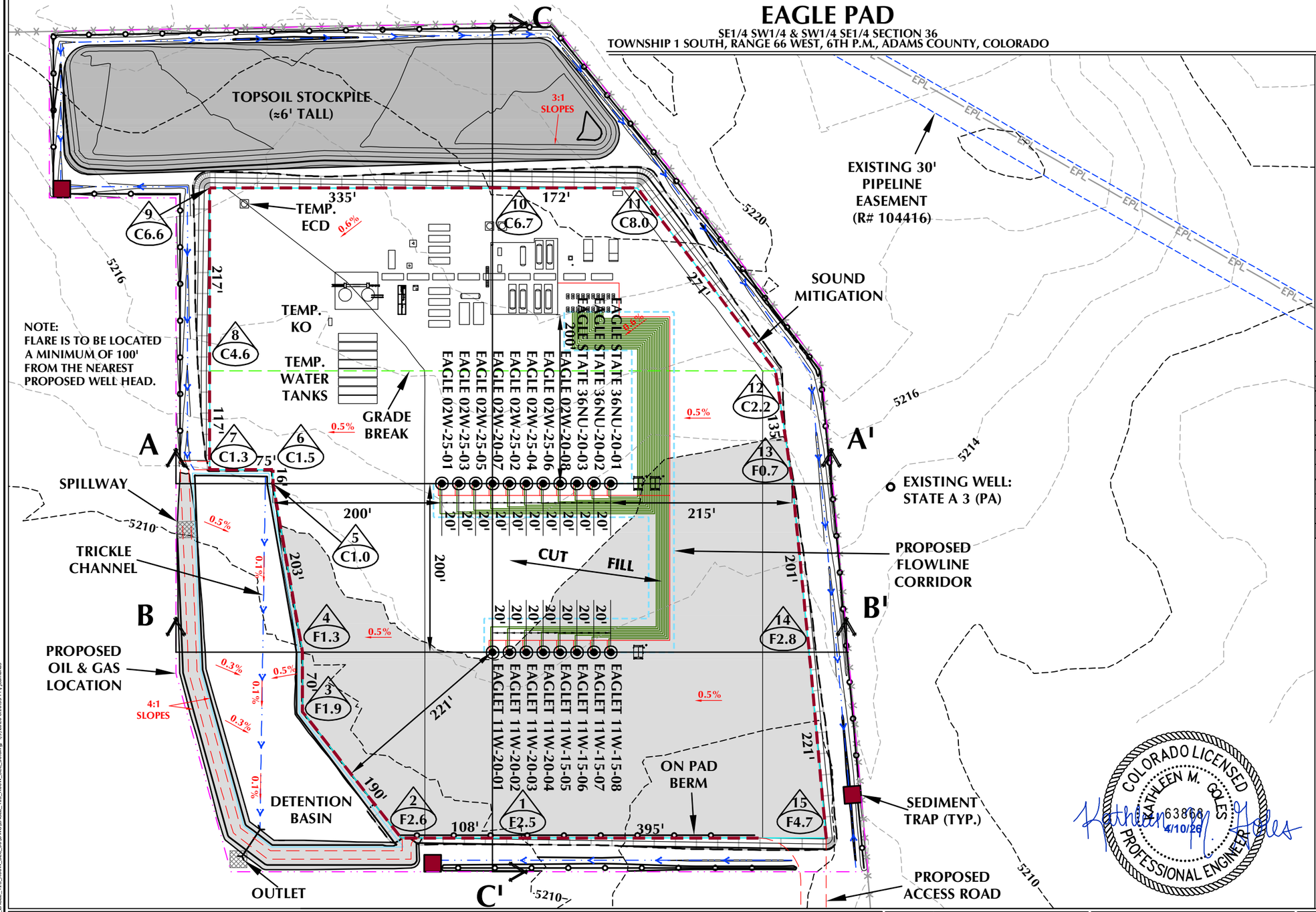
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# CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36
TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




## PAD QUANTITIES AND DESIGN PARAMETERS

EXISTING GRADE @ CENTER OF WELL PAD = 5214.5'
5212.4'

FINISHED GRADE @ CENTER OF WELL PAD =
CUT/FILL SLOPES = 3:1; EXCEPT AS NOTED
SHRINKAGE FACTOR = 1.10 17.03 ACRES
SWELL FACTOR = 1.00
OIL AND GAS LOCATION AREA = 0.18 ACRES
WORKING PAD SURFACE = 10.65 ACRES SEE NOTE 1
ACCESS ROAD DISTURBANCE AREA =
PIPELINE/UTILITY CORRIDOR AREA =

**PAD QUANTITIES** 26,990 C.Y.

TOTAL CUT FOR PAD = 26,990 C.Y.
TOTAL FILL FOR PAD = 17,406 C.Y.
TOPSOIL @ 10" DEPTH =
TOTAL IMPORT =

**ROAD BASE MATERIAL (6" COMPACTED TO 4")**

TO BE ADDED TO PAD = 8,590 C.Y.
TO BE ADDED TO ROAD = 196 C.Y.

| WELL NAME: | C/F | WELL NAME: | C/F |
|---|---|---|---|
| EAGLE 02W-25-01 | C2.3 | EAGLET 11W-20-01 | C0.1 |
| EAGLE 02W-25-03 | C2.3 | EAGLET 11W-20-02 | F0.0 |
| EAGLE 02W-25-05 | C2.5 | EAGLET 11W-20-03 | F0.3 |
| EAGLE 02W-20-07 | C2.1 | EAGLET 11W-20-04 | F0.5 |
| EAGLE 02W-25-02 | C2.3 | EAGLET 11W-15-05 | F0.7 |
| EAGLE 02W-25-04 | C2.2 | EAGLET 11W-15-06 | F0.9 |
| EAGLE 02W-25-06 | C2.0 | EAGLET 11W-15-07 | F1.1 |
| EAGLE 02W-20-08 | C1.6 | EAGLET 11W-15-08 | F1.3 |
| EAGLE STATE 36NU-20-03 | C1.3 | | |
| EAGLE STATE 36NU-20-02 | C0.9 | | |
| EAGLE STATE 36NU-20-01 | C0.5 | | |

### PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- EXISTING PIPELINE
- EXISTING FENCE
- WORKING PAD SURFACE
- DIVERSION DITCH
- BERM
- PROPOSED FLOWLINE
- PROPOSED AIR RETURN LINE
- PROPOSED SOUND WALLS
- PROPOSED OIL AND GAS LOCATION
- PROPOSED FLOWLINE CORRIDOR

HORIZONTAL 0 60' 120' 1" = 120'

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

NOTE:
1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
2. EXISTING UTILITIES DISPLAYED ON THE GRADING PLAN ARE FOR REFERENCE PURPOSES ONLY. PRIOR TO CONSTRUCTION OR EARTHWORK, CONTRACTOR WILL BE RESPONSIBLE TO CALL FOR LOCATES: (800) 922-1987
3. DIVERSION DITCH AND/OR BERM TO BE CONSTRUCTED AROUND THE ENTIRE PAD LOCATION. BERM SECTIONS TO BE COMPACTED IN ACCORDANCE WITH STANDARD CONSTRUCTION PRACTICES.
4. CENTER OF WELL PAD REFERENCED BELOW CORRESPONDS TO THE SURFACE LOCATION OF THE EAGLE 02W-25-07 WELL.


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Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*CONSTRUCTION PHASE GRADING PLAN*

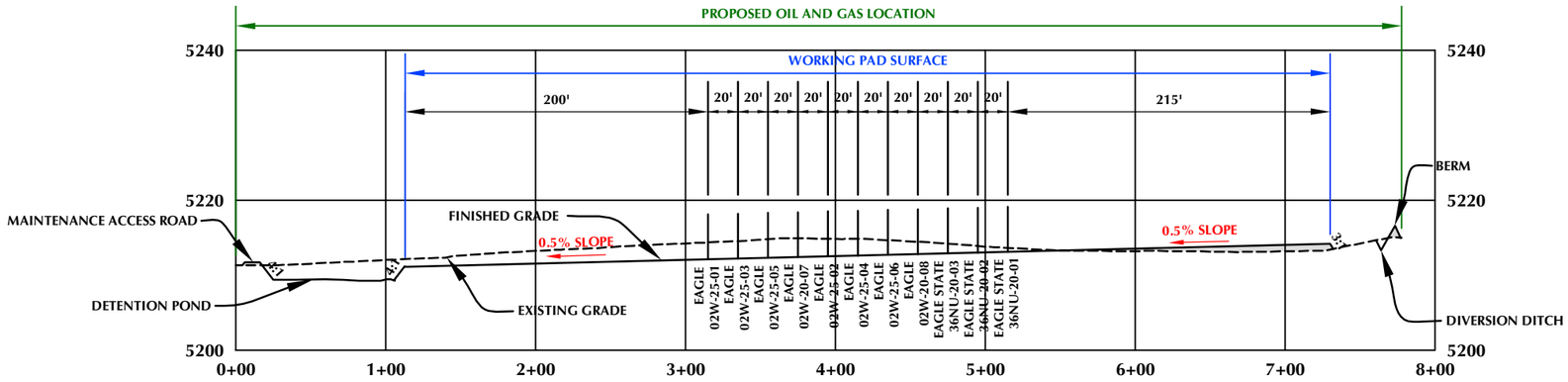
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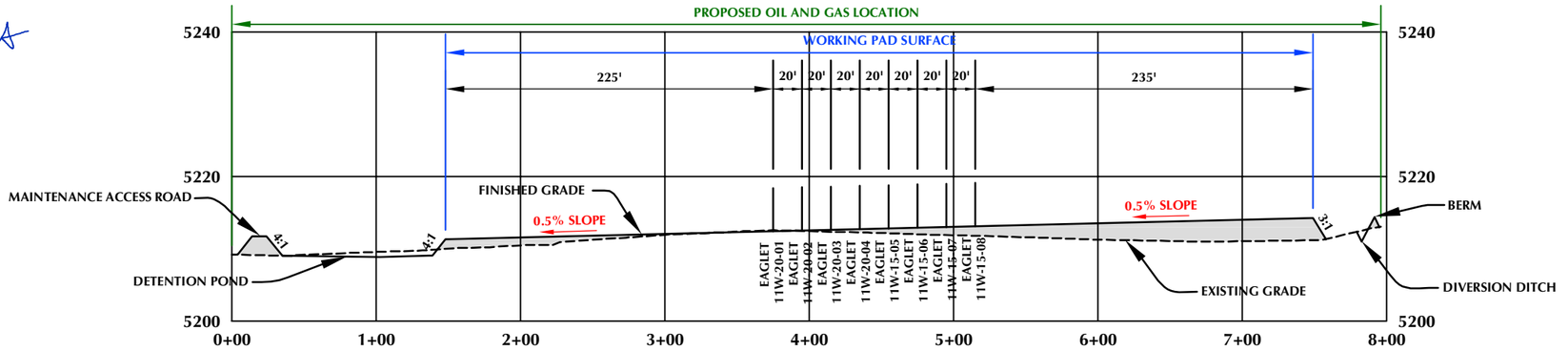
# CONSTRUCTION PLANS

# EAGLE PAD

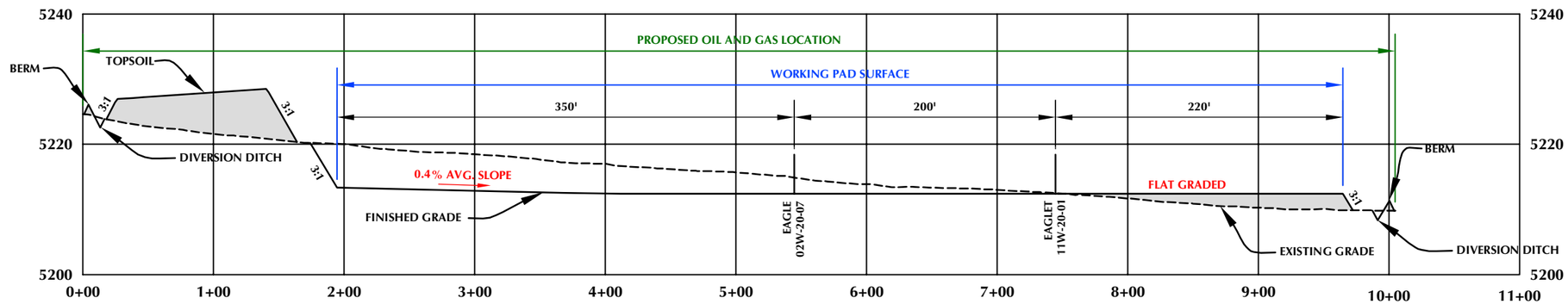
SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




## CROSS SECTION A-A'




## CROSS SECTION B-B'




## CROSS SECTION C-C'

COLORADO LICENSED PROFESSIONAL ENGINEER
KATHLEEN M. GOLES
63868
4/10/26

HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'


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Phone 307-674-0609


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*CROSS SECTIONS*

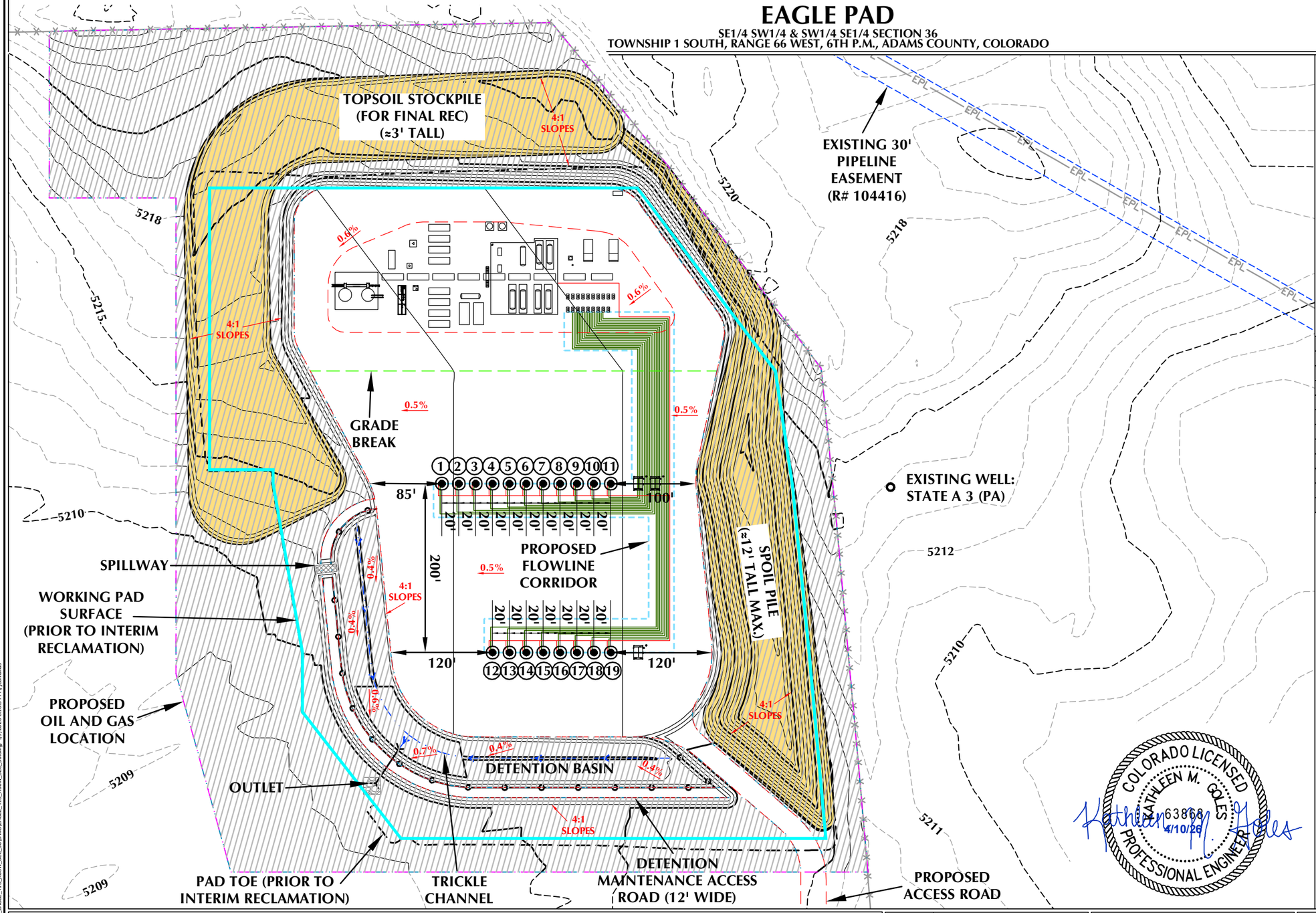
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# CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36
TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




**QUANTITIES AND DESIGN PARAMETERS**

SHRINKAGE FACTOR = 1.00
SWELL FACTOR = 1.00
OIL AND GAS LOCATION AREA = 17.03 ACRES
AREA RECLAIMED DURING
INTERIM RECLAMATION = 10.51 ACRES
TOTAL PAD AREA AFTER
INTERIM RECLAMATION = 6.52 ACRES

**PAD QUANTITIES**

TOTAL CUT = 24,186 C.Y.
TOTAL FILL = 24,186 C.Y.
MATERIAL STORED FOR FINAL REC = 12,238 C.Y.

**TOPSOIL @ 10" DEPTH**

FROM PAD = 17,406 C.Y.
TOPSOIL USED FOR INTERIM REC = 8,552 C.Y.
TOPSOIL STORED FOR FINAL REC = 8,854 C.Y.

**ROAD BASE MATERIAL**

TO BE REMOVED FROM PAD = 3,537 C.Y.

| # | WELL NAME: | # | WELL NAME: |
|---|---|---|---|
| 1 | EAGLE 02W-25-01 | 12 | EAGLET 11W-20-01 |
| 2 | EAGLE 02W-25-03 | 13 | EAGLET 11W-20-02 |
| 3 | EAGLE 02W-25-05 | 14 | EAGLET 11W-20-03 |
| 4 | EAGLE 02W-20-07 | 15 | EAGLET 11W-20-04 |
| 5 | EAGLE 02W-25-02 | 16 | EAGLET 11W-15-05 |
| 6 | EAGLE 02W-25-04 | 17 | EAGLET 11W-15-06 |
| 7 | EAGLE 02W-25-06 | 18 | EAGLET 11W-15-07 |
| 8 | EAGLE 02W-20-08 | 19 | EAGLET 11W-15-08 |
| 9 | EAGLE STATE 36NU-20-03 | | |
| 10 | EAGLE STATE 36NU-20-02 | | |
| 11 | EAGLE STATE 36NU-20-01 | | |

**PAD LEGEND**

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (1' INTERVAL)
- PROPOSED CONTOURS (1' INTERVAL)
- EXISTING PIPELINE
- EXISTING FENCE
- WORKING PAD SURFACE
- PROPOSED FLOWLINE
- PROPOSED AIR RETURN LINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED FLOWLINE CORRIDOR
- RECLAMATION AREA

HORIZONTAL 0 60' 120' 1" = 120'

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

NOTES:
1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
2. EXISTING UTILITIES DISPLAYED ON THE GRADING PLAN ARE FOR REFERENCE PURPOSES ONLY. PRIOR TO CONSTRUCTION OR EARTHWORK, CONTRACTOR WILL BE RESPONSIBLE TO CALL FOR LOCATES: (800) 922-1987
3. RECLAIMED AREA WILL BE RE-SEEDED AND RE-VEGETATED DURING INTERIM RECLAMATION.


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Phone 307-674-0609


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*PRODUCTION PHASE GRADING PLAN*

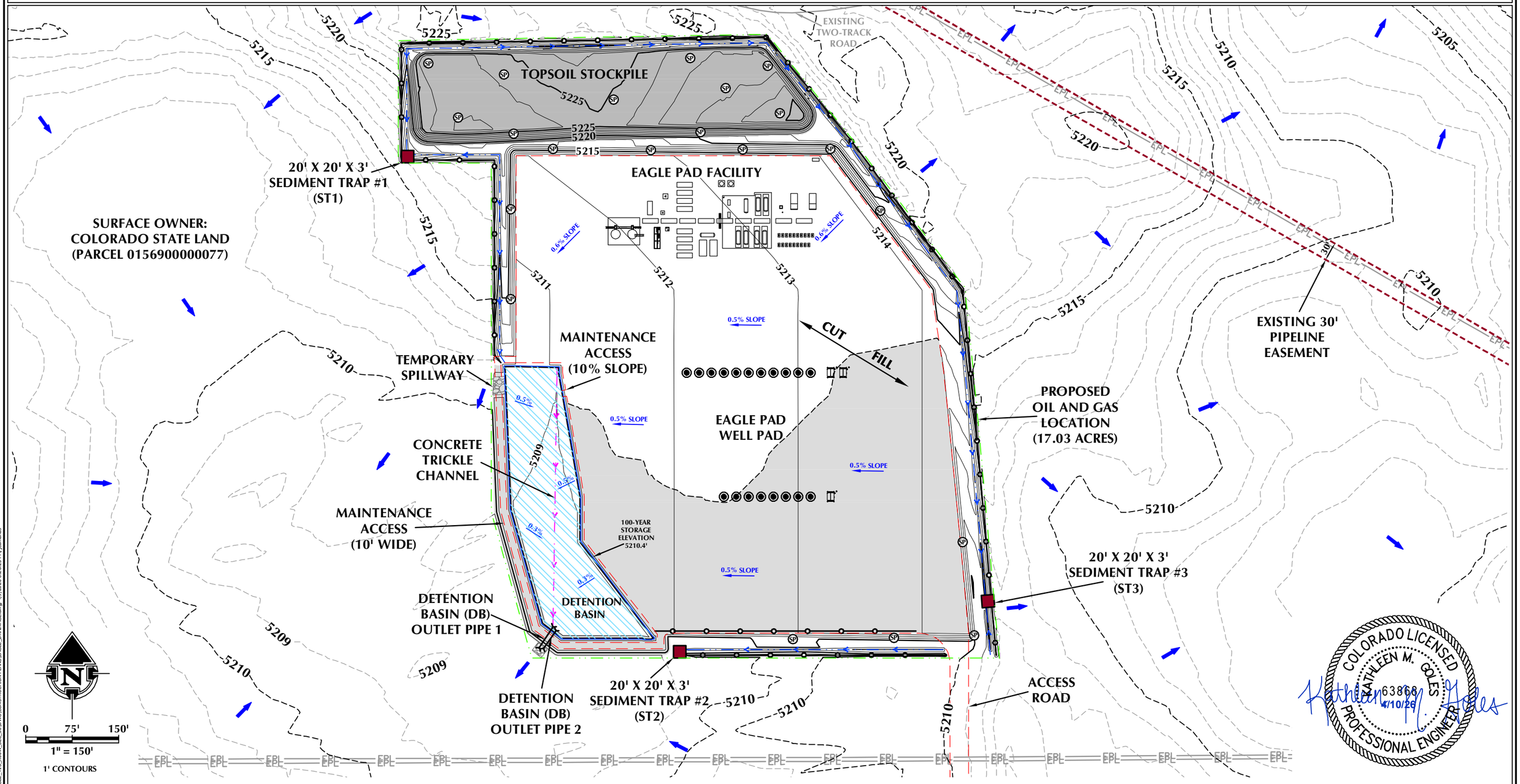
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CONSTRUCTION PLANS

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

## LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING PIPELINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- STORMWATER DRAINAGE
- EASEMENT/ROW
- PROPOSED DIVERSION DITCH
- PROPOSED CONCRETE TRICKLE CHANNEL
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- PROPOSED SEDIMENT TRAP WITH PROTECTED OUTLET
- PROPOSED SLOPE PROTECTION
- 100-YEAR STORMWATER STORAGE FOOTPRINT

**NOTE:**

- THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES AND ARE SUBJECT TO MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.
- SLOPE PROTECTION USED FOR TEMPORARY EROSION CONTROL ON CUT/FILL SLOPES AND SOIL STOCKPILES.


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Phone 307-674-0609


Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**

*CONSTRUCTION PHASE DRAINAGE AND EROSION CONTROL PLAN*

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# CONSTRUCTION PLANS
# EAGLE PAD
SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

SURFACE OWNER:
COLORADO STATE LAND
(PARCEL 0156900000077)

SEEDED TOPSOIL STOCKPILE
(FOR FINAL REC)

EAGLE PAD FACILITY

EXISTING
TWO-TRACK
ROAD

EXISTING 30'
PIPELINE
EASEMENT

PROPOSED
OIL AND GAS
LOCATION
(17.03 ACRES)

PRODUCTION PHASE
OPERATIONAL AREA
(6.52 ACRES)

SPILLWAY

CONCRETE
TRICKLE
CHANNEL

EAGLE PAD
WELL PAD

SPOIL
PILE

MAINTENANCE
ACCESS
(10% SLOPE)

100-YEAR
STORAGE
ELEVATION
5211.6'

DETENTION
BASIN (DB)
OUTLET PIPE 1

DETENTION BASIN

DETENTION
BASIN (DB)
OUTLET PIPE 2

MAINTENANCE
ACCESS
(12' WIDE)

ACCESS
ROAD

CUT

FILL

0.6% SLOPE

0.5% SLOPE

CUT SLOPE

0.4%

0.7%

5205 5209 5210 5212 5213 5215 5220 5225

0 75' 150'
1" = 150'
1' CONTOURS

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

LEGEND
- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING PIPELINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- STORMWATER DRAINAGE
- EASEMENT/ROW
- PROPOSED CONCRETE TRICKLE CHANNEL
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- RECLAMATION BOUNDARY
- PROPOSED PERMANENT SEEDING
- 100-YEAR STORMWATER STORAGE FOOTPRINT

NOTE:
- THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES AND ARE SUBJECT TO MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.
- SLOPE PROTECTION USED FOR TEMPORARY EROSION CONTROL ON CUT/FILL SLOPES AND SOIL STOCKPILES.


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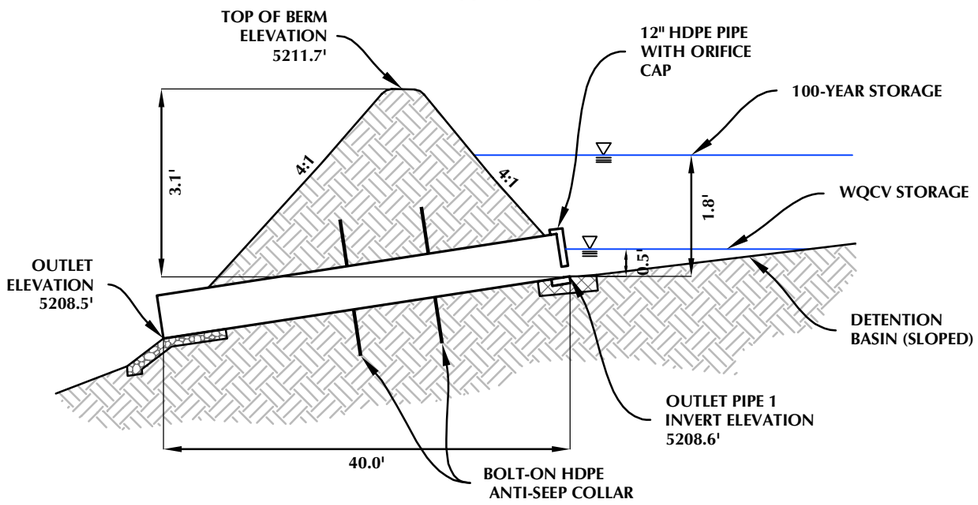
**EAGLE PAD**
*PRODUCTION PHASE DRAINAGE AND EROSION CONTROL PLAN*

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| SURVEY DATE: 6/10/25 | DRAFTED BY: KMG |

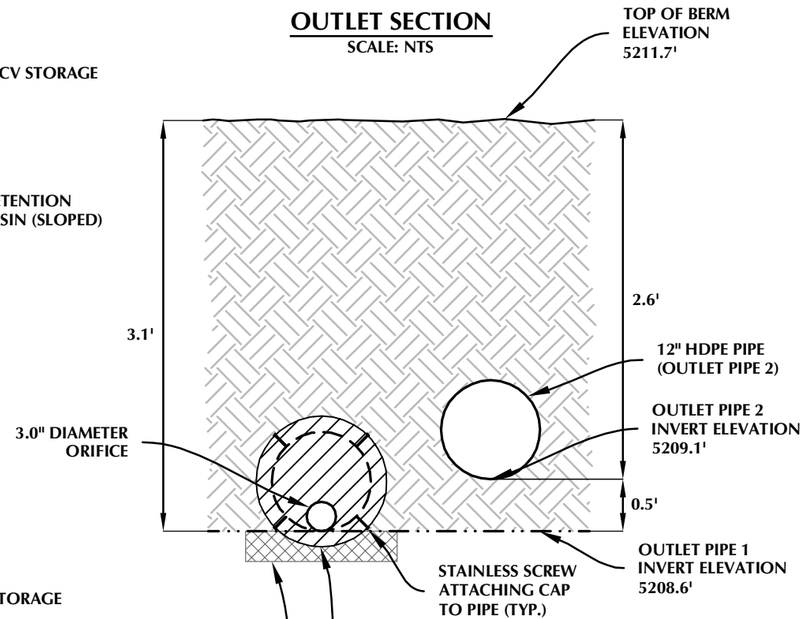
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# CONSTRUCTION PLANS
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SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

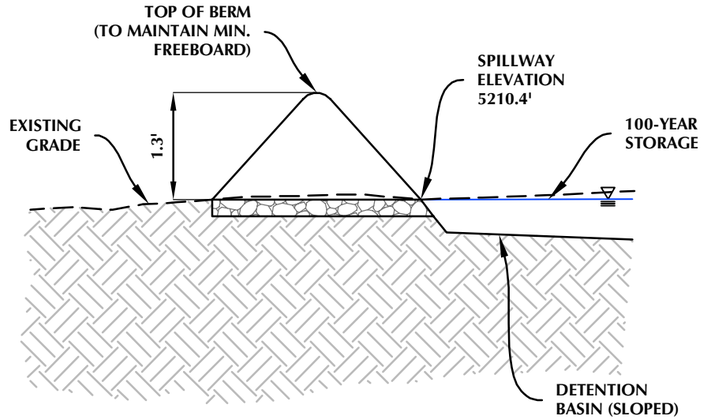
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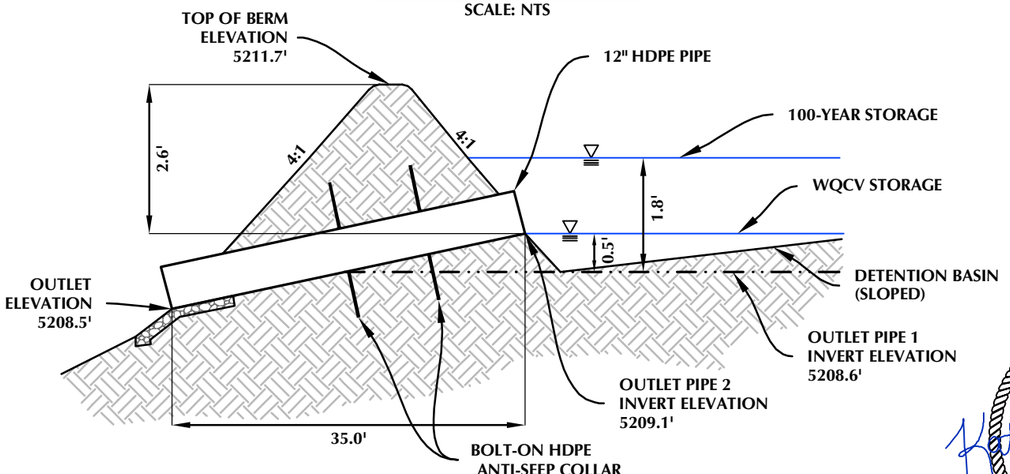

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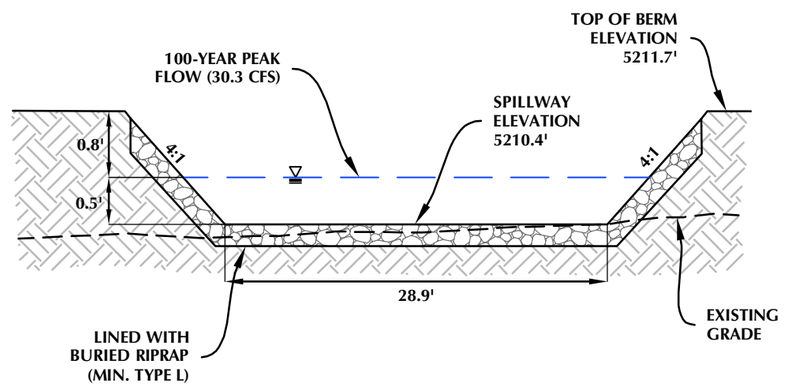

## TEMPORARY SPILLWAY PROFILE
SCALE: NTS




## OUTLET PIPE 2 PROFILE
SCALE: NTS




## TEMPORARY SPILLWAY SECTION
SCALE: NTS




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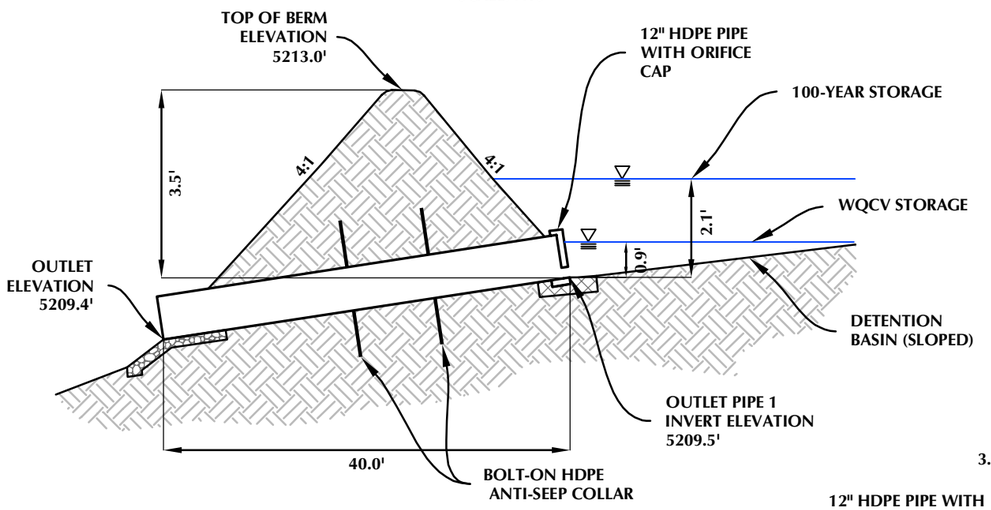
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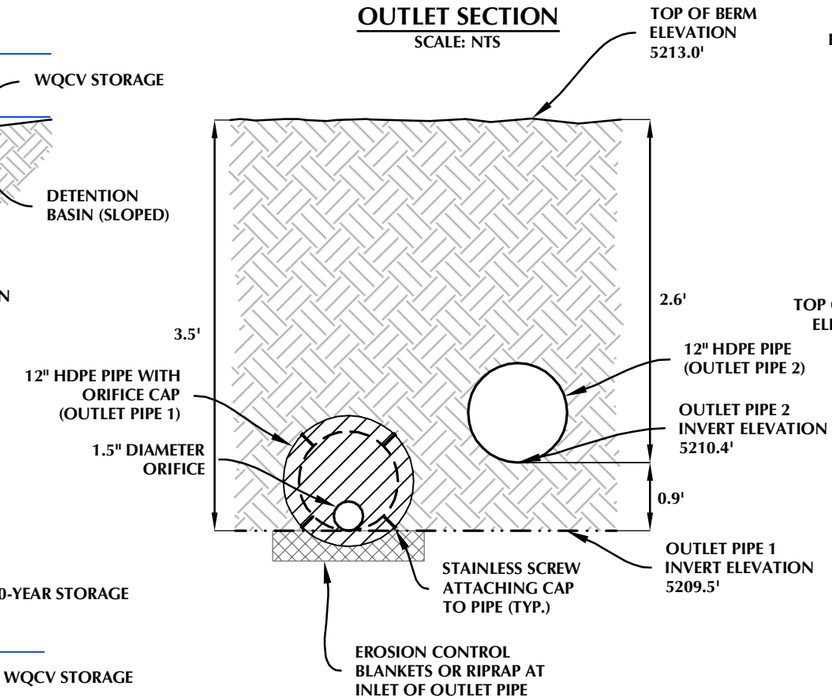
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# CONSTRUCTION PLANS
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SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

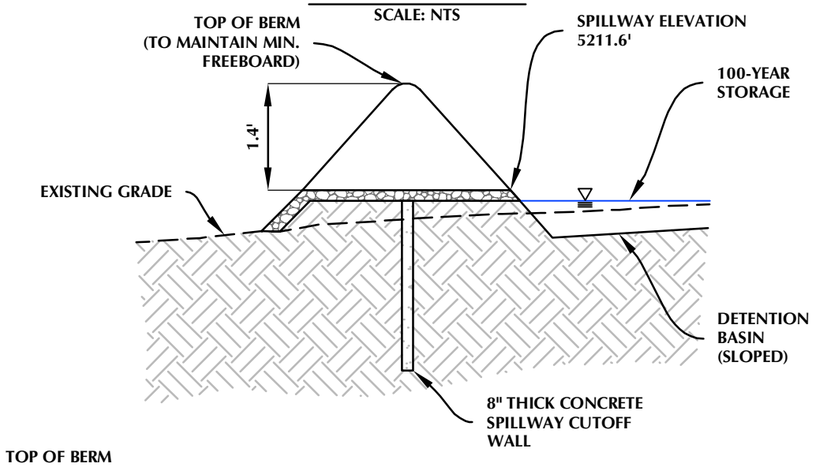
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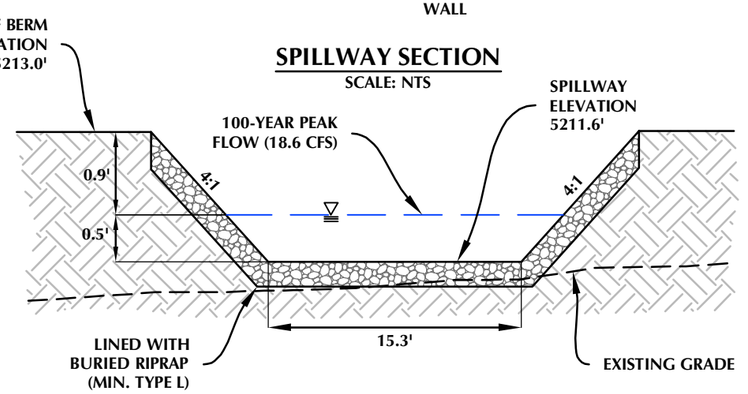

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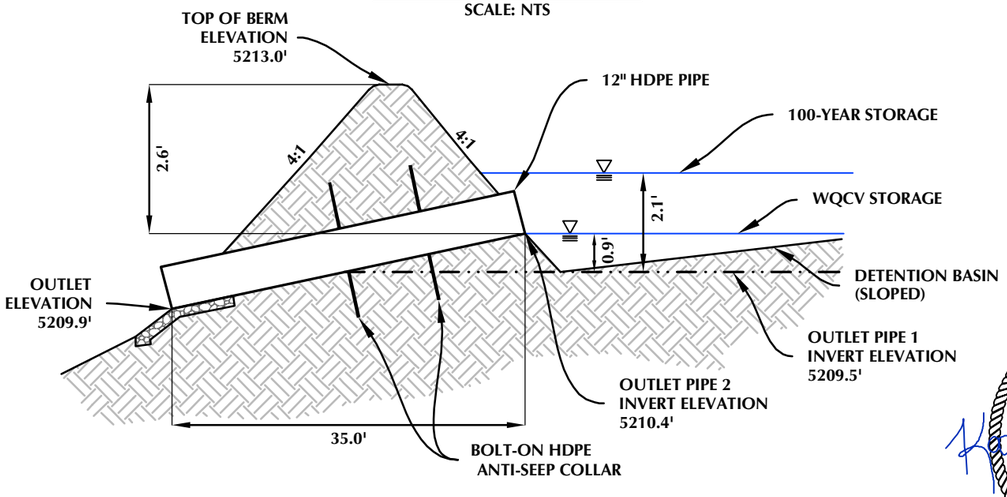

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## SPILLWAY SECTION
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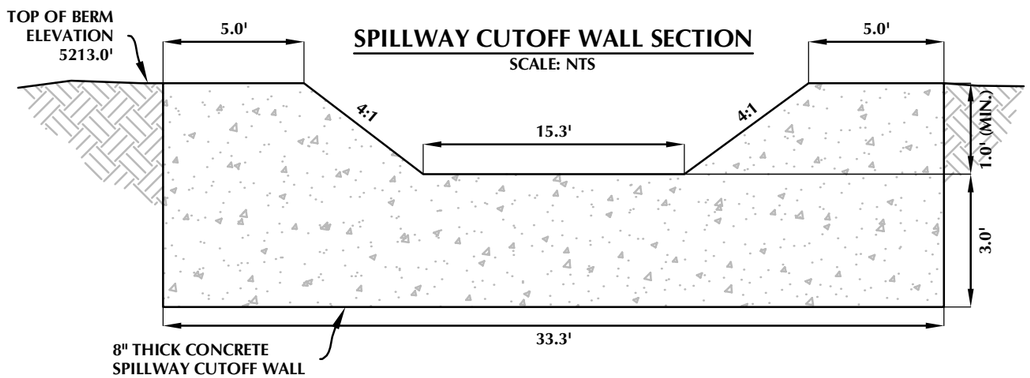



## OUTLET PIPE 2 PROFILE
SCALE: NTS




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## SPILLWAY CUTOFF WALL SECTION
SCALE: NTS





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Prepared For:
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Extraction Oil & Gas, Inc.

**EAGLE PAD**
*PRODUCTION PHASE DETENTION BASIN (DB) DETAILS*

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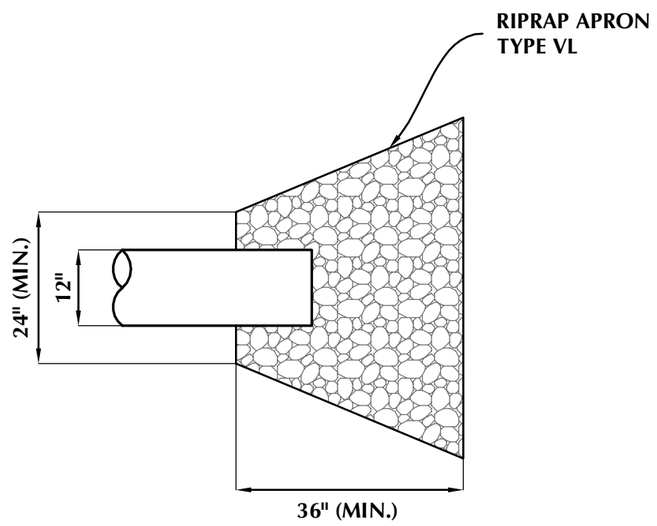
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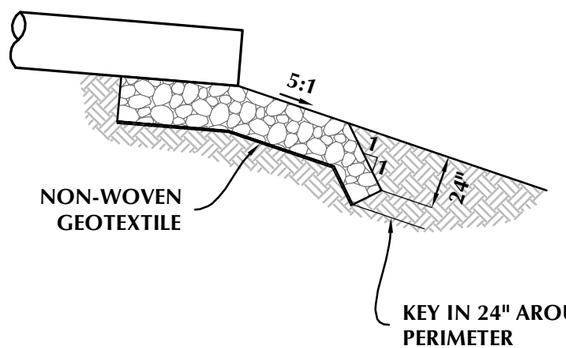
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SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

## OUTLET PROTECTION

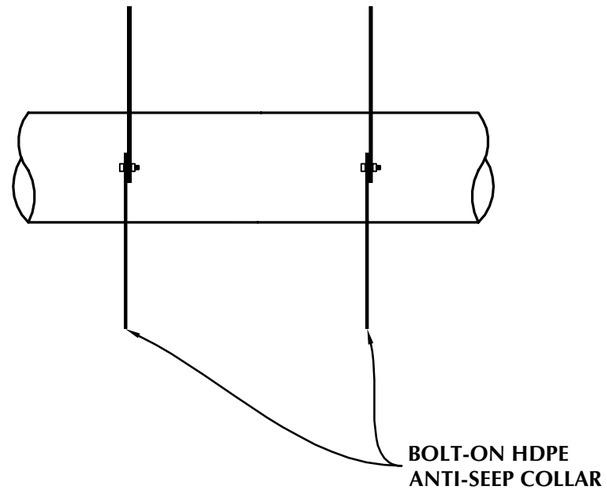
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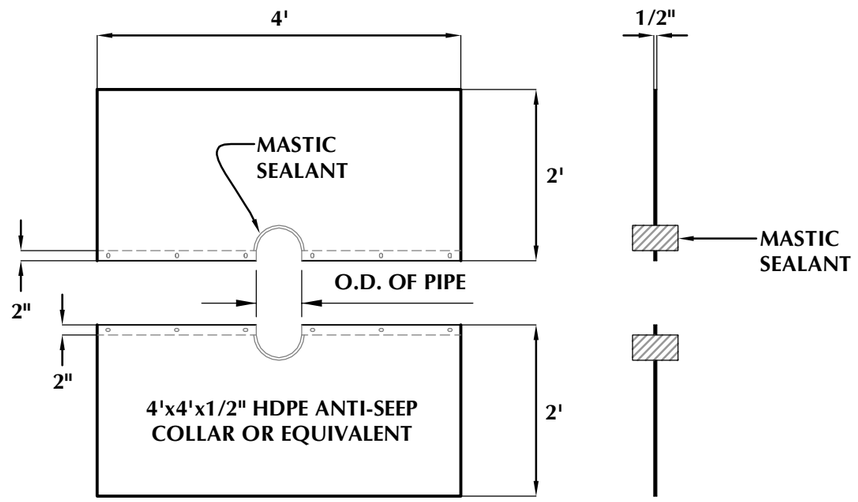



## ANTI-SEEP COLLAR

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PROFESSIONAL ENGINEER

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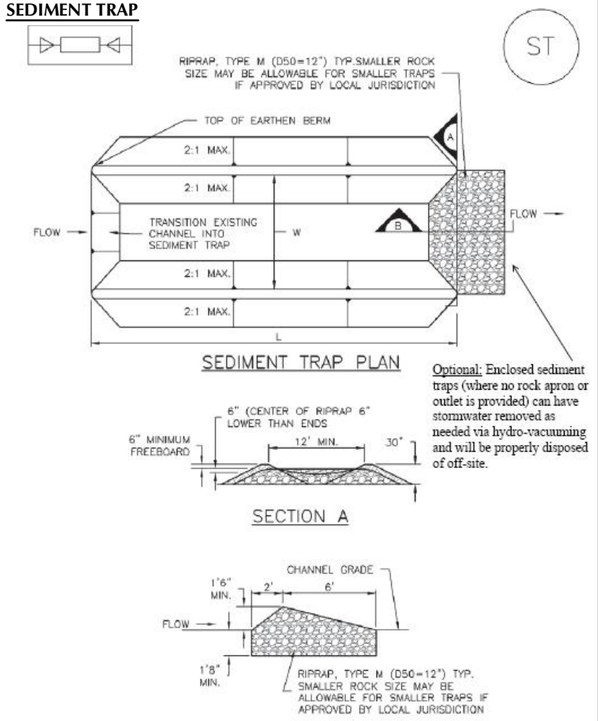
Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*OUTLET DETAILS*

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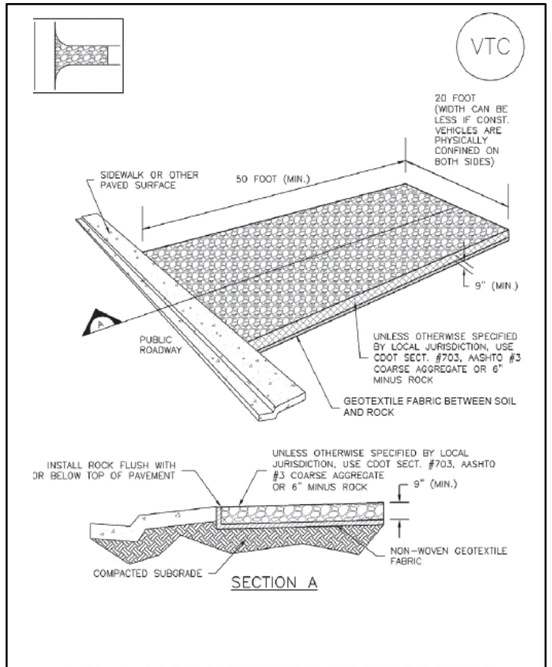
# CONSTRUCTION PLANS
# EAGLE PAD
## SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

### SEDIMENT TRAP




ST–1. SEDIMENT TRAP

Optional: Enclosed sediment traps (where no rock apron or outlet is provided) can have stormwater removed as needed via hydro-vacuuming and will be properly disposed of off-site.




VTC - 1. AGGREGATE VEHICLE TRACKING CONTROL

### Temporary and Permanent Seeding (TS/PS)

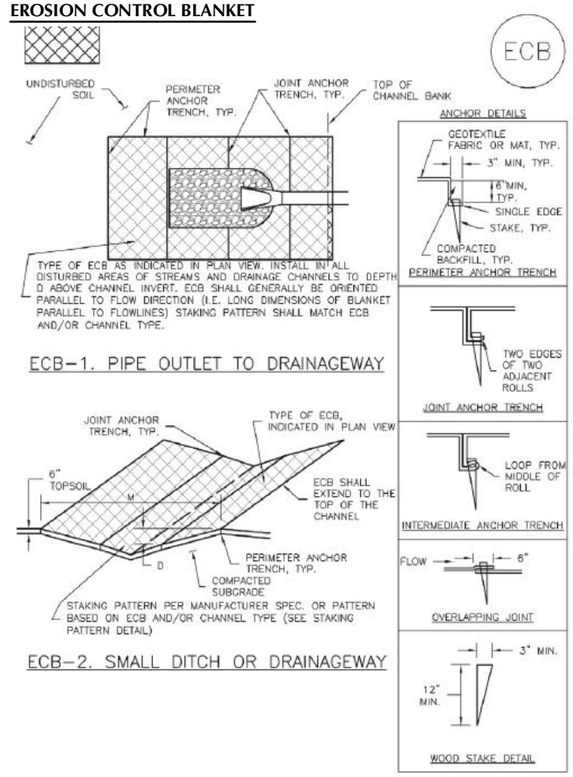
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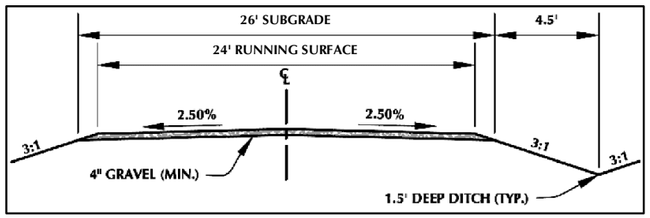
ADAMS COUNTY, COLORADO

| SEED MIX | APPLICATION RATE (lbs/acre) |
|---|---|
| **PBSI Dryland Aggressive Mix** | 25 |
| (20%) Green Needlegrass, Lodorm | |
| (20%) Slender Wheatgrass, Native | |
| (20%) Western Wheatgrass, Native | |
| (20%) Pubescent Wheatgrass, Luna | |
| (20%) Intermediate Wheatgrass, Oahe/Rush | |
| **PBSI Native Prairie Mix** | 15 |
| (25%) Blue Grama | |
| (10%) Buffalograss | |
| (20%) Green Needlegrass | |
| (20%) Sideoats Grama | |
| (25%) Western Wheatgrass | |
| **PBSI Native Sandyland Mix** | 15 |
| (20%) Yellow Indiangrass | |
| (10%) Little Bluestem | |
| (10%) Indian Rice Grass | |
| (10%) Sideoats Grama | |
| (10%) Sand Lovegrass | |
| (10%) Prairie Sandreed | |
| (20%) Switchgrass | |
| **PBSI Premium Irrig. Pasture Mix #1** | 25 |
| (75%) Meadow Bromegrass, Paddock/Fleet | |
| (25%) Orchardgrass, Elsie/Megabite/Paiute | |

Notes:
lbs/acre = pounds per acre
% = percent

### EROSION CONTROL BLANKET




CROSS-SECTION
NTS

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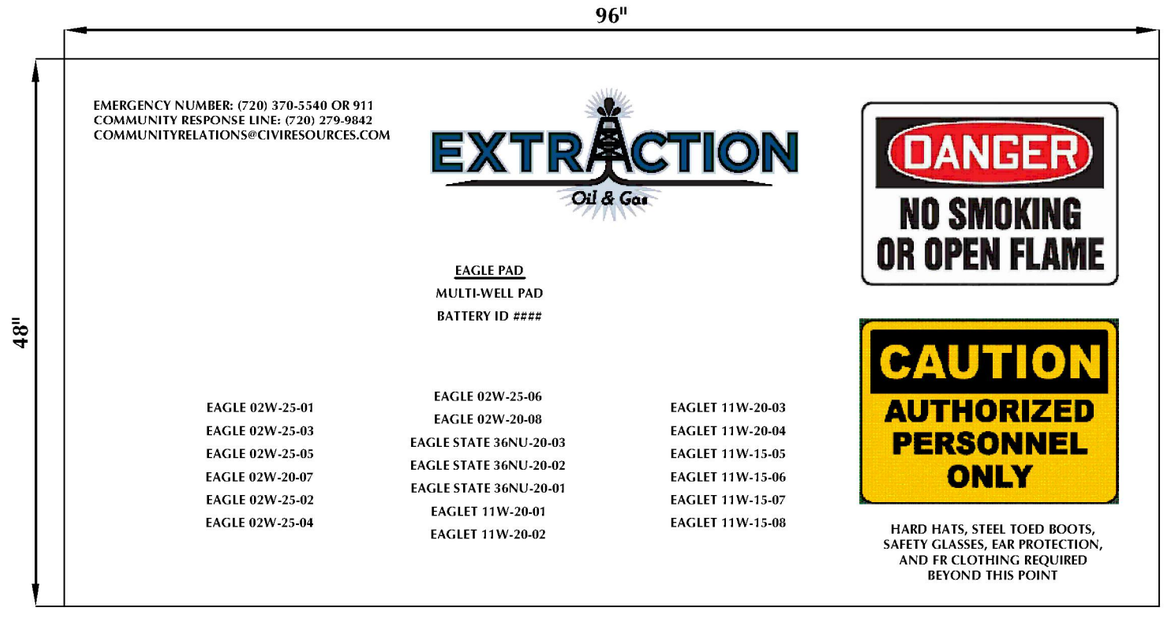

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CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*BMP TYPICALS*

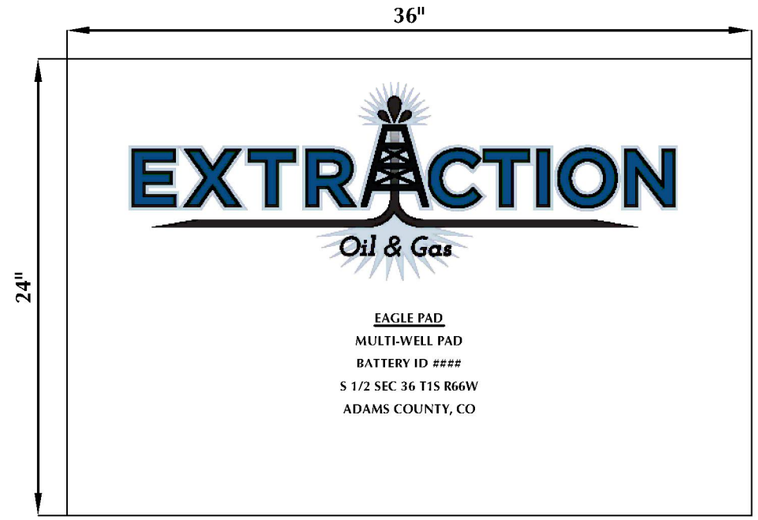
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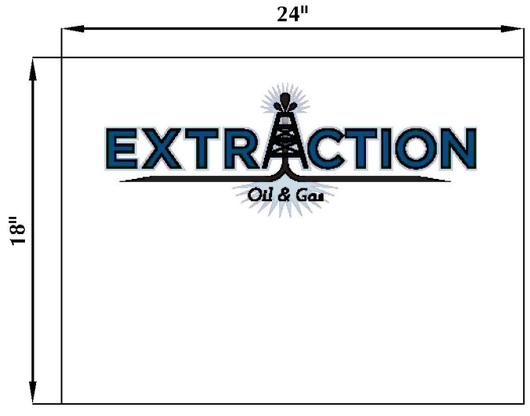
# SIGNAGE PLAN
# EAGLE PAD
## S 1/2 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




SCALE: NTS
SIZE : 96" X 48"
MATERIAL: WHITE MAX METAL W/ UV LAMINATE AND CONSTRUCTED ANGLE IRON FRAMES
LOCATION: PLACED AT FACILITY ENTRANCE




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SIZE : 36" X 24"
MATERIAL: WHITE MAX METAL W/ UV LAMINATE AND CONSTRUCTED ANGLE IRON FRAMES
LOCATION: PLACED AT EACH BATTERY




SCALE: NTS
SIZE : 24" X 18"
MATERIAL: WHITE MAX METAL W/ UV LAMINATE AND CONSTRUCTED
ANGLE IRON FRAMES
LOCATION: PLACED AT EACH WELL HEAD


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Prepared For:
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CRESTONE PEAK RESOURCES, LLC
555 17TH STREET, SUITE 3700
DENVER, CO 80202

**EAGLE PAD**
*SIGNAGE PLAN*

| | | | |
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# Final Drainage Report for Eagle Pad

*Prepared for:*

**Extraction Oil & Gas, Inc.**

*A Wholly-Owned Subsidiary of Civitas Resources, Inc.*

555 17th Street

Suite 3700

Denver, Colorado 80202

*Submitted to:*

**Adams County Planning & Development Department**

4430 South Adams County Parkway

1st Floor, Suite W2000

Brighton, Colorado 80601

March 2026


609 Consulting, LLC

**Engineering, Surveying, Consulting & Design**

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# Letter of Transmittal

**To:** Adams County Planning & Development Department
4430 South Adams County Parkway
1st Floor, Suite W2000
Brighton, Colorado 80601

**cc:** Mr. John Piekara, Extraction Oil & Gas, Inc.
Mr. Jeff Annable, Extraction Oil & Gas, Inc.

**From:** Ms. Kathleen Goles, PE
609 Consulting
1095 Saberton Avenue
Sheridan, Wyoming 82801

**Date:** March 1, 2026

**Subject:** Eagle Pad - Final Drainage Report

To Adams County Planning & Development Department:

On behalf of Extraction Oil & Gas, Inc., a wholly-owned subsidiary of Civitas Resources, Inc., we are pleased to submit the Final Drainage Report for Eagle Pad. The purpose of this report is to discuss and summarize the stormwater drainage analysis and design performed for the proposed Eagle Pad well pad and production facility. The proposed project will be located in the south half of Section 36 of Township 1 South, Range 66 West in Adams County, Colorado.

The drainage analysis and design were prepared referencing the Adams County Development Standards & Regulations as well as the Mile High Flood District (MHFD) Urban Storm Drainage Criteria Manual. We believe the analysis and design satisfy all Adams County drainage requirements.

We greatly appreciate your time and consideration in reviewing this submittal. We look forward to your review and comments. Please contact us with any questions you may have.

Respectfully,

Kathleen M. Goles

Kathleen Goles
Registered Professional Engineer
State of Colorado No. 63868

## ENGINEER CERTIFICATION OF DRAINAGE REPORT

I hereby certify that this report (plan) for the Final Drainage design of Eagle Pad was prepared by me or under my direct supervision in accordance with the provisions of Adams County Storm Drainage Design and Technical Criteria for the owners thereof. I understand that Adams County does not and will not assume liability for drainage facilities designed by others.




3/1/2026

**Date**

**Kathleen Goles**
**Registered Professional Engineer**
**State of Colorado No. 63868**

## DEVELOPER CERTIFICATION OF DRAINAGE FACILITIES

Extraction Oil & Gas, Inc., a wholly-owned subsidiary of Civitas Resources, Inc., hereby certifies that the drainage facilities for Eagle Pad shall be constructed according to the design presented in this report. I understand that Adams County does not and will not assume liability for the drainage facilities designed and/or certified by my engineer. I understand that Adams County reviews drainage plans pursuant to Colorado Revised Statues Title 30, Article 28; but cannot, on behalf of Eagle Pad, guarantee that final drainage design review will absolve Extraction Oil & Gas, Inc., a wholly-owned subsidiary of Civitas Resources, Inc., and/or their successors and/or assigns the future liability for improper design. I further understand that approval of the Final Plat and/or Final Development Plan does not imply approval of my engineer's drainage design.

**Date**

Extraction Oil & Gas, Inc.
A wholly-owned subsidiary of Civitas Resources, Inc.

**Name of Developer**

**Authorized Signature**

# TABLE OF CONTENTS

PAGE


1.0 PROJECT DESCRIPTION AND LOCATION ..... 1
1.1 Project Description ..... 1
1.2 Project Location ..... 1
1.3 Drainage Summary ..... 3
2.0 HYDROLOGIC ANALYSIS ..... 3
2.1 Historic Runoff ..... 3
2.2 Design Flow ..... 4
2.3 Stormwater Volume ..... 9
3.0 HYDRAULIC ANALYSIS AND DRAINAGE DESIGN ..... 10
3.1 Stormwater Storage - Construction Phase ..... 10
3.2 Stormwater Storage - Production Phase ..... 11
3.3 Ditches ..... 12
3.4 Sediment Traps ..... 12
4.0 SITE MAINTENANCE AND UPKEEP ..... 12
5.0 CONCLUSION ..... 13
6.0 REFERENCES ..... 14
APPENDICES ..... 15

# LIST OF FIGURES

PAGE

**Figure 1.** Project Location ..... **2**
**Figure 2.** Construction Phase Outlets and Drainage Areas ..... **5**
**Figure 3.** Construction Phase Time of Concentration Routes ..... **6**
**Figure 4.** Production Phase Outlet and Drainage Area ..... **7**
**Figure 5.** Production Phase Time of Concentration Route ..... **8**

# LIST OF TABLES

PAGE

**Table 1.** Point Rainfall Data (NOAA Atlas 14 Point Precipitation Frequency Estimates) ..... **3**
**Table 2.** Historic Peak Flow Estimates Using the Rational Method ..... **4**
**Table 3.** Summary of Outlets and Drainage Areas ..... **4**
**Table 4.** Imperviousness Calculations ..... **9**
**Table 5.** Peak Flow Estimates ..... **9**
**Table 6.** Calculated Storm Runoff Volumes ..... **10**

# APPENDICES

**Appendix A:** Drainage Plan
**Appendix B:** Drainage Report and Drainage Plan Checklist
**Appendix C:** NRCS Web Soil Survey – Soils Report
**Appendix D:** FEMA Flood Insurance Rate Map FIRMette
**Appendix E:** UD-Rational Spreadsheet Calculations
**Appendix F:** MHFD-Detention Spreadsheet Calculations
**Appendix G:** MHFD-Culvert Spreadsheet Calculations
**Appendix H:** Spillway Riprap Calculations
**Appendix I:** Conveyance Calculations for Diversion Ditch Design

# 1.0 PROJECT DESCRIPTION AND LOCATION

Extraction Oil & Gas, Inc. is proposing the construction and development of an oil/gas well pad and production facility, Eagle Pad, located in the south half of Section 36, Township 1 South, Range 66 West in Adams County, Colorado. Per the requirements outlined in the Adams County Development Standards & Regulations and through a direct request from Adams County, this report was prepared to discuss the analysis and design of stormwater drainage at the proposed project site. The Drainage Plan, developed in conjunction with this report, can be found in Appendix A. A Drainage Report and Drainage Plan Checklist provided by Adams County can be found in Appendix B.

## 1.1 Project Description

The proposed project consists of the construction and operation of the Eagle Pad well pad and production facility containing infrastructure and operations for 19 oil/gas wells. The Energy & Carbon Management Commission (ECMC) Proposed Oil and Gas Location will have a permitted disturbance area of 17.03 acres during the construction phase which includes topsoil stripping and pad earthwork, well drilling and hydraulic fracturing, installation of permanent pipelines and facilities, and setup of temporary equipment and a modular large volume tank (MLVT) area. Construction phase grading and layout for the well pad and facility can be found in Appendix A.

Once all wells have been drilled and completed, portions of the Proposed Oil and Gas Location will be reclaimed back to existing grade and re-seeded during interim reclamation. The remaining operational area during the production phase will be approximately 6.52 acres. Production phase grading and layout for the well pad and facility can be found in Appendix A.

## 1.2 Project Location

The Eagle Pad is located on property owned by Colorado State Land (Parcel 0156900000077). The project area is approximately 0.4 miles east of Piccadilly Road and 0.1 miles north of East 120th Avenue. A proposed access road running north from East 120th Avenue will provide access to the project area. Figure 1 shows the location of Eagle Pad.

Soils data for the project area were taken from NRCS Soil Data Viewer. The project area is comprised of Blakeland-Truckton association and Truckton loamy sand (0 to 3 percent slopes) with a Hydrologic Soil Group (HSG) classification of Group A soils and Ascalon sandy loam (0 to 3 percent slopes) with a HSG classification of Group B soils. The soils report for the project area can be found in Appendix C. Eagle Pad will be constructed on undeveloped rangeland. According to the 2019 National Land Cover Database, the project area is cultivated crops.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 08001C0365H, Effective Date: 3/5/2007), the proposed project is in an area of minimal flood hazard (Zone X) and is therefore determined to be outside the 500-year floodplain. The corresponding FIRMette displaying the flood zone classification at the project site can be found in Appendix D.

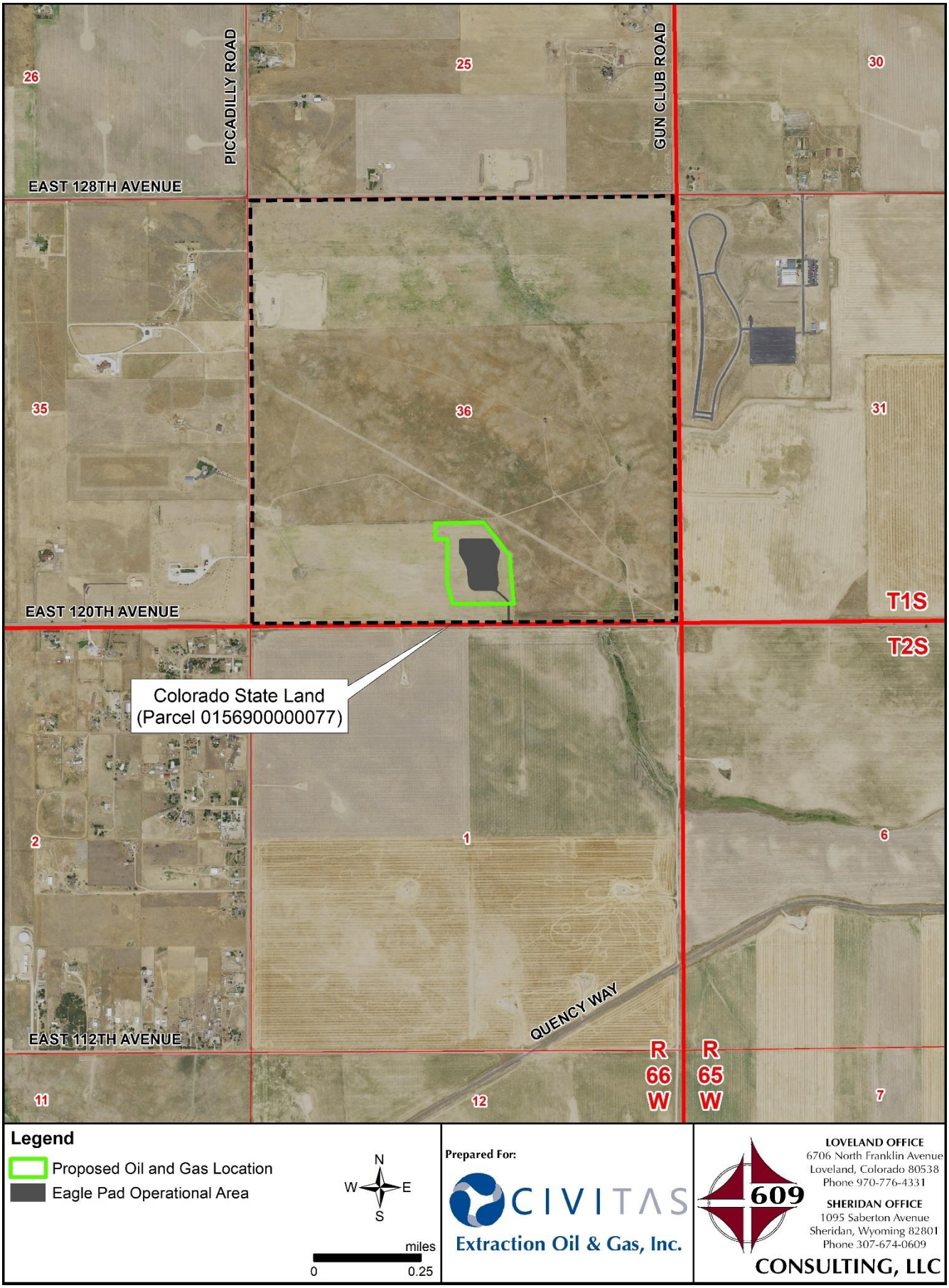



**Figure 1.** Project Location

## 1.3 Drainage Summary

Eagle Pad lies within the *Barr Lake* Hydrologic Unit Code Level 12 (HUC 12): 101900030501. The HUC 12, approximately 14.0 square miles in area, consists of predominately agricultural lands that drain to Barr Lake. Currently, there has not been a master drainage plan developed for this area.

Historically, stormwater from the proposed location drains from the north to the south/southwest into a low spot. If the stormwater leaves the low spot before fully infiltrating, it will eventually flow into a drainage that drains north, then northwest towards Barr Lake.

# 2.0 HYDROLOGIC ANALYSIS

The following sections outline the methods used and corresponding results for the hydrologic analysis of the project site and drainage design including historic runoff, design flow, and stormwater volume.

## 2.1 Historic Runoff

Historic runoff, calculated assuming the site is undeveloped with a 5.0 percent imperviousness, was calculated for the proposed project site. The rational method was chosen to estimate historic peak flows. As discussed in the Mile High Flood District (MHFD) manual *Urban Storm Drainage Criteria Manual Volume I* (USDCM VI), it is acceptable to use the rational method for design storm analysis of catchments that are not complex and are 90 acres or less in size.

The MHFD spreadsheet model *Peak Runoff Prediction by the Rational Method Version 3.00* (UD-Rational) was used to calculate peak flows using the rational method. One-hour point rainfall data were obtained from the Adams County Development Standards & Regulations using the NOAA Atlas 14 Point Precipitation Frequency Estimates. One-hour point rainfall data are summarized in Table 1.

**Table 1.** Point Rainfall Data (NOAA Atlas 14 Point Precipitation Frequency Estimates)

| Storm Event Frequency | One-Hour Point Rainfall, in |
|---|---|
| 2-year | 1.00 |
| 5-year | 1.42 |
| 10-year | 1.68 |
| 50-year | 2.35 |
| 100-year | 2.71 |

Historic peak flows were calculated for the Proposed Oil and Gas Location. Overland flow length, overland flow slope, channelized flow length, and channelized flow slope parameters were estimated using field survey, LiDAR, and imagery. HSG was derived from an area-weighted average using NRCS Soil Data Viewer. USDCM VI was referenced for the recommended conveyance factor (K) and Computed Time of Concentration ($T_c$) was used. Historic peak flow estimates calculated using the rational method are summarized in Table 2 and spreadsheet model inputs and results can be found in Appendix E.

**Table 2.** Historic Peak Flow Estimates Using the Rational Method

| Storm Event Frequency | Historic Peak Flow, cfs |
|---|---|
| 2-year | 0.4 |
| 5-year | 0.7 |
| 10-year | 1.5 |
| 50-year | 7.3 |
| 100-year | 13.1 |

## 2.2 Design Flow

Design flows for Eagle Pad were calculated for stormwater derived within the project disturbance area (on-site) as well as the broader drainage to and around the project area. Both the construction phase and the production phase were analyzed and used to aid in the hydraulic design.

The rational method was chosen to estimate peak flows for the proposed diversion ditches, sediment traps, and detention basin areas. Locations for peak flow calculations are summarized in Table 3. Outlets and drainage area delineations and their corresponding time of concentration routes during the construction phase are shown in Figure 2 and Figure 3, respectively. The outlet and drainage area delineation and their corresponding time of concentration route during the production phase are shown in Figure 4 and Figure 5, respectively.

**Table 3.** Summary of Outlets and Drainage Areas

| Outlet | Description | Total Drainage Area, acre | |
|---|---|---|---|
| | | Construction Phase | Production Phase |
| ST1 | Sediment Trap #1 | 0.36 | - |
| ST2 | Sediment Trap #2 | 0.39 | - |
| ST3 | Sediment Trap #3 | 2.50 | - |
| DB | Detention Basin Area | 13.10 | 9.29 |

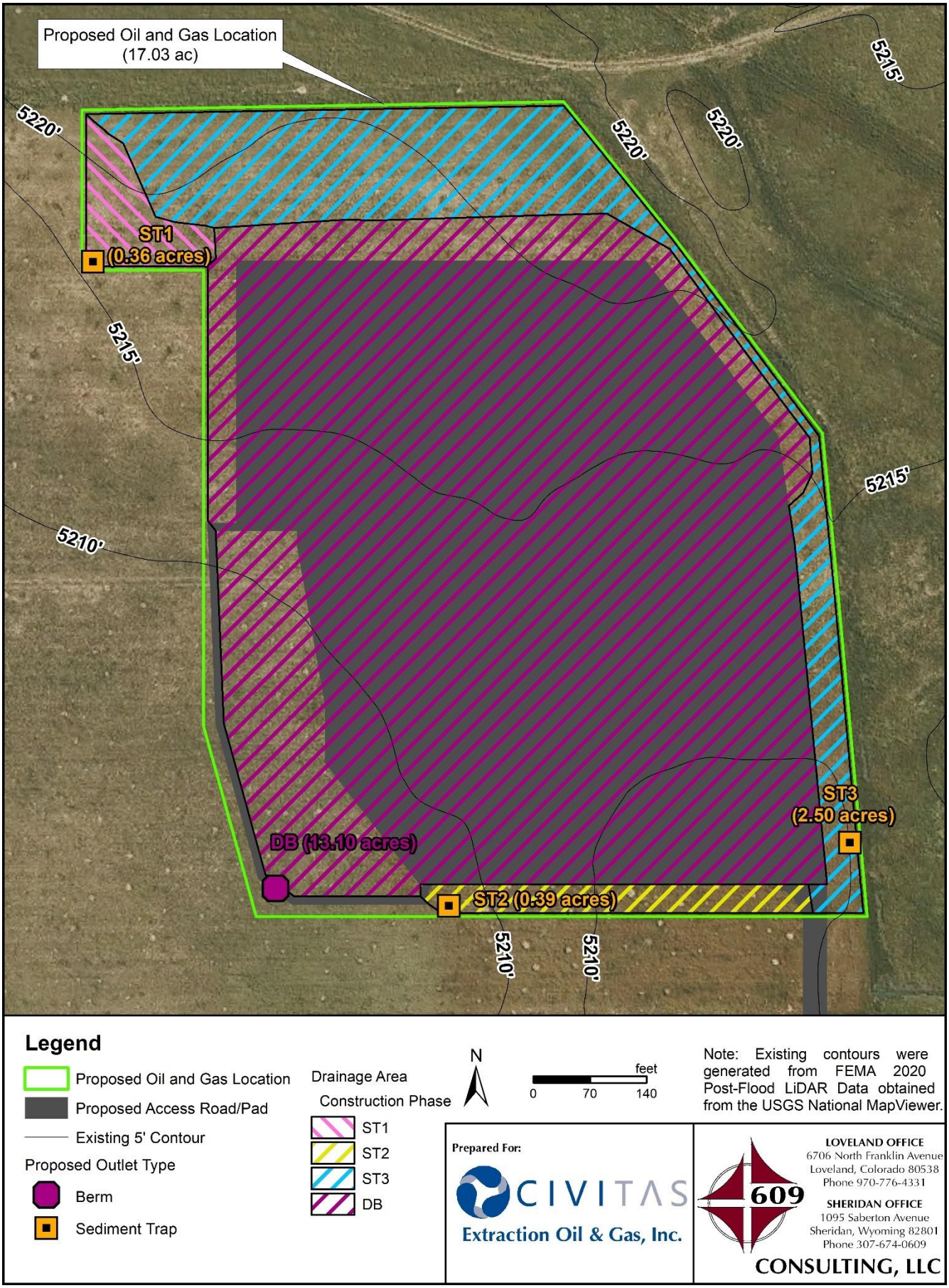



**Figure 2.** Construction Phase Outlets and Drainage Areas

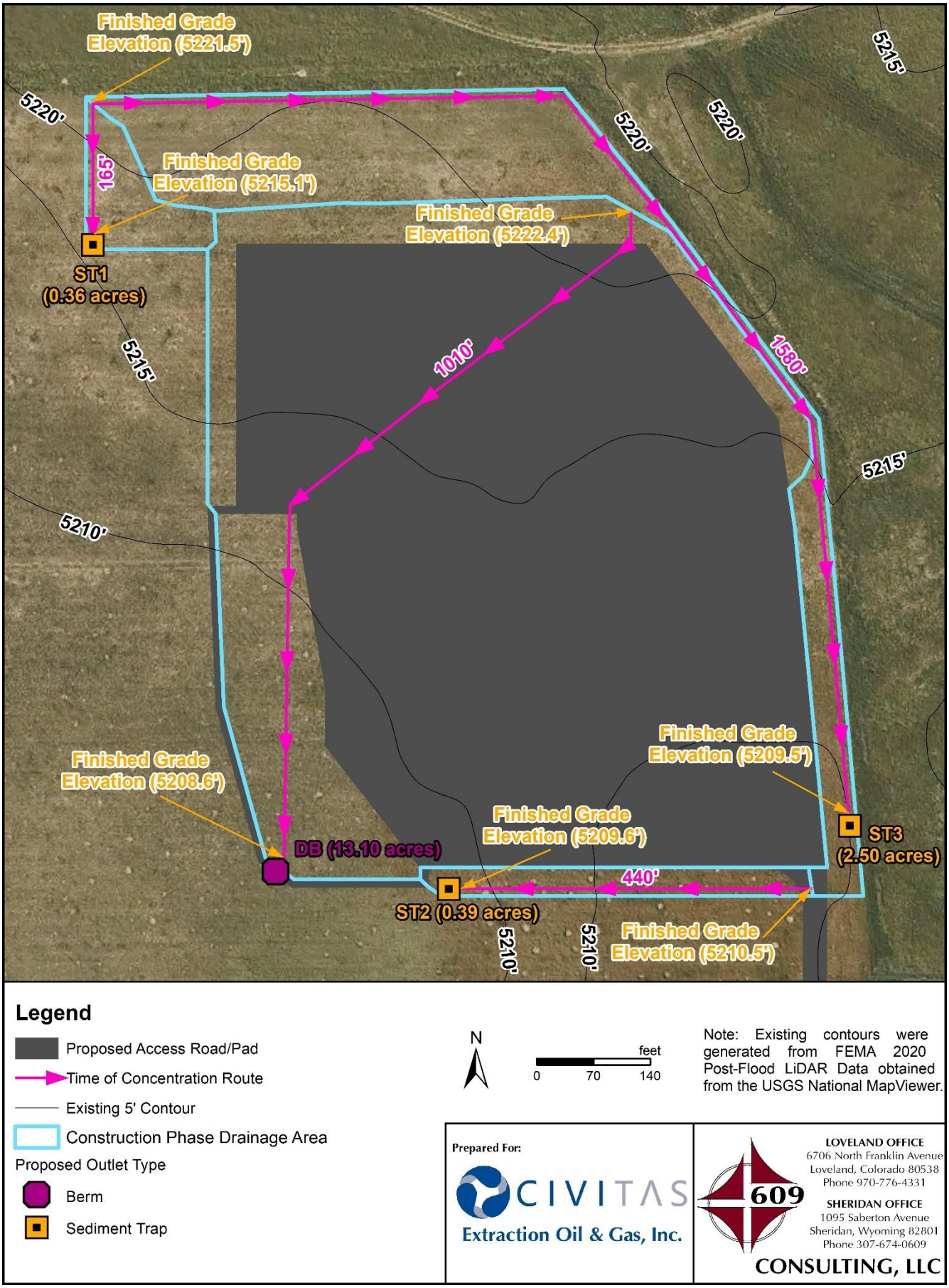



**Figure 3.** Construction Phase Time of Concentration Routes

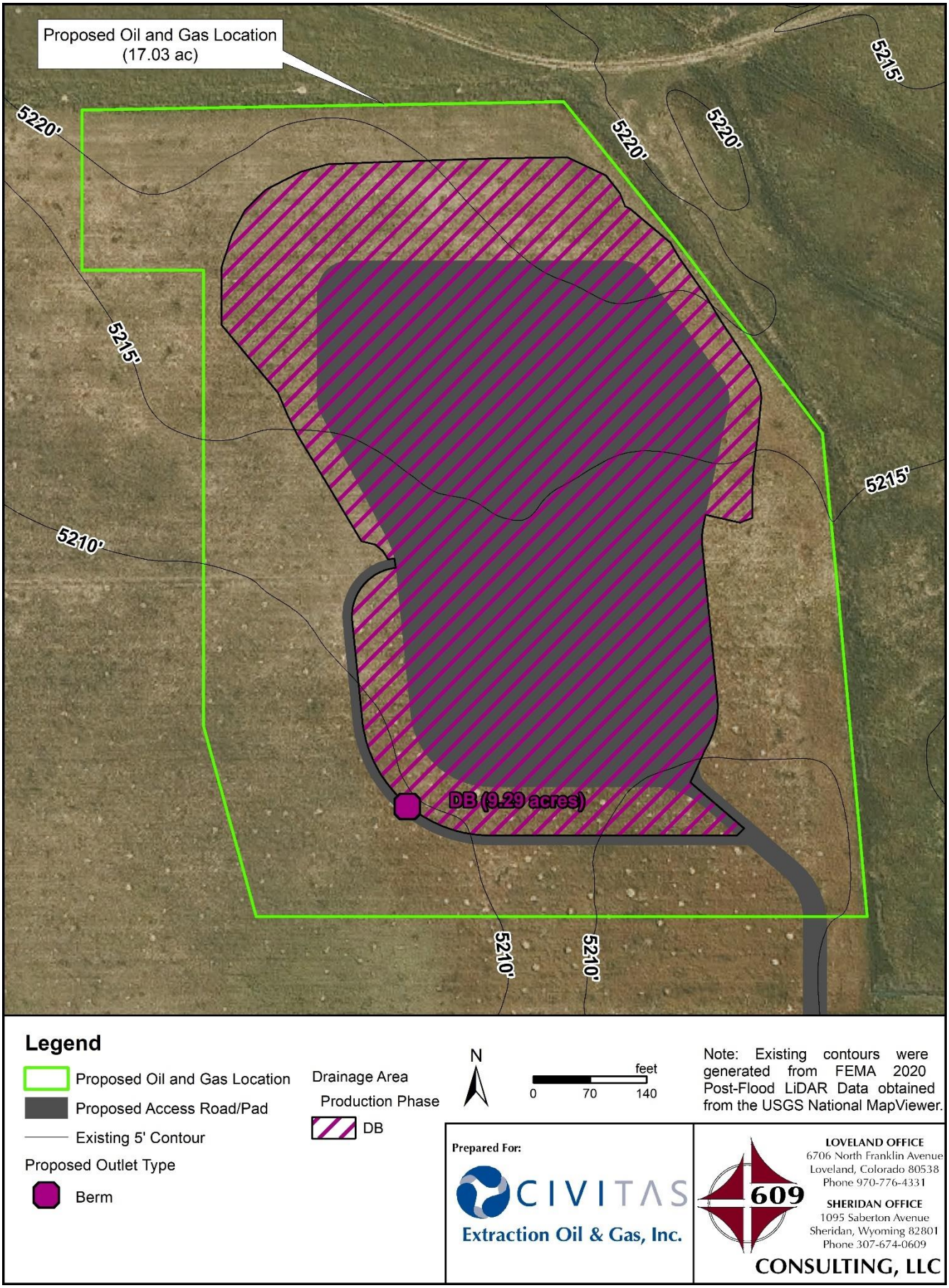



**Figure 4.** Production Phase Outlet and Drainage Area

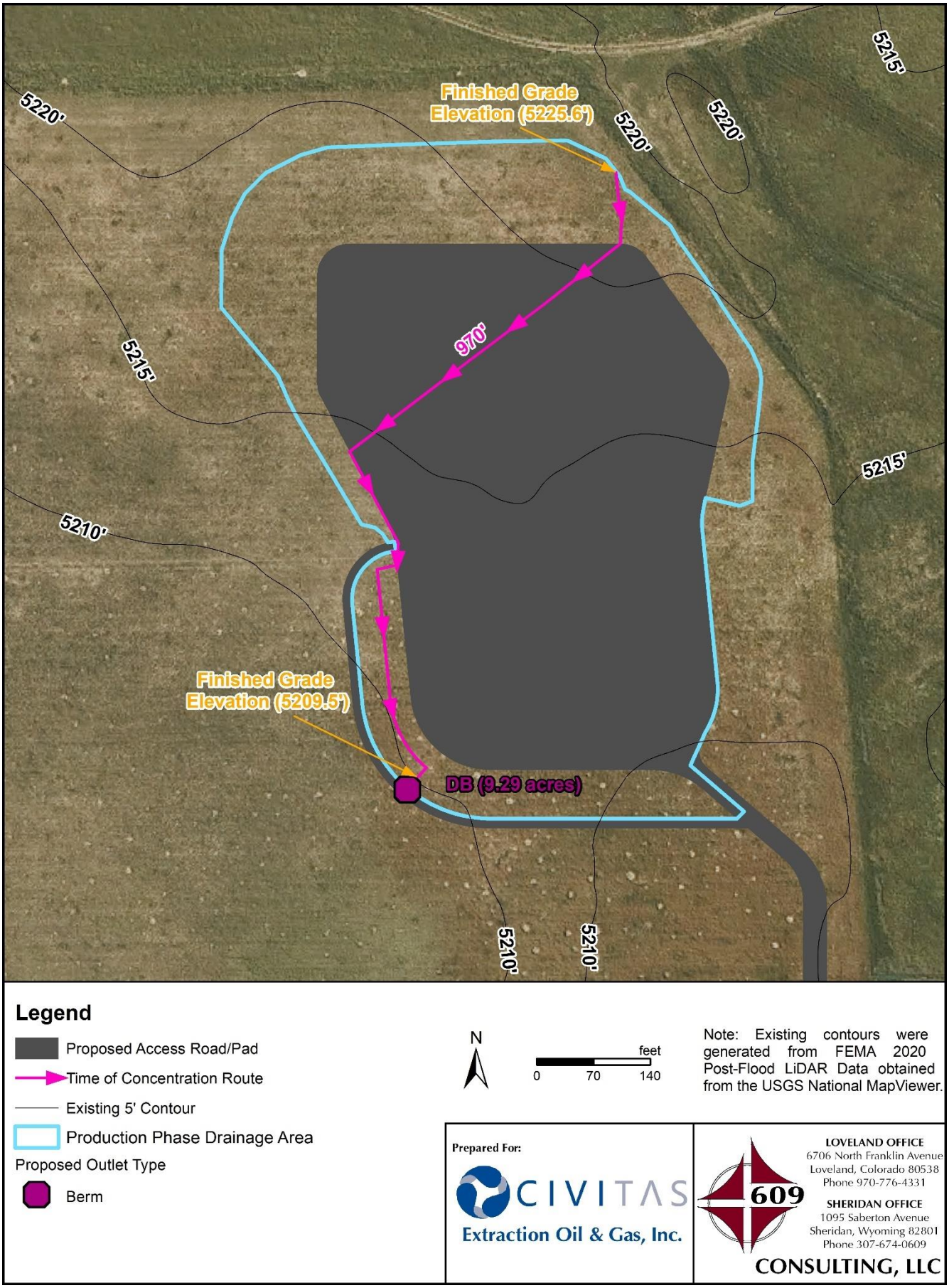



**Figure 5.** Production Phase Time of Concentration Route

UD-Rational was used to calculate peak flows using the rational method. Drainages were delineated using the on-site drainage design and grading. Overland flow length, overland flow slope, channelized flow length, and channelized flow slope parameters were estimated using field survey, LiDAR data, and imagery. Computed Times of Concentration ($T_c$) were used as overrides. Calculations for area-weighted averages of percent imperviousness are found in Table 4. Peak flow estimates calculated using the rational method are summarized in Table 5. UD-Rational inputs and results can be found in Appendix E.

**Table 4.** Imperviousness Calculations

| Outlet | Phase | Total Area, acre | Open (5% Imperv), acre | Low Traffic Gravel (60% Imperv), acre | Weighted Imperviousness | |
|---|---|---|---|---|---|---|
| | | | | | acre | % |
| ST1 | Construction | 0.36 | 0.36 | 0.00 | 0.02 | 5.0 |
| ST2 | Construction | 0.39 | 0.36 | 0.03 | 0.04 | 9.2 |
| ST3 | Construction | 2.50 | 2.48 | 0.02 | 0.14 | 5.4 |
| DB | Construction | 13.10 | 2.45 | 10.65 | 6.51 | 49.7 |
| | Production | 9.29 | 3.09 | 6.20 | 3.87 | 41.7 |

**Table 5.** Peak Flow Estimates

| Outlet | Phase | Calculated Peak Flow, cfs | | | | |
|---|---|---|---|---|---|---|
| | | 2-year | 5-year | 10-year | 50-year | 100-year |
| ST1 | Construction | <0.1 | <0.1 | 0.1 | 0.2 | 0.6 |
| ST2 | Construction | <0.1 | 0.1 | 0.2 | 0.8 | 1.1 |
| ST3 | Construction | 0.1 | 0.1 | 0.2 | 1.1 | 2.1 |
| DB | Construction | 7.4 | 11.0 | 13.9 | 23.9 | 30.3 |
| | Production | 4.4 | 6.5 | 8.2 | 14.2 | 18.6 |

## 2.3 Stormwater Volume

In accordance with Adams County Development Standards & Regulations requirements, stormwater falling on the project area will be detained and released at reduced flow rates. The maximum allowable release rates for the 1-hour, 5-year and 100-year storm events were determined by using *Table 9.16—Allowable Release Rates (cfs/acre)*. Using Group A soils as the dominant soil group, a release rate of 0.07 cfs/acre is acceptable during the 5-year storm event and 0.50 cfs/acre is acceptable during the 100-year storm event.

The MHFD spreadsheet model *Detention Basin Design Workbook Version 4.07* (MHFD-Detention) was used to calculate storm runoff volumes. One-hour point rainfall data for the project area (Table 1) were used within MHFD-Detention. Watershed parameters including area, length, and slope as well as imperviousness and soil type were calculated based on the site design and site characteristics. Table 6 shows storm runoff volumes (without accounting for releases) calculated for the stormwater storage area. MHFD-Detention inputs and results can be found in Appendix F.

**Table 6.** Calculated Storm Runoff Volumes

| Outlet | Phase | Storm Runoff Volume, acre-ft | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | WQCV | EURV | 2-year | 5-year | 10-year | 50-year | 100-year |
| DB | Construction | 0.224 | 0.733 | 0.450 | 0.695 | 0.870 | 1.560 | 1.987 |
| | Production | 0.143 | 0.422 | 0.254 | 0.401 | 0.491 | 0.941 | 1.227 |

# 3.0 HYDRAULIC ANALYSIS AND DRAINAGE DESIGN

Criteria presented in the MHFD Urban Storm Drainage Criteria Manual outline the capacity, velocity, and slope requirements involved with drainage design and stormwater conveyance. The following sections describe the design recommendations for storage and conveyance during the construction phase and production phase. The recommended drainage design is shown in the Drainage Plan which can be found in Appendix A.

## 3.1 Stormwater Storage - Construction Phase

During the construction phase, stormwater from the well pad and facility will drain to the detention basin outlet (DB) located on the southwest corner of the detention basin. During the 5-year event, stormwater will pond to a maximum depth of 0.9 feet. During the 100-year event, stormwater will pond to a maximum depth of 1.8 feet creating a total storage of 1.624 acre-feet.

The outlet consists of two 12-inch diameter high-density polyethylene (HDPE) pipes. One pipe will have an orifice cap to control release rates and drain times for smaller events. The orifice cap will have a 3.0-inch diameter orifice at the invert of the outlet pipe, located at the bottom of the detention basin. The second pipe will be located adjacent to the first and positioned at the ponding depth of the WQCV (0.5 feet above the bottom of the detention basin). The second pipe will have no orifice cap. Anti-seep collars should be used to prevent seepage through the berm.

It will take approximately 40 hours to drain 99 percent of the WQCV with outflow controlled by the orifice cap on the first pipe. During the 5-year and 100-year events, outflows will be controlled by the second pipe (no orifice cap). A total peak outflow of 0.7 cfs will occur during the 5-year event, which is less than the acceptable release rate of 0.07 cfs/acre during the 5-year event (0.07 cfs/acre * 13.10 acres = 0.9 cfs). A total peak outflow of 3.7 cfs will occur during the 100-year event, which is less than the acceptable release rate of 0.50 cfs/acre during the 100-year event (0.50 cfs/acre * 13.10 acres = 6.6 cfs).

Pipe capacity and riprap calculations were performed for the Detention Basin (DB) Outlet Pipe 2. The MHFD spreadsheet model *Culvert Hydraulics Workbook Version 4.01* (MHFD-Culvert) was used to calculate conveyance and performance characteristics as well as outlet protection. At full barrel flow, the pipe is able to convey 2.3 cfs. The pipe is able to convey more than the 100-year outflow of 3.7 cfs at full barrel flow with 0.6 feet of cover, which is provided by the detention basin storage berm. The outlet pipe is therefore adequate to convey the outflow from the 100-year event. Using the 100-year outflow of 3.7 cfs, a 3 feet by 2 feet riprap pad of Type VL riprap was determined to be sufficient outlet protection. MHFD-Culvert spreadsheet calculations can be found in Appendix G.

A temporary emergency spillway will be installed along the western edge of the detention basin where detained stormwater will back up to the spillway during the 100-year event. The spillway will be located at-grade or in slight cut which will eliminate the need for a cutoff wall. The spillway was designed with a minimum crest width of 28.9 feet, 4:1 side slopes, and a crest invert elevation at 5210.4 feet (1.8 feet above the outlet invert). A berm height of 1.3 feet at the spillway will provide more than the required freeboard. The spillway is able to convey the developed 100-year peak flow at a depth of 0.5 feet. Riprap for the spillway was sized using Figure 12-21 from USDCM VII, and it was determined that Type L riprap will be used. Spillway riprap calculations can be found in Appendix H.

The outlet pipes and spillway will direct outflow to the southwest to an existing low area located north of East 120th Avenue. This follows historic flowpaths and due to the size of the low area, it is unlikely that stormwater from the site will leave the property before infiltrating.

Stormwater storage volumes, outlet sizing, and spillway design details for the construction phase can be found in Appendix A. Supporting calculations using MHFD-Detention can be found in Appendix F.

## 3.2 Stormwater Storage - Production Phase

During the production phase, stormwater from the reclaimed well pad and facility will drain to the detention basin outlet (DB) located on the southwest edge of the detention basin. During the 5-year event, stormwater will pond to a maximum depth of 1.3 feet. During the 100-year event, stormwater will pond to a maximum depth of 2.1 feet creating a total storage of 0.943 acre-feet.

The outlet consists of two 12-inch diameter HDPE pipes. One pipe will have an orifice cap to control release rates and drain times for smaller events. The orifice cap will have a 1.5-inch diameter orifice at the invert of the outlet pipe, located at the bottom of the detention basin. The second pipe will be located adjacent to the first and positioned at the ponding depth of the WQCV (0.9 feet above the bottom of the detention basin). The second pipe will have no orifice cap. Anti-seep collars should be used to prevent seepage through the berm.

It will take approximately 40 hours to drain 99 percent of the WQCV with outflow controlled by the orifice cap on the first pipe. During the 5-year and 100-year events, outflows will be controlled by the second pipe (no orifice cap). A total peak outflow of 0.5 cfs will occur during the 5-year event, which is less than the acceptable release rate of 0.07 cfs/acre during the 5-year event (0.07 cfs/acre * 9.29 acres = 0.7 cfs). A total peak outflow of 3.2 cfs will occur during the 100-year event, which is less than the acceptable release rate of 0.50 cfs/acre during the 100-year event (0.50 cfs/acre * 9.29 acres = 4.6 cfs).

Pipe capacity and riprap calculations were performed for the Detention Basin (DB) Outlet Pipe 2 using the MHFD-Culvert spreadsheet. At full barrel flow, the pipe is able to convey 2.3 cfs. The pipe is able to convey more than the 100-year outflow of 3.2 cfs at full barrel flow with 0.4 feet of cover, which is provided by the detention basin storage berm. The outlet pipe is therefore adequate to convey the outflow from the 100-year event. Using the 100-year outflow of 3.2 cfs, a 3 feet by 2 feet riprap pad of Type VL riprap was determined to be sufficient outlet protection. MHFD-Culvert spreadsheet calculations can be found in Appendix G.

An emergency spillway will be installed along the western edge of the detention basin where detained stormwater will back up to during the 100-year event. The spillway was designed with a minimum crest width of 15.3 feet, 4:1 side slopes, and a crest invert elevation at 5211.6 feet (2.1 feet above the outlet invert). A berm height of 1.4 feet at the spillway will provide more than the required freeboard. The spillway is able to convey the developed 100-year peak flow at a depth of 0.5 feet. A concrete cutoff wall will provide scour protection at the spillway. Riprap for the spillway was sized using Figure 12-21 from USDCM VII, and it was determined that Type L riprap will be used. Spillway riprap calculations can be found in Appendix H.

The outlet pipes and spillway will direct outflow to the southwest to an existing low area located north of East 120th Avenue. This follows historic flowpaths and due to the size of the low area, it is unlikely that stormwater from the site will leave the property before infiltrating.

Stormwater storage, outlet sizing, and spillway design details for the production phase can be found in Appendix A. Supporting calculations using MHFD-Detention can be found in Appendix F.

## 3.3 Ditches

Diversion ditches and berms will be used to collect and direct on-site stormwater to outlets, deflect and redirect off-site flow around the disturbance area, and detain on-site stormwater. Temporary diversion ditches will collect and drain on-site stormwater to sediment traps and outlets. Treated stormwater will exit the sediment traps onto undisturbed ground where the natural contours will drain away from the project area. Peak flows used for ditch design are summarized in Table 5. Manning's equation was used to calculate conveyance based on a typical temporary diversion ditch design. Per recommendations from the MHFD Urban Storm Drainage Criteria Manual, all temporary diversion ditches were designed with slopes between 0.5 percent and 2.0 percent except where existing topography dictated otherwise. The typical design using a minimum slope of 0.5 percent was found to convey 5.6 cfs at a depth of 1.0 feet and 16.5 cfs at a depth of 1.5 feet (maximum capacity assuming 2:1 ditch slope is carried onto pad). The typical design at a depth of 1.0 feet will adequately convey the largest 100-year peak flow in a temporary ditch, ST3 (2.1 cfs). Manning's calculations for temporary ditch conveyance can be found in Appendix I.

## 3.4 Sediment Traps

Sediment traps and outlets will be installed at the end of the temporary diversion ditches during the construction phase. In order to provide additional capture volume and treatment, the sediment traps are designed to be oversized when possible. Three 20 feet by 20 feet by 3 feet deep sediment traps are recommended for this project. Typical sediment trap details are included with the Drainage and Erosion Control Plan found in Appendix A.

# 4.0 SITE MAINTENANCE AND UPKEEP

The Extraction Oil & Gas, Inc. site monitoring program ensures site conditions stay in compliance. Sedimentation, culvert and access road condition, vegetation health, and several other safety and maintenance items are routinely monitored and evaluated to ensure the site is in workable and drainable order.

In addition to monitoring during regular operations, a formal monitoring plan has been developed for the project site. During the construction phase, the site will be inspected a minimum of every 14 calendar days as well as following rain or snowmelt events that are able to cause surface erosion. After the construction phase, areas not needed for production operations within the disturbance area will be reclaimed and site inspections will occur at a minimum of every 30 calendar days until the site is fully stabilized. Once the site is stabilized and has achieved interim reclamation standards, inspections will occur annually. More frequent, informal inspections will continue to occur during routine operations.

Routine maintenance and required repairs of access roads, culverts, ditches, berms, and outlet structures will be handled by the operations team. Cleaning and removal of sediment and debris from ditches, culverts, and outlets, as well as vegetation maintenance and specific manufacturer maintenance, will also be handled by the operations team during regular operations and maintenance checks.

# 5.0 CONCLUSION

The information and analysis presented in this report display the adequacy and effectiveness of the design and planning associated with the Eagle Pad Drainage Plan. The design protects public health, safety, and general welfare and has no adverse impacts on public rights-of-way or off-site properties. Furthermore, the report demonstrates that the design adheres to Adams County Development Standards & Regulations as well as the Mile High Flood District (MHFD) Urban Storm Drainage Criteria Manual.

# 6.0 REFERENCES


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Urban Storm Drainage Criteria Manual: Volume 2 - Structures, Storage, and Recreation. September 1969. Revised September 2017. Mile High Flood District. https://mhfd.org/resources/criteria-manual

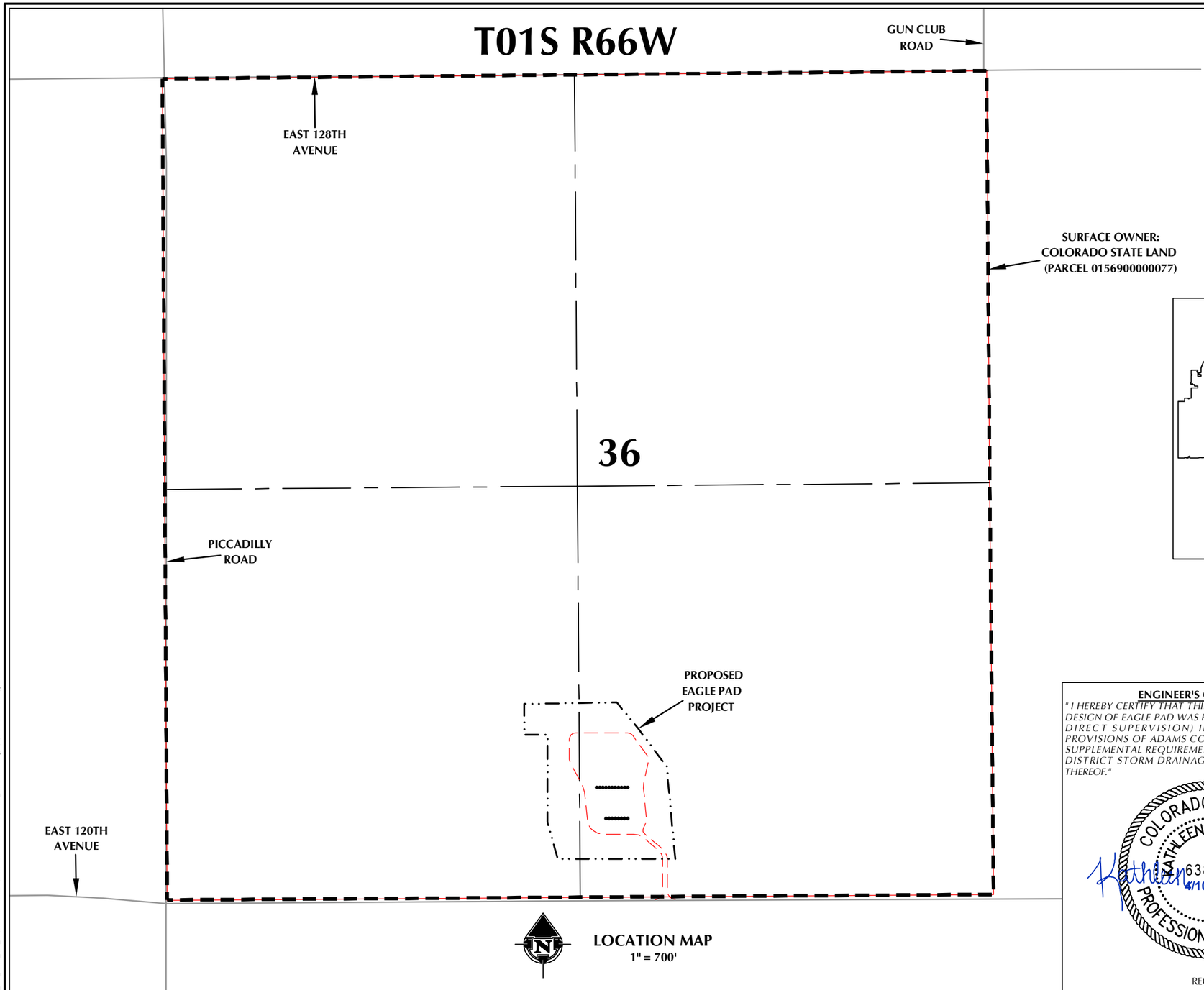
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# APPENDICES

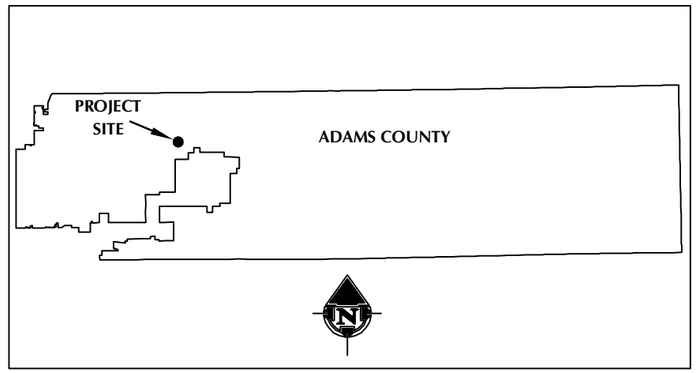
# Appendix A:

# Drainage Plan




# EAGLE PAD DRAINAGE PLAN

**LOCATED IN SECTION 36, T1S, R66W, 6TH P.M.**
**ADAMS COUNTY, COLORADO**




**VICINITY MAP**

**ENGINEER'S CERTIFICATION**

*" I HEREBY CERTIFY THAT THIS FINAL PLAN FOR THE DRAINAGE DESIGN OF EAGLE PAD WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE PROVISIONS OF ADAMS COUNTY MUNICIPAL CODE AND SUPPLEMENTAL REQUIREMENTS OF THE MILE HIGH FLOOD DISTRICT STORM DRAINAGE CRITERIA FOR THE OWNERS THEREOF."*

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

KATHLEEN M. GOLES
REGISTERED PROFESSIONAL ENGINEER
STATE OF COLORADO NO. 63868

PAGE INDEX

1 - COVER SHEET
2 - SITE OVERVIEW
3 - CONSTRUCTION PHASE SITE PLAN
4 - PRODUCTION PHASE SITE PLAN
5 - DETENTION BASIN - CONSTRUCTION PHASE
6 - DETENTION BASIN - PRODUCTION PHASE
7 - OUTLET DETAILS
8 - BMP TYPICALS (A) AND CONSTRUCTION NOTES
9 - BMP TYPICALS (B)

**GENERAL NOTES:**

1. THIS DRAINAGE AND EROSION CONTROL PLAN WAS PREPARED FOLLOWING ADAMS COUNTY DEVELOPMENT STANDARDS & REGULATIONS WITH ADDITIONAL DESIGN GUIDANCE PROVIDED BY MILE HIGH FLOOD DISTRICT.
2. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
3. ORIGINAL DOCUMENT SIZE: 11" X 17"

609 CONSULTING, LLC
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Phone 970-776-4331
SHERIDAN OFFICE
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Phone 307-674-0609

Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

EAGLE PAD
DRAINAGE PLAN
COVER SHEET

| | | | |
|---|---|---|---|
| SCALE: | VARIES | PAGE: | 1 OF 9 |
| JOB NUMBER: | 24-118 | DATE: | 3/1/26 |
| DRAFTED BY: | KMG | REVISED: | 4/10/26 |

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PROPOSED OIL AND GAS LOCATION (17.03 ACRES)

PROPOSED PRODUCTION PHASE OPERATIONAL AREA (6.52 ACRES)

PICCADILLY ROAD

EAST 120TH AVENUE

SURFACE OWNER:
COLORADO STATE LAND
(PARCEL 0156900000077)

PROPOSED VEHICLE TRACKING CONTROL
(SEE PAGE 8)

0 200' 400'
1" = 400'
5' CONTOURS

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

## LEGEND

- EXISTING CONTOUR
- EXISTING IRRIGATION DITCH/DRAINAGEWAY/POND
- PROPOSED OIL AND GAS LOCATION
- PROPOSED ACCESS ROAD/PAD
- STORMWATER DRAINAGE
- PROPERTY LINE
- PROPOSED VEHICLE TRACKING CONTROL

## GENERAL NOTES:

1. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).


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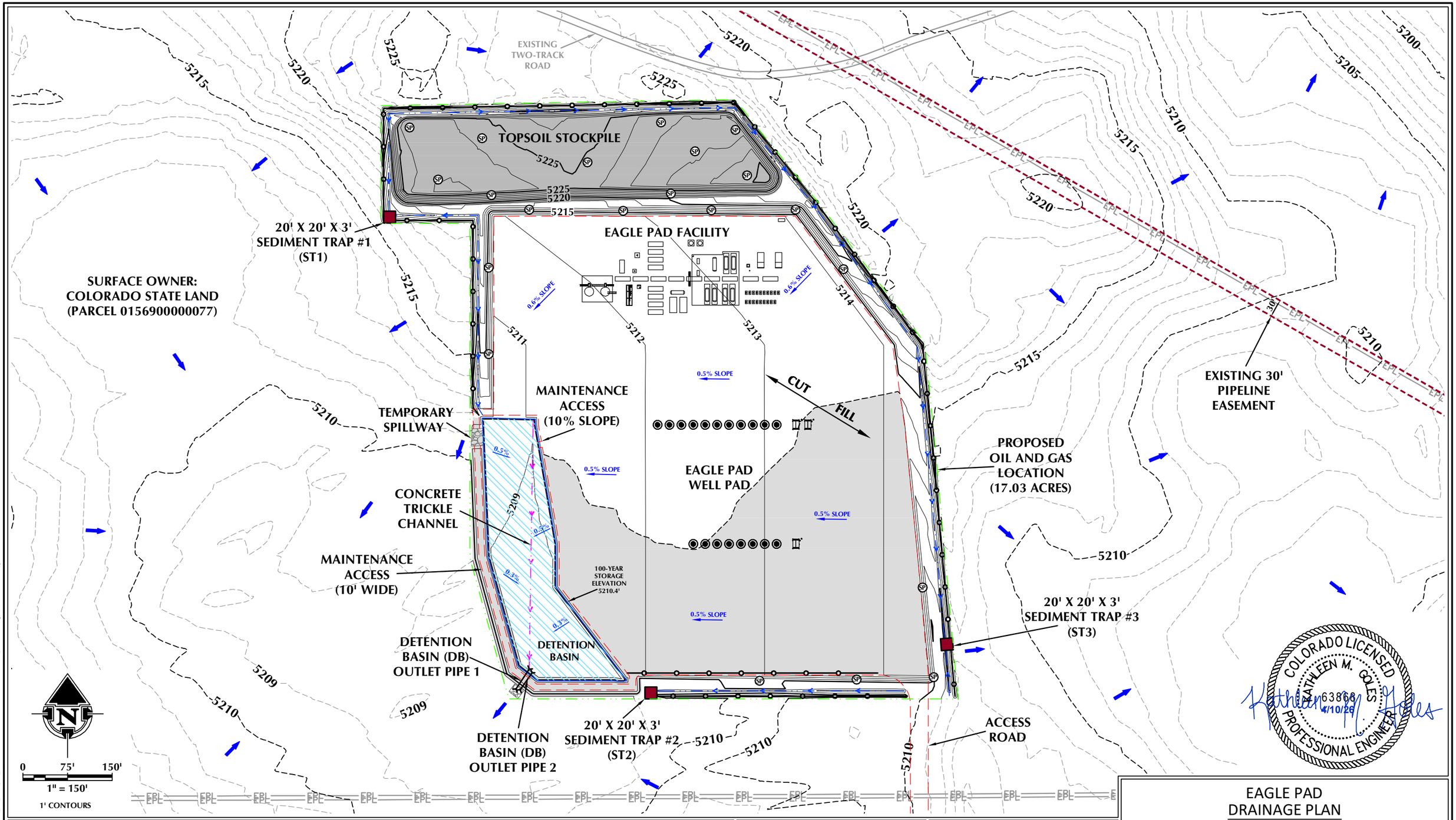

Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

# EAGLE PAD
# DRAINAGE PLAN
## SITE OVERVIEW

| | | | |
|---|---|---|---|
| SCALE: | 1" = 400' | PAGE: | 2 OF 9 |
| JOB NUMBER: | 24-118 | DATE: | 3/1/26 |
| DRAFTED BY: | KMG | REVISED: | 4/10/26 |

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## LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING PIPELINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- STORMWATER DRAINAGE
- EASEMENT/ROW
- PROPOSED DIVERSION DITCH
- PROPOSED CONCRETE TRICKLE CHANNEL
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- PROPOSED SEDIMENT TRAP WITH PROTECTED OUTLET
- PROPOSED SLOPE PROTECTION
- 100-YEAR STORMWATER STORAGE FOOTPRINT

## GENERAL NOTES:

1. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).
3. SLOPE PROTECTION USED FOR TEMPORARY EROSION CONTROL ON CUT/FILL SLOPES AND SOIL STOCKPILES.

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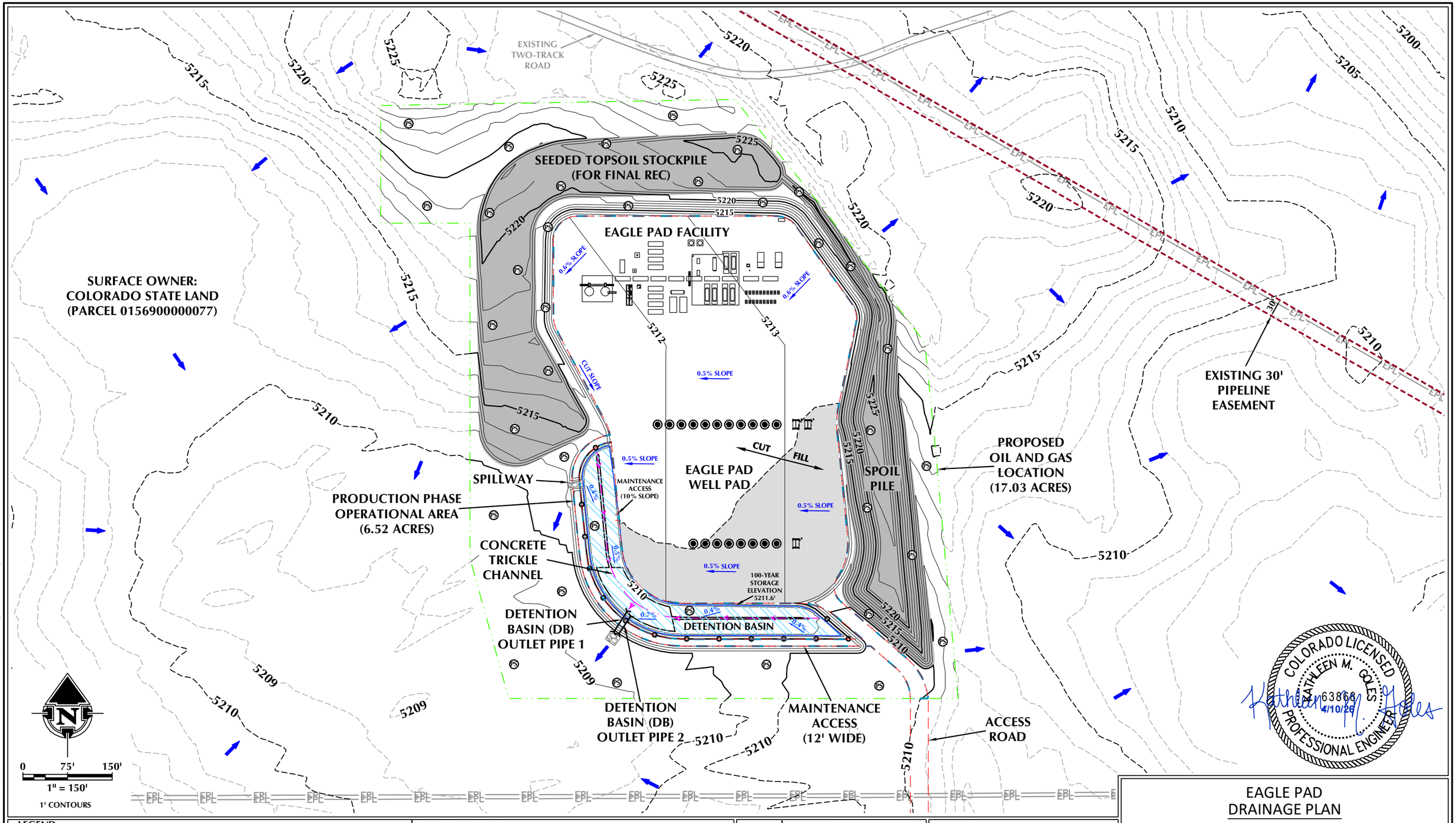
CIVITAS
Extraction Oil & Gas, Inc.

COLORADO LICENSED
KATHLEEN M. GOLES
63868
4/10/26
PROFESSIONAL ENGINEER

# EAGLE PAD DRAINAGE PLAN
## CONSTRUCTION PHASE SITE PLAN

| | | | |
|---|---|---|---|
| SCALE: | 1" = 150' | PAGE: | 3 OF 9 |
| JOB NUMBER: | 24-118 | DATE: | 3/1/26 |
| DRAFTED BY: | KMG | REVISED: | 4/10/26 |

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COLORADO LICENSED
KATHLEEN M. GOLES
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4/10/26
PROFESSIONAL ENGINEER

## LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING PIPELINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- STORMWATER DRAINAGE
- EASEMENT/ROW
- PROPOSED CONCRETE TRICKLE CHANNEL
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- RECLAMATION BOUNDARY
- PROPOSED PERMANENT SEEDING
- 100-YEAR STORMWATER STORAGE FOOTPRINT

## GENERAL NOTES:

1. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF DRAINAGE AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).
3. RECLAIMED AREA WILL BE RE-SEEDED AND RE-VEGETATED.

609 CONSULTING, LLC
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SHERIDAN OFFICE
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Phone 307-674-0609

Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

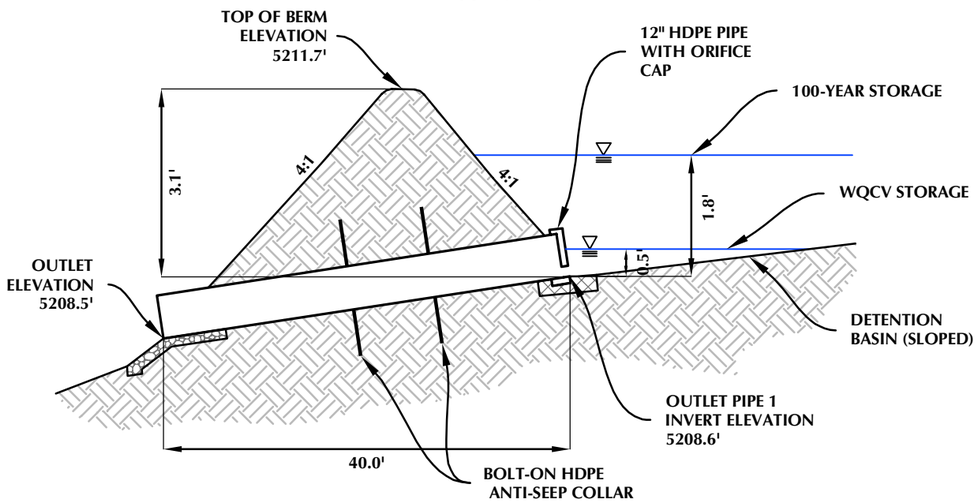
# EAGLE PAD DRAINAGE PLAN
## PRODUCTION PHASE SITE PLAN

| | | | |
|---|---|---|---|
| SCALE: | 1" = 150' | PAGE: | 4 OF 9 |
| JOB NUMBER: | 24-118 | DATE: | 3/1/26 |
| DRAFTED BY: | KMG | REVISED: | 4/10/26 |

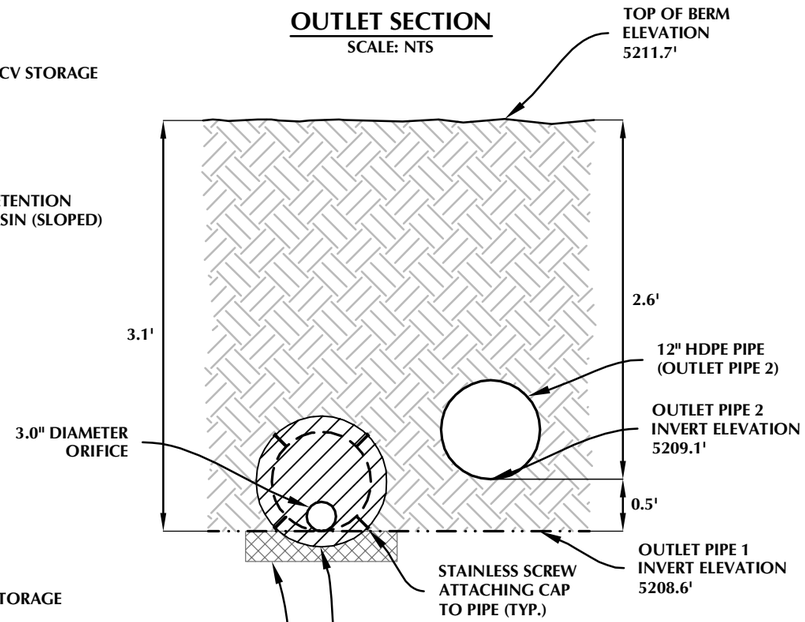
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# DETENTION BASIN (DB) - CONSTRUCTION PHASE

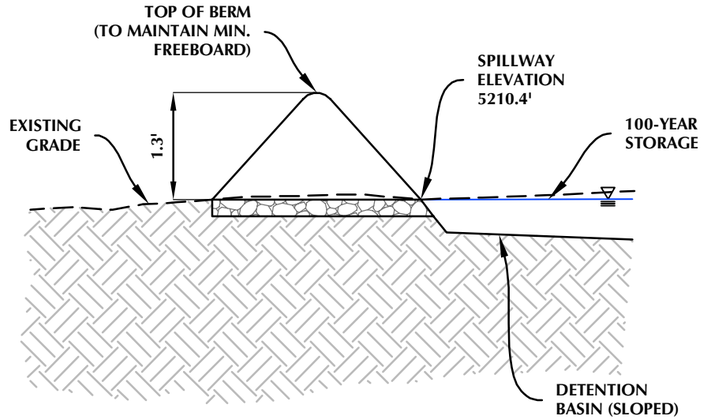
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SCALE: NTS



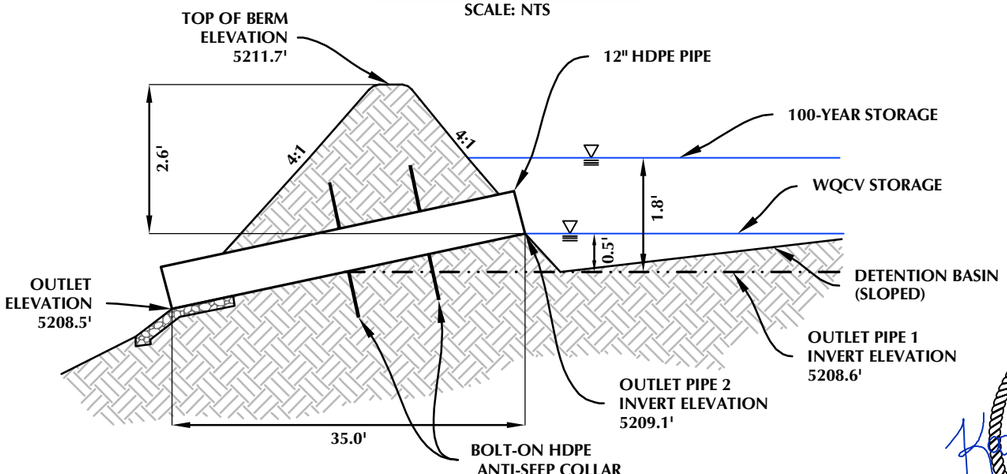

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SCALE: NTS



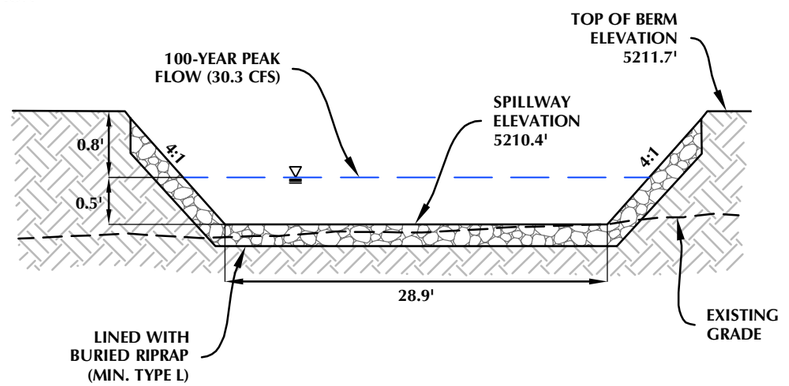

## TEMPORARY SPILLWAY PROFILE
SCALE: NTS




## OUTLET PIPE 2 PROFILE
SCALE: NTS




## TEMPORARY SPILLWAY SECTION
SCALE: NTS




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4/10/26
PROFESSIONAL ENGINEER

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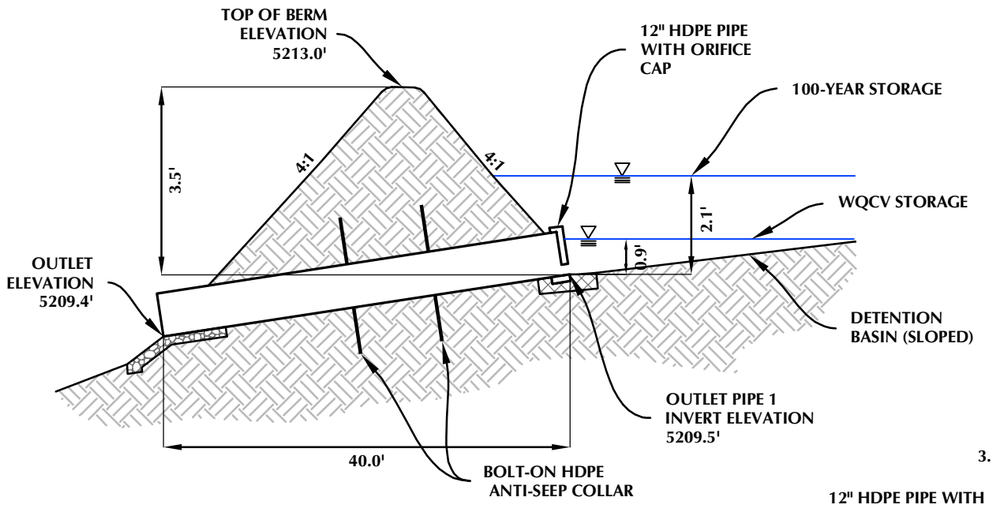
EAGLE PAD
DRAINAGE PLAN
DETENTION BASIN - CONSTRUCTION PHASE

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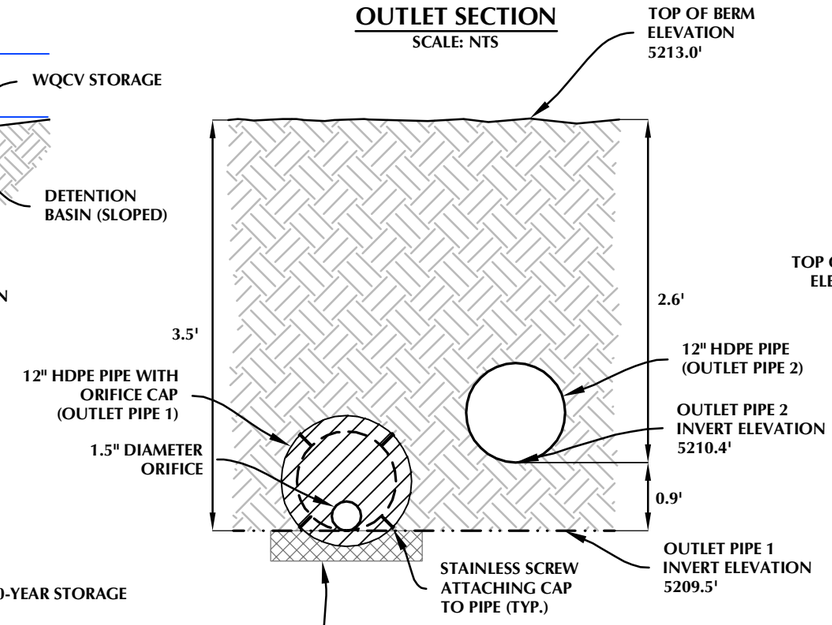
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# DETENTION BASIN (DB) - PRODUCTION PHASE

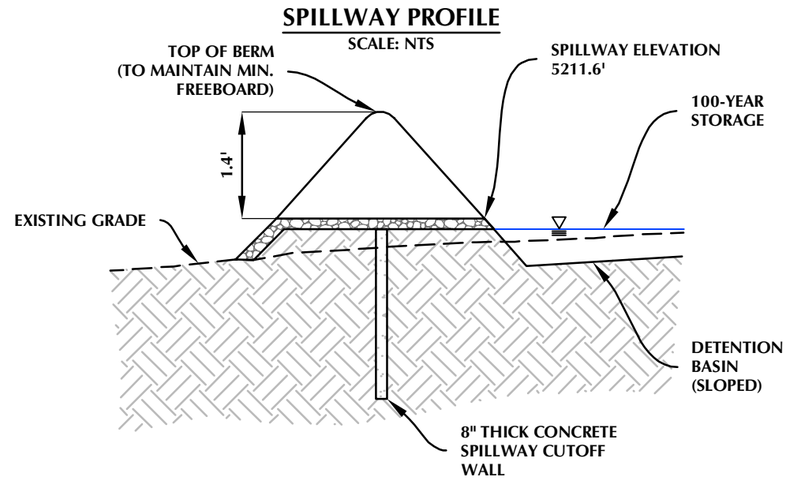
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SCALE: NTS



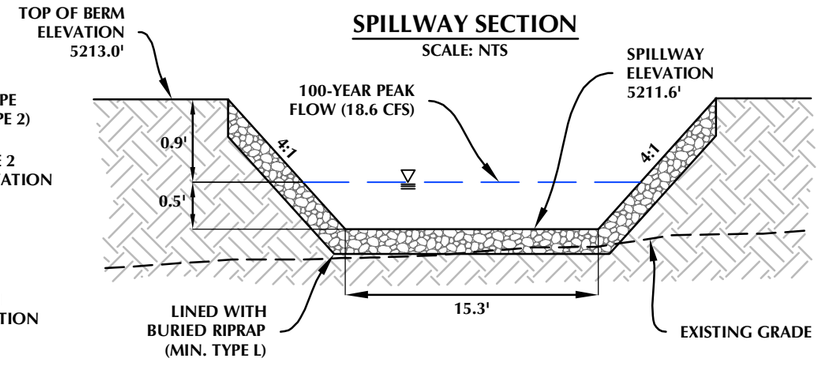

## OUTLET SECTION
SCALE: NTS



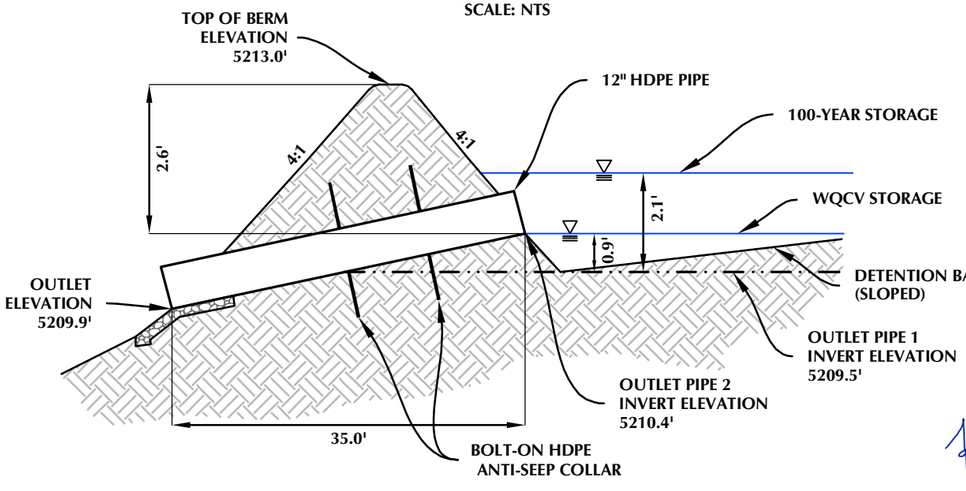

## SPILLWAY PROFILE
SCALE: NTS



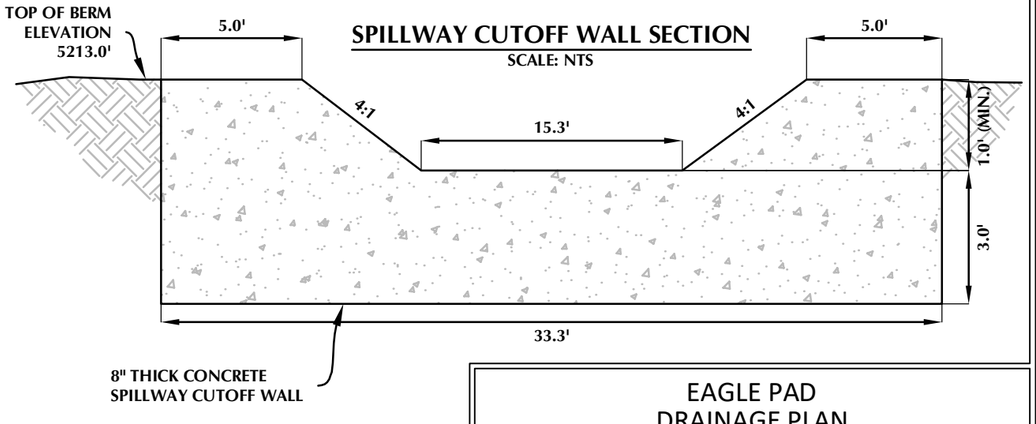

## SPILLWAY SECTION
SCALE: NTS




## OUTLET PIPE 2 PROFILE
SCALE: NTS




## SPILLWAY CUTOFF WALL SECTION
SCALE: NTS




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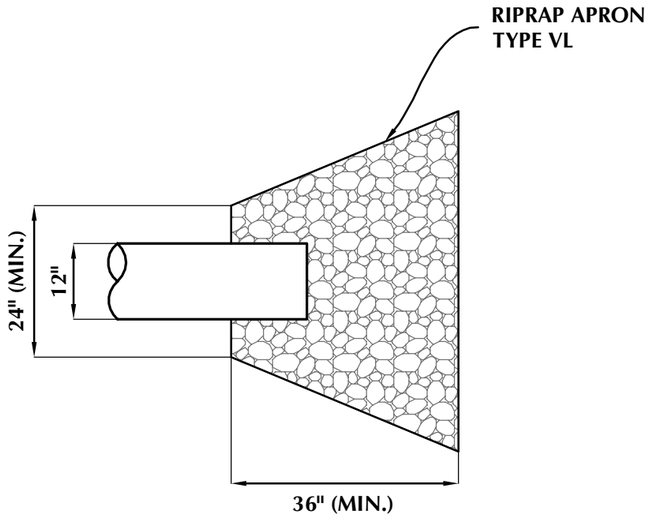
EAGLE PAD
DRAINAGE PLAN
DETENTION BASIN - PRODUCTION PHASE

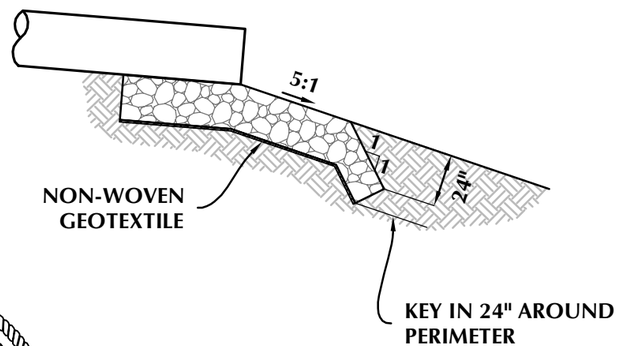
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## OUTLET PROTECTION

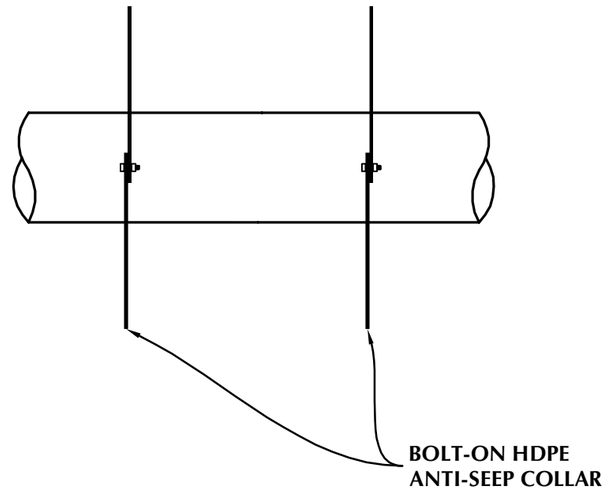
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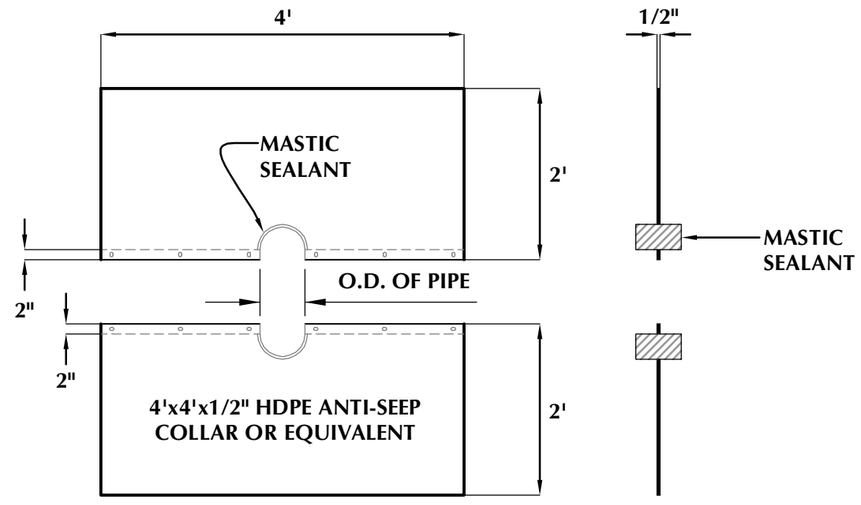



## ANTI-SEEP COLLAR

SCALE: NTS




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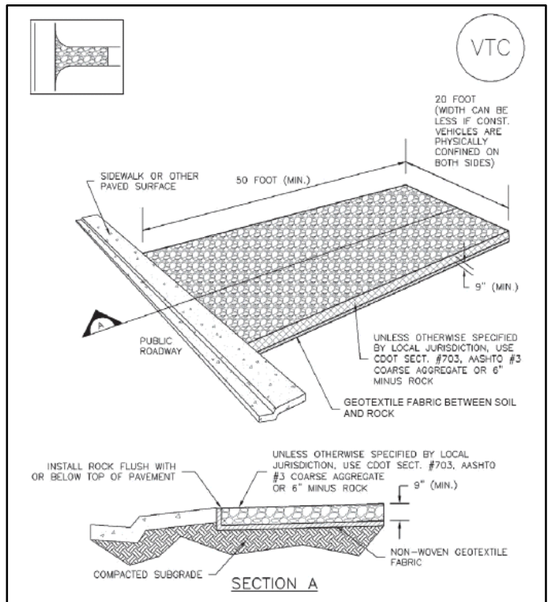

Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

EAGLE PAD
DRAINAGE PLAN
OUTLET DETAILS

| | | | |
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**VTC - 1. AGGREGATE VEHICLE TRACKING CONTROL**

# ADAMS COUNTY GENERAL CONSTRUCTION NOTES

1. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. TO SCHEDULE A PRE-CONSTRUCTION MEETING CONTACT THE ADAMS COUNTY CONSTRUCTION INSPECTOR SUPERVISOR AT 720-523-6965.

2. ALL CONCRETE CURB, GUTTER AND WALK MUST BE POURED MONOLITHICALLY USING 4,500 PSI CONCRETE WITH FIBER MESH.

3. ALL MATERIAL SUBMITTALS MUST BE APPROVED, STAMPED AND SIGNED, BY THE ENGINEER OF RECORD AND, SUBMITTED TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR FOR APPROVAL PRIOR TO CONSTRUCTION/INSTALLATION.

4. THE CONTRACTOR IS REQUIRED TO SUBMIT COPIES OF ALL CONCRETE AND ASPHALT TICKETS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING AND, IS REQUIRED TO SUBMIT ALL TEST RESULTS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.

6. THE CONTRACTOR IS REQUIRED TO REMOVE A MINIMUM OF TWO (2) FEET OF EXISTING ASPHALT FOR ALL CURB AND GUTTER REPLACEMENT.

7. ALL UTILITY CUTS IN EXISTING STREETS ARE REQUIRED TO BE BACKFILLED WITH FLOWFILL AND, PATCHED WITH A MINIMUM OF 9-INCH ASPHALT PATCH.

8. A COPY OF THE GEOTECHNICAL REPORT SPECIFYING THE PAVEMENT THICKNESS DESIGN MUST BE SUBMITTED FOR REVIEW.

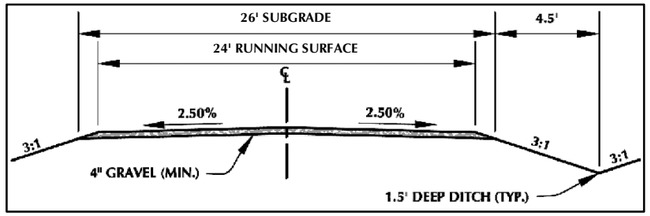
9. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL UTILITIES. THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE LINEAL FOOTAGES AND THE NUMBER OF SERVICE CUTS REQUIRED FOR ALL UTILITIES.

10. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL CONCRETE AND ASPHALT FACILITIES. PRIOR TO THE ISSUANCE OF THESE PERMITS, THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE SQUARE YARDAGE/SQUARE FOOTAGES OF ALL CONCRETE AND ASPHALT BEING INSTALLED.

11. THE SIA MUST BE COMPLETED WITH APPROPRIATE COLLATERAL, ALONG WITH THE PROPOSED PLAT, PRIOR TO THE ISSUANCE OF ANY ROW ACCESS/CONSTRUCTION PERMIT.

12. NO C.O.'S WILL BE ISSUED FOR ANY BUILDING CONSTRUCTION UNTIL ALL ROW IMPROVEMENTS HAVE BEEN COMPLETED AND HAVE BEEN GRANTED PRELIMINARY ACCEPTANCE.

13. UPON COMPLETION OF ALL CONSTRUCTION, A DRAINAGE CERTIFICATION LETTER, AND APPROPRIATE AS-BUILT CONSTRUCTION DRAWINGS AND INFORMATION WILL BE REQUIRED. THIS LETTER WILL BE STAMPED AND SIGNED BY THE ORIGINAL DESIGN ENGINEER.




**CROSS-SECTION**
NTS

## Temporary and Permanent Seeding (TS/PS)

TS/PS

ADAMS COUNTY, COLORADO

| SEED MIX | APPLICATION RATE (lbs/acre) |
|---|---|
| **PBSI Dryland Aggressive Mix** | 25 |
| (20%) Green Needlegrass, Lodorm | |
| (20%) Slender Wheatgrass, Native | |
| (20%) Western Wheatgrass, Native | |
| (20%) Pubescent Wheatgrass, Luna | |
| (20%) Intermediate Wheatgrass, Oahe/Rush | |
| **PBSI Native Prairie Mix** | 15 |
| (25%) Blue Grama | |
| (10%) Buffalograss | |
| (20%) Green Needlegrass | |
| (20%) Sideoats Grama | |
| (25%) Western Wheatgrass | |
| **PBSI Native Sandyland Mix** | 15 |
| (20%) Yellow Indiangrass | |
| (10%) Little Bluestem | |
| (10%) Indian Rice Grass | |
| (10%) Sideoats Grama | |
| (10%) Sand Lovegrass | |
| (10%) Prairie Sandreed | |
| (20%) Switchgrass | |
| **PBSI Premium Irrig. Pasture Mix #1** | 25 |
| (75%) Meadow Bromegrass, Paddock/Fleet | |
| (25%) Orchardgrass, Elsie/Megabite/Paiute | |

Notes:
lbs/acre = pounds per acre
% = percent

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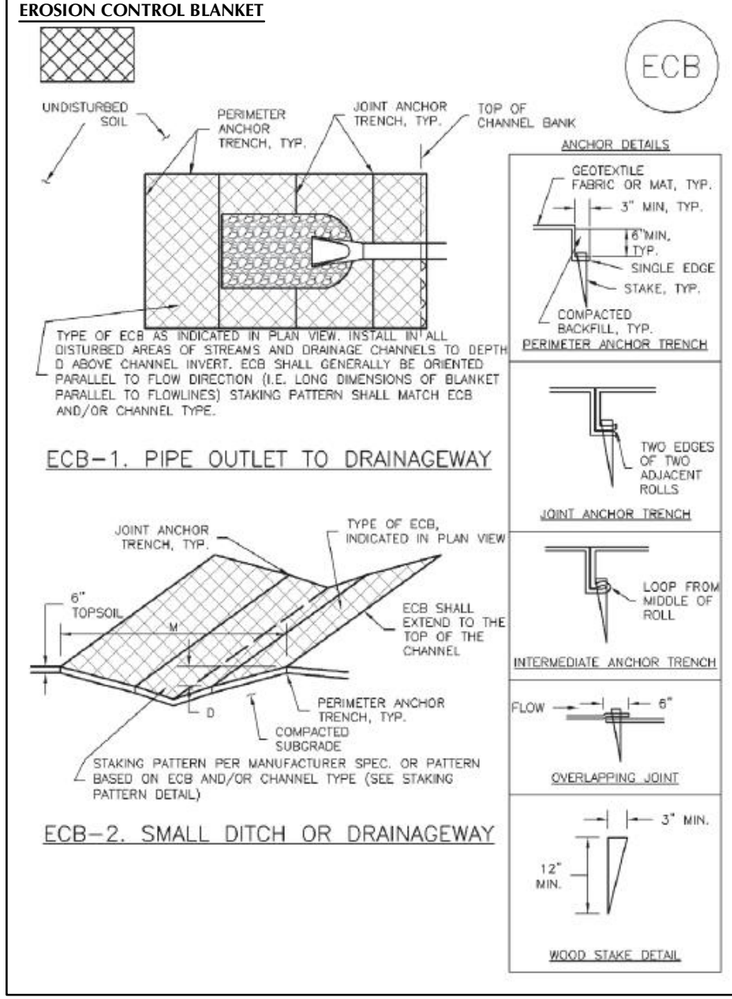

Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

EAGLE PAD
DRAINAGE PLAN
BMP TYPICALS (A) AND CONSTRUCTION NOTES

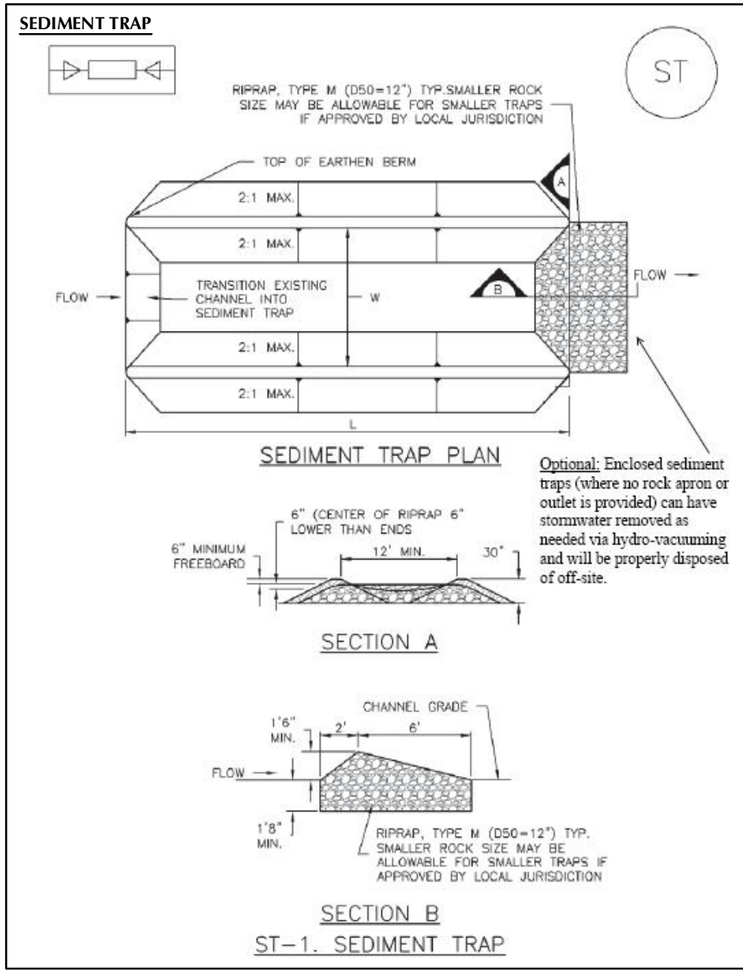
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**EROSION CONTROL BLANKET**




**SEDIMENT TRAP**




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Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

EAGLE PAD
DRAINAGE PLAN
BMP TYPICALS (B)

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| SCALE: | VARIES | PAGE: | 9 OF 9 |
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# Appendix B:

# Drainage Report and Drainage Plan Checklist

| Level 2 – Storm Drainage Report | | | | |
|---|---|---|---|---|
| Item No. | Submitted[1] | County Use Only | | |
| | | Rejected | N/A | |
| 1. | X | ☐ | ☐ | Signed certification statements of the Engineer and Developer. |
| 2. | X | ☐ | ☐ | Description of project location. |
| 3. | X | ☐ | ☐ | Description of pre-development site conditions. |
| 4. | X | ☐ | ☐ | Description of proposed development, including description of proposed developed site. |
| 5. | X | ☐ | ☐ | Description of proposed stormwater improvements, including conveyance, stormwater quantity control facilities, and stormwater quality control facilities. |
| 6. | X | ☐ | ☐ | Description of the design method utilized, names of any computer software routines utilized in the design process, and reference any design standards utilized (other than Adams County ordinances). |
| 7. | X | ☐ | ☐ | Preliminary hydrological and hydraulic analysis, including pre-development and post-development runoff hydrographs for the project site. |
| 8. | X | ☐ | ☐ | Preliminary sizing of storage facilities proposed for stormwater quantity and/or quality control. |
| 9. | X | ☐ | ☐ | Preliminary report addressing potential erosion and sedimentation impacts during construction, and general proposals for the mitigation of these impacts. Address erosion control during and after construction. |
| 10. | X | ☐ | ☐ | Vicinity Map - including Section, Township, and Range |
| 11. | X | ☐ | ☐ | Professional Engineer's Seal – including signature and date. |
| 12. | X | ☐ | ☐ | Downstream and adjacent property Drainage Impact Analysis and Mitigation Measures. |
| 13. | X | ☐ | ☐ | Pre-development and post-development basin maps, showing boundaries of project, any off-site contributing drainage basins, on-site drainage basins, time of concentration routes, approximate locations of all major drainage structures within the basins, and the course of stormwater originating from the subject property and extending all the way to the nearest receiving body of water (lakes, creeks, etc.). All basin maps shall be legible and at a specified scale. |
| 14. | X | ☐ | ☐ | Other resource material such as soils maps, isopluvial maps, nomographs, charts, figures, tables, etc. |
| 15. | ☐ | ☐ | ☐ | Surface/subsurface soil test results and test locations (when retention/infiltration is proposed). |
| 16. | X | ☐ | ☐ | Identify all easements. |
| 17. | X | ☐ | ☐ | Include runoff summary table at design points. |
| 18. | X | ☐ | ☐ | Indicate proposed drainage improvements. |
| Developer's Comments (please reference the item number for each comment)<br>15. Retention/infiltration is not being proposed. | | | | |
| County's Comments | | | | |

[1] To be checked by the Developer. If a "submitted" box is not checked, the Applicant must explain (in comment box above) or the application may be rejected for insufficient information.

## Level 2 – Storm Drainage Plan

| Item No. | Submitted[1] | County Use Only | | |
|---|---|---|---|---|
| | | Rejected | N/A | |
| 1. | X | ☐ | ☐ | Sheet Size – 24" x 36" or 11" x 17" |
| 2. | X | ☐ | ☐ | Project Title Sheet |
| 3. | X | ☐ | ☐ | Project Site Plan |
| 4. | X | ☐ | ☐ | Title Block – include name and address of proposed project/development. |
| 5. | X | ☐ | ☐ | Drawing Information<br>• North arrow indicator<br>• Section-Township-Range<br>• Drawing Scale<br>• Symbol Legend |
| 6. | X | ☐ | ☐ | Drawing Scale – plan view must be drawn at a scale legible enough for review. Must use standard engineering scale. |
| 7. | X | ☐ | ☐ | Topography – include contour lines at a maximum of 2' intervals with source to datum identified. Extend past the project limits as appropriate to show downstream effects. |
| 8. | X | ☐ | ☐ | Utilities - existing and proposed, with easements identified. |
| 9. | X | ☐ | ☐ | Site Layout – including property boundaries, dimensions, area (in square feet or acres), adjoining street names and right-of-way widths |
| 10. | X | ☐ | ☐ | Drainage Structures - including existing and proposed structures (pipes, catch basins , channels, ponds, irrigation ditches, etc.) and impervious surfaces (parking lots, driveways, patios, buildings, etc.) |
| 11. | X | ☐ | ☐ | Natural Features – including drainage channels, wetlands, water bodies, areas of natural vegetation, and flood plains. |
| 12. | X | ☐ | ☐ | Proposed Conveyance Structures – including approximate plans for collection and conveyance of stormwater through the project site. As a minimum, show by flow arrows the direction of proposed stormwater flow and indicate the method for conveyance (pipe, ditch, overland flow, etc.) |
| 13. | X | ☐ | ☐ | Preliminary Road Layouts – including existing grade and proposed finished grade. |
| 14. | X | ☐ | ☐ | Erosion and Sedimentation Control – including location and type of erosion and sedimentation control measure proposal. |
| 15. | X | ☐ | ☐ | General Construction Notes – include notes for clarification (see Attachment ___ for County Examples.) |
| 16. | X | ☐ | ☐ | Professional Engineer's Seal – including signature and date. |

Developer's Comments (please reference the item number for each comment)

County's Comments

[1] To be checked by the Developer. If a "submitted" box is not checked, the Applicant must explain (in comment box above) or the application may be rejected for insufficient information.

# Appendix C:

# NRCS Web Soil Survey – Soils Report

Hydrologic Soil Group—Adams County Area, Parts of Adams and Denver Counties, Colorado
(Eagle Pad)




Map Scale: 1:2,270 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

## MAP LEGEND

**Area of Interest (AOI)**

Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Soil Rating Lines**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Soil Rating Points**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Water Features**

Streams and Canals

**Transportation**

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

**Background**

Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams County Area, Parts of Adams and Denver Counties, Colorado
Survey Area Data: Version 21, Aug 29, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| AsB | Ascalon sandy loam, 0 to 3 percent slopes | B | 5.1 | 30.0% |
| Bt | Blakeland-Truckton association | A | 6.2 | 36.3% |
| TtB | Truckton loamy sand, 0 to 3 percent slopes | A | 5.7 | 33.6% |
| **Totals for Area of Interest** | | | **17.0** | **100.0%** |

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

*Tie-break Rule:* Higher

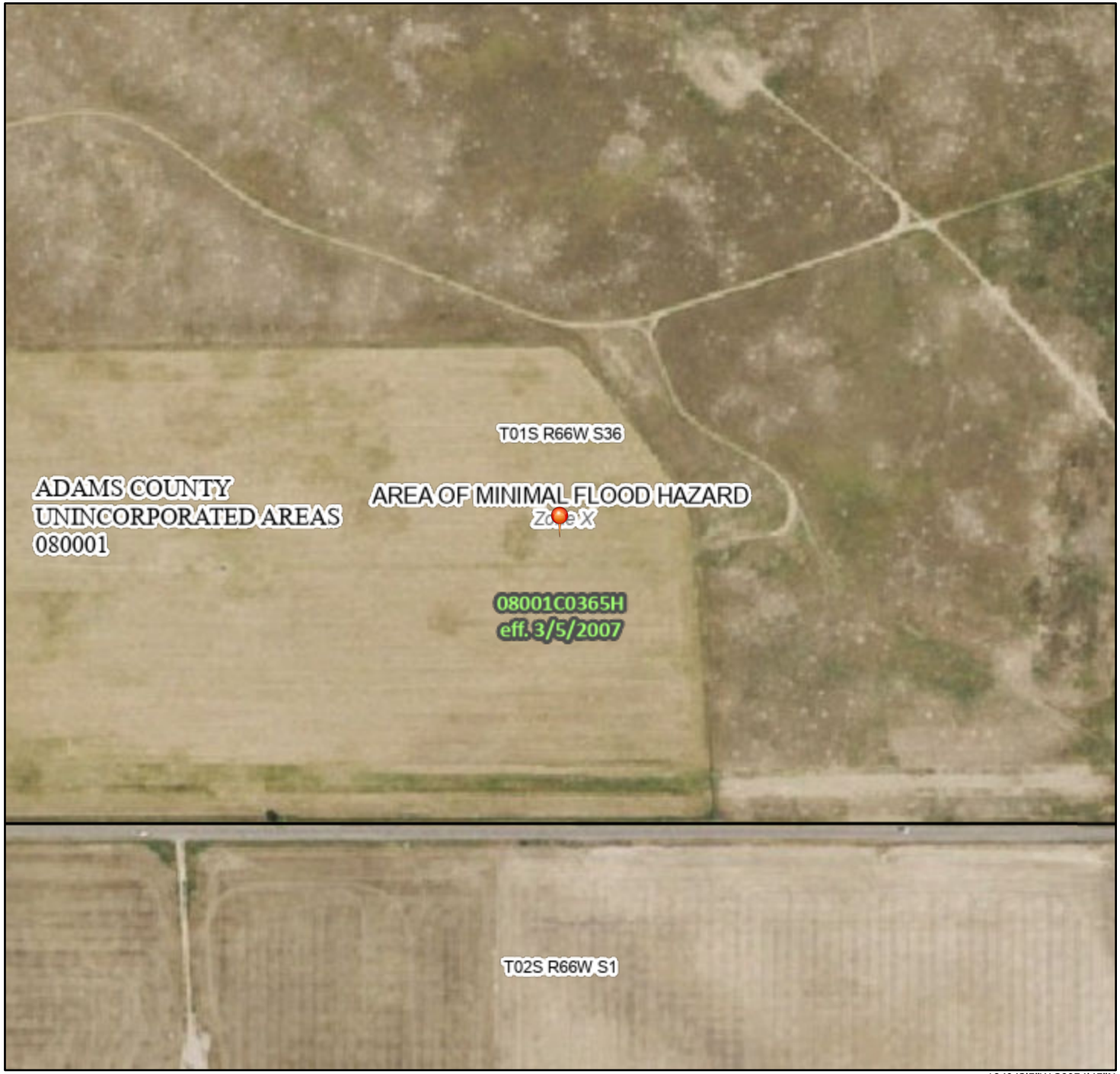
# Appendix D:

# FEMA Flood Insurance Rate Map FIRMette

# National Flood Hazard Layer FIRMette

FEMA

104°43'43"W 39°55'13"N




Feet

0 250 500 1,000 1,500 2,000

1:6,000

104°43'5"W 39°54'45"N

*Basemap Imagery Source: USGS National Map 2023*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/19/2025 at 8:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# Appendix E:

# UD-Rational Spreadsheet Calculations

## Calculation of Peak Runoff using Rational Method

**Designer:** KMG
**Company:** 609 Consulting
**Date:** 2/26/2026
**Project:** Eagle Pad
**Location:** S36 T1S R66W Adams County, CO

*MHFD-Rational, Version 3.00 (August 2025)*

Cells of this color are for required user-input
Cells of this color are for optional override values

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_t}}{S_t^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_t}} = \frac{L_t}{60V_t}$$

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

$t_{c\ minimum}$ = 5 (urban)
$t_{c\ minimum}$ = 10 (non-urban)

Selected $t_c = \max(t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c))$

Select MHFD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

| | WQE | 2-yr | 5-yr | 10-yr | 25-yr | 50-yr | 100-yr | 500-yr |
|---|---|---|---|---|---|---|---|---|
| 1-hour rainfall depth, P1 (in) = | | 1.00 | 1.42 | 1.68 | | 2.35 | 2.71 | |

| Rainfall Intensity Equation Coefficients = | a | b | c |
|---|---|---|---|
| | 28.50 | 10.00 | 0.786 |

$$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$$

$Q(cfs) = CIA$

**Provide input for area, soil type, and imperviousness on the Runoff Coeffs worksheet.**

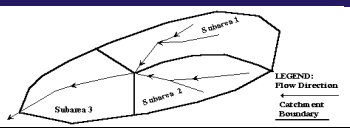
| Subcatchment Name | Area (ac) | NRCS Hydrologic Soil Group(s) | Imperviousness | Runoff Coefficient, C | | | | | | | Overland (Initial) Flow Time | | | | | Channelized (Travel) Flow Time | | | | | | | Time of Concentration | | | | Rainfall Intensity, I (in/hr) | | | | | | | | Peak Flow, Q (cfs) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | WQE & 2-yr | 5-yr | 10-yr | 25-yr | 50-yr | 100-yr | 500-yr | Overland Flow Length $L_t$ (ft) | U/S Elevation (ft) (Optional) | D/S Elevation (ft) (Optional) | Overland Flow Slope $S_t$ (ft/ft) | Overland Flow Time $t_t$ (min) | Channelized Flow Length $L_t$ (ft) | U/S Elevation (ft) (Optional) | D/S Elevation (ft) (Optional) | Channelized Flow Slope $S_t$ (ft/ft) | NRCS Conveyance Factor K | Channelized Flow Velocity $V_t$ (ft/sec) | Channelized Flow Time $t_t$ (min) | Computed $t_c$ (min) | Regional $t_c$ (min) | Selected $t_c$ (min) | **(Optional)** Override $t_c$ (min) | WQE | 2-yr | 5-yr | 10-yr | 25-yr | 50-yr | 100-yr | 500-yr | WQE | 2-yr | 5-yr | 10-yr | 25-yr | 50-yr | 100-yr | 500-yr |
| Oil and Gas Location - Historic | 17.03 | A,B | 5.0% | 0.02 | 0.02 | 0.04 | 0.11 | 0.15 | 0.24 | 0.37 | 500 | | | 0.015 | 38.03 | 470 | | | 0.015 | 7 | 0.86 | 9.14 | 47.17 | 31.74 | 31.74 | 47.17 | | 1.2 | 1.7 | 2.0 | | 2.8 | 3.2 | | | 0.4 | 0.7 | 1.5 | | 7.3 | 13.1 | |
| ST1 - Construction Phase | 0.36 | A | 5.0% | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 | 0.15 | 0.29 | 0 | | | 0.039 | 0.00 | 165 | | | 0.039 | 10 | 1.97 | 1.39 | 1.39 | 26.59 | 10.00 | 1.39 | | 4.2 | 6.0 | 7.1 | | 9.9 | 11.4 | | | 0.0 | 0.0 | 0.1 | | 0.2 | 0.6 | |
| ST2 - Construction Phase | 0.39 | B | 9.2% | 0.06 | 0.07 | 0.13 | 0.31 | 0.38 | 0.47 | 0.57 | 0 | | | 0.002 | 0.00 | 440 | | | 0.002 | 10 | 0.45 | 16.40 | 16.40 | 40.36 | 16.40 | 16.40 | | 2.18 | 3.09 | 3.65 | | 5.11 | 5.89 | | | 0.0 | 0.1 | 0.2 | | 0.8 | 1.1 | |
| ST3 - Construction Phase | 2.50 | A,B | 5.4% | 0.02 | 0.02 | 0.04 | 0.07 | 0.12 | 0.20 | 0.33 | 0 | | | 0.008 | 0.00 | 1580 | | | 0.008 | 10 | 0.89 | 29.44 | 29.44 | 55.24 | 29.44 | 29.44 | | 1.59 | 2.25 | 2.67 | | 3.73 | 4.30 | | | 0.1 | 0.1 | 0.2 | | 1.1 | 2.1 | |
| DB - Construction Phase | 13.10 | A,B | 49.7% | 0.36 | 0.38 | 0.41 | 0.46 | 0.50 | 0.55 | 0.62 | 300 | | | 0.014 | 20.16 | 710 | | | 0.014 | 10 | 1.18 | 10.00 | 30.17 | 23.81 | 23.81 | 30.17 | | 1.56 | 2.22 | 2.63 | | 3.68 | 4.24 | | | 7.4 | 11.0 | 13.9 | | 23.9 | 30.3 | |
| DB - Production Phase | 9.29 | A,B | 41.7% | 0.30 | 0.31 | 0.33 | 0.37 | 0.41 | 0.46 | 0.55 | 300 | | | 0.017 | 20.72 | 670 | | | 0.017 | 10 | 1.30 | 8.56 | 29.29 | 24.68 | 24.68 | 29.29 | | 1.59 | 2.26 | 2.67 | | 3.74 | 4.31 | | | 4.4 | 6.5 | 8.2 | | 14.2 | 18.6 | |

# Determination of Runoff Coefficients for Rational Method

**Designer:** KMG
**Company:** 609 Consulting
**Date:** 2/26/2026
**Project:** Eagle Pad
**Location:** S36 T1S R66W Adams County, CO

*MHFD-Rational, Version 3.00 (August 2025)*

Cells of this color are for required user-input
Cells of this color are for optional override values




**Provide subcatchment names on the Rational Calcs worksheet to open up the table below.**

| Subcatchment Name | # of Subareas | Area (ac) | NRCS Hydrologic Soil Group | Percent Imperviousness | | | | Runoff Coefficient, C | | | | | | | (Optional) Override Runoff Coefficient, C | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Imperviousness Source | Imperviousness Category | Calculated Imperviousness | (Optional) Override Imperviousness | WQE & 2-yr | 5-yr | 10-yr | 25-yr | 50-yr | 100-yr | 500-yr | WQE & 2-yr | 5-yr | 10-yr | 25-yr | 50-yr | 100-yr | 500-yr | |
| **Oil and Gas Location - Historic** | **2** | **17.03** | **A,B** | | | **5.0%** | **5.0%** | **0.02** | **0.02** | **0.04** | **0.11** | **0.15** | **0.24** | **0.37** | **0.02** | **0.02** | **0.04** | **0.11** | **0.15** | **0.24** | **0.37** | |
| | | 11.91 | A | Surface Type | Historic Flow Analysis | 5% | | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 | 0.15 | 0.29 | | | | | | | | |
| | | 5.12 | B | Surface Type | Historic Flow Analysis | 5% | | 0.03 | 0.03 | 0.10 | 0.28 | 0.36 | 0.45 | 0.55 | | | | | | | | |
| **ST1 - Construction Phase** | **1** | **0.36** | **A** | | | **5.0%** | **5.0%** | **0.02** | **0.02** | **0.02** | **0.03** | **0.07** | **0.15** | **0.29** | **0.02** | **0.02** | **0.02** | **0.03** | **0.07** | **0.15** | **0.29** | |
| | | 0.36 | A | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 | 0.15 | 0.29 | | | | | | | | |
| **ST2 - Construction Phase** | **2** | **0.39** | **B** | | | **9.2%** | **9.2%** | **0.06** | **0.07** | **0.13** | **0.31** | **0.38** | **0.47** | **0.57** | **0.06** | **0.07** | **0.13** | **0.31** | **0.38** | **0.47** | **0.57** | |
| | | 0.36 | B | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.03 | 0.03 | 0.10 | 0.28 | 0.36 | 0.45 | 0.55 | | | | | | | | |
| | | 0.03 | B | Surface Type | Gravel - Low Traffic Areas | 60% | | 0.46 | 0.49 | 0.54 | 0.63 | 0.66 | 0.71 | 0.76 | | | | | | | | |
| **ST3 - Construction Phase** | **3** | **2.50** | **A,B** | | | **5.4%** | **5.4%** | **0.02** | **0.02** | **0.04** | **0.07** | **0.12** | **0.20** | **0.33** | **0.02** | **0.02** | **0.04** | **0.07** | **0.12** | **0.20** | **0.33** | |
| | | 2.11 | A | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 | 0.15 | 0.29 | | | | | | | | |
| | | 0.37 | B | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.03 | 0.03 | 0.10 | 0.28 | 0.36 | 0.45 | 0.55 | | | | | | | | |
| | | 0.02 | B | Surface Type | Gravel - Low Traffic Areas | 60% | | 0.46 | 0.49 | 0.54 | 0.63 | 0.66 | 0.71 | 0.76 | | | | | | | | |
| **DB - Construction Phase** | **4** | **13.10** | **A,B** | | | **49.7%** | **49.7%** | **0.36** | **0.38** | **0.41** | **0.46** | **0.50** | **0.55** | **0.62** | **0.36** | **0.38** | **0.41** | **0.46** | **0.50** | **0.55** | **0.62** | |
| | | 1.66 | A | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 | 0.15 | 0.29 | | | | | | | | |
| | | 7.49 | A | Surface Type | Gravel - Low Traffic Areas | 60% | | 0.43 | 0.45 | 0.47 | 0.50 | 0.54 | 0.58 | 0.64 | | | | | | | | |
| | | 0.79 | B | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.03 | 0.03 | 0.10 | 0.28 | 0.36 | 0.45 | 0.55 | | | | | | | | |
| | | 3.16 | B | Surface Type | Gravel - Low Traffic Areas | 60% | | 0.46 | 0.49 | 0.54 | 0.63 | 0.66 | 0.71 | 0.76 | | | | | | | | |
| **DB - Production Phase** | **4** | **9.29** | **A,B** | | | **41.7%** | **41.7%** | **0.30** | **0.31** | **0.33** | **0.37** | **0.41** | **0.46** | **0.55** | **0.30** | **0.31** | **0.33** | **0.37** | **0.41** | **0.46** | **0.55** | |
| | | 2.58 | A | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.02 | 0.02 | 0.02 | 0.03 | 0.07 | 0.15 | 0.29 | | | | | | | | |
| | | 5.34 | A | Surface Type | Gravel - Low Traffic Areas | 60% | | 0.43 | 0.45 | 0.47 | 0.50 | 0.54 | 0.58 | 0.64 | | | | | | | | |
| | | 0.51 | B | Land Use | Open Space, Undisturbed Native Grasses | 5% | | 0.03 | 0.03 | 0.10 | 0.28 | 0.36 | 0.45 | 0.55 | | | | | | | | |
| | | 0.86 | B | Surface Type | Gravel - Low Traffic Areas | 60% | | 0.46 | 0.49 | 0.54 | 0.63 | 0.66 | 0.71 | 0.76 | | | | | | | | |

# Appendix F:

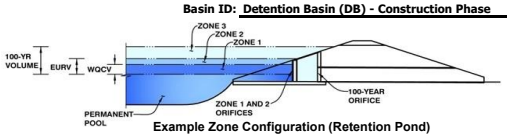
# MHFD-Detention Spreadsheet Calculations

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

*MHFD-Detention, Version 4.07 (June 2025)*

**Project:** Eagle Pad

**Basin ID:** Detention Basin (DB) - Construction Phase




**Example Zone Configuration (Retention Pond)**

## Watershed Information

| | | |
|---|---|---|
| Selected SCM Type = | **EDB** | |
| Watershed Area = | 13.10 | acres |
| Watershed Length = | 1,010 | ft |
| Watershed Length to Centroid = | 300 | ft |
| Watershed Slope = | 0.014 | ft/ft |
| Watershed Imperviousness = | 49.7% | percent |
| Percentage Hydrologic Soil Group A = | 69.8% | percent |
| Percentage Hydrologic Soil Group B = | 30.2% | percent |
| Percentage Hydrologic Soil Groups C/D = | 0.0% | percent |
| Target WQCV Drain Time = | 40.0 | hours |
| Location for 1-hr Rainfall Depths = | User Input | |

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

| | | | Optional User Overrides | |
|---|---|---|---|---|
| Water Quality Capture Volume (WQCV) = | 0.224 | acre-feet | | acre-feet |
| Excess Urban Runoff Volume (EURV) = | 0.733 | acre-feet | | acre-feet |
| 2-yr Runoff Volume (P1 = 1 in.) = | 0.450 | acre-feet | 1.00 | inches |
| 5-yr Runoff Volume (P1 = 1.42 in.) = | 0.695 | acre-feet | 1.42 | inches |
| 10-yr Runoff Volume (P1 = 1.68 in.) = | 0.870 | acre-feet | 1.68 | inches |
| 25-yr Runoff Volume (P1 = 1.69 in.) = | 0.945 | acre-feet | | inches |
| 50-yr Runoff Volume (P1 = 2.35 in.) = | 1.560 | acre-feet | 2.35 | inches |
| 100-yr Runoff Volume (P1 = 2.71 in.) = | 1.987 | acre-feet | 2.71 | inches |
| 500-yr Runoff Volume (P1 = 3.14 in.) = | 2.437 | acre-feet | | inches |
| Approximate 2-yr Detention Volume = | 0.416 | acre-feet | | |
| Approximate 5-yr Detention Volume = | 0.625 | acre-feet | | |
| Approximate 10-yr Detention Volume = | 0.795 | acre-feet | | |
| Approximate 25-yr Detention Volume = | 0.826 | acre-feet | | |
| Approximate 50-yr Detention Volume = | 1.116 | acre-feet | | |
| Approximate 100-yr Detention Volume = | 1.292 | acre-feet | | |

## Define Zones and Basin Geometry

| | | |
|---|---|---|
| Zone 1 Volume (WQCV) = | 0.224 | acre-feet |
| Zone 2 Volume (100-year - Zone 1) = | 1.068 | acre-feet |
| Select Zone 3 Storage Volume (Optional) = | | acre-feet |
| Total Detention Basin Volume = | 1.292 | acre-feet |
| Initial Surcharge Volume (ISV) = | user | $ft^3$ |
| Initial Surcharge Depth (ISD) = | user | ft |
| Total Available Detention Depth ($H_{total}$) = | user | ft |
| Depth of Trickle Channel ($H_{TC}$) = | user | ft |
| Slope of Trickle Channel ($S_{TC}$) = | user | ft/ft |
| Slopes of Main Basin Sides ($S_{main}$) = | user | H:V |
| Basin Length-to-Width Ratio ($R_{L/W}$) = | user | |

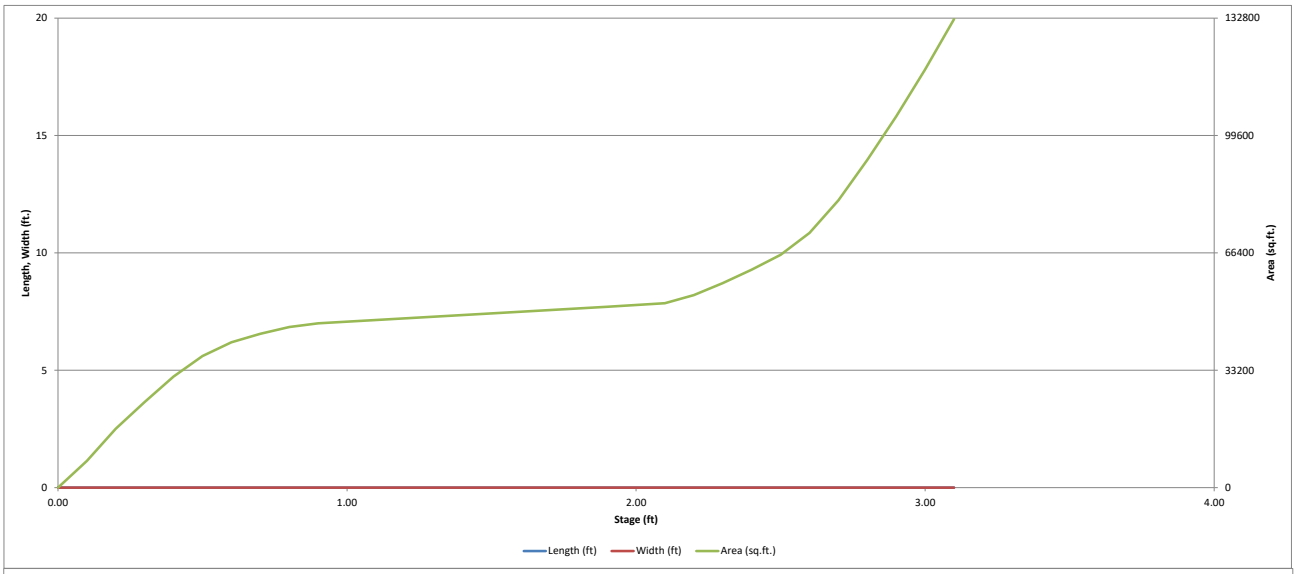
| | | |
|---|---|---|
| Initial Surcharge Area ($A_{ISV}$) = | user | $ft^2$ |
| Surcharge Volume Length ($L_{ISV}$) = | user | ft |
| Surcharge Volume Width ($W_{ISV}$) = | user | ft |
| Depth of Basin Floor ($H_{FLOOR}$) = | user | ft |
| Length of Basin Floor ($L_{FLOOR}$) = | user | ft |
| Width of Basin Floor ($W_{FLOOR}$) = | user | ft |
| Area of Basin Floor ($A_{FLOOR}$) = | user | $ft^2$ |
| Volume of Basin Floor ($V_{FLOOR}$) = | user | $ft^3$ |
| Depth of Main Basin ($H_{MAIN}$) = | user | ft |
| Length of Main Basin ($L_{MAIN}$) = | user | ft |
| Width of Main Basin ($W_{MAIN}$) = | user | ft |
| Area of Main Basin ($A_{MAIN}$) = | user | $ft^2$ |
| Volume of Main Basin ($V_{MAIN}$) = | user | $ft^3$ |
| Calculated Total Basin Volume ($V_{total}$) = | **user** | acre-feet |

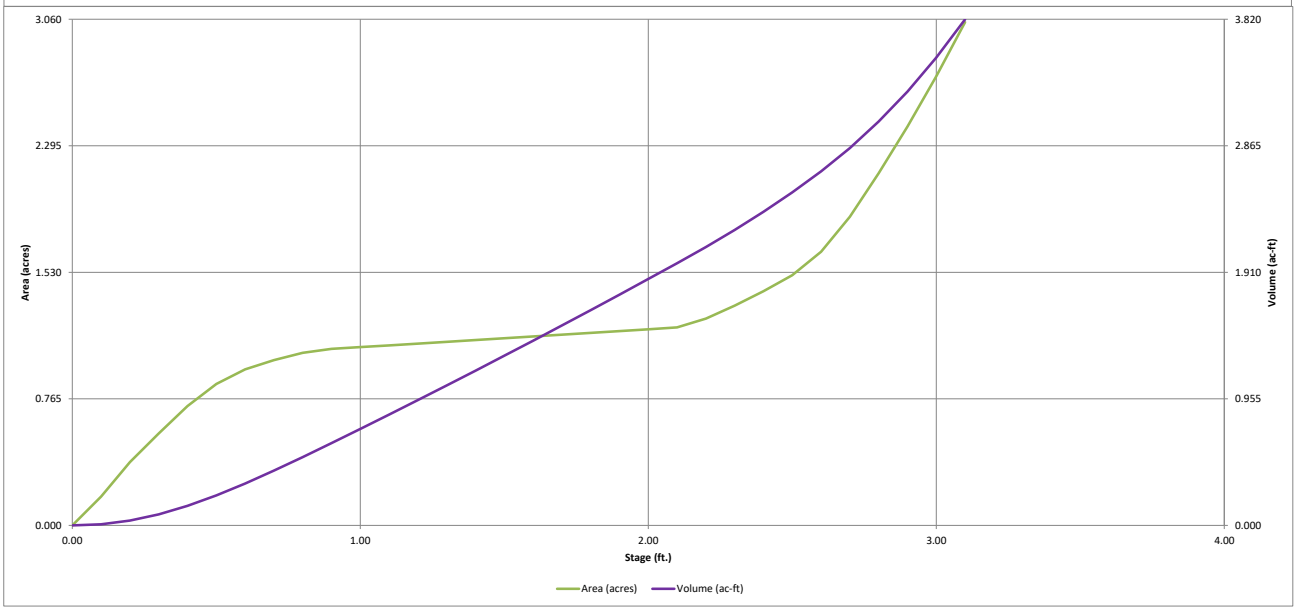
Depth Increment = 0.10 ft

| Stage - Storage Description | Stage (ft) | Optional Override Stage (ft) | Length (ft) | Width (ft) | Area ($ft^2$) | Optional Override Area ($ft^2$) | Area (acre) | Volume ($ft^3$) | Volume (ac-ft) |
|---|---|---|---|---|---|---|---|---|---|
| **Top of Micropool** | -- | 0.00 | -- | -- | -- | 0 | 0.000 | | |
| **5208.7** | -- | 0.10 | -- | -- | -- | 7,578 | 0.174 | 377 | 0.009 |
| **5208.8** | -- | 0.20 | -- | -- | -- | 16,669 | 0.383 | 1,589 | 0.036 |
| **5208.9** | -- | 0.30 | -- | -- | -- | 24,223 | 0.556 | 3,633 | 0.083 |
| **5209.0** | -- | 0.40 | -- | -- | -- | 31,407 | 0.721 | 6,415 | 0.147 |
| **5209.1** | -- | 0.50 | -- | -- | -- | 37,235 | 0.855 | 9,847 | 0.226 |
| **5209.2** | -- | 0.60 | -- | -- | -- | 41,105 | 0.944 | 13,764 | 0.316 |
| **5209.3** | -- | 0.70 | -- | -- | -- | 43,508 | 0.999 | 17,995 | 0.413 |
| **5209.4** | -- | 0.80 | -- | -- | -- | 45,434 | 1.043 | 22,442 | 0.515 |
| **5209.5** | -- | 0.90 | -- | -- | -- | 46,487 | 1.067 | 27,038 | 0.621 |
| **5209.6** | -- | 1.00 | -- | -- | -- | 46,949 | 1.078 | 31,709 | 0.728 |
| **5209.7** | -- | 1.10 | -- | -- | -- | 47,413 | 1.088 | 36,428 | 0.836 |
| **5209.8** | -- | 1.20 | -- | -- | -- | 47,879 | 1.099 | 41,192 | 0.946 |
| **5209.9** | -- | 1.30 | -- | -- | -- | 48,345 | 1.110 | 46,003 | 1.056 |
| **5210.0** | -- | 1.40 | -- | -- | -- | 48,813 | 1.121 | 50,861 | 1.168 |
| **5210.1** | -- | 1.50 | -- | -- | -- | 49,283 | 1.131 | 55,766 | 1.280 |
| **5210.2** | -- | 1.60 | -- | -- | -- | 49,753 | 1.142 | 60,718 | 1.394 |
| **5210.3** | -- | 1.70 | -- | -- | -- | 50,225 | 1.153 | 65,717 | 1.509 |
| **5210.4** | -- | 1.80 | -- | -- | -- | 50,698 | 1.164 | 70,763 | 1.624 |
| **5210.5** | -- | 1.90 | -- | -- | -- | 51,172 | 1.175 | 75,856 | 1.741 |
| **5210.6** | -- | 2.00 | -- | -- | -- | 51,647 | 1.186 | 80,997 | 1.859 |
| **5210.7** | -- | 2.10 | -- | -- | -- | 52,158 | 1.197 | 86,187 | 1.979 |
| **5210.8** | -- | 2.20 | -- | -- | -- | 54,450 | 1.250 | 91,518 | 2.101 |
| **5210.9** | -- | 2.30 | -- | -- | -- | 57,860 | 1.328 | 97,133 | 2.230 |
| **5211.0** | -- | 2.40 | -- | -- | -- | 61,671 | 1.416 | 103,110 | 2.367 |
| **5211.1** | -- | 2.50 | -- | -- | -- | 65,886 | 1.513 | 109,488 | 2.513 |
| **5211.2** | -- | 2.60 | -- | -- | -- | 72,057 | 1.654 | 116,385 | 2.672 |
| **5211.3** | -- | 2.70 | -- | -- | -- | 81,295 | 1.866 | 124,052 | 2.848 |
| **5211.4** | -- | 2.80 | -- | -- | -- | 92,714 | 2.128 | 132,753 | 3.048 |
| **5211.5** | -- | 2.90 | -- | -- | -- | 105,041 | 2.411 | 142,640 | 3.275 |
| **5211.6** | -- | 3.00 | -- | -- | -- | 118,277 | 2.715 | 153,806 | 3.531 |
| **5211.7** | -- | 3.10 | -- | -- | -- | 132,506 | 3.042 | 166,345 | 3.819 |

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

*MHFD-Detention, Version 4.07 (June 2025)*



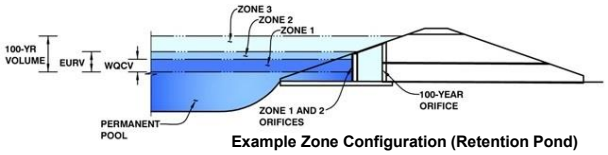



# DETENTION BASIN OUTLET STRUCTURE DESIGN

*MHFD-Detention, Version 4.07 (June 2025)*

**Project:** **Eagle Pad**

**Basin ID:** **Detention Basin (DB) - Construction Phase**




**Example Zone Configuration (Retention Pond)**

| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|---|---|---|---|
| Zone 1 (WQCV) | 0.50 | 0.224 | |
| Zone 2 (100-year) | 1.52 | 1.068 | |
| Zone 3 | | | |
| Total (all zones) | | 1.292 | |

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration SCM)

Underdrain Orifice Invert Depth = ft (distance below the filtration media surface)

Underdrain Orifice Diameter = inches

Calculated Parameters for Underdrain

Underdrain Orifice Area = $ft^2$

Underdrain Orifice Centroid = feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation SCM)

Centroid of Lowest Orifice = ft (relative to basin bottom at Stage = 0 ft)

Depth at top of Zone using Orifice Plate = ft (relative to basin bottom at Stage = 0 ft)

Orifice Plate: Orifice Vertical Spacing = inches

Orifice Plate: Orifice Area per Row = sq. inches

Calculated Parameters for Plate

| | | |
|---|---|---|
| WQ Orifice Area per Row = | N/A | $ft^2$ |
| Elliptical Half-Width = | N/A | feet |
| Elliptical Slot Centroid = | N/A | feet |
| Elliptical Slot Area = | N/A | $ft^2$ |

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

| | Row 1 (optional) | Row 2 (optional) | Row 3 (optional) | Row 4 (optional) | Row 5 (optional) | Row 6 (optional) | Row 7 (optional) | Row 8 (optional) |
|---|---|---|---|---|---|---|---|---|
| Stage of Orifice Centroid (ft) | | | | | | | | |
| Orifice Area (sq. inches) | | | | | | | | |

| | Row 9 (optional) | Row 10 (optional) | Row 11 (optional) | Row 12 (optional) | Row 13 (optional) | Row 14 (optional) | Row 15 (optional) | Row 16 (optional) |
|---|---|---|---|---|---|---|---|---|
| Stage of Orifice Centroid (ft) | | | | | | | | |
| Orifice Area (sq. inches) | | | | | | | | |

User Input: Vertical Orifice (Circular or Rectangular)

| | Not Selected | Not Selected | |
|---|---|---|---|
| Invert of Vertical Orifice = | 0.0 | 0.5 | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Vertical Orifice = | 0.5 | 1.8 | ft (relative to basin bottom at Stage = 0 ft) |
| Vertical Orifice Diameter = | 3.0 | 12.0 | inches |

Calculated Parameters for Vertical Orifice

| | Not Selected | Not Selected | |
|---|---|---|---|
| Vertical Orifice Area = | 0.05 | 0.79 | $ft^2$ |
| Vertical Orifice Centroid = | 0.13 | 0.50 | feet |

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

| | Not Selected | Not Selected | |
|---|---|---|---|
| Overflow Weir Front Edge Height, Ho = | | | ft (relative to basin bottom at Stage = 0 ft) |
| Overflow Weir Front Edge Length = | | | feet |
| Overflow Weir Grate Slope = | | | H:V |
| Horiz. Length of Weir Sides = | | | feet |
| Overflow Grate Type = | | | |
| Debris Clogging % = | | | % |

Calculated Parameters for Overflow Weir

| | Not Selected | Not Selected | |
|---|---|---|---|
| Height of Grate Upper Edge, $H_t$ = | | | feet |
| Overflow Weir Slope Length = | | | feet |
| Grate Open Area / 100-yr Orifice Area = | | | |
| Overflow Grate Open Area w/o Debris = | | | $ft^2$ |
| Overflow Grate Open Area w/ Debris = | | | $ft^2$ |

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

| | Not Selected | Not Selected | |
|---|---|---|---|
| Depth to Invert of Outlet Pipe = | | | ft (distance below basin bottom at Stage = 0 ft) |
| Circular Orifice Diameter = | | | inches |

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

| | Not Selected | Not Selected | |
|---|---|---|---|
| Outlet Orifice Area = | | | $ft^2$ |
| Outlet Orifice Centroid = | | | feet |
| Half-Central Angle of Restrictor Plate on Pipe = | N/A | N/A | radians |

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | |
|---|---|---|
| Spillway Invert Stage= | 1.8 | ft (relative to basin bottom at Stage = 0 ft) |
| Spillway Crest Length = | 28.9 | feet |
| Spillway End Slopes = | 4.0 | H:V |
| Freeboard above Max Water Surface = | 0.5 | feet |

Calculated Parameters for Spillway

| | | |
|---|---|---|
| Spillway Design Flow Depth= | 0.5 | feet |
| Stage at Top of Freeboard = | 2.9 | feet |
| Basin Area at Top of Freeboard = | 2.3 | acres |
| Basin Volume at Top of Freeboard = | 3.2 | acre-ft |

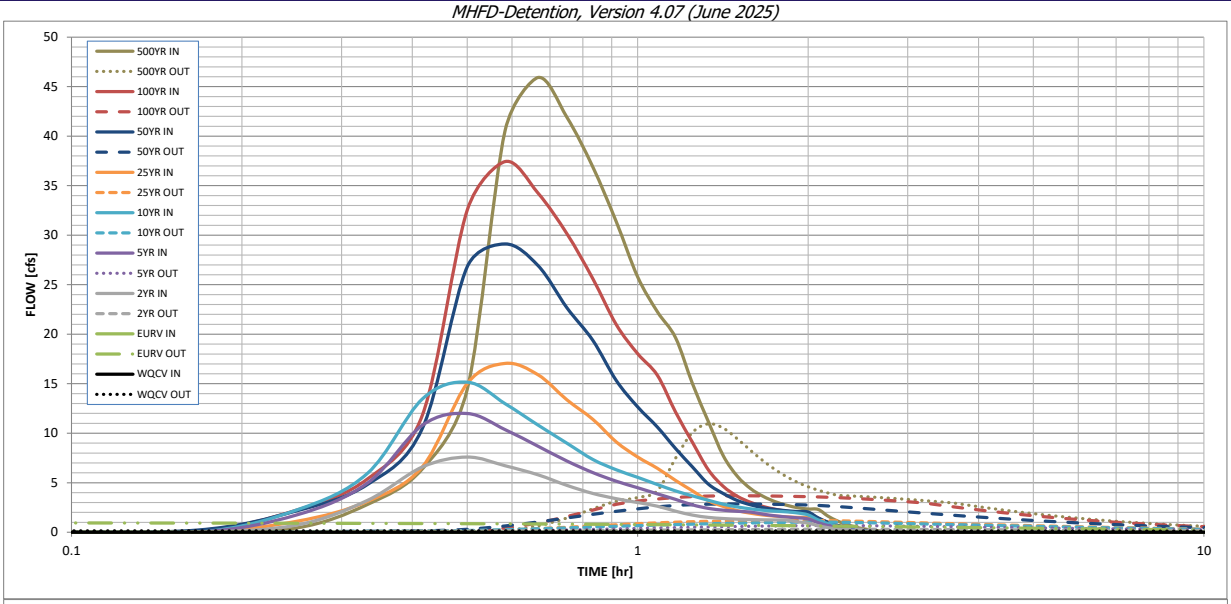
Routed Hydrograph Results

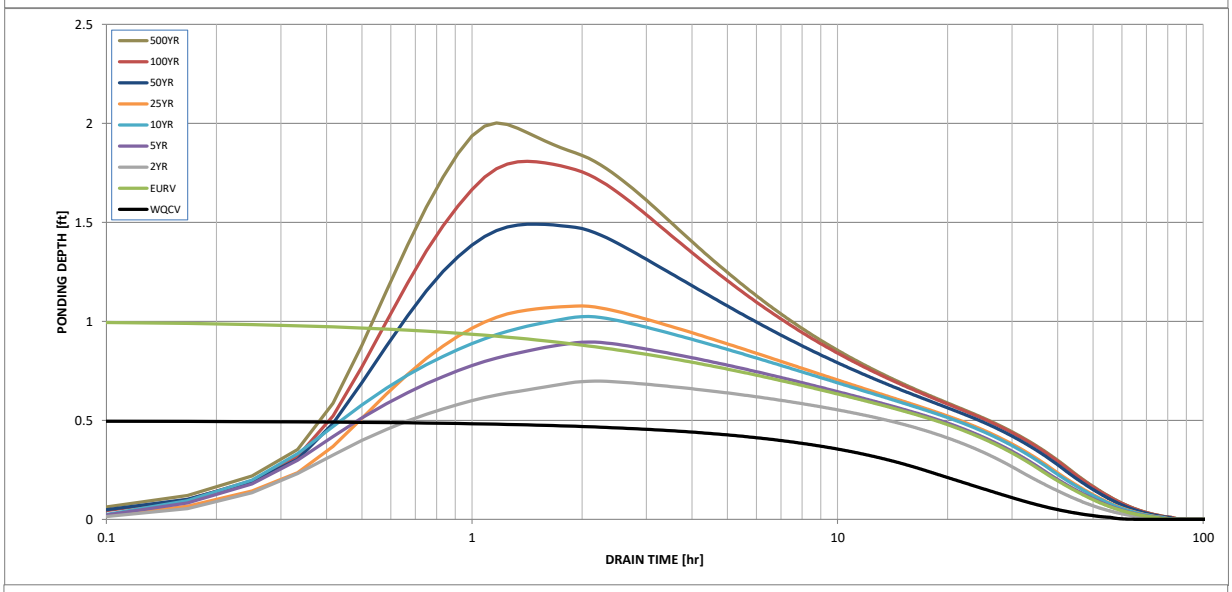
*The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).*

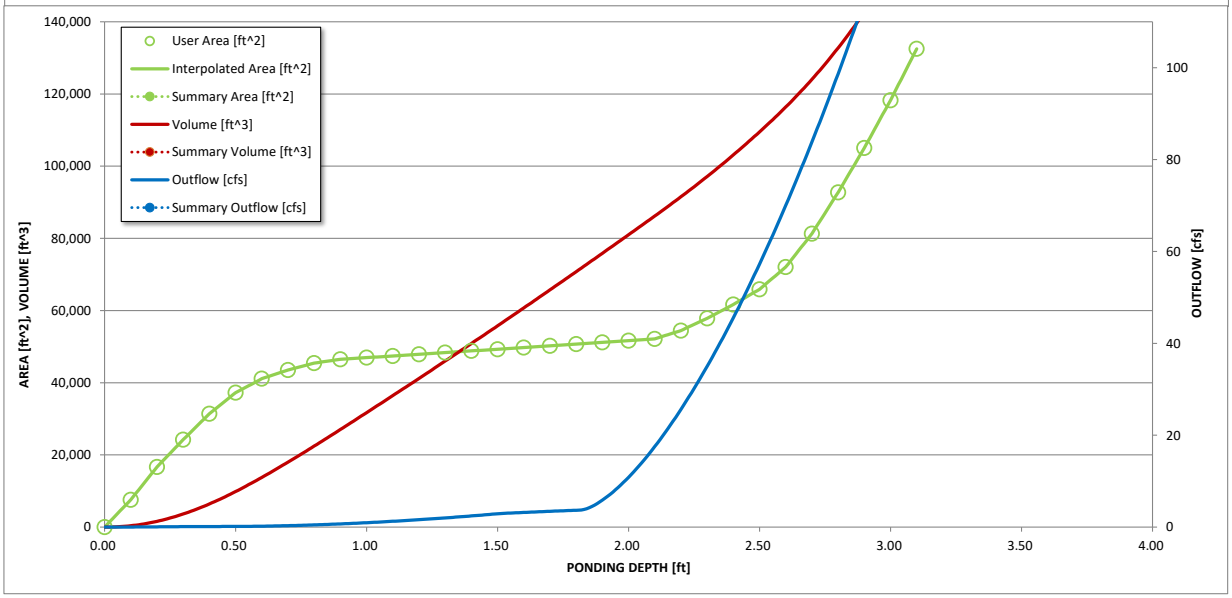
| Design Storm Return Period = | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year | 500 Year |
|---|---|---|---|---|---|---|---|---|---|
| One-Hour Rainfall Depth (in) = | N/A | N/A | 1.00 | 1.42 | 1.68 | 1.69 | 2.35 | 2.71 | 3.14 |
| CUHP Runoff Volume (acre-ft) = | 0.224 | 0.733 | 0.450 | 0.695 | 0.870 | 0.945 | 1.560 | 1.987 | 2.437 |
| Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 0.450 | 0.695 | 0.870 | 0.945 | 1.560 | 1.987 | 2.437 |
| CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | 0.3 | 0.7 | 1.8 | 3.9 | 11.5 | 16.8 | 22.5 |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.02 | 0.05 | 0.14 | 0.30 | 0.88 | 1.28 | 1.72 |
| Peak Inflow Q (cfs) = | N/A | N/A | 7.6 | 12.0 | 15.2 | 17.1 | 29.1 | 37.4 | 45.9 |
| Peak Outflow Q (cfs) = | 0.1 | 1.0 | 0.3 | 0.7 | 1.0 | 1.2 | 2.9 | 3.7 | 10.9 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 1.0 | 0.6 | 0.3 | 0.2 | 0.2 | 0.5 |
| Structure Controlling Flow = | Vertical Orifice 1 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Spillway |
| Max Velocity through Grate 1 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Max Velocity through Grate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 33 | 44 | 42 | 44 | 45 | 45 | 44 | 43 | 41 |
| Time to Drain 99% of Inflow Volume (hours) = | **40** | 51 | 49 | 52 | 53 | 53 | 52 | 51 | 50 |
| Maximum Ponding Depth (ft) = | 0.5 | 1.0 | 0.7 | 0.9 | 1.0 | 1.1 | 1.5 | 1.8 | 2.0 |
| Area at Maximum Ponding Depth (acres) = | 0.85 | 1.08 | 0.99 | 1.06 | 1.08 | 1.09 | 1.13 | 1.16 | 1.19 |
| Maximum Volume Stored (acre-ft) = | 0.226 | 0.739 | 0.403 | 0.610 | 0.750 | 0.804 | 1.269 | 1.624 | 1.859 |

# DETENTION BASIN OUTLET STRUCTURE DESIGN

*MHFD-Detention, Version 4.07 (June 2025)*



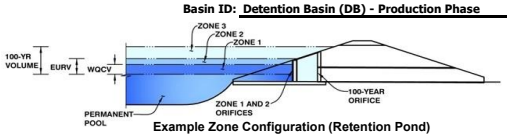

| S-A-V-D Chart Axis Override | X-axis | Left Y-Axis | Right Y-Axis |
|---|---|---|---|
| minimum bound | | | |
| maximum bound | | | |

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

*MHFD-Detention, Version 4.07 (June 2025)*

**Project:** Eagle Pad

**Basin ID:** Detention Basin (DB) - Production Phase




**Example Zone Configuration (Retention Pond)**

## Watershed Information

| | | |
|---|---|---|
| Selected SCM Type = | **EDB** | |
| Watershed Area = | 9.29 | acres |
| Watershed Length = | 970 | ft |
| Watershed Length to Centroid = | 300 | ft |
| Watershed Slope = | 0.017 | ft/ft |
| Watershed Imperviousness = | 41.7% | percent |
| Percentage Hydrologic Soil Group A = | 85.3% | percent |
| Percentage Hydrologic Soil Group B = | 14.7% | percent |
| Percentage Hydrologic Soil Groups C/D = | 0.0% | percent |
| Target WQCV Drain Time = | 40.0 | hours |
| Location for 1-hr Rainfall Depths = | User Input | |

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

| | | | Optional User Overrides | |
|---|---|---|---|---|
| Water Quality Capture Volume (WQCV) = | 0.143 | acre-feet | | acre-feet |
| Excess Urban Runoff Volume (EURV) = | 0.422 | acre-feet | | acre-feet |
| 2-yr Runoff Volume (P1 = 1 in.) = | 0.254 | acre-feet | 1.00 | inches |
| 5-yr Runoff Volume (P1 = 1.42 in.) = | 0.401 | acre-feet | 1.42 | inches |
| 10-yr Runoff Volume (P1 = 1.68 in.) = | 0.491 | acre-feet | 1.68 | inches |
| 25-yr Runoff Volume (P1 = 1.69 in.) = | 0.532 | acre-feet | | inches |
| 50-yr Runoff Volume (P1 = 2.35 in.) = | 0.941 | acre-feet | 2.35 | inches |
| 100-yr Runoff Volume (P1 = 2.71 in.) = | 1.227 | acre-feet | 2.71 | inches |
| 500-yr Runoff Volume (P1 = 3.14 in.) = | 1.545 | acre-feet | | inches |
| Approximate 2-yr Detention Volume = | 0.231 | acre-feet | | |
| Approximate 5-yr Detention Volume = | 0.348 | acre-feet | | |
| Approximate 10-yr Detention Volume = | 0.442 | acre-feet | | |
| Approximate 25-yr Detention Volume = | 0.473 | acre-feet | | |
| Approximate 50-yr Detention Volume = | 0.651 | acre-feet | | |
| Approximate 100-yr Detention Volume = | 0.772 | acre-feet | | |

## Define Zones and Basin Geometry

| | | |
|---|---|---|
| Zone 1 Volume (WQCV) = | 0.143 | acre-feet |
| Zone 2 Volume (100-year - Zone 1) = | 0.630 | acre-feet |
| Select Zone 3 Storage Volume (Optional) = | | acre-feet |
| Total Detention Basin Volume = | 0.772 | acre-feet |
| Initial Surcharge Volume (ISV) = | user | $ft^3$ |
| Initial Surcharge Depth (ISD) = | user | ft |
| Total Available Detention Depth ($H_{total}$) = | user | ft |
| Depth of Trickle Channel ($H_{TC}$) = | user | ft |
| Slope of Trickle Channel ($S_{TC}$) = | user | ft/ft |
| Slopes of Main Basin Sides ($S_{main}$) = | user | H:V |
| Basin Length-to-Width Ratio ($R_{L/W}$) = | user | |

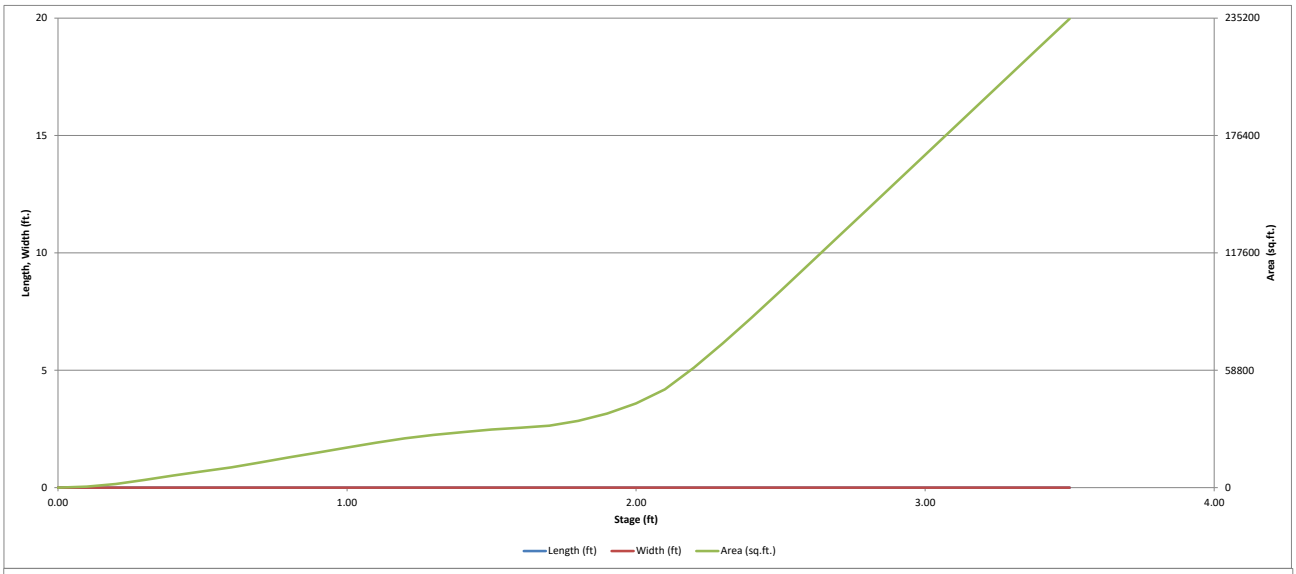
| | | |
|---|---|---|
| Initial Surcharge Area ($A_{ISV}$) = | user | $ft^2$ |
| Surcharge Volume Length ($L_{ISV}$) = | user | ft |
| Surcharge Volume Width ($W_{ISV}$) = | user | ft |
| Depth of Basin Floor ($H_{FLOOR}$) = | user | ft |
| Length of Basin Floor ($L_{FLOOR}$) = | user | ft |
| Width of Basin Floor ($W_{FLOOR}$) = | user | ft |
| Area of Basin Floor ($A_{FLOOR}$) = | user | $ft^2$ |
| Volume of Basin Floor ($V_{FLOOR}$) = | user | $ft^3$ |
| Depth of Main Basin ($H_{MAIN}$) = | user | ft |
| Length of Main Basin ($L_{MAIN}$) = | user | ft |
| Width of Main Basin ($W_{MAIN}$) = | user | ft |
| Area of Main Basin ($A_{MAIN}$) = | user | $ft^2$ |
| Volume of Main Basin ($V_{MAIN}$) = | user | $ft^3$ |
| Calculated Total Basin Volume ($V_{total}$) = | **user** | acre-feet |

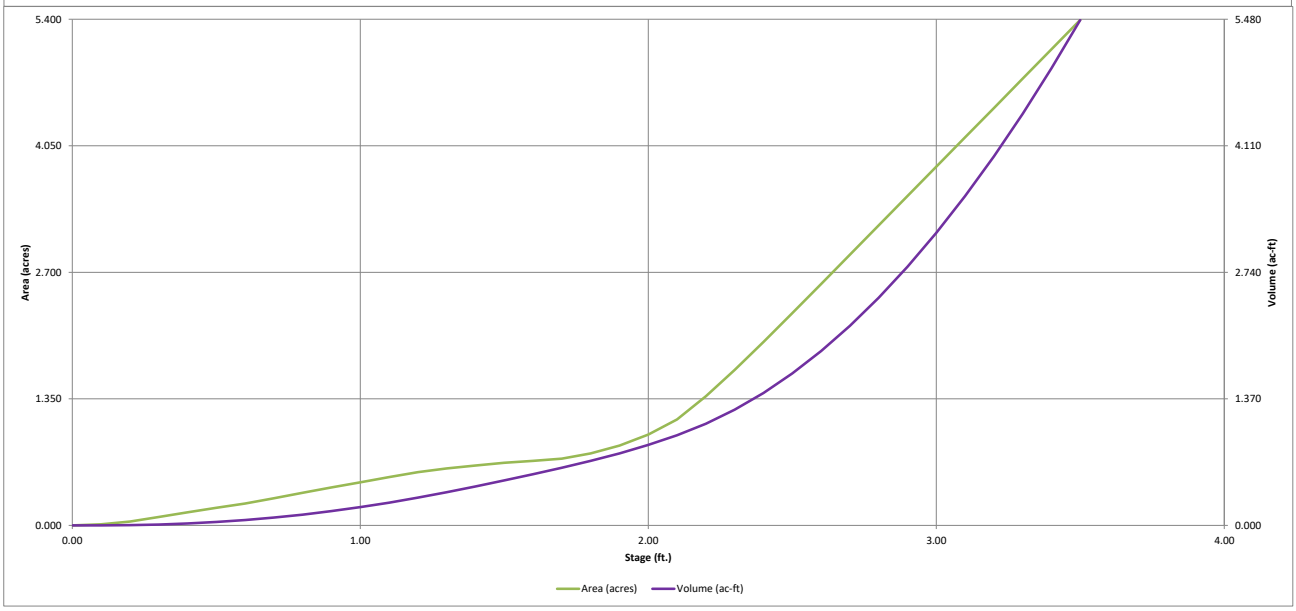
Depth Increment = 0.10 ft

| Stage - Storage Description | Stage (ft) | Optional Override Stage (ft) | Length (ft) | Width (ft) | Area ($ft^2$) | Optional Override Area ($ft^2$) | Area (acre) | Volume ($ft^3$) | Volume (ac-ft) |
|---|---|---|---|---|---|---|---|---|---|
| **Top of Micropool** | -- | 0.00 | -- | -- | -- | 0 | 0.000 | | |
| **5209.6** | -- | 0.10 | -- | -- | -- | 503 | 0.012 | 25 | 0.001 |
| **5209.7** | -- | 0.20 | -- | -- | -- | 1,793 | 0.041 | 140 | 0.003 |
| **5209.8** | -- | 0.30 | -- | -- | -- | 3,874 | 0.089 | 423 | 0.010 |
| **5209.9** | -- | 0.40 | -- | -- | -- | 6,101 | 0.140 | 922 | 0.021 |
| **5210.0** | -- | 0.50 | -- | -- | -- | 8,172 | 0.188 | 1,635 | 0.038 |
| **5210.1** | -- | 0.60 | -- | -- | -- | 10,186 | 0.234 | 2,553 | 0.059 |
| **5210.2** | -- | 0.70 | -- | -- | -- | 12,615 | 0.290 | 3,693 | 0.085 |
| **5210.3** | -- | 0.80 | -- | -- | -- | 15,179 | 0.348 | 5,083 | 0.117 |
| **5210.4** | -- | 0.90 | -- | -- | -- | 17,623 | 0.405 | 6,723 | 0.154 |
| **5210.5** | -- | 1.00 | -- | -- | -- | 20,048 | 0.460 | 8,606 | 0.198 |
| **5210.6** | -- | 1.10 | -- | -- | -- | 22,467 | 0.516 | 10,732 | 0.246 |
| **5210.7** | -- | 1.20 | -- | -- | -- | 24,725 | 0.568 | 13,092 | 0.301 |
| **5210.8** | -- | 1.30 | -- | -- | -- | 26,451 | 0.607 | 15,651 | 0.359 |
| **5210.9** | -- | 1.40 | -- | -- | -- | 27,827 | 0.639 | 18,365 | 0.422 |
| **5211.0** | -- | 1.50 | -- | -- | -- | 29,083 | 0.668 | 21,210 | 0.487 |
| **5211.1** | -- | 1.60 | -- | -- | -- | 30,022 | 0.689 | 24,165 | 0.555 |
| **5211.2** | -- | 1.70 | -- | -- | -- | 31,024 | 0.712 | 27,218 | 0.625 |
| **5211.3** | -- | 1.80 | -- | -- | -- | 33,421 | 0.767 | 30,440 | 0.699 |
| **5211.4** | -- | 1.90 | -- | -- | -- | 37,119 | 0.852 | 33,967 | 0.780 |
| **5211.5** | -- | 2.00 | -- | -- | -- | 42,187 | 0.968 | 37,932 | 0.871 |
| **5211.6** | -- | 2.10 | -- | -- | -- | 49,255 | 1.131 | 42,504 | 0.976 |
| **5211.7** | -- | 2.20 | -- | -- | -- | 60,042 | 1.378 | 47,969 | 1.101 |
| **5211.8** | -- | 2.30 | -- | -- | -- | 72,280 | 1.659 | 54,585 | 1.253 |
| **5211.9** | -- | 2.40 | -- | -- | -- | 85,225 | 1.956 | 62,460 | 1.434 |
| **5212.0** | -- | 2.50 | -- | -- | -- | 98,595 | 2.263 | 71,651 | 1.645 |
| **5212.1** | -- | 2.60 | -- | -- | -- | 112,180 | 2.575 | 82,189 | 1.887 |
| **5212.2** | -- | 2.70 | -- | -- | -- | 125,806 | 2.888 | 94,089 | 2.160 |
| **5212.3** | -- | 2.80 | -- | -- | -- | 139,435 | 3.201 | 107,351 | 2.464 |
| **5212.4** | -- | 2.90 | -- | -- | -- | 153,066 | 3.514 | 121,976 | 2.800 |
| **5212.5** | -- | 3.00 | -- | -- | -- | 166,699 | 3.827 | 137,964 | 3.167 |
| **5212.6** | -- | 3.10 | -- | -- | -- | 180,335 | 4.140 | 155,315 | 3.566 |
| **5212.7** | -- | 3.20 | -- | -- | -- | 193,974 | 4.453 | 174,031 | 3.995 |
| **5212.8** | -- | 3.30 | -- | -- | -- | 207,617 | 4.766 | 194,110 | 4.456 |
| **5212.9** | -- | 3.40 | -- | -- | -- | 221,263 | 5.079 | 215,554 | 4.948 |
| **5213.0** | -- | 3.50 | -- | -- | -- | 234,915 | 5.393 | 238,363 | 5.472 |

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

*MHFD-Detention, Version 4.07 (June 2025)*



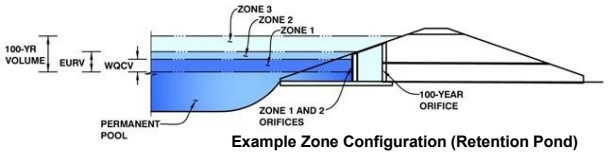



# DETENTION BASIN OUTLET STRUCTURE DESIGN

*MHFD-Detention, Version 4.07 (June 2025)*

**Project:** **Eagle Pad**

**Basin ID:** **Detention Basin (DB) - Production Phase**




**Example Zone Configuration (Retention Pond)**

| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|---|---|---|---|
| Zone 1 (WQCV) | 0.88 | 0.143 | |
| Zone 2 (100-year) | 1.90 | 0.630 | |
| Zone 3 | | | |
| Total (all zones) | | 0.772 | |

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration SCM)

Underdrain Orifice Invert Depth = ft (distance below the filtration media surface)

Underdrain Orifice Diameter = inches

Calculated Parameters for Underdrain

Underdrain Orifice Area = $ft^2$

Underdrain Orifice Centroid = feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation SCM)

Centroid of Lowest Orifice = ft (relative to basin bottom at Stage = 0 ft)

Depth at top of Zone using Orifice Plate = ft (relative to basin bottom at Stage = 0 ft)

Orifice Plate: Orifice Vertical Spacing = inches

Orifice Plate: Orifice Area per Row = sq. inches

Calculated Parameters for Plate

| | |
|---|---|
| WQ Orifice Area per Row = | N/A $ft^2$ |
| Elliptical Half-Width = | N/A feet |
| Elliptical Slot Centroid = | N/A feet |
| Elliptical Slot Area = | N/A $ft^2$ |

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

| | Row 1 (optional) | Row 2 (optional) | Row 3 (optional) | Row 4 (optional) | Row 5 (optional) | Row 6 (optional) | Row 7 (optional) | Row 8 (optional) |
|---|---|---|---|---|---|---|---|---|
| Stage of Orifice Centroid (ft) | | | | | | | | |
| Orifice Area (sq. inches) | | | | | | | | |

| | Row 9 (optional) | Row 10 (optional) | Row 11 (optional) | Row 12 (optional) | Row 13 (optional) | Row 14 (optional) | Row 15 (optional) | Row 16 (optional) |
|---|---|---|---|---|---|---|---|---|
| Stage of Orifice Centroid (ft) | | | | | | | | |
| Orifice Area (sq. inches) | | | | | | | | |

User Input: Vertical Orifice (Circular or Rectangular)

| | Not Selected | Not Selected | |
|---|---|---|---|
| Invert of Vertical Orifice = | 0.0 | 0.9 | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Vertical Orifice = | 0.9 | 2.1 | ft (relative to basin bottom at Stage = 0 ft) |
| Vertical Orifice Diameter = | 1.5 | 12.0 | inches |

Calculated Parameters for Vertical Orifice

| | Not Selected | Not Selected | |
|---|---|---|---|
| Vertical Orifice Area = | 0.01 | 0.79 | $ft^2$ |
| Vertical Orifice Centroid = | 0.06 | 0.50 | feet |

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

| | Not Selected | Not Selected | |
|---|---|---|---|
| Overflow Weir Front Edge Height, Ho = | | | ft (relative to basin bottom at Stage = 0 ft) |
| Overflow Weir Front Edge Length = | | | feet |
| Overflow Weir Grate Slope = | | | H:V |
| Horiz. Length of Weir Sides = | | | feet |
| Overflow Grate Type = | | | |
| Debris Clogging % = | | | % |

Calculated Parameters for Overflow Weir

| | Not Selected | Not Selected | |
|---|---|---|---|
| Height of Grate Upper Edge, $H_t$ = | | | feet |
| Overflow Weir Slope Length = | | | feet |
| Grate Open Area / 100-yr Orifice Area = | | | |
| Overflow Grate Open Area w/o Debris = | | | $ft^2$ |
| Overflow Grate Open Area w/ Debris = | | | $ft^2$ |

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

| | Not Selected | Not Selected | |
|---|---|---|---|
| Depth to Invert of Outlet Pipe = | | | ft (distance below basin bottom at Stage = 0 ft) |
| Circular Orifice Diameter = | | | inches |

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

| | Not Selected | Not Selected | |
|---|---|---|---|
| Outlet Orifice Area = | | | $ft^2$ |
| Outlet Orifice Centroid = | | | feet |
| Half-Central Angle of Restrictor Plate on Pipe = | N/A | N/A | radians |

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | |
|---|---|---|
| Spillway Invert Stage= | 2.1 | ft (relative to basin bottom at Stage = 0 ft) |
| Spillway Crest Length = | 15.3 | feet |
| Spillway End Slopes = | 4.0 | H:V |
| Freeboard above Max Water Surface = | 0.5 | feet |

Calculated Parameters for Spillway

| | |
|---|---|
| Spillway Design Flow Depth= | 0.5 feet |
| Stage at Top of Freeboard = | 3.1 feet |
| Basin Area at Top of Freeboard = | 4.3 acres |
| Basin Volume at Top of Freeboard = | 3.7 acre-ft |

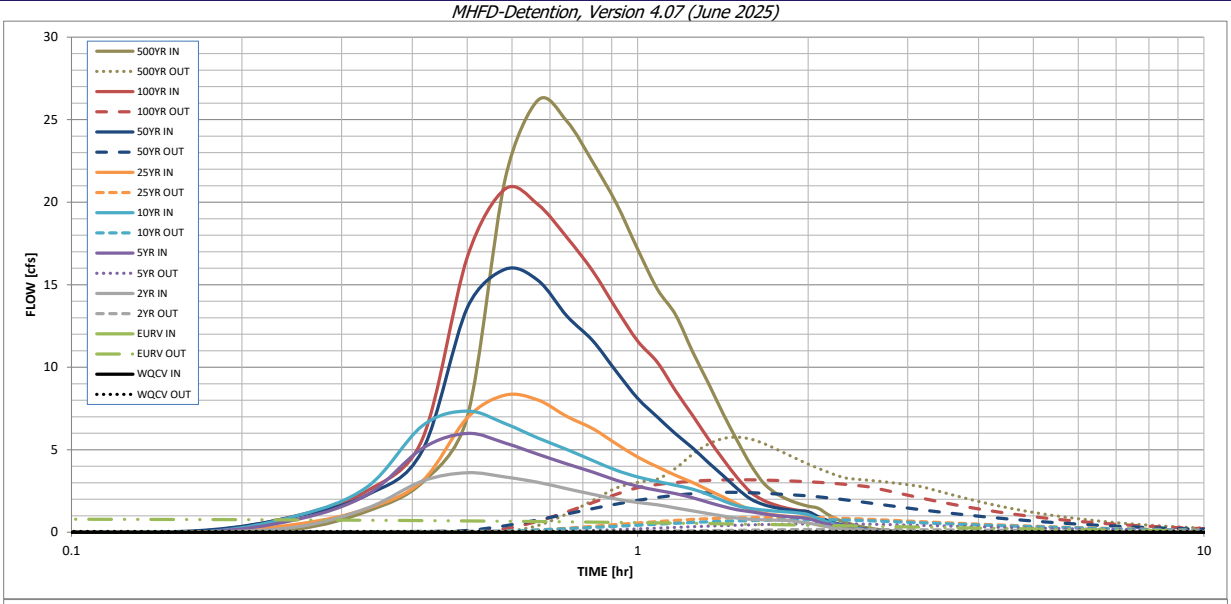
Routed Hydrograph Results

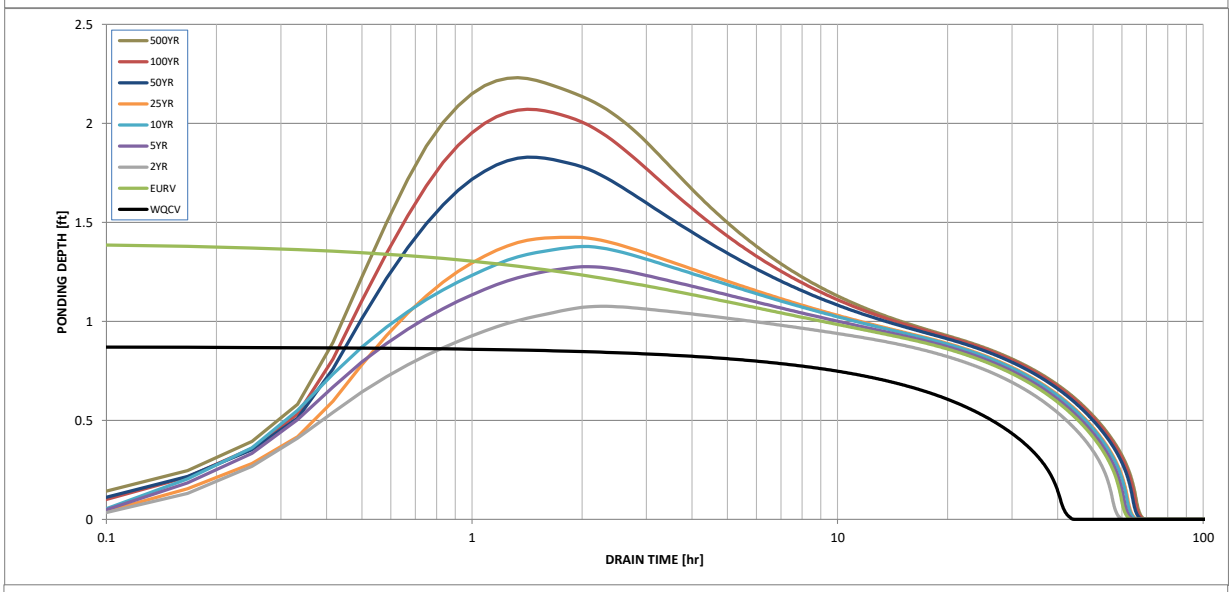
*The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).*

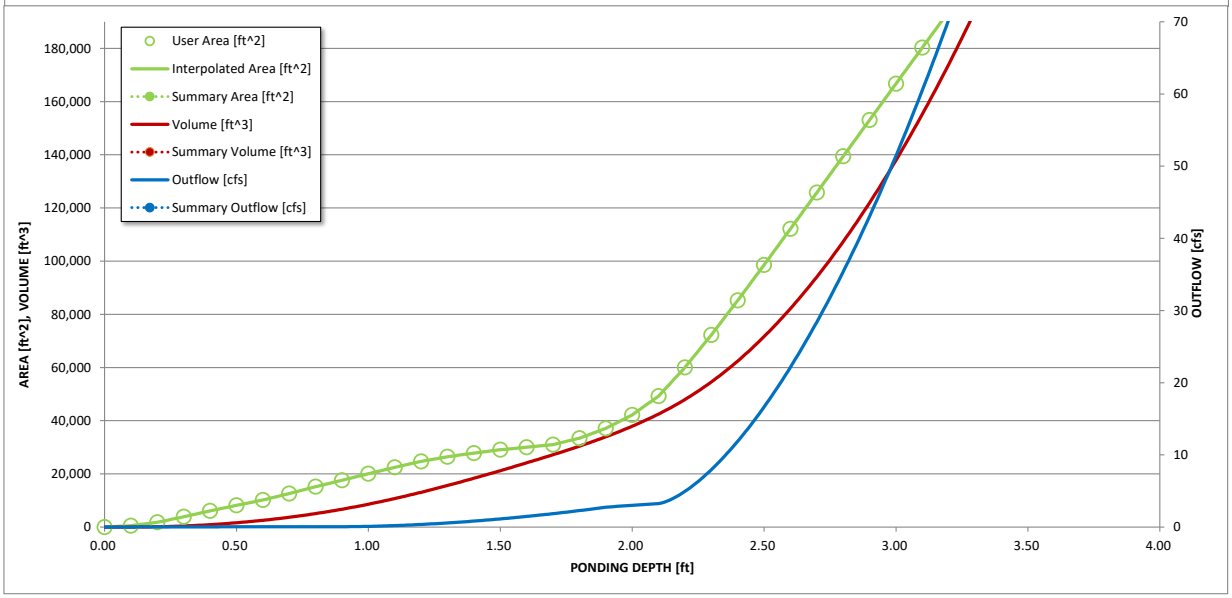
| Design Storm Return Period = | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year | 500 Year |
|---|---|---|---|---|---|---|---|---|---|
| One-Hour Rainfall Depth (in) = | N/A | N/A | 1.00 | 1.42 | 1.68 | 1.69 | 2.35 | 2.71 | 3.14 |
| CUHP Runoff Volume (acre-ft) = | 0.143 | 0.422 | 0.254 | 0.401 | 0.491 | 0.532 | 0.941 | 1.227 | 1.545 |
| Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 0.254 | 0.401 | 0.491 | 0.532 | 0.941 | 1.227 | 1.545 |
| CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | 0.1 | 0.4 | 0.6 | 1.3 | 6.4 | 9.6 | 13.4 |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.01 | 0.04 | 0.06 | 0.14 | 0.69 | 1.04 | 1.44 |
| Peak Inflow Q (cfs) = | N/A | N/A | 3.6 | 6.0 | 7.3 | 8.3 | 15.9 | 20.8 | 26.2 |
| Peak Outflow Q (cfs) = | 0.1 | 0.8 | 0.2 | 0.5 | 0.8 | 0.9 | 2.4 | 3.2 | 5.8 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 1.3 | 1.4 | 0.7 | 0.4 | 0.3 | 0.4 |
| Structure Controlling Flow = | Vertical Orifice 1 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Vertical Orifice 2 | Spillway |
| Max Velocity through Grate 1 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Max Velocity through Grate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 38 | 54 | 53 | 55 | 55 | 55 | 53 | 51 | 49 |
| Time to Drain 99% of Inflow Volume (hours) = | **40** | 58 | 55 | 59 | 59 | 59 | 60 | 59 | 59 |
| Maximum Ponding Depth (ft) = | 0.9 | 1.4 | 1.1 | 1.3 | 1.4 | 1.4 | 1.8 | 2.1 | 2.2 |
| Area at Maximum Ponding Depth (acres) = | 0.39 | 0.64 | 0.50 | 0.60 | 0.63 | 0.64 | 0.78 | 1.08 | 1.46 |
| Maximum Volume Stored (acre-ft) = | 0.146 | 0.428 | 0.231 | 0.341 | 0.403 | 0.434 | 0.714 | 0.943 | 1.144 |

# DETENTION BASIN OUTLET STRUCTURE DESIGN

*MHFD-Detention, Version 4.07 (June 2025)*




| S-A-V-D Chart Axis Override | X-axis | Left Y-Axis | Right Y-Axis |
|---|---|---|---|
| minimum bound | | | |
| maximum bound | | | |

# Stormwater Detention and Infiltration Design Data Sheet

*SDI-Design Data v2.00, Released January 2020*

Stormwater Facility Name: **Eagle Pad Detention Basin**

Facility Location & Jurisdiction: **S36 T1S R66W Adams County, CO**

User Input: Watershed Characteristics

| | | |
|---|---|---|
| Extended Detention Basin (EDB) | EDB | |
| Watershed Area = | 9.29 | acres |
| Watershed Length = | 970 | ft |
| Watershed Length to Centroid = | 300 | ft |
| Watershed Slope = | 0.017 | ft/ft |
| Watershed Imperviousness = | 41.7% | percent |
| Percentage Hydrologic Soil Group A = | 85.3% | percent |
| Percentage Hydrologic Soil Group B = | 14.7% | percent |
| Percentage Hydrologic Soil Groups C/D = | 0.0% | percent |
| Target WQCV Drain Time = | 40.0 | hours |

Location for 1-hr Rainfall Depths (use dropdown):

User Input

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

Once CUHP has been run and the Stage-Area-Discharge information has been provided, click 'Process Data' to interpolate the Stage-Area-Volume-Discharge data and generate summary results in the table below. Once this is complete, click 'Print to PDF'.

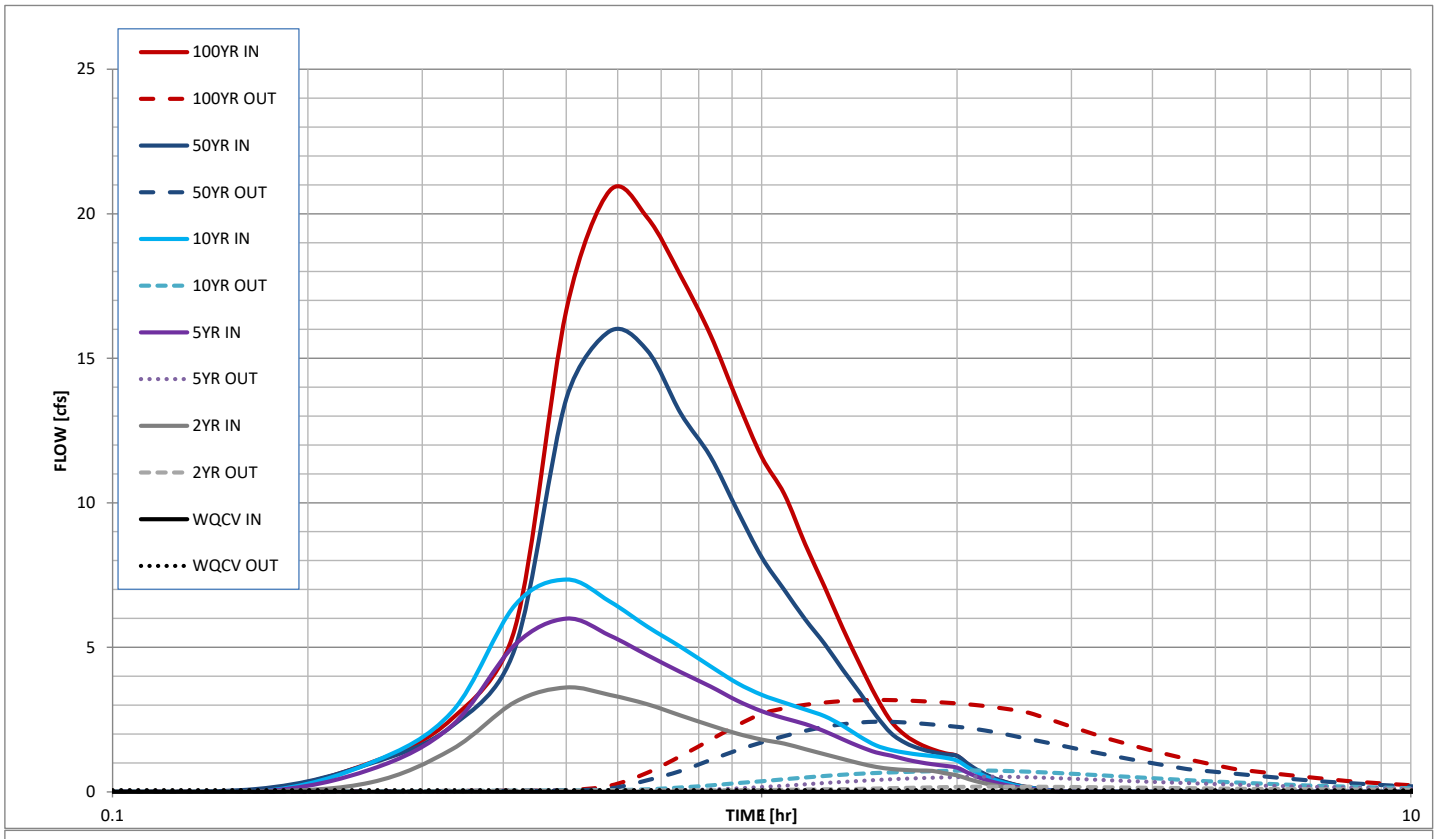
After completing and printing this worksheet to a pdf, go to:
https://maperture.digitaldataservices.com/gvh/?viewer=cswdif
Create a new stormwater facility, and attach the PDF of this worksheet to that record.

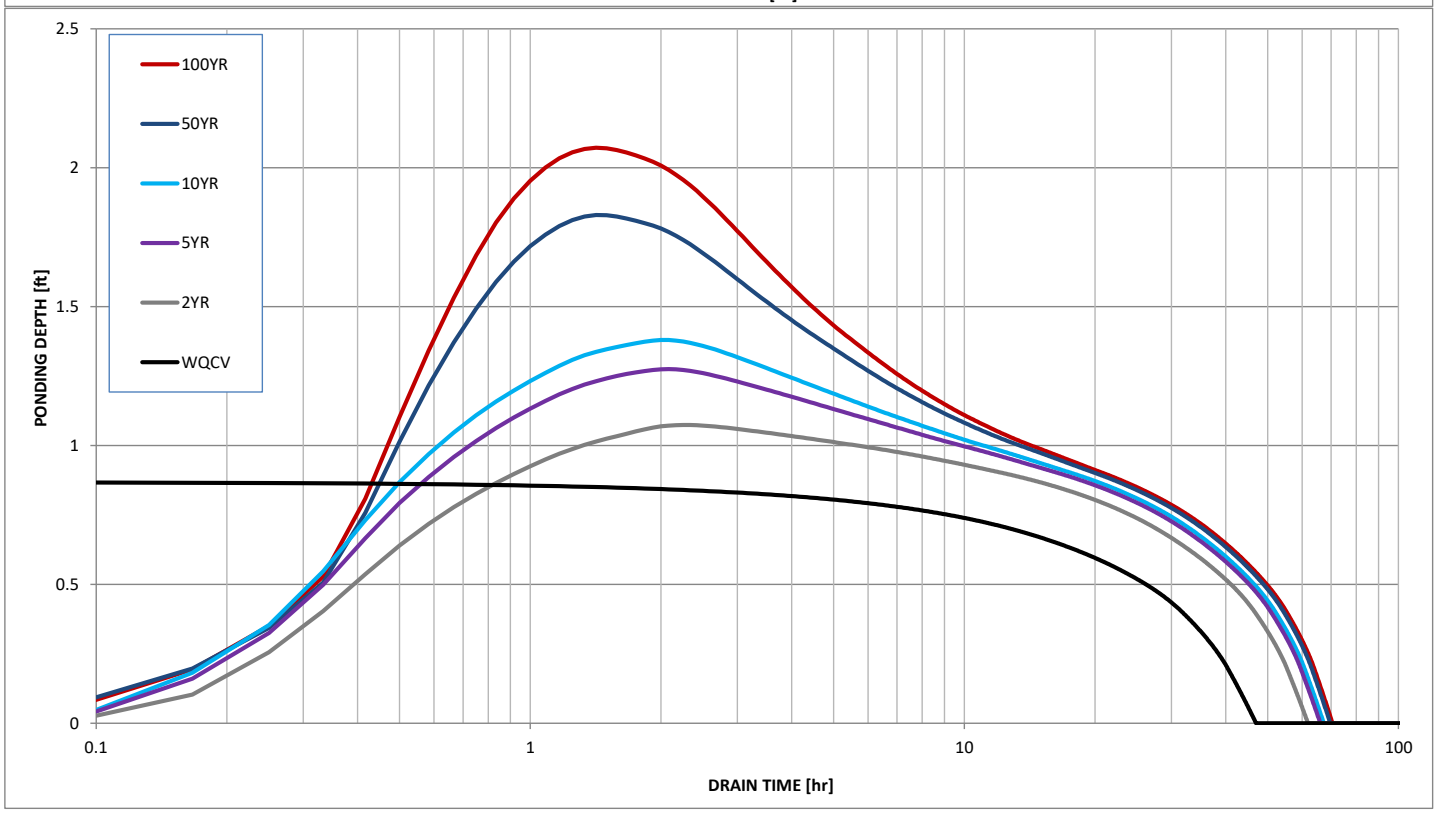
| User Defined Stage [ft] | User Defined Area [ft^2] | User Defined Stage [ft] | User Defined Discharge [cfs] |
|---|---|---|---|
| 0.00 | 0 | 0.00 | 0.00 |
| 0.20 | 1,793 | 0.20 | 0.02 |
| 0.40 | 6,101 | 0.40 | 0.04 |
| 0.50 | 8,172 | 0.50 | 0.04 |
| 0.60 | 10,186 | 0.60 | 0.04 |
| 0.70 | 12,615 | 0.70 | 0.05 |
| 0.80 | 15,179 | 0.80 | 0.05 |
| 0.90 | 17,623 | 0.90 | 0.06 |
| 1.00 | 20,048 | 1.00 | 0.10 |
| 1.10 | 22,467 | 1.10 | 0.21 |
| 1.20 | 24,725 | 1.20 | 0.37 |
| 1.30 | 26,451 | 1.30 | 0.58 |
| 1.40 | 27,827 | 1.40 | 0.78 |
| 1.50 | 29,083 | 1.50 | 1.13 |
| 1.60 | 30,022 | 1.60 | 1.48 |
| 1.70 | 31,024 | 1.70 | 1.86 |
| 1.80 | 33,421 | 1.80 | 2.29 |
| 1.90 | 37,119 | 1.90 | 2.76 |
| 2.00 | 42,187 | 2.00 | 3.01 |
| 2.10 | 49,255 | 2.10 | 3.25 |
| 2.20 | 60,042 | 2.20 | 4.95 |
| 2.30 | 72,280 | 2.30 | 7.96 |
| 2.40 | 85,225 | 2.40 | 11.89 |
| 2.50 | 98,595 | 2.50 | 16.64 |
| 2.60 | 112,180 | 2.60 | 22.16 |
| 2.70 | 125,806 | 2.70 | 28.42 |
| 2.80 | 139,435 | 2.80 | 35.39 |
| 2.90 | 153,066 | 2.90 | 43.07 |
| 3.00 | 166,699 | 3.00 | 51.45 |
| 3.10 | 180,335 | 3.10 | 60.54 |
| 3.20 | 193,974 | 3.20 | 70.32 |
| 3.30 | 207,617 | 3.30 | 80.80 |
| 3.40 | 221,263 | 3.40 | 91.99 |
| 3.50 | 234,915 | 3.50 | 103.89 |

Routed Hydrograph Results

| Design Storm Return Period = | WQCV | 2 Year | 5 Year | 10 Year | 50 Year | 100 Year | |
|---|---|---|---|---|---|---|---|
| One-Hour Rainfall Depth = | N/A | 1.00 | 1.42 | 1.68 | 2.35 | 2.71 | in |
| CUHP Runoff Volume = | 0.143 | 0.254 | 0.401 | 0.491 | 0.941 | 1.227 | acre-ft |
| Inflow Hydrograph Volume = | N/A | 0.254 | 0.401 | 0.491 | 0.941 | 1.227 | acre-ft |
| Time to Drain 97% of Inflow Volume = | 40.3 | 53.0 | **54.9** | 55.0 | 52.4 | 50.3 | hours |
| Time to Drain 99% of Inflow Volume = | 43.2 | 56.8 | 59.6 | 60.1 | 59.8 | **59.3** | hours |
| Maximum Ponding Depth = | 0.87 | 1.07 | 1.27 | 1.38 | 1.83 | 2.07 | ft |
| Maximum Ponded Area = | 0.39 | 0.50 | 0.60 | 0.63 | 0.79 | **1.08** | acres |
| Maximum Volume Stored = | 0.143 | 0.233 | 0.343 | 0.409 | 0.721 | 0.942 | acre-ft |

# Stormwater Detention and Infiltration Design Data Sheet



# Appendix G:

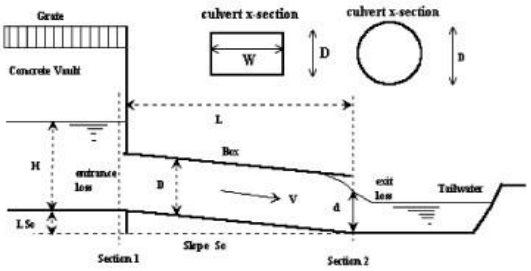
# MHFD-Culvert Spreadsheet Calculations

# CULVERT SIZING (INLET vs. OUTLET CONTROL WITH TAILWATER EFFECTS)

*MHFD-Culvert, Version 4.01 (April 2025)*

**Project:** **Eagle Pad**

**ID:** **Detention Basin (DB) Outlet Pipe 2 - Construction Phase**




## Design Information (Input):

Circular Culvert:

| | | | | |
|---|---|---|---|---|
| Barrel Diameter in Inches | D = | 12 | inches | **Very Small Culvert** |
| Inlet Edge Type (Choose from pull-down list) | | Square Edge Projecting | | **D >= 15 inches exp** |

**OR:**

Box Culvert:

| | | | |
|---|---|---|---|
| Barrel Height (Rise) in Feet | H (Rise) = | | ft |
| Barrel Width (Span) in Feet | W (Span) = | | ft |
| Inlet Edge Type (Choose from pull-down list) | | | |

| | | | |
|---|---|---|---|
| Number of Barrels | # Barrels = | 1 | |
| Inlet Elevation at Culvert Invert | Elev IN = | 5209.1 | ft |
| Outlet Elevation **OR** Slope | Elev OUT = | 5208.5 | ft |
| Culvert Length | L = | 35.0 | ft |
| Manning's Roughness | n = | 0.012 | |
| Bend Loss Coefficient | $K_b$ = | 0 | |
| Exit Loss Coefficient | $K_x$ = | 1 | |

## Design Information (calculated):

| | | |
|---|---|---|
| Entrance Loss Coefficient | $K_e$ = | 0.20 |
| Friction Loss Coefficient | $K_f$ = | 0.93 |
| Sum of All Loss Coefficients | $K_s$ = | 2.13 |
| Minimum Energy Condition Coefficient | $KE_{low}$ = | 0.0669 |
| Orifice Inlet Condition Coefficient | $C_d$ = | 0.60 |

## Calculations of Culvert Capacity (output):

**Backwater calculations required to obtain Outlet Control Flowrate when HWo < 0.75 * Culvert Ris**

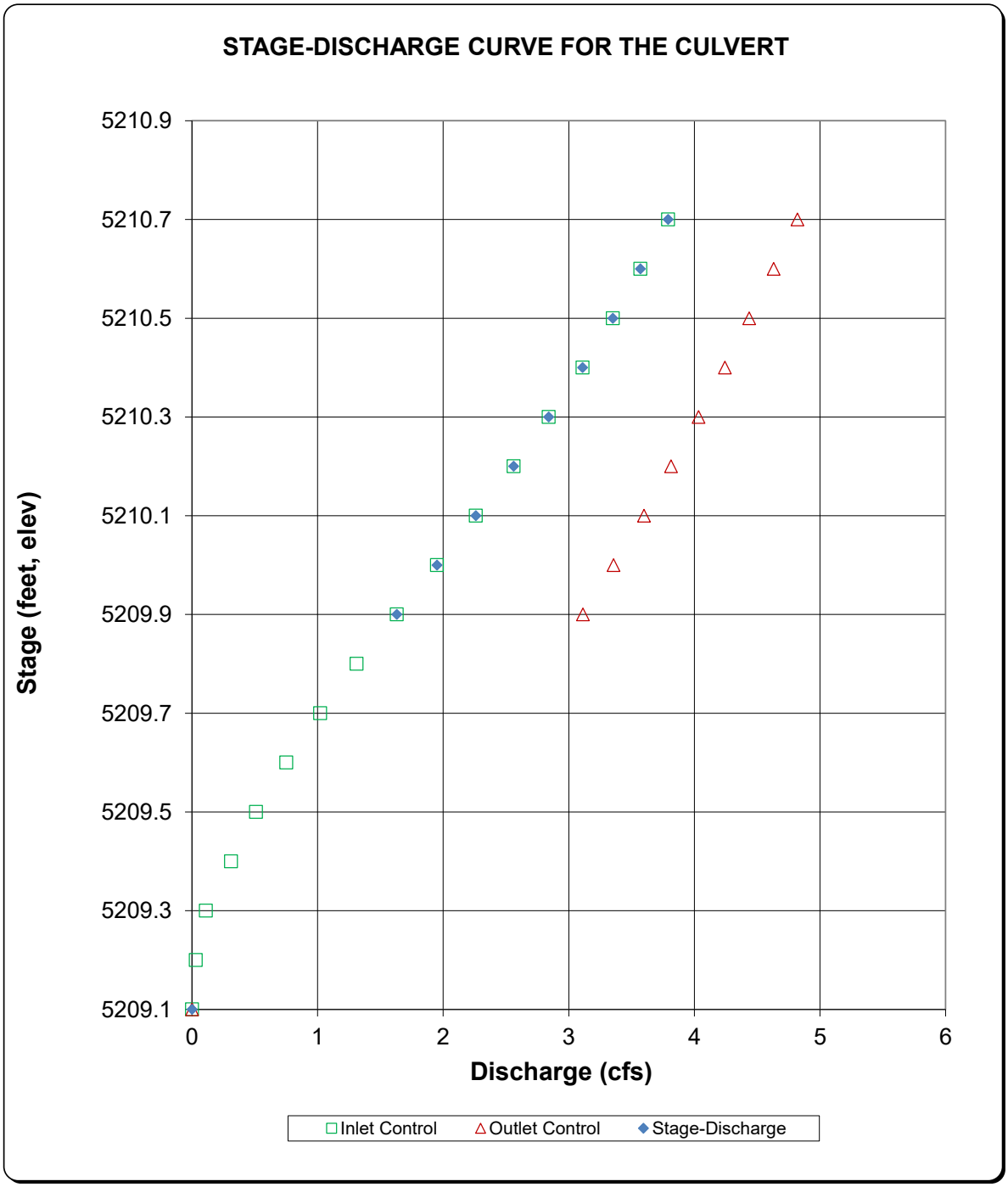
| Headwater Surface Elevation (ft) | Tailwater Surface Elevation (ft) | Inlet Control Equation Used | Inlet Control Flowrate (cfs) | Outlet Control Flowrate (cfs) | Controlling Culvert Flowrate (cfs) | Flow Control Used |
|---|---|---|---|---|---|---|
| 5209.10 | | No Flow (WS < inlet) | 0.00 | 0.00 | **0.00** | N/A |
| 5209.20 | | Min. Energy. Eqn. | 0.03 | #N/A | #N/A | #N/A |
| 5209.30 | | Min. Energy. Eqn. | 0.11 | #N/A | #N/A | #N/A |
| 5209.40 | | Min. Energy. Eqn. | 0.31 | #N/A | #N/A | #N/A |
| 5209.50 | | Min. Energy. Eqn. | 0.51 | #N/A | #N/A | #N/A |
| 5209.60 | | Min. Energy. Eqn. | 0.75 | #N/A | #N/A | #N/A |
| 5209.70 | | Regression Eqn. | 1.02 | #N/A | #N/A | #N/A |
| 5209.80 | | Regression Eqn. | 1.31 | #N/A | #N/A | #N/A |
| 5209.90 | | Regression Eqn. | 1.63 | 3.11 | **1.63** | INLET |
| 5210.00 | | Regression Eqn. | 1.95 | 3.36 | **1.95** | INLET |
| **5210.10** | | Regression Eqn. | 2.26 | 3.60 | **2.26** | INLET |
| 5210.20 | | Regression Eqn. | 2.56 | 3.81 | **2.56** | INLET |
| 5210.30 | | Regression Eqn. | 2.84 | 4.03 | **2.84** | INLET |
| 5210.40 | | Regression Eqn. | 3.11 | 4.24 | **3.11** | INLET |
| 5210.50 | | Regression Eqn. | 3.35 | 4.44 | **3.35** | INLET |
| 5210.60 | | Regression Eqn. | 3.57 | 4.63 | **3.57** | INLET |
| **5210.70** | | Regression Eqn. | 3.79 | 4.82 | **3.79** | INLET |

# CULVERT SIZING (INLET vs. OUTLET CONTROL WITH TAILWATER EFFECTS)

*MHFD-Culvert, Version 4.01 (April 2025)*

**Project:** Eagle Pad

**ID:** Detention Basin (DB) Outlet Pipe 2 - Construction Phase

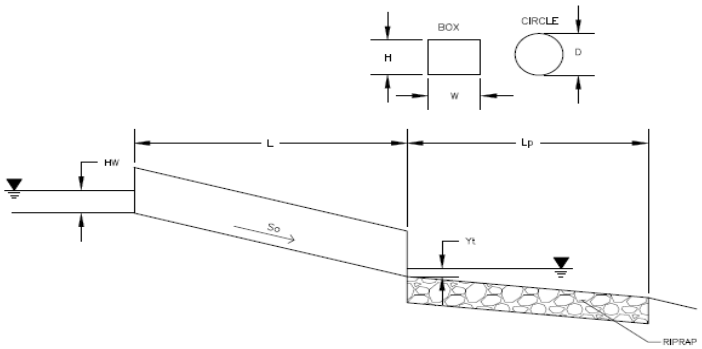


# DETERMINATION OF CULVERT HEADWATER AND OUTLET PROTECTION

*MHFD-Culvert, Version 4.01 (April 2025)*

**Project:** **Eagle Pad**

**ID:** **Detention Basin (DB) Outlet Pipe 2 - Construction Phase**




**Soil Type:**
Choose One:
○ Sandy
◉ Non-Sandy

**Supercritical Flow! Using Adjusted Diameter to calculate protection type.**

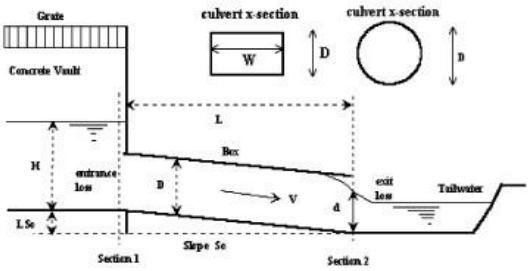
| | | | | |
|---|---|---|---|---|
| **Design Information:** | | | | |
| | Design Discharge | Q = | 3.7 | cfs |
| Circular Culvert: | | | | |
| | Barrel Diameter in Inches | D = | 12 | inches |
| | Inlet Edge Type (Choose from pull-down list) | | Square Edge Projecting | |
| **OR:** | | | | |
| Box Culvert: | | | **OR** | |
| | Barrel Height (Rise) in Feet | H (Rise) = | | ft |
| | Barrel Width (Span) in Feet | W (Span) = | | ft |
| | Inlet Edge Type (Choose from pull-down list) | | | |
| | Number of Barrels | # Barrels = | 1 | |
| | Inlet Elevation | Elev IN = | 5209.1 | ft |
| | Outlet Elevation **OR** Slope | Elev OUT = | 5208.5 | ft |
| | Culvert Length | L = | 35.0 | ft |
| | Manning's Roughness | n = | 0.012 | |
| | Bend Loss Coefficient | $k_b$ = | 0 | |
| | Exit Loss Coefficient | $k_x$ = | 1 | |
| | Tailwater Surface Elevation | $Y_{t,\ Elevation}$ = | | ft |
| | Max Allowable Channel Velocity | V = | 7 | ft/s |
| **Calculated Results:** | | | | |
| | Culvert Cross Sectional Area Available | A = | 0.79 | $ft^2$ |
| | Culvert Normal Depth | $Y_n$ = | 0.63 | ft |
| | Culvert Critical Depth | $Y_c$ = | 0.82 | ft |
| | Froude Number | Fr = | 1.68 | **Supercritical!** |
| | Entrance Loss Coefficient | $k_e$ = | 0.20 | |
| | Friction Loss Coefficient | $k_f$ = | 0.93 | |
| | Sum of All Loss Coefficients | $k_s$ = | 2.13 | ft |
| Headwater: | | | | |
| | Inlet Control Headwater | $HW_I$ = | 1.56 | ft |
| | Outlet Control Headwater | $HW_O$ = | 1.04 | ft |
| | **Design Headwater Elevation** | **HW =** | **5210.66** | **ft** |
| | **Headwater/Diameter OR Headwater/Rise Ratio** | **HW/D =** | **1.56** | **HW/D > 1.5!** |
| Outlet Protection: | | | | |
| | Flow/(Diameter^2.5) | Q/D^2.5 = | 3.70 | $ft^{0.5}/s$ |
| | Tailwater Surface Height | $Y_t$ = | 0.40 | ft |
| | Tailwater/Diameter | Yt/D = | 0.40 | |
| | Expansion Factor | 1/(2*tan(Θ)) = | 3.77 | |
| | Flow Area at Max Channel Velocity | $A_t$ = | 0.53 | $ft^2$ |
| | Width of Equivalent Conduit for Multiple Barrels | $W_{eq}$ = | - | ft |
| | **Length of Riprap Protection** | **$L_p$ =** | **3** | **ft** |
| | **Width of Riprap Protection at Downstream End** | **T =** | **2** | **ft** |
| | Adjusted Diameter for Supercritical Flow | Da = | 0.82 | ft |
| | Minimum Theoretical Riprap Size | $d_{50}$ min= | 3 | in |
| | Nominal Riprap Size | $d_{50}$ nominal= | 6 | in |
| | **MHFD Riprap Type** | **Type =** | **VL** | |

# CULVERT SIZING (INLET vs. OUTLET CONTROL WITH TAILWATER EFFECTS)

*MHFD-Culvert, Version 4.01 (April 2025)*

**Project:** **Eagle Pad**

**ID:** **Detention Basin (DB) Outlet Pipe 2 - Production Phase**




## Design Information (Input):

Circular Culvert:

| | | | | |
|---|---|---|---|---|
| Barrel Diameter in Inches | D = | 12 | inches | **Very Small Culvert** |
| Inlet Edge Type (Choose from pull-down list) | | Square Edge Projecting | | **D >= 15 inches exp** |

**OR:**

Box Culvert:

| | | | |
|---|---|---|---|
| Barrel Height (Rise) in Feet | H (Rise) = | | ft |
| Barrel Width (Span) in Feet | W (Span) = | | ft |
| Inlet Edge Type (Choose from pull-down list) | | | |

| | | | |
|---|---|---|---|
| Number of Barrels | # Barrels = | 1 | |
| Inlet Elevation at Culvert Invert | Elev IN = | 5210.4 | ft |
| Outlet Elevation **OR** Slope | Elev OUT = | 5209.9 | ft |
| Culvert Length | L = | 35.0 | ft |
| Manning's Roughness | n = | 0.012 | |
| Bend Loss Coefficient | $K_b$ = | 0 | |
| Exit Loss Coefficient | $K_x$ = | 1 | |

## Design Information (calculated):

| | | |
|---|---|---|
| Entrance Loss Coefficient | $K_e$ = | 0.20 |
| Friction Loss Coefficient | $K_f$ = | 0.93 |
| Sum of All Loss Coefficients | $K_s$ = | 2.13 |
| Minimum Energy Condition Coefficient | $KE_{low}$ = | 0.0669 |
| Orifice Inlet Condition Coefficient | $C_d$ = | 0.60 |

## Calculations of Culvert Capacity (output):

**Backwater calculations required to obtain Outlet Control Flowrate when HWo < 0.75 * Culvert Ris**

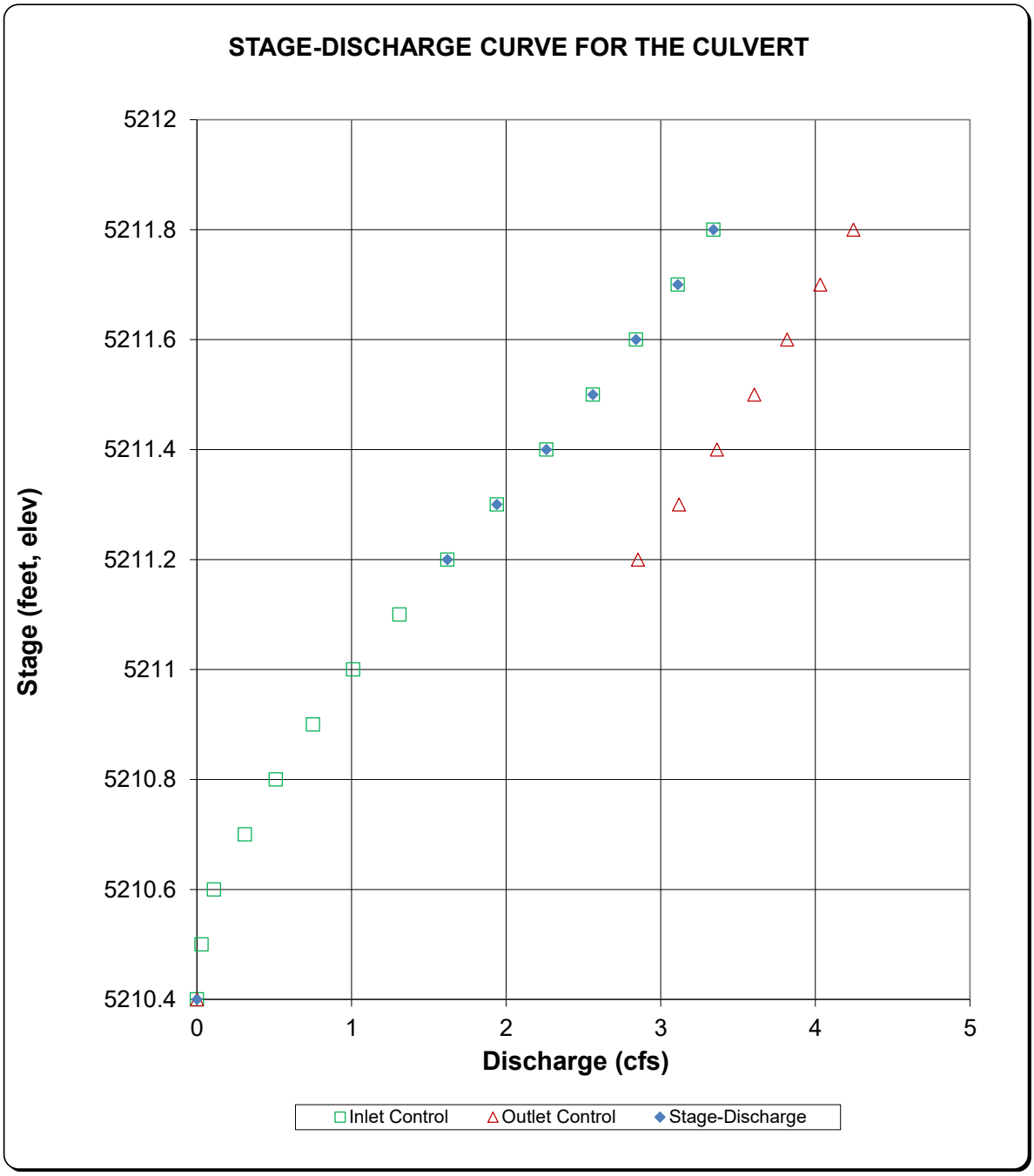
| Headwater Surface Elevation (ft) | Tailwater Surface Elevation (ft) | Inlet Control Equation Used | Inlet Control Flowrate (cfs) | Outlet Control Flowrate (cfs) | Controlling Culvert Flowrate (cfs) | Flow Control Used |
|---|---|---|---|---|---|---|
| 5210.40 | | No Flow (WS < inlet) | 0.00 | 0.00 | **0.00** | N/A |
| 5210.50 | | Min. Energy. Eqn. | 0.03 | #N/A | #N/A | #N/A |
| 5210.60 | | Min. Energy. Eqn. | 0.11 | #N/A | #N/A | #N/A |
| 5210.70 | | Min. Energy. Eqn. | 0.31 | #N/A | #N/A | #N/A |
| 5210.80 | | Min. Energy. Eqn. | 0.51 | #N/A | #N/A | #N/A |
| 5210.90 | | Min. Energy. Eqn. | 0.75 | #N/A | #N/A | #N/A |
| 5211.00 | | Regression Eqn. | 1.01 | #N/A | #N/A | #N/A |
| 5211.10 | | Regression Eqn. | 1.31 | #N/A | #N/A | #N/A |
| 5211.20 | | Regression Eqn. | 1.62 | 2.85 | **1.62** | INLET |
| 5211.30 | | Regression Eqn. | 1.94 | 3.12 | **1.94** | INLET |
| **5211.40** | | Regression Eqn. | 2.26 | 3.36 | **2.26** | INLET |
| 5211.50 | | Regression Eqn. | 2.56 | 3.60 | **2.56** | INLET |
| 5211.60 | | Regression Eqn. | 2.84 | 3.82 | **2.84** | INLET |
| 5211.70 | | Regression Eqn. | 3.11 | 4.03 | **3.11** | INLET |
| **5211.80** | | Regression Eqn. | 3.34 | 4.25 | **3.34** | INLET |

# CULVERT SIZING (INLET vs. OUTLET CONTROL WITH TAILWATER EFFECTS)

*MHFD-Culvert, Version 4.01 (April 2025)*

**Project:** Eagle Pad

**ID:** Detention Basin (DB) Outlet Pipe 2 - Production Phase

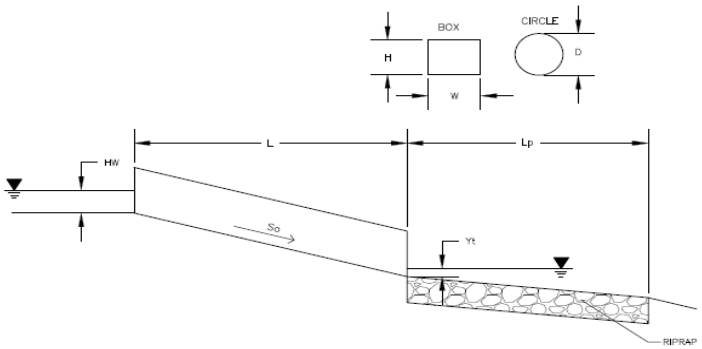


# DETERMINATION OF CULVERT HEADWATER AND OUTLET PROTECTION

*MHFD-Culvert, Version 4.01 (April 2025)*

**Project:** **Eagle Pad**

**ID:** **Detention Basin (DB) Outlet Pipe 2 - Production Phase**




**Soil Type:**
Choose One:
○ Sandy
◉ Non-Sandy

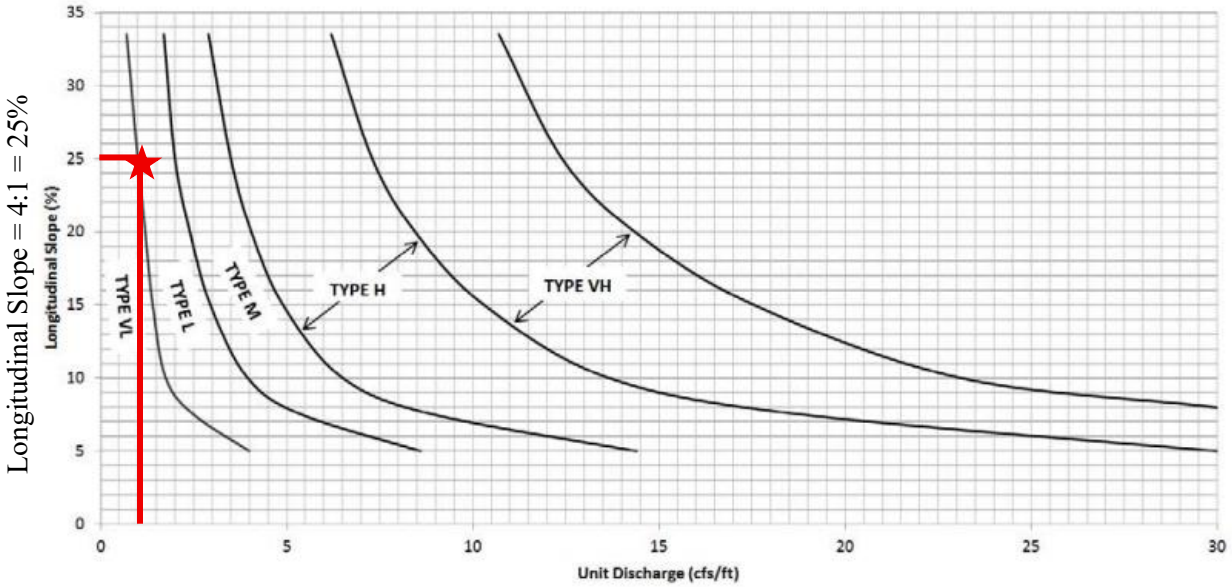
**Supercritical Flow! Using Adjusted Diameter to calculate protection type.**

| | | | | |
|---|---|---|---|---|
| **Design Information:** | | | | |
| | Design Discharge | Q = | 3.2 | cfs |
| Circular Culvert: | | | | |
| | Barrel Diameter in Inches | D = | 12 | inches |
| | Inlet Edge Type (Choose from pull-down list) | | Square Edge Projecting | |
| **OR:** | | | | |
| Box Culvert: | | | **OR** | |
| | Barrel Height (Rise) in Feet | H (Rise) = | | ft |
| | Barrel Width (Span) in Feet | W (Span) = | | ft |
| | Inlet Edge Type (Choose from pull-down list) | | | |
| | Number of Barrels | # Barrels = | 1 | |
| | Inlet Elevation | Elev IN = | 5210.4 | ft |
| | Outlet Elevation **OR** Slope | Elev OUT = | 5209.9 | ft |
| | Culvert Length | L = | 35.0 | ft |
| | Manning's Roughness | n = | 0.012 | |
| | Bend Loss Coefficient | $k_b$ = | 0 | |
| | Exit Loss Coefficient | $k_x$ = | 1 | |
| | Tailwater Surface Elevation | $Y_{t,\ Elevation}$ = | | ft |
| | Max Allowable Channel Velocity | V = | 7 | ft/s |
| **Calculated Results:** | | | | |
| | Culvert Cross Sectional Area Available | A = | 0.79 | $ft^2$ |
| | Culvert Normal Depth | $Y_n$ = | 0.61 | ft |
| | Culvert Critical Depth | $Y_c$ = | 0.77 | ft |
| | Froude Number | Fr = | 1.56 | **Supercritical!** |
| | Entrance Loss Coefficient | $k_e$ = | 0.20 | |
| | Friction Loss Coefficient | $k_f$ = | 0.93 | |
| | Sum of All Loss Coefficients | $k_s$ = | 2.13 | ft |
| Headwater: | | | | |
| | Inlet Control Headwater | $HW_I$ = | 1.34 | ft |
| | Outlet Control Headwater | $HW_O$ = | 0.93 | ft |
| | **Design Headwater Elevation** | **HW =** | **5211.74** | **ft** |
| | **Headwater/Diameter OR Headwater/Rise Ratio** | **HW/D =** | **1.34** | |
| Outlet Protection: | | | | |
| | Flow/(Diameter^2.5) | Q/D^2.5 = | 3.20 | $ft^{0.5}/s$ |
| | Tailwater Surface Height | $Y_t$ = | 0.40 | ft |
| | Tailwater/Diameter | Yt/D = | 0.40 | |
| | Expansion Factor | 1/(2*tan(Θ)) = | 4.21 | |
| | Flow Area at Max Channel Velocity | $A_t$ = | 0.46 | $ft^2$ |
| | Width of Equivalent Conduit for Multiple Barrels | $W_{eq}$ = | - | ft |
| | **Length of Riprap Protection** | **$L_p$ =** | **3** | **ft** |
| | **Width of Riprap Protection at Downstream End** | **T =** | **2** | **ft** |
| | Adjusted Diameter for Supercritical Flow | Da = | 0.81 | ft |
| | Minimum Theoretical Riprap Size | $d_{50}$ min= | 3 | in |
| | Nominal Riprap Size | $d_{50}$ nominal= | 6 | in |
| | **MHFD Riprap Type** | **Type =** | **VL** | |

# Appendix H:

# Spillway Riprap Calculations

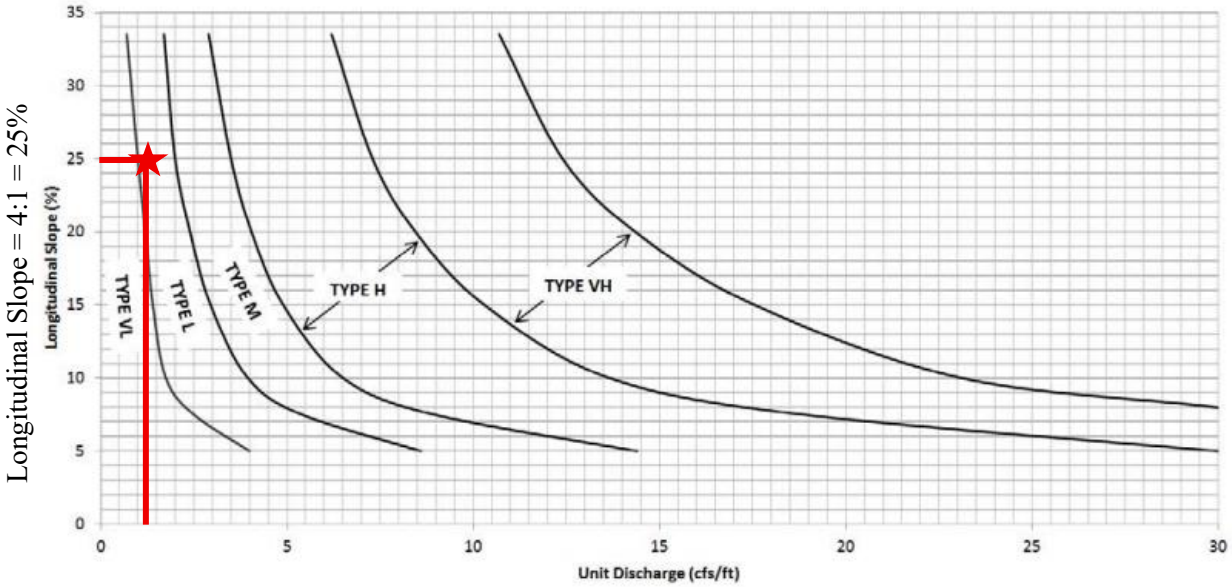
## Construction Phase Spillway




Unit Discharge = (30.3 cfs) / (28.9 ft) = 1.0

**Figure 12-21. Embankment protection details and rock sizing chart** (adapted from Arapahoe County)

## Production Phase Spillway



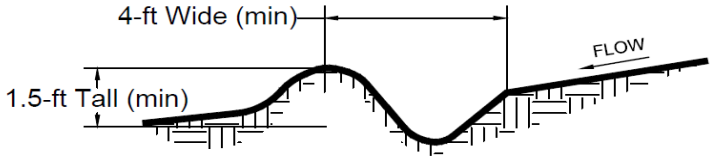

Unit Discharge = (18.6 cfs) / (15.3 ft) = 1.2

**Figure 12-21. Embankment protection details and rock sizing chart** (adapted from Arapahoe County)

# Appendix I:

# Conveyance Calculations for Diversion Ditch Design

# Temporary Diversion Ditch Design (Typical)




INSTALLATION NOTES:

1. DIVERSION SWALE SHALL SLOPE BETWEEN 0.50% AND 8% TO A STABILIZED OUTLET SUCH AS A SEDIMENT TRAP.
2. ALL BERMS MUST BE FULLY COMPACTED SO THAT THERE IS NO LOOSE SOIL.
3. BERM HEIGHT SHALL BE A MINIMUM OF 18"
4. TEMPORARY DIVERSION SWALE SIDE SLOPES SHALL BE ~2:1 OR FLATTER

**Estimated Capacity of Temporary Diversion Ditch Design (Typical)**

Depth of 1ft*

| | | |
|---|---|---|
| n= | 0.022 | |
| A= | 2 | ft^2 |
| P= | 4.5 | ft |
| Minimum S= | 0.005 | ft/ft |

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Calculated Q= 5.6 cfs
Calculated V= 2.79 fps

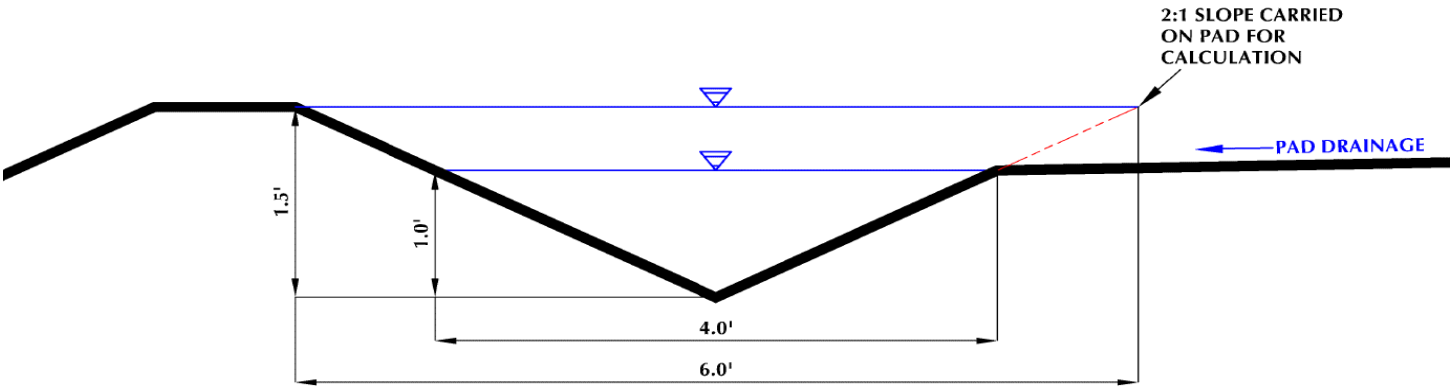
Depth of 1.5ft*

| | | |
|---|---|---|
| n= | 0.022 | |
| A= | 4.5 | ft^2 |
| P= | 6.7 | ft |
| Minimum S= | 0.005 | ft/ft |

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

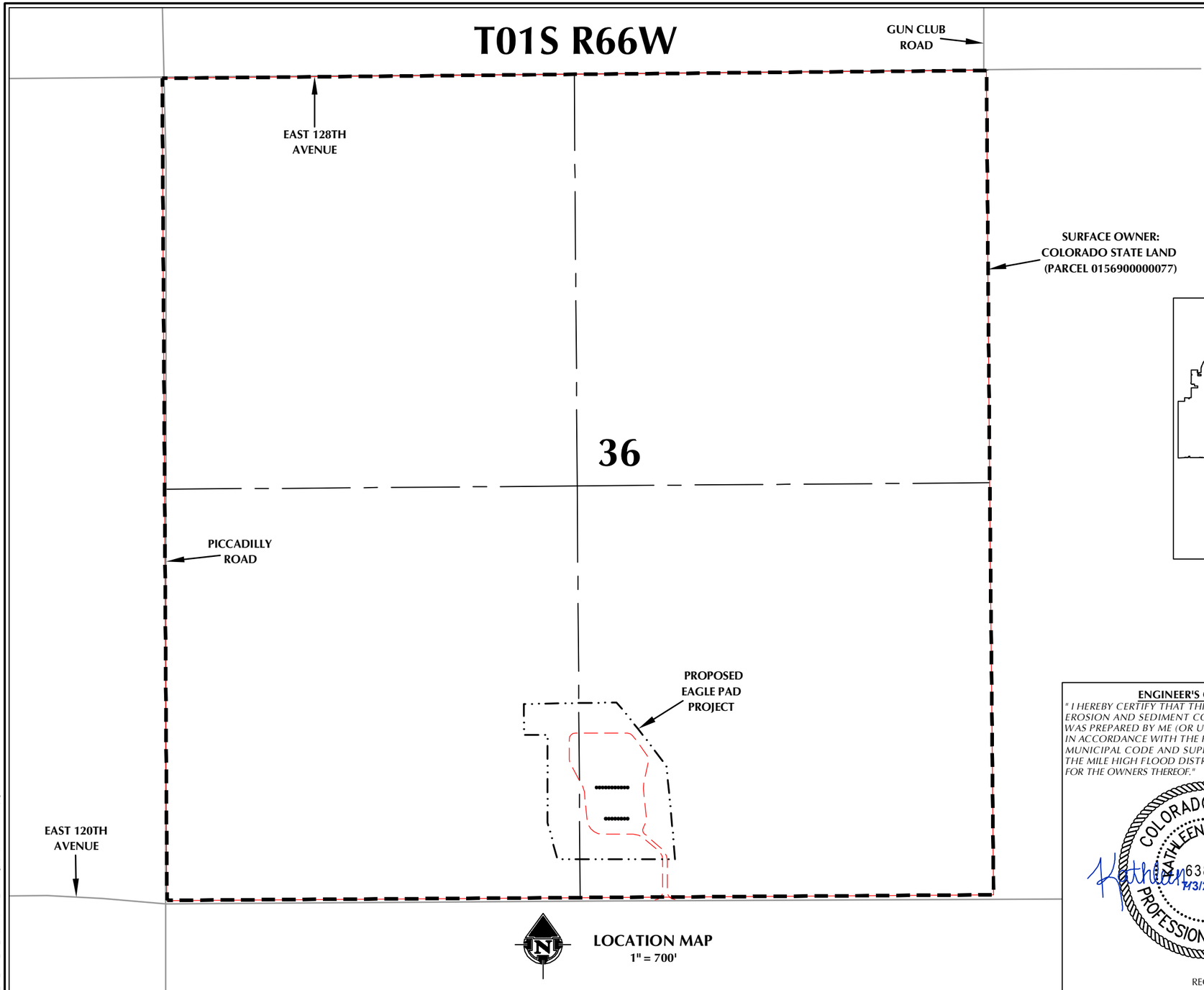
Calculated Q= 16.5 cfs
Calculated V= 3.67 fps

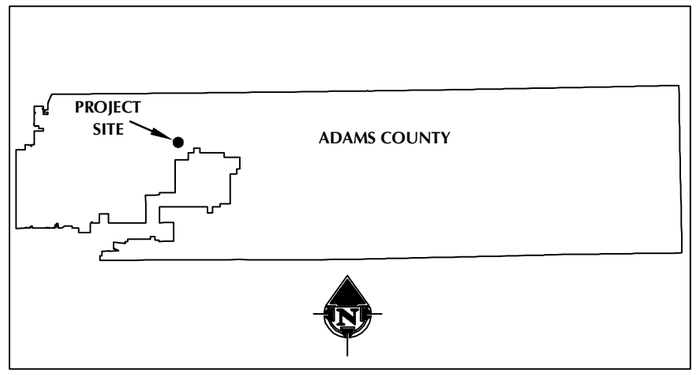
* channel shape simplified to triangular geometry for conservative calculations



# EAGLE PAD
# GRADING, EROSION AND SEDIMENT CONTROL PLAN

**LOCATED IN SECTION 36, T1S, R66W, 6TH P.M.**
**ADAMS COUNTY, COLORADO**




**VICINITY MAP**

**ENGINEER'S CERTIFICATION**

*" I HEREBY CERTIFY THAT THIS FINAL PLAN FOR THE GRADING, EROSION AND SEDIMENT CONTROL DESIGN OF EAGLE PAD WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE PROVISIONS OF ADAMS COUNTY MUNICIPAL CODE AND SUPPLEMENTAL REQUIREMENTS OF THE MILE HIGH FLOOD DISTRICT STORM DRAINAGE CRITERIA FOR THE OWNERS THEREOF."*

COLORADO LICENSED
KATHLEEN M. GOLES
63868
7/3/2025
PROFESSIONAL ENGINEER

KATHLEEN M. GOLES
REGISTERED PROFESSIONAL ENGINEER
STATE OF COLORADO NO. 63868

## PAGE INDEX


1 - COVER SHEET
2 - NOTES
3 - CONSTRUCTION PHASE SITE PLAN
4 - CROSS SECTIONS
5 - PRODUCTION PHASE SITE PLAN
6 - OUTLET DETAILS
7 - BMP TYPICALS (A)
8 - BMP TYPICALS (B)


**GENERAL NOTES:**

1. THIS GRADING, EROSION AND SEDIMENT CONTROL PLAN WAS PREPARED FOLLOWING ADAMS COUNTY DEVELOPMENT STANDARDS & REGULATIONS WITH ADDITIONAL DESIGN GUIDANCE PROVIDED BY MILE HIGH FLOOD DISTRICT.
2. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF SEDIMENT AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
3. ORIGINAL DOCUMENT SIZE: 11" X 17"


609 CONSULTING, LLC

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Loveland, Colorado 80538
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SHERIDAN OFFICE
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Phone 307-674-0609


Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

EAGLE PAD
GRADING, EROSION AND SEDIMENT CONTROL PLAN
COVER SHEET

| | | | |
|---|---|---|---|
| SCALE: | VARIES | PAGE: | 1 OF 8 |
| JOB NUMBER: | 24-118 | DATE: | 7/3/25 |
| DRAFTED BY: | KMG | REVISED: | |

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## MAINTENANCE STANDARD NOTES

1. MAINTAIN AND REPAIR CMS ACCORDING TO APPROVED EROSION CONTROL PLAN (CIVIL DRAWING) TO ASSURE THEY CONTINUE PERFORMING AS ORIGINALLY INTENDED.
2. CMS/BMPS REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING BMP.
3. CMS SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN UNLESS OTHERWISE SPECIFIED.
4. SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CMS/BMPS DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, TO ACCURATELY REFLECT THE ACTUAL FIELD CONDITIONS. A NOTATION SHALL BE MADE IN THE SWMP, INCLUDING DATE OF CHANGES IN THE FIELD, IDENTIFICATION OF THE CMS REMOVED, MODIFIED OR ADDED, AND THE LOCATIONS OF THOSE CMS. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE.
5. MAINTAIN VEHICLE TRACKING CONTROL (VTC), IF SEDIMENT TRACKING OCCURS, CLEAN-UP IMMEDIATELY. SWEEP BY HAND OR THE USE STREET SWEEPERS (WITH VACUUM SYSTEM). FLUSHING OFF PAVED SURFACES WITH WATER IS PROHIBITED.
6. CWA MUST BE CLEANED ONCE WASTE ACCUMULATION REACHES ¾ OF THE WET STORAGE CAPACITY OF THE STRUCTURE. LEGALLY DISPOSED OF CONCRETE WASTE. DO NOT BURY ON-SITE.
7. CLEAN-UP SPILLS IMMEDIATELY AFTER DISCOVERY OR CONTAIN UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. FOLLOW MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP, ALONG WITH PROPER DISPOSAL METHODS. RECORDS OF SPILLS, LEAKS, OR OVERFLOWS THAT RESULT IN DISCHARGE OF POLLUTANTS MUST BE DOCUMENTED AND MAINTAINED.
8. REMOVE SEDIMENT FROM STORM SEWER INFRASTRUCTURE (PONDS, STORM PIPES, OUTLETS, INLETS, ROADSIDE DITCHES, ETC.), AND RESTORE VOLUME CAPACITY UPON COMPLETION OF PROJECT OR PRIOR TO INITIAL ACCEPTANCE OF PUBLIC IMPROVEMENTS (IF APPLICABLE). DO NOT FLUSH SEDIMENT OFFSITE, CAPTURE ON-SITE AND DISPOSED OF AT AN APPROVED LOCATION.

## GENERAL CONSTRUCTION NOTES

1. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. TO SCHEDULE A PRE-CONSTRUCTION MEETING CONTACT THE ADAMS COUNTY CONSTRUCTION INSPECTOR SUPERVISOR AT 720-523-6965.
2. ALL CONCRETE CURB, GUTTER AND WALK MUST BE POURED MONOLITHICALLY USING 4,500 PSI CONCRETE WITH FIBER MESH.
3. ALL MATERIAL SUBMITTALS MUST BE APPROVED, STAMPED AND SIGNED, BY THE ENGINEER OF RECORD AND, SUBMITTED TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR FOR APPROVAL PRIOR TO CONSTRUCTION/INSTALLATION.
4. THE CONTRACTOR IS REQUIRED TO SUBMIT COPIES OF ALL CONCRETE AND ASPHALT TICKETS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING AND, IS REQUIRED TO SUBMIT ALL TEST RESULTS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.
6. THE CONTRACTOR IS REQUIRED TO REMOVE A MINIMUM OF TWO (2) FEET OF EXISTING ASPHALT FOR ALL CURB AND GUTTER REPLACEMENT.
7. ALL UTILITY CUTS IN EXISTING STREETS ARE REQUIRED TO BE BACKFILLED WITH FLOWFILL AND, PATCHED WITH A MINIMUM OF 9-INCH ASPHALT PATCH.
8. A COPY OF THE GEOTECHNICAL REPORT SPECIFYING THE PAVEMENT THICKNESS DESIGN MUST BE SUBMITTED FOR REVIEW.
9. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL UTILITIES. THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE LINEAL FOOTAGES AND THE NUMBER OF SERVICE CUTS REQUIRED FOR ALL UTILITIES.
10. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL CONCRETE AND ASPHALT FACILITIES. PRIOR TO THE ISSUANCE OF THESE PERMITS, THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE SQUARE YARDAGE/SQUARE FOOTAGES OF ALL CONCRETE AND ASPHALT BEING INSTALLED.
11. THE SIA MUST BE COMPLETED WITH APPROPRIATE COLLATERAL, ALONG WITH THE PROPOSED PLAT, PRIOR TO THE ISSUANCE OF ANY ROW ACCESS/CONSTRUCTION PERMIT.
12. NO C.O.'S WILL BE ISSUED FOR ANY BUILDING CONSTRUCTION UNTIL ALL ROW IMPROVEMENTS HAVE BEEN COMPLETED AND HAVE BEEN GRANTED PRELIMINARY ACCEPTANCE.
13. UPON COMPLETION OF ALL CONSTRUCTION, A DRAINAGE CERTIFICATION LETTER, AND APPROPRIATE AS-BUILT CONSTRUCTION DRAWINGS AND INFORMATION WILL BE REQUIRED. THIS LETTER WILL BE STAMPED AND SIGNED BY THE ORIGINAL DESIGN ENGINEER.

## PERFORMANCE STANDARD NOTES

1. STORMWATER RUNOFF FROM DISTURBED AREAS MUST FLOW TO AT LEAST ONE (1) CM TO MINIMIZE SEDIMENT IN THE DISCHARGE. DO NOT ALLOW SEDIMENT TO LEAVE THE SITE. THE BEST WAY TO PREVENT SEDIMENT OR POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM IS TO STABILIZE THE SITE AS QUICKLY AS POSSIBLE, PREVENTING EROSION AND STOPPING SEDIMENT RUN-OFF AT ITS SOURCE.
2. PHASE CONSTRUCTION TO MINIMIZE DISTURBED AREAS, INCLUDING DISTURBANCE OF STEEP SLOPES (I.E., THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE SECTION OF THE SITE). LIMIT SOIL EXPOSURE TO THE SHORTEST POSSIBLE PERIOD OF TIME. PROTECT NATURAL FEATURES AND EXISTING VEGETATION WHENEVER POSSIBLE. REMOVAL OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS. MAINTAIN PRE-EXISTING VEGETATION (OR EQUIVALENT CMS) FOR AREAS WITHIN 50 HORIZONTAL FT OF RECEIVING WATERS.
3. SOIL COMPACTION MUST BE MINIMIZED FOR AREAS WHERE INFILTRATION CMS WILL OCCUR OR WHERE FINAL STABILIZATION WILL BE ACHIEVED THROUGH VEGETATIVE COVER.
4. ALL SOIL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT THE LOSS OF MATERIAL DURING TRANSPORT.
5. DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES OR WIND SHALL BE CONTROLLED.
6. INSTALL CONSTRUCTION FENCE (ORANGE) TO PROTECT WETLANDS AND OTHER SENSITIVE AREAS AND TO PREVENT ACCESS, AND TO DELINEATE THE LIMITS OF CONSTRUCTION. DO NOT USE SILT FENCE TO PROTECT WETLANDS SINCE TRENCHING MAY IMPACT THESE AREAS.
7. CMS INTENDED TO CAPTURE OVERLAND, LOW VELOCITY SHEET FLOW AT A LEVEL GRADE SHALL ONLY BE INSTALLED ALONG CONTOURS.
8. INSTALL CMS, SUCH AS CHECK DAMS, PERPENDICULAR TO THE CONCENTRATED FLOWS TO REDUCE FLOW VELOCITY.
9. STORM DRAIN INLETS WITHIN AND ADJACENT TO THE CONSTRUCTION SITE MUST BE PROTECTED. ANY PONDING OF STORMWATER AROUND INLET PROTECTION MUST NOT CAUSE EXCESSIVE FLOODING OR DAMAGE ADJACENT AREAS OR STRUCTURES.
10. INSTALL VEHICLE TRACKING CONTROL (VTC) TO ENTER/EXIT UNPAVED AREA. DO NOT USE RECYCLED CRUSHED CONCRETE OR ASPHALT MILLINGS FOR VEHICLE TRACKING PADS.
11. STRAW BALES SHALL NOT BE USED FOR PRIMARY EROSION OR SEDIMENT CONTROL (I.E., STRAW BALES MAY BE USED FOR REINFORCEMENT BEHIND ANOTHER BMP SUCH AS SILT FENCE).
12. OUTLETS SYSTEMS (SUCH AS SKIMMER OR PERFORATED RISER PIPE) SHALL BE INSTALLED TO WITHDRAW WATER FROM OR NEAR THE SURFACE LEVEL WHEN DISCHARGING FROM BASINS. WATER CANNOT DRAIN FROM THE BOTTOM OF THE POND.
13. TEMPORARY STABILIZATION MUST BE IMPLEMENTED FOR EARTH DISTURBING ACTIVITIES ON ANY PORTION OF THE SITE WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED (FOR MORE THAN 14 CALENDAR DAYS). TEMPORARY STABILIZATION METHODS EXAMPLES: TARPS, SOIL TACKIFIER, AND HYDROSEED. TEMPORARY STABILIZATION REQUIREMENT MAY EXCEED THE 14-DAY SCHEDULE WHEN EITHER THE FUNCTION OF THE SPECIFIC AREA REQUIRES IT TO REMAIN DISTURBED, OR PHYSICAL CHARACTERISTICS OF THE TERRAIN AND CLIMATE PREVENT STABILIZATION AS LONG AS THE CONSTRAINTS AND ALTERNATIVE SCHEDULE IS DOCUMENTED ON THE SWMP, AND LOCATIONS ARE IDENTIFIED ON THE EC PLAN (SITE MAP).
14. RUNOFF FROM STOCKPILE AREA MUST BE CONTROLLED. SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE PROTECTED FROM WIND AND WATER EROSION WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION. INSTALL CMS/BMPS 5 FT AWAY FROM THE TOE OF THE STOCKPILE'S SLOPE.
15. WATER USED TO CLEAN CONCRETE TRUCKS SHALL BE DISCHARGED INTO A CONCRETE WASHOUT AREA (CWA). THE PREDEFINED CONTAINMENT AREA MUST BE IDENTIFIED WITH A SIGN AND SHALL ALLOW THE LIQUIDS TO EVAPORATE OR DRY OUT. CWA DISCHARGES THAT MAY REACH GROUNDWATER MUST FLOW THROUGH SOIL THAT HAS BUFFERING CAPACITY PRIOR TO REACHING GROUNDWATER. THE CONCRETE WASHOUT LOCATION SHALL NOT BE IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT AND WOULD RESULT IN BUFFERING CAPACITY NOT BEING ADEQUATE, SUCH AS NEAR NATURAL DRAINAGES, SPRINGS, OR WETLANDS. IN THIS CASE, A LINER UNDERNEATH IS NEEDED FOR AREAS WITH HIGH GROUNDWATER LEVELS. CWA SHALL NOT BE PLACED IN LOW AREAS, DITCHES OR ADJACENT TO STATE WATERS. PLACE CWA 50 FT AWAY FROM STATE WATERS.
16. WASTE, SUCH AS BUILDING MATERIALS, WORKERS' TRASH AND CONSTRUCTION DEBRIS, MUST BE PROPERLY MANAGED TO PREVENT STORMWATER POLLUTION.
17. INSTALL STABILIZED STAGING AREA (SSA) TO STORE MATERIALS, CONSTRUCTION TRAILERS, ETC.
18. IF CONDITIONS IN THE FIELD WARRANT ADDITIONAL CMS/BMPS TO THE ONES ORIGINALLY APPROVED ON THE SWMP OR EC PLAN (CIVIL DRAWING), THE LANDOWNER OR CONTRACTOR SHALL IMPLEMENT MEASURES DETERMINED NECESSARY, AS DIRECTED BY THE COUNTY.
19. PERMANENT CMS/BMPS FOR SLOPES, CHANNELS, DITCHES, OR DISTURBED LAND AREA SHALL BE PERFORMED IMMEDIATELY AFTER FINAL GRADING. CONSIDER THE USE EROSION CONTROL BLANKETS ON SLOPES 3:1 OR STEEPER AND AREAS WITH CONCENTRATED FLOWS SUCH AS SWALES, LONG CHANNELS AND ROADSIDE DITCHES.
20. THE DISCHARGE OF SANITARY WASTE INTO THE STORM SEWER SYSTEM IS PROHIBITED. PORTABLE TOILETS MUST BE PROVIDED, SECURED AND PLACED ON PERMEABLE SURFACES, AWAY FROM THE CURBSIDE, STORM INLETS AND/OR DRAINAGE WAYS.
21. REMOVE TEMPORARY CMS/BMPS ONCE FINAL STABILIZATION IS REACHED, UNLESS OTHERWISE AUTHORIZED.
22. FINAL STABILIZATION MUST BE IMPLEMENTED. FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED, AND EITHER A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH AN INDIVIDUAL PLANT DENSITY OF AT LEAST 70% OF PRE-DISTURBANCE LEVELS, OR EQUIVALENT PERMANENT ALTERNATIVE METHOD HAS BEEN IMPLEMENTED.
23. PROVIDE SPILL PREVENTION AND CONTAINMENT MEASURES FOR CONSTRUCTION MATERIALS, WASTE AND FUEL STORAGE AREAS. BULK STORAGE (55 GALLONS OR GREATER) OF PETROLEUM PRODUCTS AND LIQUID CHEMICALS MUST HAVE SECONDARY CONTAINMENT, OR EQUIVALENT PROTECTION, IN ORDER TO CONTAIN SPILLS AND TO PREVENT SPILLED MATERIAL FROM ENTERING STATE WATERS.
24. REPORT SPILLS OR RELEASES OF CHEMICAL, OIL, PETROLEUM PRODUCT, SEWAGE, ETC., WHICH MAY REACH THE STORM SEWER OR ENTER STATE WATERS WITHIN 24-HOURS FROM TIME OF DISCOVERY. GUIDANCE AVAILABLE AT HTTPS://CDPHE.COLORADO.GOV/REPORT-CONCERN-EMERGENCY STATE OF COLORADO SPILL-LINE: 1-877-518-5608. ADAMS COUNTY STORMWATER HOTLINE: SWQ@ADCOGOV.ORG; PUBLIC WORKS 720-523-6875 OR PUBLICWORKS@ADCOGOV.ORG AND ADAMS COUNTY PUBLIC HEALTH DEPARTMENT AT 303-288-6816

## GENERAL NOTES

1. ALL CONSTRUCTION PROJECTS, REGARDLESS OF THE SIZE, SHALL INSTALL, MAINTAIN AND REPAIR STORMWATER POLLUTION CONTROL MEASURES (CMS) TO EFFECTIVELY MINIMIZE EROSION, SEDIMENT TRANSPORT, AND THE RELEASE OF POLLUTANTS RELATED TO CONSTRUCTION ACTIVITY. CMS EXAMPLES INCLUDE SEDIMENT CONTROL LOGS (SCL), SILT FENCE (SF), DIKES/SWALES, SEDIMENT TRAPS (ST), INLET PROTECTION (IP), OUTLET PROTECTION (OP), CHECK DAMS (CD), SEDIMENT BASINS (SB), TEMPORARY/PERMANENT SEEDING AND MULCHING (MU), SOIL ROUGHENING, MAINTAINING EXISTING VEGETATION AND PROTECTION OF TREES. CMS MUST BE SELECTED, DESIGNED, ADEQUATELY SIZED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH GOOD ENGINEERING, HYDROLOGIC AND POLLUTION CONTROL PRACTICES. CMS/BMPS INSTALLATION AND MAINTENANCE DETAILS SHALL CONFORM TO MILE HIGH FLOOD DISTRICT'S URBAN DRAINAGE FLOOD CONTROL CRITERIA MANUAL VOLUME 3, OR THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS & SPECIFICATIONS (GREEN BOOK). CMS MUST FILTER, SETTLE, CONTAIN OR STRAIN POLLUTANTS FROM STORMWATER FLOWS IN ORDER TO PREVENT BYPASS OF FLOWS WITHOUT TREATMENT. CMS MUST BE APPROPRIATE TO TREAT THE RUNOFF FROM THE AMOUNT OF DISTURBED AREA, THE EXPECTED FLOW RATE, DURATION, AND FLOW CONDITIONS (I.E., SHEET OR CONCENTRATED FLOW). CMS/BMPS SHALL BE SPECIFIED IN THE SWMP (IF APPLICABLE), AND THE LOCATIONS SHOWN ON THE EC PLAN.
2. PRIOR TO CONSTRUCTION, PROJECTS DISTURBING 1 OR MORE ACRES OF LAND, OR ANY PROJECT BELONGING TO A COMMON PLAN OF DEVELOPMENT DISTURB 1 OR MORE ACRES, MUST OBTAIN:
   - A GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES, FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, AND
   - AN ADAMS COUNTY STORMWATER QUALITY PERMIT WITHIN THE UNINCORPORATED ADAMS COUNTY MS4 AREA.
3. PERMITTED PROJECTS SHALL DEVELOP A STORMWATER MANAGEMENT PLAN (SWMP), AKA EROSION AND SEDIMENT CONTROL PLAN (ESCP), IN COMPLIANCE WITH CDPHE MINIMUM REQUIREMENTS. THE APPROVED SWMP, INCLUDING EROSION CONTROL (EC) PLAN (SITE MAP), SHALL BE KEPT ON SITE AND ALWAYS UPDATED. THE QUALIFIED STORMWATER MANAGER IS RESPONSIBLE FOR IMPLEMENTING THE SWMP AND CMS (AKA BMPS) DURING CONSTRUCTION.
4. PERMITTED PROJECTS SHALL PERFORM REGULAR STORMWATER INSPECTIONS EVERY 7 CALENDAR DAYS; OR EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION. INSPECTION FREQUENCY CAN BE REDUCED FOR POST-STORM EVENT INSPECTIONS AT TEMPORARILY IDLE SITES AND FOR STORMWATER INSPECTIONS AT COMPLETED SITES WAITING FOR FINAL STABILIZATION. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
5. TRACKING OF DIRT ONTO PAVED PUBLIC OR PRIVATE PAVED ROADS IS NOT ALLOWED. THE USE OF DIRT RAMPS TO ENTER/EXIT FROM AN UNPAVED INTO A PAVED AREA IS PROHIBITED. VEHICLE TRACKING CONTROLS SHALL BE IMPLEMENTED, OTHERWISE ENTRANCE AREA MUST DRAIN THROUGH A CM TOWARDS THE PRIVATE SITE.
6. TRUCKLOADS OF FILL MATERIAL IMPORTED TO OR CUT MATERIAL EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORTATION ON PUBLIC ROW. HAUL ROUTES MUST BE PERMITTED BY THE COUNTY. NO MATERIAL SHALL BE TRANSPORTED TO ANOTHER SITE WITHOUT APPLICABLE PERMITS.
7. CONTROL MEASURES DESIGNED FOR CONCRETE WASHOUT WASTE MUST BE IMPLEMENTED. THIS INCLUDES WASHOUT WASTE DISCHARGED TO THE GROUND AND WASHOUT WASTE FROM CONCRETE TRUCKS AND MASONRY OPERATIONS.
8. TEMPORARY CMS/BMPS SHALL BE REMOVED AFTER THE SITE HAS REACHED FINAL STABILIZATION.
9. DEWATERING OPERATIONS DISCHARGING OFF-SITE INTO ANY WATERS CONVEYANCE SYSTEMS INCLUDING WETLANDS, IRRIGATION DITCHES, CANALS, RIVERS, STREAMS OR STORM SEWER SYSTEMS, REQUIRE A STATE CONSTRUCTION DEWATERING PERMIT.
10. PERMITTED PROJECTS SHALL KEEP THE CDPHE'S STORMWATER DISCHARGE PERMIT, STORMWATER MANAGEMENT PLAN (SWMP) AND INSPECTION LOGS AVAILABLE ON-SITE THROUGHOUT THE DURATION OF THE PROJECT, AND FOR AN ADDITIONAL 3 YEARS AFTER PERMIT CLOSE-OUT.
11. PERMITTED LANDOWNER AND/OR CONTRACTOR SHALL CLOSE THE STATE AND CITY/COUNTY PERMIT ONCE FINAL STABILIZATION IS REACHED. STORMWATER INSPECTIONS SHALL CONTINUE UNTIL INACTIVATION NOTICE IS FILED WITH CDPHE.

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KATHLEEN M. GOLES
63868
7/3/2025
PROFESSIONAL ENGINEER

**GENERAL NOTES:**


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SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

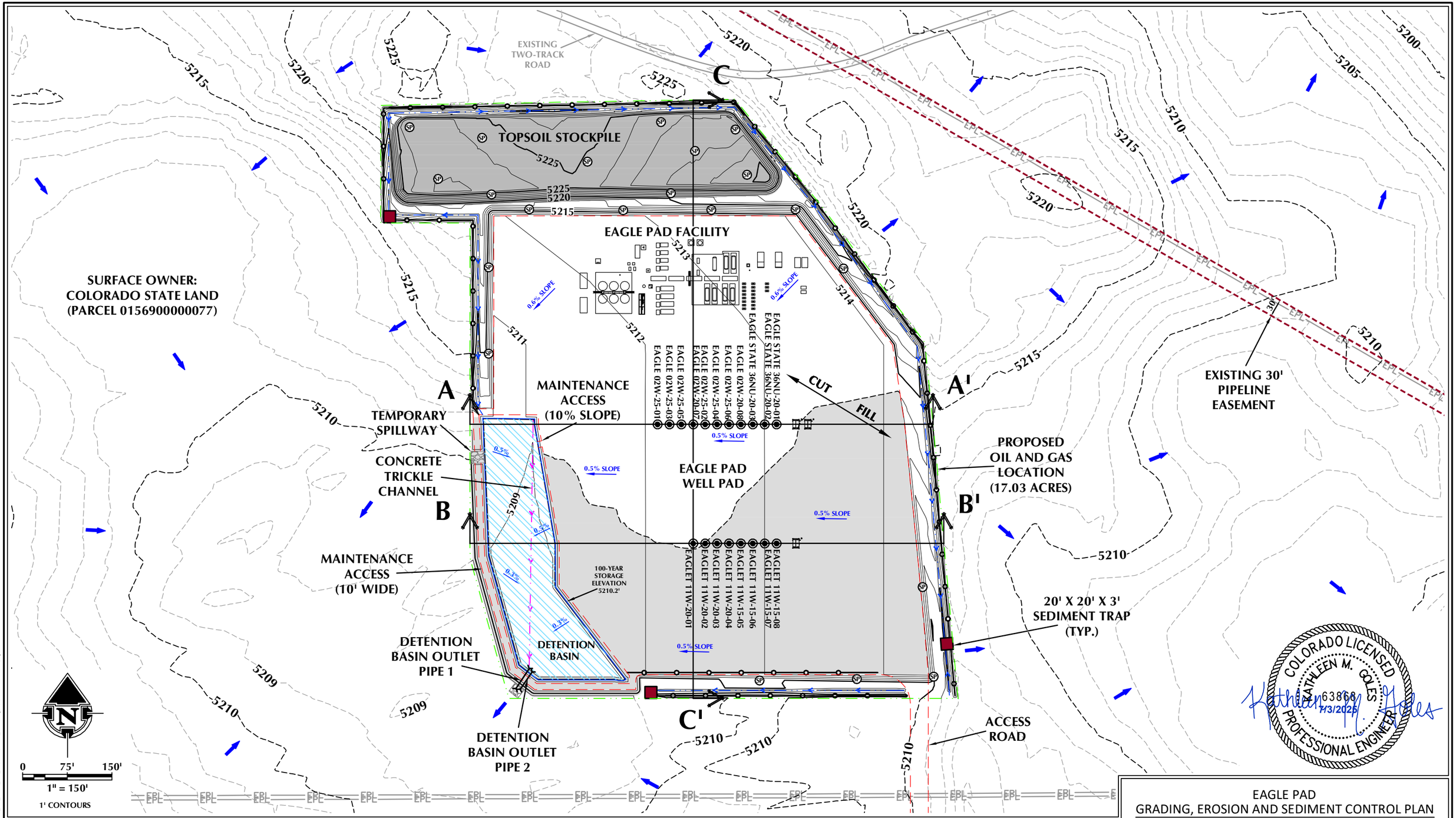
609 CONSULTING, LLC


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

EAGLE PAD
GRADING, EROSION AND SEDIMENT CONTROL PLAN
NOTES

| | | | |
|---|---|---|---|
| SCALE: | N/A | PAGE: | 2 OF 8 |
| JOB NUMBER: | 24-118 | DATE: | 7/3/25 |
| DRAFTED BY: | KMG | REVISED: | |

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KATHLEEN M. GOLES
63868
7/3/2025
PROFESSIONAL ENGINEER

## LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING PIPELINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- STORMWATER DRAINAGE
- EASEMENT/ROW
- PROPOSED DIVERSION DITCH
- PROPOSED CONCRETE TRICKLE CHANNEL
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- PROPOSED SEDIMENT TRAP WITH PROTECTED OUTLET
- PROPOSED SLOPE PROTECTION
- 100-YEAR STORMWATER STORAGE FOOTPRINT

## GENERAL NOTES:

1. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF SEDIMENT AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).
3. SLOPE PROTECTION USED FOR TEMPORARY EROSION CONTROL ON CUT/FILL SLOPES AND SOIL STOCKPILES.

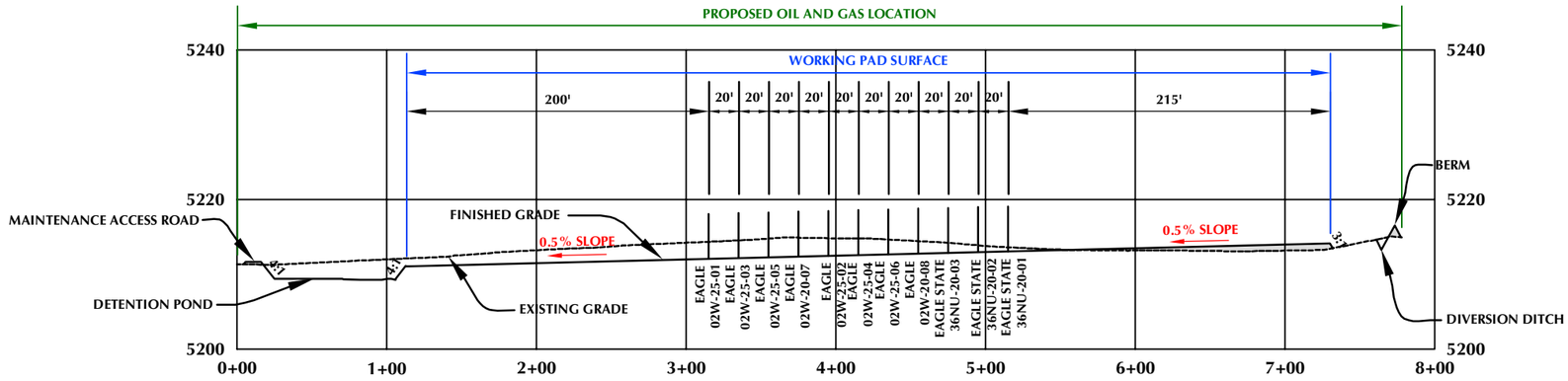
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Phone 970-776-4331
SHERIDAN OFFICE
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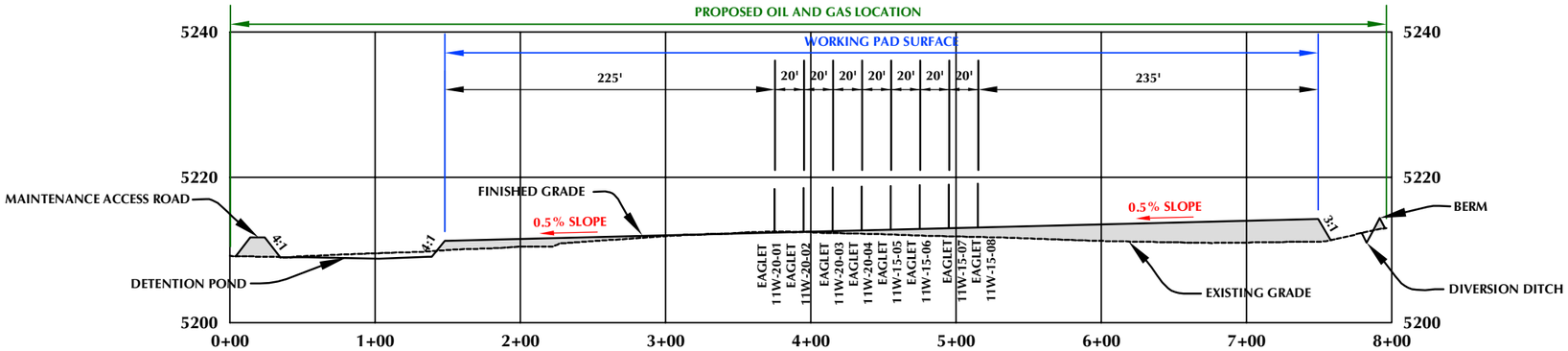
# EAGLE PAD
## GRADING, EROSION AND SEDIMENT CONTROL PLAN
### CONSTRUCTION PHASE SITE PLAN

| | | | |
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| SCALE: | 1" = 150' | PAGE: | 3 OF 8 |
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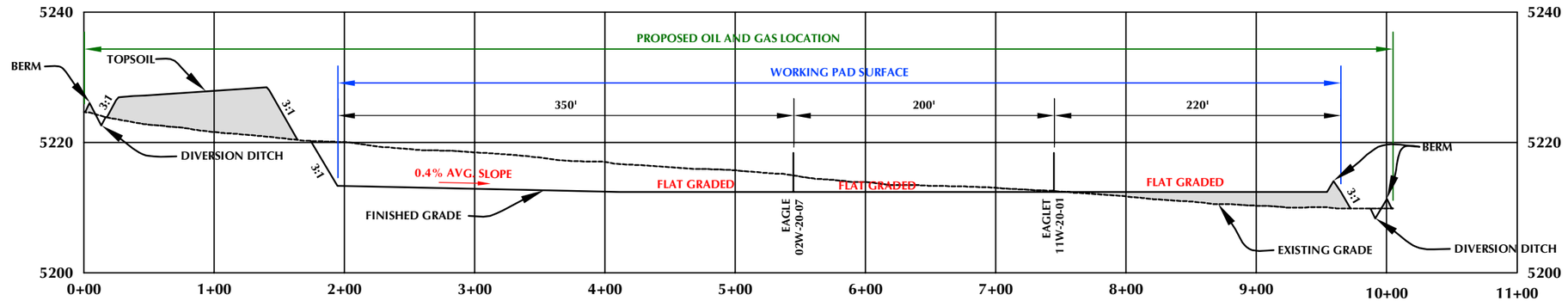
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## CROSS SECTION A-A'




## CROSS SECTION B-B'




## CROSS SECTION C-C'

HORIZONTAL 0 50' 100' 1" = 100'

VERTICAL 0 10' 20' 1" = 20'

**GENERAL NOTES:**

1. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).


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Extraction Oil & Gas, Inc.

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PROFESSIONAL ENGINEER

EAGLE PAD
GRADING, EROSION AND SEDIMENT CONTROL PLAN
CROSS SECTIONS

| | | | |
|---|---|---|---|
| SCALE: | 1" = 100' | PAGE: | 4 OF 8 |
| JOB NUMBER: | 24-118 | DATE: | 7/3/25 |
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EXISTING TWO-TRACK ROAD

SEEDED TOPSOIL STOCKPILE (FOR FINAL REC)

EAGLE PAD FACILITY

SURFACE OWNER:
COLORADO STATE LAND
(PARCEL 0156900000077)

EXISTING 30' PIPELINE EASEMENT

PROPOSED OIL AND GAS LOCATION (17.03 ACRES)

PRODUCTION PHASE OPERATIONAL AREA (6.52 ACRES)

SPILLWAY

MAINTENANCE ACCESS (10% SLOPE)

EAGLE PAD WELL PAD

SPOIL PILE

CUT

FILL

CONCRETE TRICKLE CHANNEL

100-YEAR STORAGE ELEVATION 5211.3'

DETENTION BASIN

DETENTION BASIN OUTLET PIPE 1

DETENTION BASIN OUTLET PIPE 2

MAINTENANCE ACCESS (12' WIDE)

ACCESS ROAD

0.6% SLOPE

0.5% SLOPE

CUT SLOPE

0.4%

0.7%

0 75' 150'
1" = 150'
1' CONTOURS

COLORADO LICENSED
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PROFESSIONAL ENGINEER

## LEGEND

- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING PIPELINE
- PROPOSED OIL AND GAS LOCATION
- PROPOSED CONTOUR
- PROPOSED ACCESS ROAD/PAD
- PROPOSED WELL
- STORMWATER DRAINAGE
- EASEMENT/ROW
- PROPOSED CONCRETE TRICKLE CHANNEL
- PROPOSED BERM / OFF-SITE FLOW DEFLECTION
- PROPOSED CULVERT PROTECTION / RIPRAP
- RECLAMATION BOUNDARY
- PROPOSED PERMANENT SEEDING
- 100-YEAR STORMWATER STORAGE FOOTPRINT

## GENERAL NOTES:

1. DISCLAIMER: THIS PLAN REPRESENTS AN APPROXIMATE LOCATION OF SEDIMENT AND EROSION CONTROL FEATURES; EXACT LOCATION MAY VARY DEPENDING UPON EXISTING EASEMENTS, PIPELINES, FLOWLINES, AND SETBACK REQUIREMENTS.
2. ELEVATIONS ARE BASED ON NAVD88 (GEOID18).
3. RECLAIMED AREA WILL BE RE-SEEDED AND RE-VEGETATED.


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Extraction Oil & Gas, Inc.

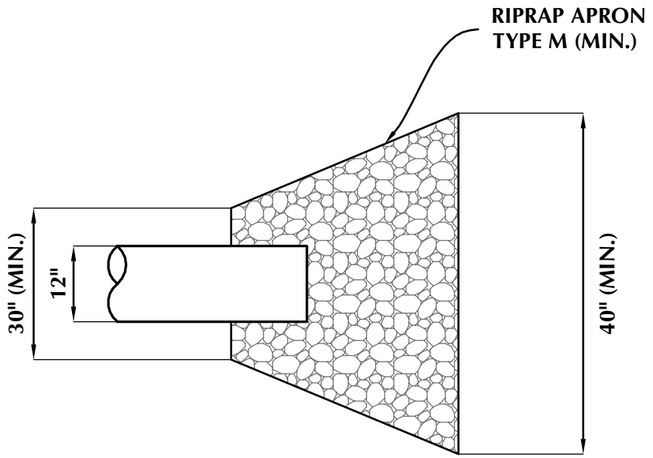
# EAGLE PAD
## GRADING, EROSION AND SEDIMENT CONTROL PLAN
## PRODUCTION PHASE SITE PLAN

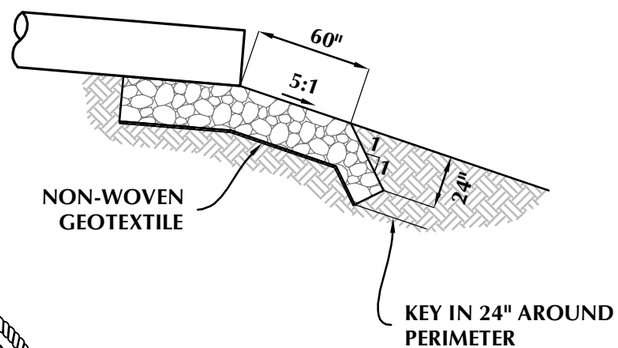
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| JOB NUMBER: | 24-118 | DATE: | 7/3/25 |
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## OUTLET PROTECTION

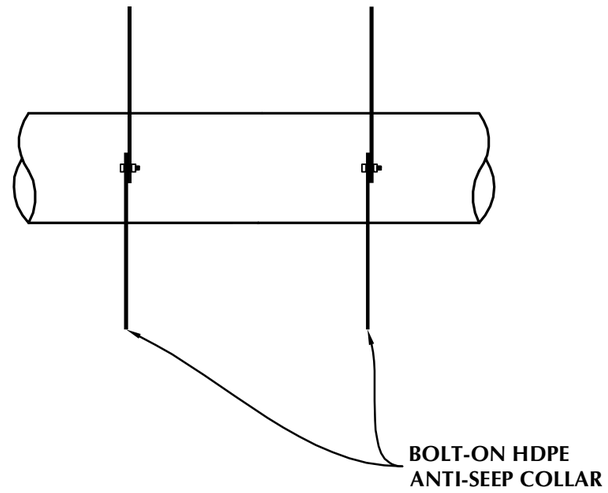
SCALE: NTS

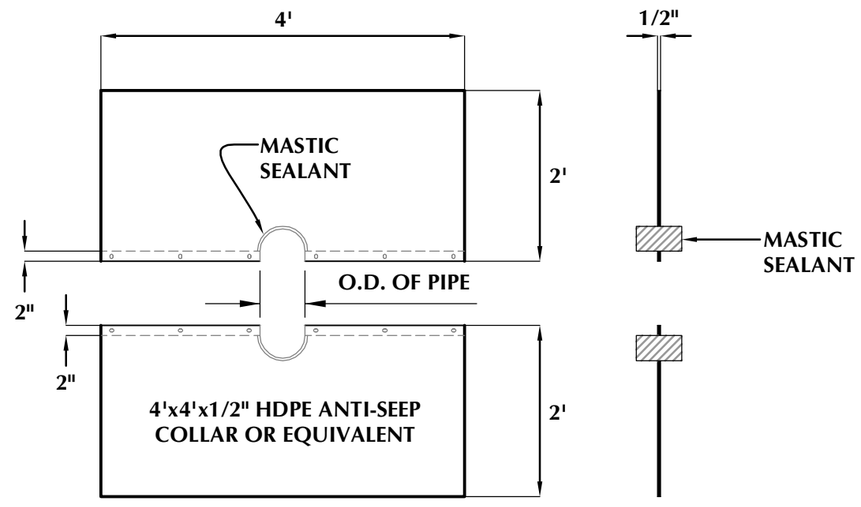



## ANTI-SEEP COLLAR

SCALE: NTS




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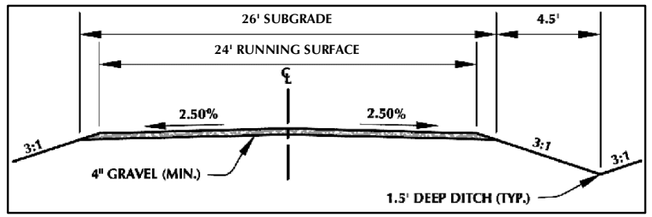

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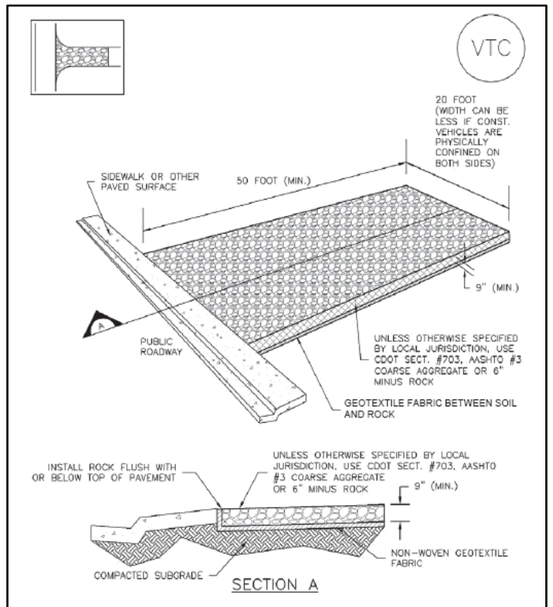
EAGLE PAD
GRADING, EROSION AND SEDIMENT CONTROL PLAN
OUTLET DETAILS

| | | | |
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CROSS-SECTION
NTS




VTC - 1. AGGREGATE VEHICLE TRACKING CONTROL

## Temporary and Permanent Seeding (TS/PS)

TS/PS

ADAMS COUNTY, COLORADO

| SEED MIX | APPLICATION RATE (lbs/acre) |
|---|---|
| **PBSI Dryland Aggressive Mix** | 25 |
| (20%) Green Needlegrass, Lodorm | |
| (20%) Slender Wheatgrass, Native | |
| (20%) Western Wheatgrass, Native | |
| (20%) Pubescent Wheatgrass, Luna | |
| (20%) Intermediate Wheatgrass, Oahe/Rush | |
| | |
| **PBSI Native Prairie Mix** | 15 |
| (25%) Blue Grama | |
| (10%) Buffalograss | |
| (20%) Green Needlegrass | |
| (20%) Sideoats Grama | |
| (25%) Western Wheatgrass | |
| | |
| **PBSI Native Sandyland Mix** | 15 |
| (20%) Yellow Indiangrass | |
| (10%) Little Bluestem | |
| (10%) Indian Rice Grass | |
| (10%) Sideoats Grama | |
| (10%) Sand Lovegrass | |
| (10%) Prairie Sandreed | |
| (20%) Switchgrass | |
| | |
| **PBSI Premium Irrig. Pasture Mix #1** | 25 |
| (75%) Meadow Bromegrass, Paddock/Fleet | |
| (25%) Orchardgrass, Elsie/Megabite/Paiute | |

Notes:
lbs/acre = pounds per acre
% = percent

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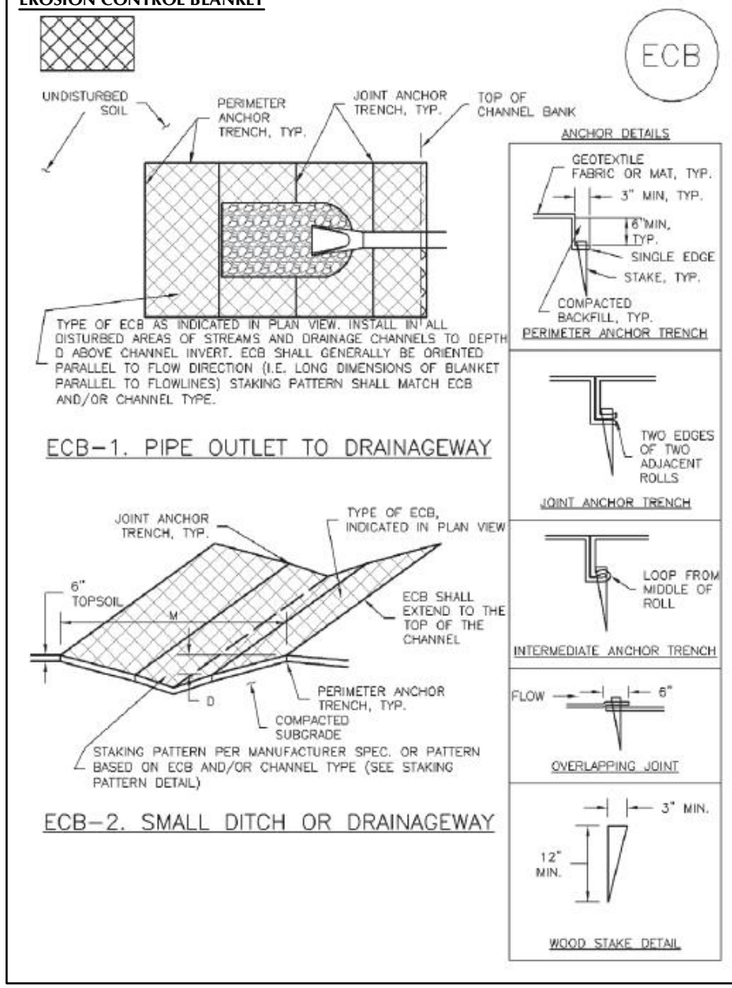
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Extraction Oil & Gas, Inc.

EAGLE PAD
GRADING, EROSION AND SEDIMENT CONTROL PLAN
BMP TYPICALS (A)

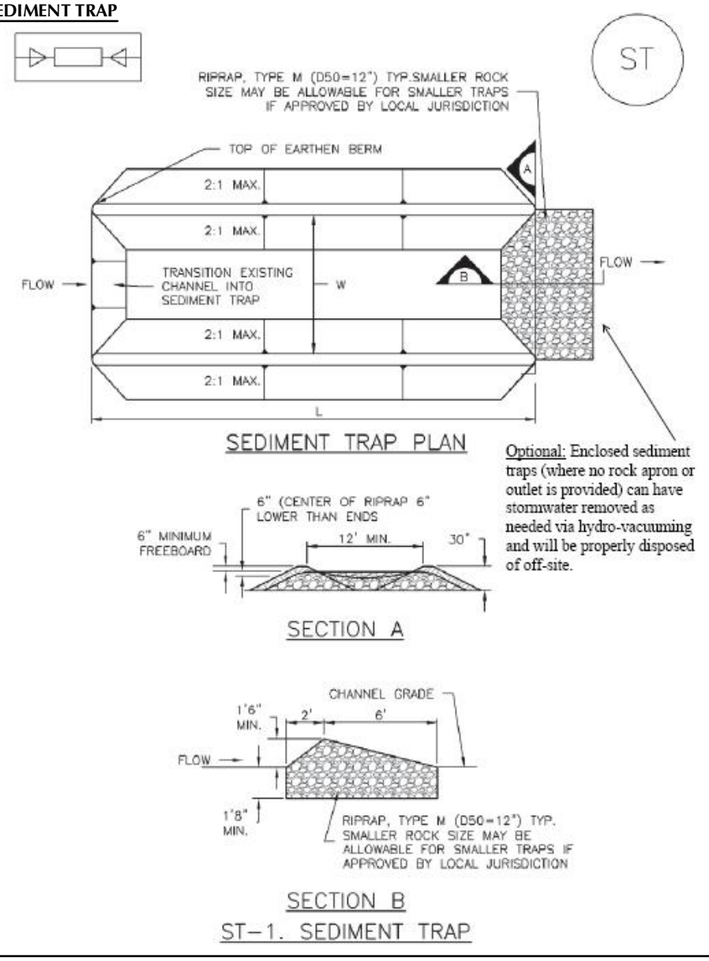
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## EROSION CONTROL BLANKET




## SEDIMENT TRAP




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Extraction Oil & Gas, Inc.

EAGLE PAD
GRADING, EROSION AND SEDIMENT CONTROL PLAN
BMP TYPICALS (B)

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|---|---|---|---|
| SCALE: | VARIES | PAGE: | 8 OF 8 |
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# EAGLE PAD
# SITE PLAN
S1/2 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO

OWNER: ADAMS COUNTY
PARCEL NUMBER: 01569000000068
ZONING: A-3
LAND USE: EXEMPT

NW. COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 25379

OWNER: DAVIDSON JOHN R AND DAVIDSON KAREN L
PARCEL NUMBER: 0156925300003
ZONING: A-3
LAND USE: AGRICULTURAL

OWNER: HUNTER SARA E AND HUNTER JEFF D
PARCEL NUMBER: 0156925300004
ZONING: A-3
LAND USE: RESIDENTIAL

OWNER: GARCIA MARIA ALMA
PARCEL NUMBER: 0156925400003
ZONING: A-3
LAND USE: AGRICULTURAL

OWNER: ARTHUR B HENRY TRUST
PARCEL NUMBER: 0156925400004
ZONING: A-3
LAND USE: RESIDENTIAL

NE. COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 25379

GUN CLUB ROAD

OWNER: MATHIS BETTY H
PARCEL NUMBER: 0156700000233
ZONING: A-3
LAND USE: AGRICULTURAL

OWNER: TRINH MEILING
PARCEL NUMBER: 0156730300002
ZONING: A-3
LAND USE: RESIDENTIAL

EAST 128TH AVENUE

N. 1/4 COR.
SEC. 36, T1S, R66W
SET 2 1/2" ALUM. CAP
P.L.S. NO. 38512

EXISTING VARYING WIDTH
PIPELINE EASEMENT
RECEPTION #114866

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #110695

OWNER: LUONG ANDY
PARCEL NUMBER: 0156935100003
ZONING: A-3
LAND USE: RESIDENTIAL

CO STATE A 21-36 (PA)

CO STATE A 41-36 (PA)

OWNER: SARVESTANI NASSER HAJI
PARCEL NUMBER: 0156935100002
ZONING: A-3
LAND USE: AGRICULTURAL

STATE OF CO 1S-66-36-0108CH (PA)
STATE OF CO 1S-66-36-1609BH (PA)
STATE OF CO 1S-66-36-1724BH (PA)
STATE OF CO 1-66-36-3225CDH (PA)
STATE OF CO 1S-66-36-3225CH (PA)

STATE OF CO 1S-66-36-0108BH (PA)
STATE OF CO 1-66-36-1609CDH (PA)
STATE OF CO 1S-66-36-1609CH (PA)
STATE OF CO 1S-66-36-1724CH (PA)
STATE OF CO 1S-66-36-3225BH (PA)

STATE A 1 (PA)

OWNER: SARVESTANI NASSER HAJI
PARCEL NUMBER: 0156935100004
ZONING: A-3
LAND USE: RESIDENTIAL

OWNER: COLORADO STATE LAND
PARCEL NUMBER: 0156900000077
ZONING: A-3
LAND USE: EXEMPT

PICCADILLY ROAD

STATE A 5 (PA)

OWNER: ADAMS COUNTY
PARCEL NUMBER: 0156731200001
ZONING: A-3
LAND USE: EXEMPT

OWNER: SCOTT MICHAEL P AND SCOTT LORI A
PARCEL NUMBER: 0156935100005
ZONING: A-3
LAND USE: AGRICULTURAL

W. 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 38318

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #104416

CENTER 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
L.S. NO. 9133

E. 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 25379

EXISTING 10' WIDE
POWERLINE EASEMENT
RECEPTION #104410

CO STATE A 33-36 (PA)

STATE A 6 (PA)

OWNER: SHELBOURN MARVIN R AND SHELBOURN SONDRA R
PARCEL NUMBER: 0156935400002
ZONING: A-3
LAND USE: AGRICULTURAL

STATE A 2 (PA)

APPROXIMATE
PROPERTY LINE
(TYP.)

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #104398

OWNER: LUCERO JAY E
PARCEL NUMBER: 0156935400004
ZONING: A-3
LAND USE: RESIDENTIAL

EXISTING 30' WIDE
PIPELINE EASEMENT
RECEPTION #104403

OWNER: RODRIGUEZ ANSELMO AND DEL VAL EDITH
PARCEL NUMBER: 0156935400003
ZONING: A-3
LAND USE: AGRICULTURAL

STATE A 4 (PA)

CO STATE A 24-36 (PA)

STATE A 3 (PA)

CO STATE A 44-36 (PA)

PROPOSED
DETENTION
POND

OWNER: ADAMS COUNTY
PARCEL NUMBER: 0156731300001
ZONING: A-3
LAND USE: EXEMPT

EXISTING 20' WIDE
PIPELINE EASEMENT
RECEPTION #114866

ACCESS
POINT

EXISTING VARYING WIDTH
ACCESS ROW
RECEPTION #104983

EXISTING 50' X 50' VALVE SITE
EASEMENT RECEPTION #114866

EXISTING 20' WIDE
PIPELINE EASEMENT
RECEPTION #110695

SW. COR.
SEC. 36, T1S, R66W
SET 2 1/2" ALUM. CAP
P.L.S. NO. 38512

S. 1/4 COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
ILLEGIBLE

SE. COR.
SEC. 36, T1S, R66W
FOUND 3 1/4" ALUM. CAP
P.L.S. NO. 14592

EAST 120TH AVENUE

## LEGEND

- EXISTING FENCE
- PROPOSED OIL AND GAS LOCATION
- EXISTING STRUCTURE
- DITCH / POND
- SUBJECT PARCEL PROPERTY LINE
- PROPOSED WELL
- PLUGGED AND ABANDONED WELL
- PROPOSED FACILITY EQUIPMENT
- INTERIM RECLAMATION BOUNDARY
- PROPOSED 6' WOOD FENCE
- PROPOSED ACCESS ROAD
- TRAFFIC FLOW DIRECTION
- EASEMENT
- SECTION CORNER

N

0 300' 600'
1" = 300'

## NOTES:

- PUBLICLY AVAILABLE DATA SOURCES HAVE NOT BEEN INDEPENDENTLY VERIFIED BY 609 CONSULTING, LLC.
- ORIGINAL DOCUMENT SIZE: 24" x 36"
- PARKING: DURING PRE-PRODUCTION ACTIVITIES PARKING CAN OCCUR ANYWHERE NEAR THE PERIMETER OF THE OIL AND GAS FACILITY AT A SAFE DISTANCE FROM ONGOING OPERATIONS.
- SANITATION: PORTABLE SANITATION FACILITIES WILL BE LOCATED NEAR THE PERIMETER OF THE OIL AND GAS FACILITY BEHIND SOUND WALLS.


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6706 North Franklin Avenue
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Phone 970-776-4331

SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

DRAWING REVISIONS

| REV. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 7/3/25 | CONCEPTUAL REVIEW |
| 2 | 7/28/25 | REVISION #1 |
| 3 | 3/1/26 | REVISION #2 |
| 4 | 3/11/26 | REVISION #3 |
| | | |
| | | |

EAGLE PAD
*SITE PLAN*

DATE: 3/11/26

SURVEY DATE: 6/10/25

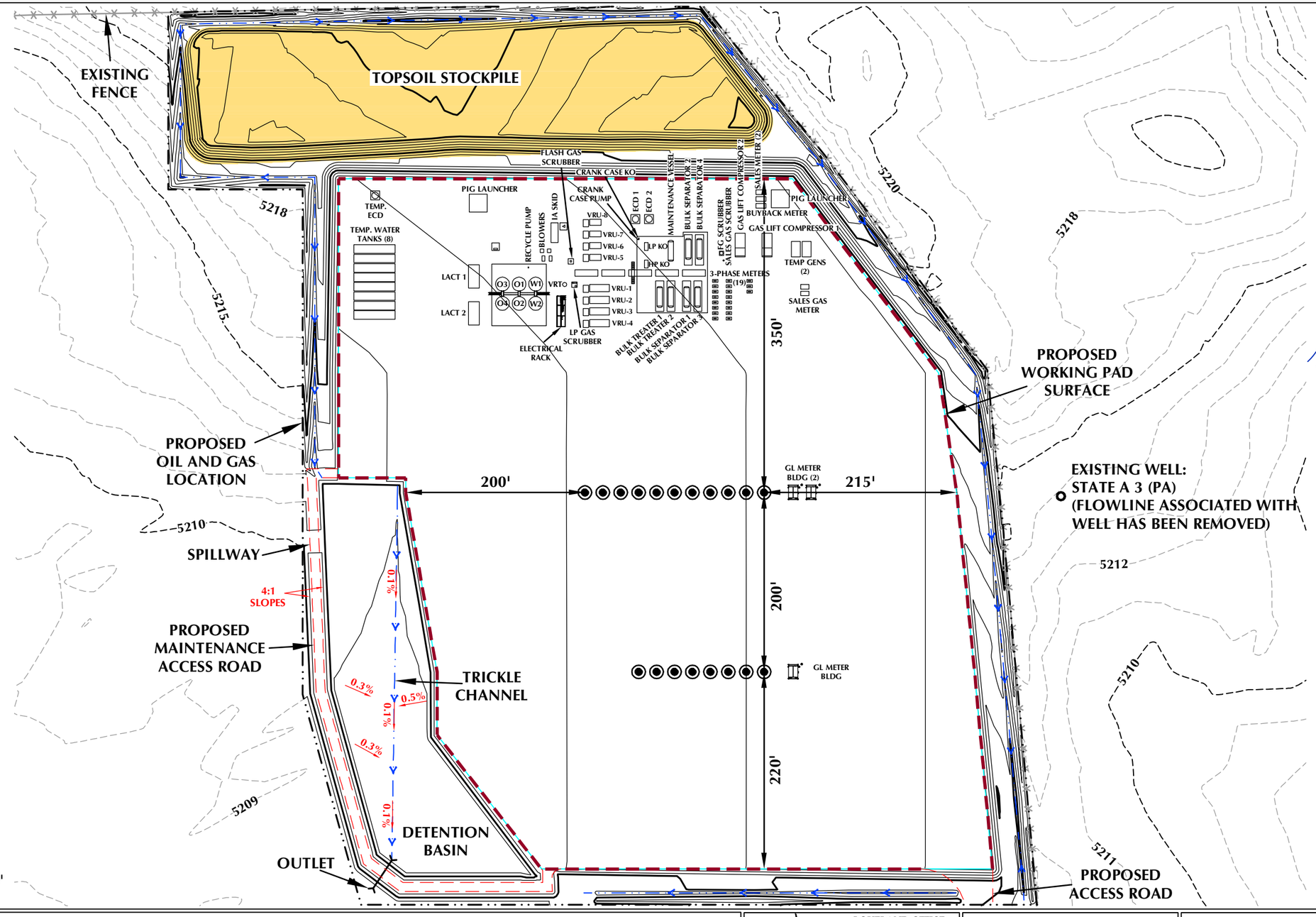
SHEET NO: 1 1 OF 5

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# CONSTRUCTION LAYOUT SITE PLAN

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




COLORADO LICENSED
KATHLEEN M. GOLES
63868
3/1/2026
PROFESSIONAL ENGINEER

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED ACCESS ROAD
- PROPOSED OIL AND GAS LOCATION (17.03 ACRES)
- PROPOSED WORKING PAD SURFACE (10.65 ACRES)
- SOUND WALLS
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- EXISTING FENCE
- DIVERSION DITCH


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Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*CONSTRUCTION LAYOUT SITE PLAN*

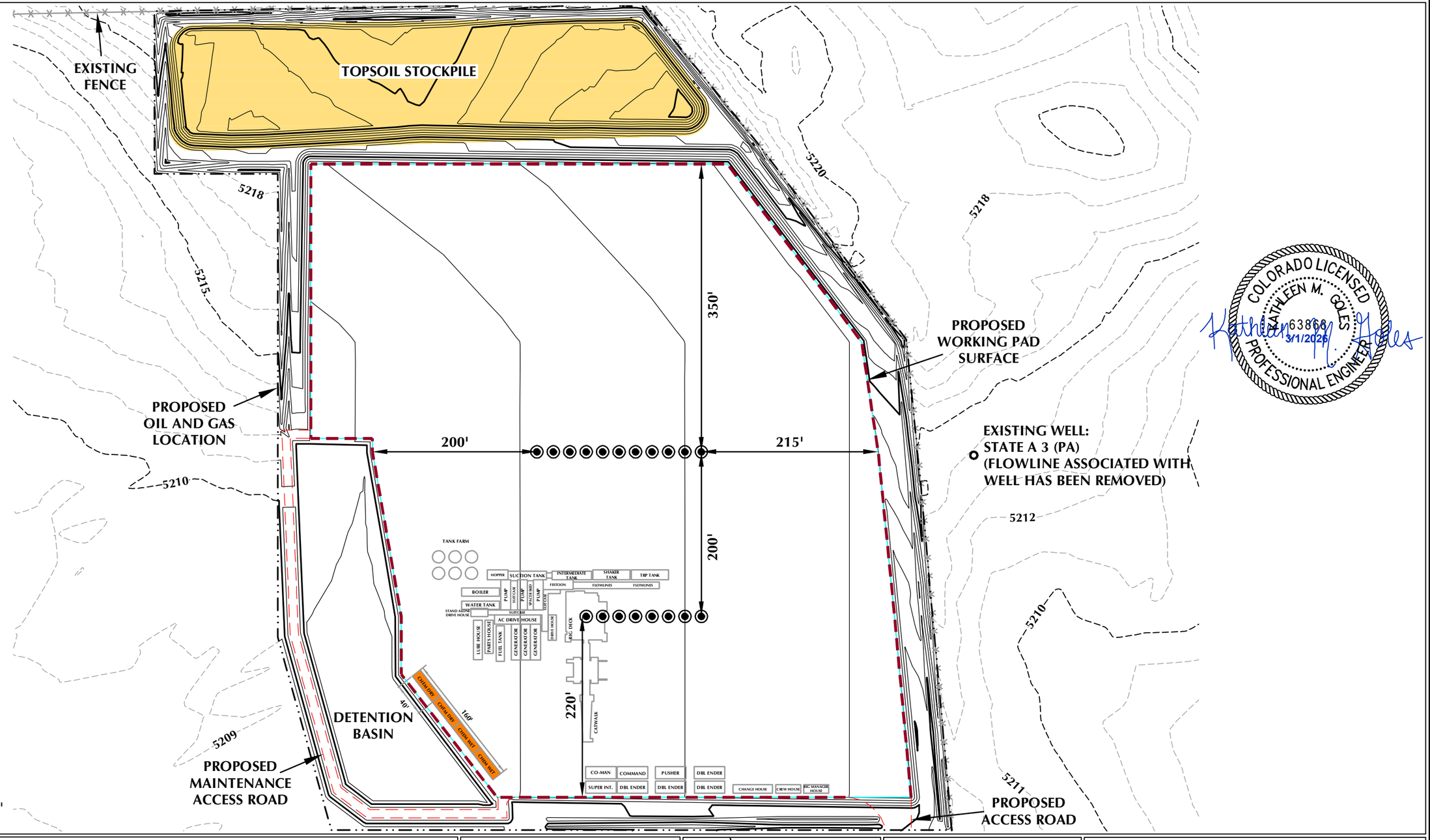
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| SURVEY DATE: | 6/10/25 | DRAFTED BY: | KMG |

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# DRILLING LAYOUT SITE PLAN

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




COLORADO LICENSED
KATHLEEN M. GOLES
63868
3/1/2026
PROFESSIONAL ENGINEER

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED ACCESS ROAD
- PROPOSED OIL AND GAS LOCATION
- PROPOSED WORKING PAD SURFACE
- SOUND WALLS
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- EXISTING FENCE

NOTE:

- RIG PROFILE IS APPROXIMATE AND SUBJECT TO MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.


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Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*DRILLING LAYOUT SITE PLAN*

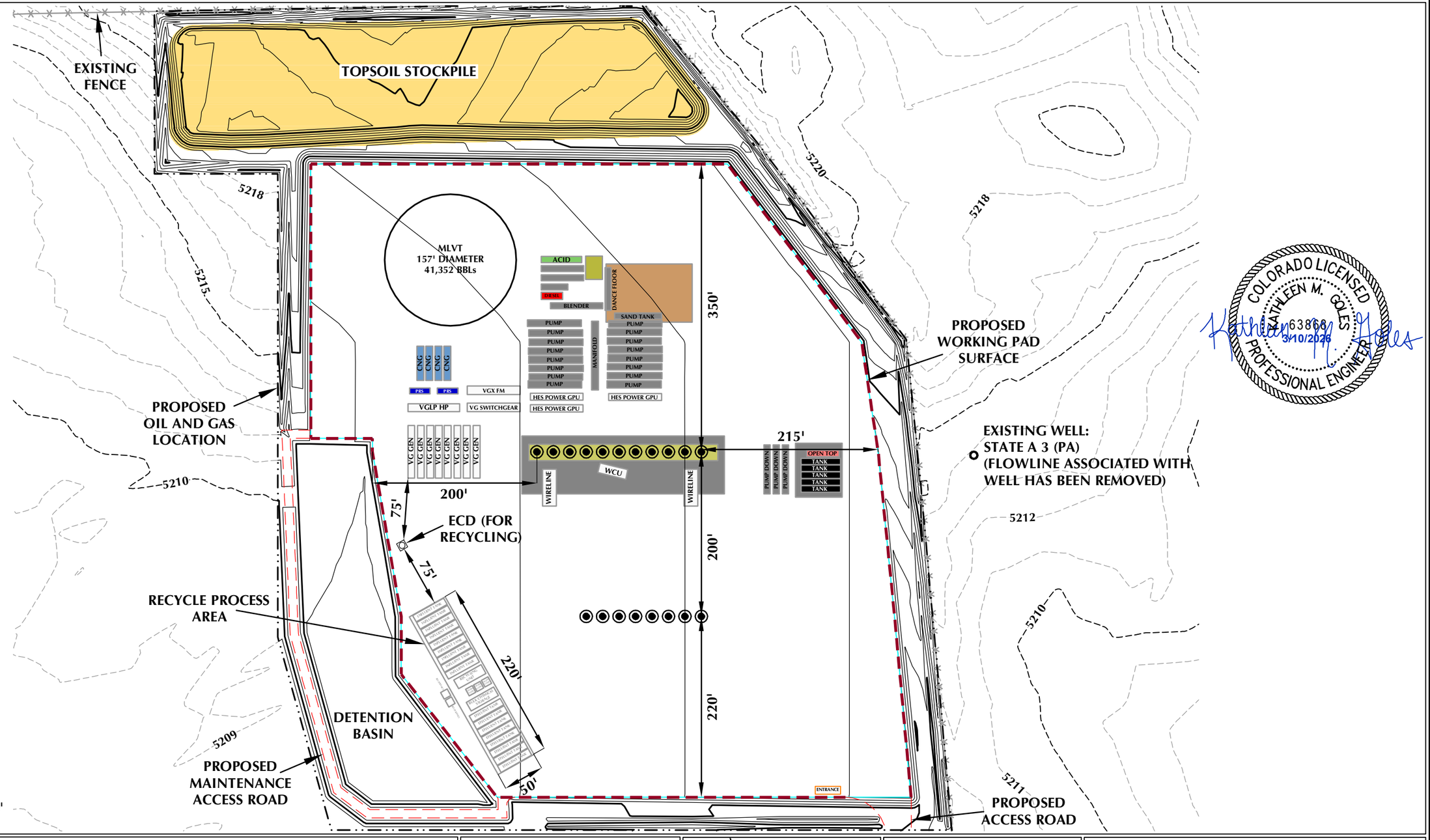
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# COMPLETIONS LAYOUT SITE PLAN

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




COLORADO LICENSED
KATHLEEN M. GOLES
63868
PROFESSIONAL ENGINEER
3/10/2026

## LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED OIL AND GAS LOCATION
- PROPOSED WORKING PAD SURFACE
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- CNG
- DIESEL
- DANCE FLOOR
- OPEN TOP
- FRAC SHACK
- EQUIPMENT - OTHER
- EQUIPMENT - UN
- DESIGNATED AREA
- ACID
- PRS
- VG GEN
- ENTRANCE
- SOUND WALLS
- EXISTING FENCE
- PROPOSED ACCESS ROAD

**NOTE:**

- COMPLETIONS LAYOUT IS APPROXIMATE AND SUBJECT TO MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.


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Phone 307-674-0609


Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.

**EAGLE PAD**
*COMPLETIONS LAYOUT SITE PLAN*

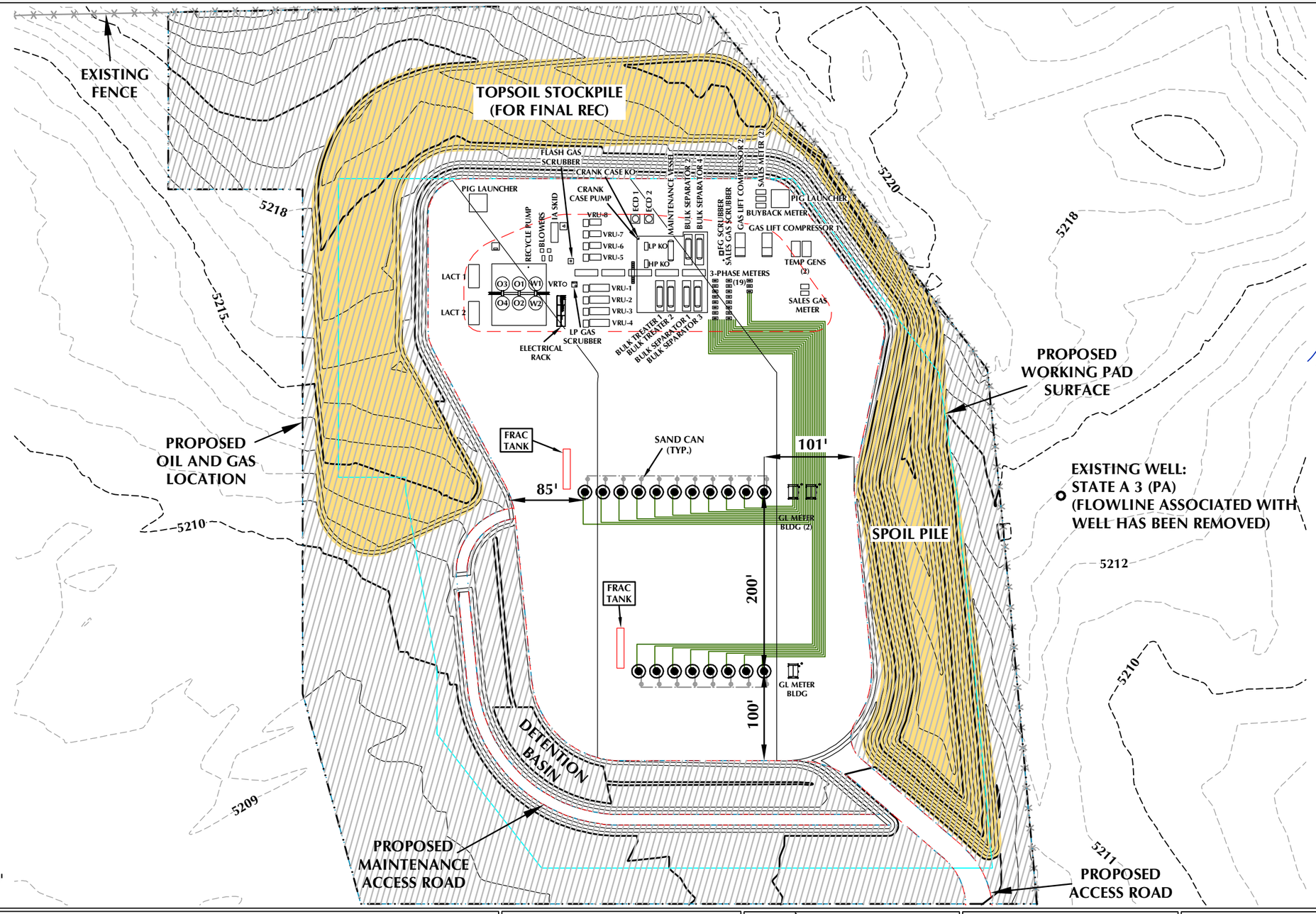
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# PRODUCTION LAYOUT SITE PLAN

# EAGLE PAD

SE1/4 SW1/4 & SW1/4 SE1/4 SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




NOTES:

1. SEE SEED MIX IN THE DRAINAGE REPORT INCLUDED WITH THE ENGINEERING DOCUMENTS.
2. TENTATIVE SCHEDULES FOR PRE-PRODUCTION OPERATIONS ARE INCLUDED IN THE WRITTEN NARRATIVE.

COLORADO LICENSED
KATHLEEN M. GOLES
63868
3/1/2026
PROFESSIONAL ENGINEER

LEGEND

- PROPOSED WELL
- EXISTING WELL
- PROPOSED OIL AND GAS LOCATION (17.03 ACRES)
- PROPOSED WORKING PAD SURFACE (10.65 ACRES)
- RECLAMATION AREA (10.51 ACRES)
- UNRECLAIMED AREA (6.52 ACRES)
- PROPOSED ACCESS ROAD
- PROPOSED FLOWLINE
- PROPOSED PIPELINE
- EXISTING 1' CONTOUR
- PROPOSED 1' CONTOUR
- EXISTING FENCE

NOTE:

- WELLHEADS AND FACILITY EQUIPMENT WILL REMAIN PERMANENT AFTER FLOWBACK IS COMPLETE. SAND CANS AND FRAC TANKS ARE TEMPORARY AND WILL BE REMOVED FOLLOWING FLOWBACK OPERATIONS


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Prepared For:

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Extraction Oil & Gas, Inc.

**EAGLE PAD**
*PRODUCTION LAYOUT SITE PLAN*

| | | | |
|---|---|---|---|
| DATE: | 3/1/26 | SHEET: | 5 OF 5 |
| SURVEY DATE: | 6/10/25 | DRAFTED BY: | KMG |

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# Operations and Maintenance Manual for Eagle Pad Storm Drainage Facility

*Prepared for:*

**Extraction Oil & Gas, Inc.**

*A Wholly-Owned Subsidiary of Civitas Resources, Inc.*

555 17th Street

Suite 3700

Denver, Colorado 80202

*Submitted to:*

**Adams County Community and Economic Development Department**

4430 South Adams County Parkway

1st Floor, Suite W2000

Brighton, Colorado 80601

July 2025




609 Consulting, LLC

**Engineering, Surveying, Consulting & Design**

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# PROJECT OVERVIEW

Extraction Oil & Gas, Inc. is proposing the construction and development of an oil/gas well pad and production facility, Eagle Pad, with an associated storm drainage facility. This project is located in the south half of Section 36, Township 1 South, Range 66 West in Adams County, Colorado. This manual was prepared to discuss the operations and maintenance for the storm drainage facility at the proposed site. The Storm Drainage Facilities Operation and Maintenance Manual Checklist provided by Adams County can be found enclosed with this manual.

Construction of the project is anticipated to begin in Q4 of 2026. The contacts for the storm drainage facility can be found below:


Owner
John Piekara
Extraction Oil & Gas, Inc.
(303)-294-7824
555 17th Street, Suite 3700
Denver, Colorado 80202

Project Manager
Jake Edmunds
609 Consulting, LLC
(307)-674-0609
1095 Saberton Avenue
Sheridan, Wyoming 82801


## Project Description

The proposed storm drainage facility consists of a detention basin during each of the two phases of the project (construction phase and production phase). During the construction phase, stormwater from the Eagle Pad production facility and well pad will drain to the detention basin located west of the well pad. During the production phase, stormwater from the Eagle Pad production facility and reclaimed well pad will drain to the detention basin located west and south of the reclaimed well pad. The purpose of these detention basins is to manage stormwater quantity and quality. They are designed to control the release time of smaller storm events, allowing sediment time to settle out to improve the water quality. Additionally, the designs will regulate peak release rates of larger storm events to prevent downstream flooding and erosion. Outflow from the detention basins will be directed southwest toward a natural low-lying area.

During both phases, stormwater will be directed into the detention basins via the slope of the pad and the cut slope on the west side of the production facility. Off-site runoff will be routed around the site by external berms and/or spoil piles. Additionally, three sediment traps will treat runoff from the topsoil stockpile and fill slopes during the construction phase. For all of these drainage features, routine operations, maintenance, and inspections will be performed to ensure the site is in workable and drainable order. Overall, the site will have no adverse impacts on public rights-of-way or off-site properties.

## Project Location

Eagle Pad is located on property owned by Colorado State Land (Parcel 0156900000077). The site can be accessed by, starting in Brighton, CO, taking Exit 22 off of Interstate 76 to Bromley Lane/East 152nd Avenue and proceeding in an easterly direction for 0.9 miles to Piccadilly Road. Exit right onto Piccadilly Road and continue south for 4.0 miles to East 120th Avenue. Exit left and continue east for 0.6 miles to the proposed access road to the north, which will lead to the proposed location. Figure 1 shows the location of Eagle Pad.

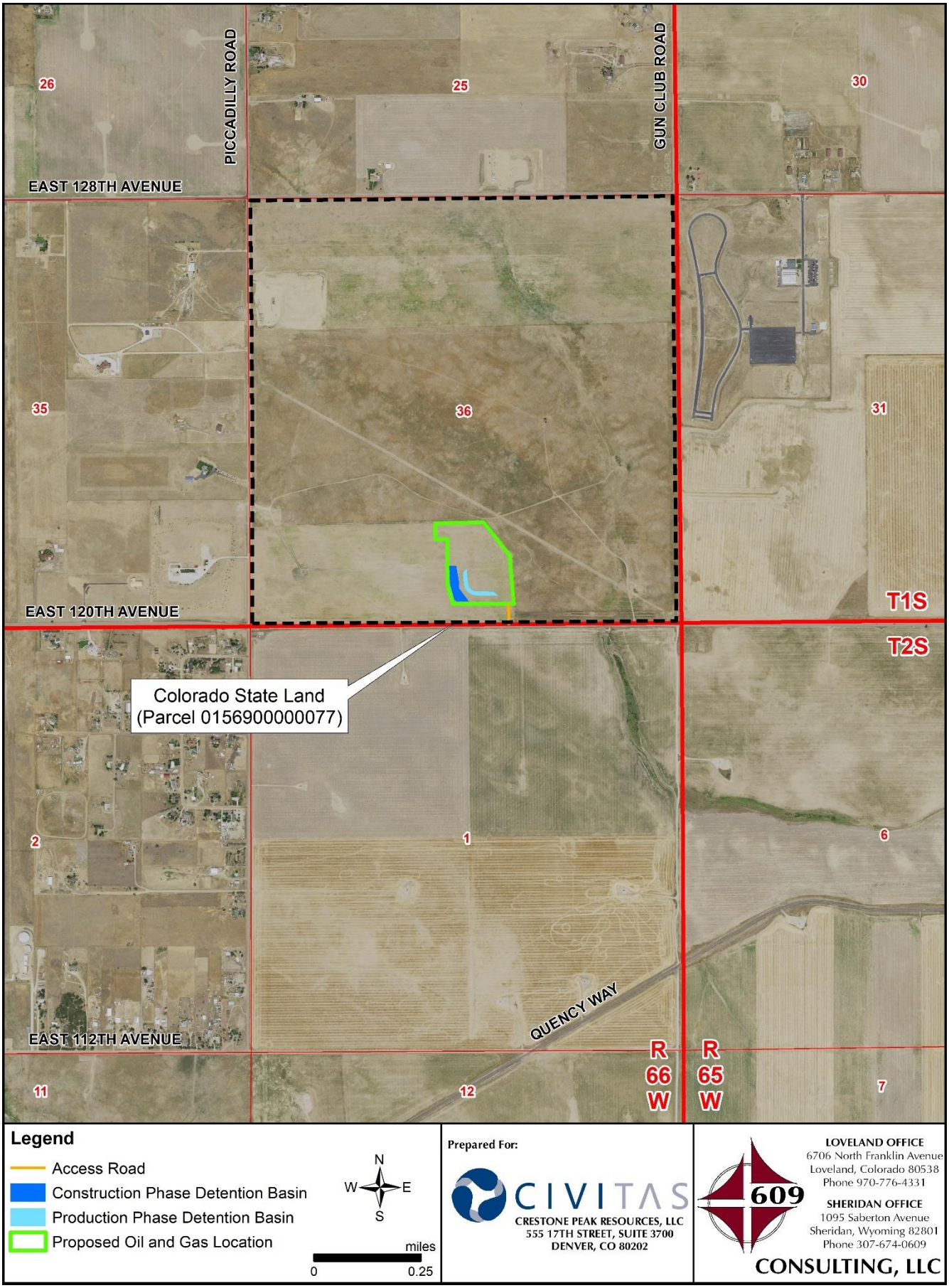



**Figure 1.** Project Location

During the construction phase, a 10-foot wide maintenance access road will surround the perimeter of the detention basin with a segment leading down into the basin at a 10% slope. This access point will be located on the western edge of the well pad. During the production phase, a 12-foot wide maintenance access road will surround the detention basin with a segment leading down into the basin at a 10% slope. This access point will be located on the western edge of the reclaimed well pad. These access points during both phases will be constructed with compacted gravel for durability and ease of access.

### Project Data Sheet

The detention basins were designed in accordance with *Adams County Development Standards & Regulations* requirements. The maximum allowable release rates for the 1-hour, 5-year and 100-year storm events were determined by using *Table 9.16—Allowable Release Rates (cfs/acre)* with Group A soils as the dominant soil group. The major features of the proposed detention basins are summarized in Table 1.

**Table 1.** Detention Basin Features

| | Phase | Catchment Area (ac) | Weighted Imperviousness | | Off-Site Flow | 100-yr Storage Volume (ac-ft) | Available Storage Volume (ac-ft) | Orifice Sizes (in) | | Design Release Rate (cfs) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ac | % | | | | WQCV | 100-yr | 5-yr | 100-yr |
| DB | Construction | 13.10 | 4.31 | 32.9 | N/A | 1.382 | 3.819 | 2.8 | 12.0 | 0.3 | 3.3 |
| | Production | 9.29 | 2.54 | 27.4 | N/A | 0.730 | 5.472 | 1.4 | 12.0 | 0.2 | 2.9 |

## STORM DRAINAGE FACILITY OPERATIONS

### Normal Operations

Day-to-day operations of the Eagle Pad detention basin will be conducted by the Extraction Oil & Gas, Inc. operations team. This will include the following:

- Regular inspections for signs of damage, erosion, or debris accumulation
- Debris removal
- Vegetation management within the basin and along the slopes
- Sediment monitoring and removal
- Outlet structure maintenance
- Record keeping of inspections, maintenance activities, and repairs

### Emergency Action Plan

In the event of extreme weather conditions, the following steps will be taken:

1. Assessment and communication: the weather conditions will be continually monitored, and the detention basin will be assessed for water level, presence of debris, and potential for flooding. Local emergency services and relevant government bodies will be contacted if necessary.
2. Ensuring safety: the perimeter of the basin will be secured against unauthorized access with warning signs and barricades if necessary.
3. Debris removal and water level monitoring: plans will be made to remove debris once the storm subsides and water levels recede.

4. Long-term assessment: any damage to the basin, outlet structure, or spillway structure will be evaluated and addressed. A thorough inspection of the basin will be conducted, and the effectiveness of the emergency action plan will be assessed.

Emergency, 24-hour contact phone numbers are included in Table 2.

**Table 2.** Emergency Contacts

| Name | Emergency/Cell |
|---|---|
| Civitas Resources EHS on-call Emergency Number | 720-927-1813 |
| Emergency Management Director-<br>Lisa David | Cell 307-689-0000 |
| EHS Safety-<br>Chris Burton | Cell 720-315-9387 |
| EHS – Environmental-<br>Luke Kelly | Cell 720-315-8934 |

# STORM DRAINAGE FACILITY MAINTENANCE

## Maintenance Plan

Routine maintenance and required repairs of access roads, ditches, berms, and outlet structures will be handled by the operations team. Cleaning and removal of sediment and debris from ditches and outlets, as well as vegetation maintenance and specific manufacturer maintenance, will also be handled by the operations team during regular operations and maintenance checks. Day-to-day maintenance includes the following:

- Visual inspection: check for trash, debris, and excessive vegetation growth. Look for signs of erosion or damage to drainage facilities. Ensure inlets/outlets of the detention basin outlet structure are not clogged.
- Debris and litter removal
- Vegetation management: regularly mow and trim vegetation to prevent it from interfering with water flow or causing erosion.
- Sediment removal: monitor for sediment accumulation, especially at sediment traps and detention basin outlet structures. Remove sediment when it starts to interfere with drainage facilities' operations.

## Unscheduled Maintenance

Assessment and repair will be performed for any unexpected deficiencies found in the drainage features, regardless of the regular maintenance schedule. These unexpected deficiencies include but are not limited to the following:

- Post-storm inspections: after storm events, the drainage features should be inspected for damage, erosion, debris, or sediment accumulation.
- Structural damage: structural damage, such as cracks or erosion, should be repaired as soon as possible to prevent further deterioration.
- Outlet obstruction: clogged outlets or inlets should be cleared promptly to ensure proper drainage and prevent flooding.
- Sediment removal: sediment should be removed once it has accumulated enough to cause drainage problems.

# STORM DRAINAGE FACILITY INSPECTIONS

## Routine Inspections

Routine inspections of access roads, ditches, berms, and outlet structures will be performed during daily operations. This includes a brief, but thorough, visual inspection of all drainage features to ensure they are in working order and no damage or obstructions are present. These inspections will be handled by the operations team.

## Periodic Inspections

In addition to monitoring during regular operations, a formal monitoring plan has been developed for the project site. During the construction phase, the site will be inspected a minimum of every 14 calendar days as well as following rain or snowmelt events that are able to cause surface erosion. After the construction phase, site inspections will occur at a minimum of every 30 calendar days until the site is fully stabilized. Once the site is stabilized and has achieved interim reclamation standards, inspections will occur annually. More frequent, informal inspections will continue to occur during routine operations. An Inspection Report Form is enclosed with this manual and is to be completed by the persons performing the periodic inspections.

**Enclosures:**

Storm Drainage Facilities Operation and Maintenance Manual Checklist
Inspection Report Form

| Storm Drainage facilities Operation and Maintenance Manual | | | | |
|---|---|---|---|---|
| Item No. | Submitted[1] | County Use Only | | |
| | | Rejected | N/A | |
| | | | | General Manual Requirements: |
| 1. | ☒ | ☐ | ☐ | Provide a brief introduction to the O&M Manual including a general statement on the overall purpose of facility operation and maintenance. |
| 2. | ☒ | ☐ | ☐ | Location and Access - provide name of stream/tributary/lake that the facility discharges to, name of nearest city/town, traveling directions to facility, and location of maintenance access roads. Include a vicinity map. |
| 3. | ☒ | ☐ | ☐ | Purpose of Facility - describe purpose of facility, e.g. include peak rate runoff control, water quality, etc. |
| 4. | ☒ | ☐ | ☐ | General Description – give a general description of facility, e.g. include detention basin, retention basin, etc. |
| 5. | ☒ | ☐ | ☐ | Ownership – provide name, address, and telephone number of facility owner. |
| 6. | ☒ | ☐ | ☐ | Project History – describe development for which facility was constructed, date of construction, original project engineer and Contracting Officer, and any significant modifications that have taken place during the life of the facility. |
| 7. | ☒ | ☐ | ☐ | Project Data Sheet - list all major features of the facility in an easy-to-follow tabular format including catchment area, impervious area, off-site contribution of runoff, storage volume, orifice sizes, and designed release rates. |
| | | | | Facility Operations: |
| 8. | ☒ | ☐ | ☐ | Normal Operation - provide detailed operating instructions or procedures for normal “day-to-day” operation |
| 9. | ☒ | ☐ | ☐ | Emergency Action Plan - provide special operating procedures to be followed during emergency conditions resulting from extreme weather conditions or from structural failure of the facility. Include 24-hour emergency contact telephone numbers. |
| | | | | Facility Maintenance (detailed information and instructions on performing periodic maintenance of the facility): |
| 10. | ☒ | ☐ | ☐ | Regularly Scheduled Maintenance - provide information on maintenance tasks performed on a regularly scheduled basis. |
| 11. | ☒ | ☐ | ☐ | Monitored Maintenance - provide information on periodic surveillance of facility and making needed repairs and modifications. |
| 12. | ☒ | ☐ | ☐ | Maintenance Plan – in its own section of the O&M Manual, identify and list all regularly scheduled and monitored maintenance in detail (to allow the new personnel to understand the tasks and experienced personnel to verify properly performed work). |
| 13. | ☒ | ☐ | ☐ | Unscheduled Maintenance - a section shall be provided in the maintenance plan which gives instructions for dealing with unscheduled maintenance to allow for repair or rehabilitation of unexpected deficiencies. |

ATTACHMENT #14 CONTINUED

| | | | | |
|---|---|---|---|---|
| | | | | Facility Inspection (specifies required frequency intervals for inspections and includes an inspection checklist and report form): |
| 14. | ☒ | ☐ | ☐ | Routine Inspections - a brief but frequent, visual inspection of the major features of the facility, e.g. weekly, monthly. |
| 15. | ☒ | ☐ | ☐ | Periodic Inspection - a periodic inspection is a more detailed inspection, during which all features and equipment at the facility are evaluated at regularly scheduled intervals. A checklist should be provided to ensure that all critical features are examined. |
| 16. | ☒ | ☐ | ☐ | Inspection Report Form - a simple form, to be completed by the persons performing the periodic inspection, reporting the date of inspection, person performing inspection, findings, inspection checklist. |

Developer's Comments (please reference the item number for each comment)

County's Comments

[1] To be checked by the Developer. If a "submitted" box is not checked, the Applicant must explain (in comment box above) or the application may be rejected for insufficient information.

# Inspection Report Form

| General Information | |
|---|---|
| Project Site | |
| Date of Inspection | |
| Inspector's Name and Contact Information | |

| Inspection Checklist | | |
|---|---|---|
| | ✓ | Notes |
| Detention Basin Outlet Structure | | |
| Detention Basin Spillway | | |
| Detention Basin Slopes | | |
| Perimeter Ditches/Berms | | |
| Sediment Traps | | |

| Inspection Summary |
|---|
| Key Observations and Findings |
| |
| Suggested Actions and Recommendations |
| |

# Stormwater Management Plan For Eagle Pad

*Prepared for:*

**Extraction Oil & Gas, Inc.**

*A Wholly-Owned Subsidiary of Civitas Resources, Inc.*

555 17th Street

Suite 3700

Denver, Colorado 80202

December 2025


609 Consulting, LLC

**Engineering, Surveying, Consulting & Design**

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**Ph: (307) 674-0609 Fax: (307) 674-0182**

**Loveland Office**
**6706 North Franklin Avenue**
**Loveland, Colorado 80538**
**Ph: (970) 776-4331 Fax: (970) 776-3301**

# TABLE OF CONTENTS

PAGE


1.0 INTRODUCTION ..... 1

2.0 PROJECT DESCRIPTION AND LOCATION ..... 1

2.1 Project Description ..... 1

2.2 Project Location ..... 1

2.3 Proposed Development ..... 2

2.4 Site Specific Construction Requirements ..... 3

3.0 DISTURBANCE REDUCTION & RECLAMATION ..... 3

3.1 Disturbance Reduction and Interim Reclamation ..... 3

3.2 Reclamation ..... 3

3.3 Abandonment ..... 4

4.0 SWMP REQUIREMENTS ..... 4

4.1 Qualified Stormwater Management Plan Manager ..... 5

4.2 State-wide SWMP Requirements ..... 5

4.2.1 Site Inspections Frequency ..... 5

4.2.2 Reduced Inspection Frequency ..... 6

4.2.3 Inspections Exclusions ..... 6

4.3 SWMP Inspection Scope ..... 6

5.0 SITE-SPECIFIC SWMP REQUIREMENTS ..... 7

5.1 Berm ..... 7

5.2 Ditch ..... 8

5.3 Sediment Trap ..... 9

5.4 Stormwater Detention Basin ..... 9

5.5 Riprap Apron ..... 10

5.6 Sediment Control Logs ..... 10

5.7 Seeding and Mulching ..... 11

5.8 Vehicle Tracking Control ..... 12

6.0 SITE MAINTENANCE AND UPKEEP ..... 12

7.0 CONCLUSION ..... 12

APPENDICES ..... 13

# APPENDICES

**Appendix A:** Project Location

**Appendix B:** FEMA Flood Insurance Rate Map FIRMette

**Appendix C:** Seed Mix

**Appendix D:** CDPS General Permit Certification

**Appendix E:** Site-Specific Stormwater BMPs

# 1.0 INTRODUCTION

This Stormwater Management Plan (SWMP) is being prepared for the Eagle Pad project on behalf of Extraction Oil & Gas, Inc. ("Extraction"), a wholly-owned subsidiary of Civitas Resources, Inc. The project consists of the construction and development of an oil/gas well pad and production facility located in the south half of Section 36, Township 1 South, Range 66 West in Adams County, Colorado.

The purpose of this report is to develop a site specific SWMP using Stormwater Best Management Practices (BMPs) to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. This SWMP shall comply with the Energy & Carbon Management Commission (ECMC) Rule 1002.f and Rule 304.c.(15) and will accompany Form 2A.

This report will discuss the stormwater impacts that may occur during the different development phases (Construction and Production) of the project and will detail the various stormwater BMPs that will be used to minimize erosion, transport of sediment offsite, and site degradation. This SWMP is intended to be a living document which should be updated routinely as site conditions change.

# 2.0 PROJECT DESCRIPTION AND LOCATION

## 2.1 Project Description

The proposed project consists of the construction and operation of the Eagle Pad well pad and production facility containing infrastructure and operations for 19 oil/gas wells. The ECMC Proposed Oil and Gas Location will have a permitted disturbance area of 17.03 acres during the construction phase which includes topsoil stripping and pad earthwork, well drilling and hydraulic fracturing, installation of permanent pipelines and facilities, and setup of temporary equipment and a modular large volume tank (MLVT) area.

Once all wells have been drilled and completed, portions of the Proposed Oil and Gas Location will be reclaimed back to existing grade and re-seeded during interim reclamation. The remaining un-reclaimed area during the production phase will be approximately 6.52 acres.

## 2.2 Project Location

The Eagle Pad is located on property owned by Colorado State Land (Parcel 0156900000077). The project area is approximately 0.4 miles east of Piccadilly Road and 0.1 miles north of East 120th Avenue. A proposed access road running north from East 120th Avenue will provide access to the project area. Eagle Pad will be constructed on undeveloped rangeland. According to the 2019 National Land Cover Database, the project area is cultivated crops. A map of the proposed Eagle Pad can be found in Appendix A.

Historically, stormwater from the proposed location drains from the north to the south/southwest into a low spot. If the stormwater leaves the low spot, it will eventually flow into a drainage that drains north, then northwest towards Barr Lake.

Soils data for the project area were taken from NRCS Soil Data Viewer. The project area is comprised of Blakeland-Truckton association, Truckton loamy sand (0 to 3 percent slopes), and Ascalon sandy loam (0 to 3 percent slopes). The Blakeland-Truckton association and Truckton loamy sand have a Hydrologic Soil Group (HSG) classification of Group A with K soil erosion factors of 0.10 and 0.17, respectively, which consists of soils having a high infiltration rate and a low runoff potential. The Ascalon sandy loam has a HSG classification of Group B soils with a K soil erosion factor of 0.17, which consists of soils having a moderate infiltration rate and a low runoff potential. The K soil erosion factor is an index ranging from 0.02 to 0.64, which quantifies the relative susceptibility of the soil to sheet and rill erosion. The following table is a summary of K soil erosion factors with typical soil descriptions.

**Table 1.** Summary of K Soil Erosion Factors with Typical Soil Descriptions

| K Factor | Types of Soil | Susceptibility to Erosion |
|---|---|---|
| 0.02 to 0.25 | Sands, Clays, Sandy Clays | Low |
| 0.25 to 0.40 | Loams, Sandy Loams, Sandy Silts | Moderate |
| 0.40 to 0.64 | Silts | High |

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 08001C0365H, Effective Date: 3/5/2007), the proposed project is in an area of minimal flood hazard (Zone X) and is therefore determined to be outside the 500-year floodplain. The corresponding FIRMette displaying the flood zone classification at the project site can be found in Appendix B.

## 2.3 Proposed Development

The proposed project consists of the construction of the Eagle Pad well pad, production facility, and access roads. The project will have two phases: a construction phase and a production phase. The construction phase well pad will have a larger disturbance area to facilitate drilling and completions operations. The production phase well pad will have a smaller disturbance area to facilitate gathering and production operations.

During the construction phase, the Proposed Oil and Gas Location will have a permitted disturbance area of 17.03 acres which includes topsoil stripping and pad earthwork, well drilling and hydraulic fracturing, installation of permanent pipelines and facilities, and setup of temporary equipment and a MLVT area. Once all wells have been drilled and completed, portions of the Proposed Oil and Gas Location will be reclaimed back to existing grade and re-seeded during interim reclamation. The remaining operational area during the production phase will be approximately 6.52 acres.

It is anticipated that heavy construction equipment will construct the access road and working pad surface of this project. Construction of the access road and working pad surface during both phases will consist of:

- Clearing and grubbing of existing vegetation
- Stripping and stockpiling of overlying topsoil
- Grading the working pad area, stormwater diversion ditches, berms, and sediment control structures
- Installing stormwater detention structures
- Installing construction BMPs
- Installing stormwater BMPs

Topsoil piles and excess spoils piles (if any) will be separated and protected from erosion, offsite sediment transport, and degradation. Further site development will consist of:

- Mobilization/demobilization of construction equipment
- Drilling, development, and completion of oil/gas wells
- Installing production facility equipment, utilities, and pipelines

Site development may vary depending on the site-specific conditions.

### 2.4 Site Specific Construction Requirements

Prior to commencement of any ground disturbance activity, perimeter BMPs will be installed to protect downstream lands from sediment pollution. Once the work area is secure, the access road and well pad will be stripped of topsoil to a depth consistent with the grading plan. Topsoil will be stockpiled separately, then the site will be graded, redistributing material across the site between cut and fill areas to achieve pad finish grade elevations. During this process, fill areas will be properly compacted to ensure working pad surface integrity and proper stabilization. Construction water may be used to assist with compaction as well as minimize dust. All excess material (if any) will be separated and stockpiled. The contractor will place gravel road base on both the pad surface and access road to a compacted depth as shown on the grading plan to provide additional stabilization. All disturbed soil stockpiles and cut/fill slopes will receive slope protection as temporary erosion control during the construction phase. Once all wells have been drilled and completed, portions of the Proposed Oil and Gas Location will be reclaimed back to existing grade and stabilized with drill seed and mulch and any additional stormwater BMPs will be installed.

## 3.0 DISTURBANCE REDUCTION & RECLAMATION

### 3.1 Disturbance Reduction and Interim Reclamation

Once all drilling and completion activities are complete, the working pad surface size will be reduced to minimize the site disturbance during the production phase. A sufficient amount of working pad surface must remain to ensure a safe working environment for continued oil and gas production operations. All areas needed for ongoing operations will be stabilized for the long-term life of the well pad. All unused portions of the project area will be reclaimed as described below, and in accordance with the interim reclamation plan.

### 3.2 Reclamation

Developed areas to be reclaimed will be stripped of topsoil, cross-ripped to 18" (compaction alleviation), and graded to pre-disturbed conditions. Surface treatment will consist of reapplying the topsoil, seeding, and mulching. Reclaimed areas will be restored to as nearly as practicable to the site's original condition. The reclaimed areas will be monitored until final stabilization is achieved. All reclamation shall be completed within three (3) months on crop land and six (6) months on non-crop land.

The operator will seed using a seed mix specified by the surface owner. Seeding will be applied at the optimum seeding methodology. A typical seed mix and application rates can be found in Appendix C.

Successful reclamation of the well site and access road will be considered completed when:

1. All construction activities are complete.
2. All working pad surface areas are stabilized from compaction and erosion for the remainder of the project.
3. All seeded and mulched areas have achieved a desirable vegetation density when:
    i. On Crop Land: Reclamation has been performed as per Rules 1003 & 1004 and observation by the Director over two (2) growing seasons has indicated no significant unrestored subsidence.
    ii. On Non-Crop Land: Reclamation has been performed as per Rules 1003 & 1004 and disturbed areas have been either built on, compacted, paced, or otherwise stabilized in such a way as to minimize erosion to the extent practicable, or a uniform vegetative cover has been established that reflects the pre-development or reference area forbs, shrubs, and grasses with a total plant cover of at least eighty percent (80%) of pre-development or reference area levels, excluding noxious weeks, as determined by the Director through visual appraisal.
4. Disturbances resulting from flow line installations shall be deemed adequately reclaimed when the disturbed area is reasonably capable of supporting the pre-development land use.
5. A final reclamation inspection has been completed by the Director, or a representative appointed by the Director, there are no outstanding compliance issues relating to commission rules, regulations, orders, permit conditions or the act, and the Director has notified the operator that final reclamation has been approved. A Sundry Notice Form 4 will be submitted by the operator when final stabilization has been achieved. The sundry notice will describe the final reclamation procedures and mitigation measures and any changes in the landowner's designated final land use (if applicable).

## 3.3 Abandonment

Once the operator has made the decision to no longer operate production operations on a well, it will be plugged and abandoned (P&A). All equipment associated with the well will be removed from the location. If the well pad and access road is no longer needed, it will be reclaimed and recontoured to its pre-disturbed conditions and/or in accordance with the surface owner's requirements.

# 4.0 SWMP REQUIREMENTS

Extraction has a field-wide master SWMP that covers their construction activities within this area. Also, construction activities within this area are covered under and governed by the CDPS General Permit for Discharges Associated with Construction Activity (Permit No. COR401178). The CDPS General Permit can be found in Appendix D.

Stormwater BMPs will be employed in accordance with good engineering, hydrologic, and pollution control practices in order to prevent pollution in stormwater discharges associated with the development of the Eagle Pad project. All personnel, including applicable contractors, shall comply with the contents of this SWMP.

All information and conditions represented in this SWMP are estimated and intended as a preliminary plan. As stated previously, this SWMP is intended to be a living document which should be updated routinely as site conditions change. Actual placement of BMPs may vary based on actual conditions encountered at the site.

## 4.1 Qualified Stormwater Management Plan Manager

The Qualified SWMP Manager (QSM) has the authority to dedicate the financial and human resources needed to install & implement SWMP control measures, conduct inspections, keep records, report incidents, and make repairs and/or changes in design. The following person has been assigned as the QSM.

Mr. Luke Kelly, Manager
650 Southgate Drive
Windsor, CO 80550
Cell: (720) 315-8934

## 4.2 State-wide SWMP Requirements

Site inspections must be conducted in accordance with the following requirements. The required inspection schedules are a minimum frequency and do not affect the permittee's responsibility to implement control measures in effective operating condition as prescribed in the SWMP. Proper maintenance of control measures may require more frequent inspections. Site inspections shall start within 7 calendar days of the commencement of construction activities on site.

The person(s) inspecting the site may be on the permittee's staff or a third-party contractor hired to conduct stormwater inspections under the direction of the permittee(s). The permittee is responsible for ensuring that the inspector is a qualified stormwater manager.

### 4.2.1 Site Inspections Frequency

Permittees must conduct site inspections at least once every seven (7) calendar days for sites that discharge to a water body designated as an "Outstanding Water" by the Water Quality Control Commission. Otherwise, permittees must conduct site inspections in accordance with the following minimum frequencies:

a. At least one inspection every seven (7) calendar days; or
b. At least one inspection every fourteen (14) calendar days, if post-storm event inspections are conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Post-storm inspections may be used to fulfill the 14-day routine inspection requirement.
c. When site conditions make the schedule required in this section impractical, the permittee may petition the Division to grant an alternate inspection schedule. The alternative inspection schedule may not be implemented prior to written approval by the Division and incorporation into the SWMP.

### 4.2.2 Reduced Inspection Frequency

The permittee may perform site inspections at the following reduced frequencies when one of the following conditions exist:

1. Post-Storm Inspections at Temporarily Idle Sites
   For permittees choosing to combine 14-day inspections and post-storm-event-inspections, if no construction activities will occur following a storm event, post-storm event inspections must be conducted prior to recommencing construction activities, but no later than 72 hours following the storm event. The delay of any post-storm event inspection must be documented in the inspection record. Routine inspections must still be conducted at least every 14 calendar days.
2. Inspections at Completed Sites/Areas
   When the site, or portions of a site, are awaiting establishment of a vegetative ground cover and final stabilization, the permittee must conduct a thorough inspection of the stormwater management system at least once every 30 days. Post-storm event inspections are not required under this schedule. This reduced inspection schedule is allowed if all of the following criteria are met:
   i. All construction activities resulting in ground disturbance are complete
   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
   iii. The SWMP has been amended to locate those areas to be inspected in accordance with the reduced schedule allowed for in this paragraph

### 4.2.3 Inspections Exclusions

Inspections are not required for sites that meet the following conditions:

1. Construction activities are temporarily halted; or
2. Snow cover exists over the entire site for an extended period of time and there is no snowmelt (only applies to the routine 7-day, 14-day and monthly inspections, as well as the post-storm-event inspections).

When the permittee has an inspection exclusion, the following information must be documented in accordance with permit requirements:

1. Dates when construction activities began & ended; or
2. Dates when snow cover existed and date when snow melt began.

## 4.3 SWMP Inspection Scope

When conducting a SWMP site inspection:

1. Visually verify whether all implemented control measures are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.
2. Determine if there are new potential sources of pollutants.
3. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges.
4. Identify all areas of non–compliance with the permit requirements and, if necessary, implement corrective action(s).

The following areas, if applicable, must 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:

1. All disturbed areas
2. Ditches, berms, and any areas with stormwater mitigation
3. Site perimeter
4. Spill containment areas
5. Topsoil & material stockpiles
6. All locations where stormwater has the potential to discharge offsite
7. Locations where vehicles enter/exit the working pad surface

The permittee must keep a record of all SWMP inspections conducted for each permitted site. Inspection reports must identify any incidents of non-compliance with the terms and conditions of this permit. Inspection records must be retained and signed in accordance with the SWMP. At a minimum, the inspection report must include:

1. Facility Name
2. Inspector's name, title, and company
3. Date of inspection
4. Weather conditions at the time of inspection
5. Phase of construction at the time of inspection
6. Estimated acreage of disturbance at the time of inspection
7. Location(s) and identification of discharges of sediment or other pollutants from the site
8. Location(s) and identification of control measures needing maintenance
9. Location(s) and identification of inadequate control measures
10. Location(s) and identification of additional control measures needed that were not in place at the time of inspection
11. Location(s) of discharges of sediment or other pollutants from the site
12. Description of inspection frequency and any deviations from the minimum inspection schedule

This would include documentation of division approval for an alternate inspection schedule. Location and description of corrective action(s) that have been taken, or where a report does not identify any incidents requiring corrective action, the report shall contain a statement.

# 5.0 SITE-SPECIFIC SWMP REQUIREMENTS

The following are the site-specific SWMP BMPs. Included with each BMP is its description, applicability, limitations, and location. More information on each site-specific stormwater BMP can be found in Appendix E.

## 5.1 Berm

*Description*

A berm is a mound of compacted soil. The top is at a specified width and the side slopes are at a specified slope. Berms may be constructed from either excavated topsoil or subsoil. Berms may be used to collect and direct on-site stormwater to sediment traps and outlets, store on-site stormwater, and deflect/redirect off-site runoff around the disturbance area.

*Applicability*
Berms help contain and divert runoff. Berms may be used for the upslope of cut or fill slopes to contain or divert surface water. Usually, berms will surround the perimeter of the working pad surface or spill containment area.

*Limitations*
Berms must be regularly maintained sometimes several times a year depending on site conditions. Berms will erode if they are not properly maintained, compacted, and/or stabilized with vegetation or road base. Berms will fail if they are constructed with hydro-sensitive material. Berms which are downstream to surface drainage will require a ditch or additional protection to prevent erosion. Drive-over berms installed through a pad entrance will require a larger width and increased maintenance to remain effective. Depending on the berm material, stabilization such as erosion control blankets, road base, or liners may be needed.

*Location*
External ditches and berms will be constructed along the perimeter of the Eagle Pad project site to ensure that runoff remains on-site and is diverted to the sediment traps and detention basin area.

## 5.2 Ditch

*Description*
A ditch consists of a sub-grade drainage channel. The bottom is at a specified width and the side slopes are at a specified slope. Ditches will have a specified channel slope and discharge to the sediment traps or the detention basin area. Typically, ditches are constructed with an earthen channel. The purpose of a ditch is to collect and divert surface water. Typically, ditches will collect and divert off-site surface water around the perimeter of the well site, and, collect and divert on-site surface water from the bottom of cut and fill slopes to sediment control devices.

*Applicability*
Ditches help to collect and divert runoff. On-site ditches will be placed around the perimeter of the pad and soil stockpiles to divert on-site surface water to the sediment traps or detention basin area. Diversion ditches and berms will be used to collect and direct on-site stormwater to outlets, deflect and redirect off-site runoff around the disturbance area, and store on-site stormwater.

*Limitations*
Ditches must be regularly maintained sometimes several times a year depending on site conditions. Ditches may erode and fill in if they are not properly maintained, compacted, and/or stabilized with vegetation or road base. Ditches will fail if they are not properly sloped or not deep enough to contain the diverted runoff. Ditches that cross roads must have a stabilized low water crossing or culvert. Ditches concentrate flows and increase runoff velocities. Ditches must be released into an appropriate outlet structure or they can become a source of erosion. Ditch outlet structures must release into downstream historical drainages. Ditches with steep slopes and increased velocities will require check dams and stabilization such as erosion control blankets, road base, or liners.

*Location*

External ditches and berms will be constructed around the perimeter of the Eagle Pad project site to ensure that runoff remains on-site and is diverted to sediment traps and the detention basin area. Temporary diversion ditches will collect and drain on-site stormwater to sediment traps and outlets. Treated stormwater will exit the sediment traps onto undisturbed ground where the natural contours will drain away from the project area. Ditches shall have a minimum slope of 0.5%, 12" depth minimum, and 2:1 slope.

## 5.3 Sediment Trap

*Description*

A sediment trap consists of a sub-grade excavation that captures and detains runoff, storing sediment and releasing runoff. Sediment traps are designed to capture drainage from disturbed areas and allow sediment to settle prior to being discharged. In order to provide additional capture volume and treatment, sediment traps are designed to be oversized when possible.

*Applicability*

Sediment traps help prevent the transport of sediment offsite during construction activities and slope stabilization periods. Sediment traps are used as outlet structures for on-site drainage ditches.

*Limitations*

Sediment traps must be regularly inspected and maintained, especially during construction activities. Sediment traps may fail by being filled in if they are not properly maintained. Sediment traps could also erode if they are not properly compacted and the outlet is not properly stabilized.

*Location*

Three 20 feet by 20 feet by 3 feet deep sediment traps are recommended for this project during the construction phase. Sediment traps will be reclaimed during the production phase.

## 5.4 Stormwater Detention Basin

*Description*

Stormwater detention basins capture runoff in a large area allowing sediment to settle prior to flows being released. By detaining on-site stormwater, flows are released more slowly than without the control structure. During both the construction and production phase, an engineered stormwater detention basin area will hold stormwater from the required 100-year storm event and control release rates through an outlet pipe and emergency spillway. As an additional erosion and sediment control measure, the outlet pipe will discharge to a riprap pad surrounded with straw wattles to slow the velocity and minimize sediment before outflows are released off site.

*Applicability*

The stormwater detention area is designed to be site-specific and are appropriate for detaining stormwater from the project area.

*Limitations*

Stormwater detention basins only provide peak flow reduction and do little to control stormwater volume. Stormwater detention basins have limited water quality treatment capacity.

*Location*

During the construction phase, stormwater from the well pad and production facility will drain to the stormwater detention basin located west of the well pad. The outlet will consist of two 12-inch diameter high-density polyethylene (HDPE) pipes. One will have an orifice cap to control release rates and one will have no orifice cap. Anti-seep collars should be used to prevent seepage through the berm and outlet slopes should be protected using geotextile fabric or riprap in order to prevent erosion along the embankment.

During the production phase, stormwater from the reclaimed well pad and production facility will drain to the stormwater detention basin located west and south of the reclaimed well pad. The outlet will consist of two 12-inch diameter HDPE pipes. One will have an orifice cap to control release rates and one will have no orifice cap. Anti-seep collars should be used to prevent seepage through the berm and outlet slopes should be protected using geotextile fabric or riprap in order to prevent erosion along the embankment.

## 5.5 Riprap Apron

*Description*

Riprap aprons are runoff energy dissipation devices usually constructed from rip-rap at the end of culverts and pipe outlets. Riprap aprons are specified by rip-rap gradations, length, and width. The purpose of riprap aprons is to reduce the stormwater runoff velocities from ditches and culverts and spread out the runoff as it is released.

*Applicability*

Riprap aprons are used at the end of ditches and culverts. Riprap aprons help to reduce areas susceptible to erosion.

*Limitations*

Riprap aprons must be regularly maintained especially during construction activities. Riprap aprons are not sediment traps and if allowed to silt in they may become a source of erosion. Riprap aprons may fail if they are undersized or not property placed.

*Location*

This site will have riprap aprons located at the outlet of the pipe outlets for the stormwater detention basins during both the construction and production phases.

## 5.6 Sediment Control Logs

*Description*

Sediment control logs are a manufactured tubular sediment collection device sometimes referred as “straw wattles.” Sediment control logs are at a specified diameter and must be installed according to the manufacturer’s recommendations and specifications. The purpose of the sediment control logs is to capture sediment preventing it from leaving the site while releasing the stormwater runoff.

*Applicability*

Sediment control logs help prevent the transport of sediment offsite during the slope stabilization and revegetation periods. Sediment control logs are often placed along contour lines in short repeating intervals perpendicular to cut/fill slopes. Sediment control logs are also commonly used at the bottom of material stockpiles. Sediment control logs cannot be used as runoff diversion devices. Sediment control logs may be used as ditch check dams and storm drain inlet control devices.

*Limitations*

Sediment control logs must be regularly maintained especially during construction activities and slope stabilization periods. Sediment control logs have a limited sediment capture zone area and multiple lines will be needed for longer slopes. Sediment control logs must be placed in a trench which could cause slope damage while doing maintenance using heavy machinery. Sediment control logs may be difficult to install on rocky slopes.

*Location*

Straw wattles may be placed around the perimeter of stockpiles during both the construction and production phases to further control erosion and minimize sediment transport.

## 5.7 Seeding and Mulching

*Description*

Seeding and mulching assumes the preparation of a seedbed with topsoil, selection of an appropriate native seed mixture, proper planting techniques, and protection mulching of the seeded area. The purpose of seeding and mulching is to stabilize slopes and prevent erosion control and sediment transport from the site. Seeding also absorbs the impact of raindrops, reduces the velocity of runoff, reduces runoff volumes by increasing water permeation into the soil, binds soil with roots, protects soil from wind, improves wildlife habitat, and enhances natural beauty.

*Applicability*

Seeding and mulching is used for slope stabilization and erosion control on all disturbed slopes, berms, ditches, and material stockpiles during construction following interim reclamation efforts. Operator will seed with a mix specified by the surface owner. Seeding will be applied at the optimum seeding methodology. Typical seed mix and application rates can be found in Appendix C.

*Limitations*

Without proper seedbed preparation and seed mix, seeding and mulching will fail. Seeding and mulching takes time to develop and slopes will need to be protected and regularly maintained. Noxious weeds transported onsite may become a site nuisance and a hazard to private property and may try to establish themselves in seedbed areas.

*Location*

Permanent seeding will be applied to all topsoil stockpiles and reclaimed areas during the production phase.

## 5.8 Vehicle Tracking Control

*Description*

Vehicle tracking control provides stabilization to access points of construction sites where trucks enter and exit from paved roads. It reduces sediment tracking from vehicles (mud or dirt) from the construction site onto the paved road.

*Applicability*

When a construction site has frequent heavy vehicle traffic exiting to a paved road, vehicle tracking control should be implemented. It is particularly important when dust and mud are especially prevalent from rain events and/or construction activities.

*Limitations*

Without proper maintenance, vehicle tracking control can become less effective if it is clogged with mud and debris, especially after rain.

*Location*

Vehicle tracking control will be implemented where the proposed access road intersects East 120th Avenue.

# 6.0 SITE MAINTENANCE AND UPKEEP

The Extraction site monitoring program ensures site conditions stay in compliance. Sedimentation, culvert and access road condition, vegetation health, and several other safety and maintenance items are routinely monitored and evaluated to ensure the site is in workable and drainable order.

Routine maintenance and required repairs of access roads, culverts, ditches, berms, and outlet structures will be handled by the operations team. Cleaning and removal of sediment and debris from ditches, culverts, and outlets, as well as vegetation maintenance and specific manufacturer maintenance, will also be handled by the operations team during regular operations and maintenance checks.

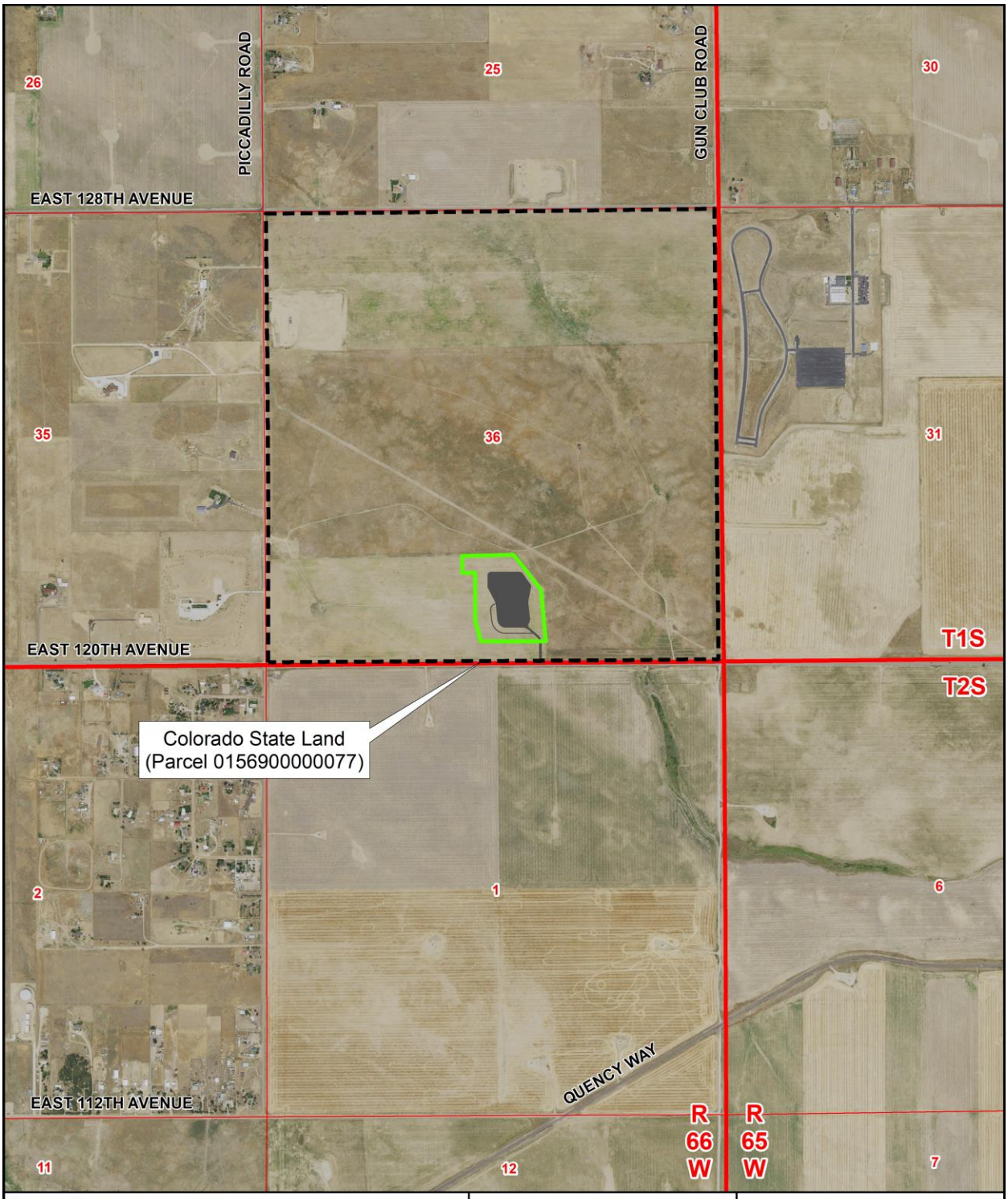
# 7.0 CONCLUSION

The information and analysis presented in this SWMP display the adequacy and effectiveness of the design and planning associated with the Eagle Pad. The design protects public health, safety, and general welfare and has no adverse impacts on public rights-of-way or off-site properties.

# APPENDICES

# Appendix A:

# Project Location




**Legend**

- Proposed Oil and Gas Location
- Eagle Pad Operational Area

N
W E
S

0 0.25 miles

Prepared For:

CIVITAS
Extraction Oil & Gas, Inc.


609 CONSULTING, LLC

LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331

SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

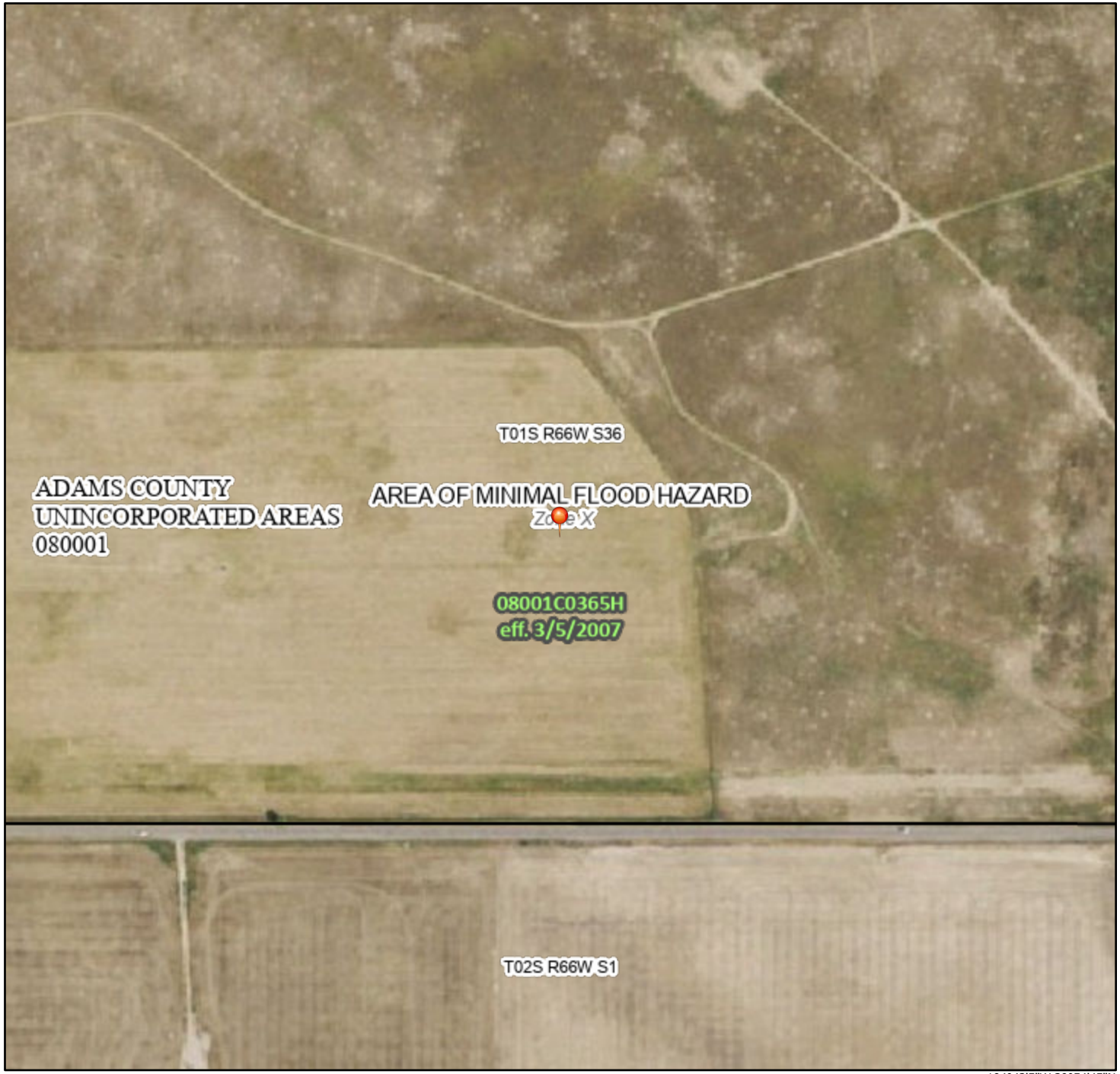
# Appendix B:

# FEMA Flood Insurance Rate Map FIRMette

# National Flood Hazard Layer FIRMette

FEMA

104°43'43"W 39°55'13"N




Feet

0 250 500 1,000 1,500 2,000

1:6,000

104°43'5"W 39°54'45"N

*Basemap Imagery Source: USGS National Map 2023*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/19/2025 at 8:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# Appendix C:

# Seed Mix

**Table 4**
**Seed Mix and Application Rates**

**ADAMS COUNTY, COLORADO**

| SEED MIX | APPLICATION RATE (lbs/acre) |
|---|---|
| **PBSI Dryland Aggressive Mix** | **25** |
| (20%) Green Needlegrass, Lodorm | |
| (20%) Slender Wheatgrass, Native | |
| (20%) Western Wheatgrass, Native | |
| (20%) Pubescent Wheatgrass, Luna | |
| (20%) Intermediate Wheatgrass, Oahe/Rush | |
| | |
| **PBSI Native Prairie Mix** | **15** |
| (25%) Blue Grama | |
| (10%) Buffalograss | |
| (20%) Green Needlegrass | |
| (20%) Sideoats Grama | |
| (25%) Western Wheatgrass | |
| | |
| **PBSI Native Sandyland Mix** | **15** |
| (20%) Yellow Indiangrass | |
| (10%) Little Bluestem | |
| (10%) Indian Rice Grass | |
| (10%) Sideoats Grama | |
| (10%) Sand Lovegrass | |
| (10%) Prairie Sandreed | |
| (20%) Switchgrass | |
| | |
| **PBSI Premium Irrig. Pasture Mix #1** | **25** |
| (75%) Meadow Bromegrass, Paddock/Fleet | |
| (25%) Orchardgrass, Elsie/Megabite/Paiute | |

**Notes:**
lbs/acre = pounds per acre
% = percent

# Appendix D:

# CDPS General Permit Certification

COLORADO
Department of Public Health & Environment

**CERTIFICATION TO DISCHARGE**
**UNDER**
**CDPS GENERAL PERMIT COR400000**
**STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY**

Certification Number: **COR401178**

**This Certification to Discharge specifically authorizes:**

**Owner Civitas Resources**
**Operator Civitas Resources**
to discharge stormwater from the facility identified as

**East Wattenberg Gas Field**

**To the waters of the State of Colorado, including, but not limited to:**

**South Platte River**

| | |
|---|---|
| **Facility Activity :** | OilGas |
| **Disturbed Acres:** | 2880 acres |
| **Facility Located at:** | CR 7 and CR 52 Erie 80516<br>Weld County<br>Latitude 40.088295 Longitude -104.999135 |
| **Specific Information (if applicable):** | |

**Certification is issued: 4/12/2024**
**Certification is effective: 4/1/2024**
**Expiration date of general permit: 3/31/2029**

This certification under the general 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 COR400000 permit.

This certification was approved by:
Andrew Sayers-Fay Permits Section Manager
Clean Water Program
Water Quality Control Division

# Appendix E:

# Site-Specific Stormwater BMPs

Extraction will implement the following site-specific stormwater BMPs:

- **Berms**: External ditches and berms will be constructed along the perimeter of the Eagle Pad project site to ensure that runoff remains on-site and is diverted to the sediment traps and detention basin area.
- **Ditches**: External ditches and berms will be constructed around the perimeter of the Eagle Pad project site to ensure that runoff remains on-site and is diverted to sediment traps and the detention basin area. Temporary diversion ditches will collect and drain on-site stormwater to sediment traps and outlets. Treated stormwater will exit the sediment traps onto undisturbed ground where the natural contours will drain away from the project area. Ditches shall have a minimum slope of 0.5%, 12" depth minimum, and 2:1 slope.
- **Sediment Trap**: Three 20 feet by 20 feet by 3 feet deep sediment traps are recommended for this project during the construction phase. Sediment traps will be reclaimed during the production phase.
- **Stormwater Detention Basin**:
    - During the construction phase, stormwater from the well pad and production facility will drain to the stormwater detention basin located west of the well pad. The outlet will consist of two 12-inch diameter high-density polyethylene (HDPE) pipes. One will have an orifice cap to control release rates and one will have no orifice cap. Anti-seep collars should be used to prevent seepage through the berm and outlet slopes should be protected using geotextile fabric or riprap in order to prevent erosion along the embankment.
    - During the production phase, stormwater from the reclaimed well pad and production facility will drain to the stormwater detention basin located west and south of the reclaimed well pad. The outlet will consist of two 12-inch diameter HDPE pipes. One will have an orifice cap to control release rates and one will have no orifice cap. Anti-seep collars should be used to prevent seepage through the berm and outlet slopes should be protected using geotextile fabric or riprap in order to prevent erosion along the embankment.
- **Riprap Apron**: This site will have riprap aprons located at the outlet of the pipe outlets for the stormwater detention basins during both the construction and production phases.
- **Sediment Control Logs**: Straw wattles may be placed around the perimeter of stockpiles during both the construction and production phases to further control erosion and minimize sediment transport.
- **Seeding and Mulching**: Permanent seeding will be applied to all topsoil stockpiles and reclaimed areas during the production phase.
- **Vehicle Tracking Control**: Vehicle tracking control will be implemented where the proposed access road intersects East 120th Avenue.

# Berm (B)



## Description

A berm is a ridge of compacted soil located at the top or base of a sloping disturbed area to contain or divert surface water runoff. Berms may be constructed from compactable soils sufficiently impermeable to retain water. Typically berms will be constructed using subsoils.

The purpose of a berm is to control runoff velocity, divert on-site surface runoff into a sediment trapping device, divert clean water away from disturbed areas, provide secondary containment, and to provide a safe slope barrier for vehicle traffic.

## Applicability

Berms are usually appropriate for drainage basins smaller than five acres, but with modifications they can be capable of servicing areas as large as ten acres. With regular maintenance, the life span of earthen berms can last throughout the life of a project. Berms can used at, but are not limited to, the following applications:

- Along the outside shoulder of an in-sloped road to ensure runoff from the roadway drains inward and to protect the fill slope from continual disturbance during road blading and maintaining;
- Up slope of cut or fill slopes to divert flows away from disturbed areas;
- Down slope of cut or fill slopes to divert on-site runoff into a stabilized outlet or sediment trapping device;
- Along the outside shoulder of a road to provide vehicle safety or;
- Secondary containment around pollutant sources.

## Limitations

- Berms may erode if not properly maintained, compacted, and or stabilized with vegetation. Berms which are adjacent to concentrated flows may require other means of stabilization.
- If a berm crosses a vehicle roadway or entrance, it needs to be compacted and widened to create a drive over that ensures simultaneous function of the berm and road. Wherever possible, berms should be designed to avoid crossing vehicle pathways.

## Design Criteria

See figure B-1 for design criteria.

## Construction Specifications

- Prior to berm construction, remove all trees, brush, stumps, and other objects in the path of the berm. Fill will typically consist of subsoil excavated during the construction of nearby roads or well pads.
- All berms shall have positive drainage to a stabilized outlet so runoff does not collect in ponds on the up-slope side of the berm, but instead flows along the berm until it reaches a stabilized outlet. Field location should be adjusted as needed. The stabilized outlet may be a well-vegetated area, a well pad detention pond, or a sediment control such as a silt fence or sediment trap where sediment can settle out of the runoff before being discharged.
- Berms should be constructed prior to commencement of major up-slope land disturbance. This will maximize the effectiveness of the structure as a stormwater control device.
- Berms used as secondary containment must be compacted and sufficiently impervious to retain liquids until the next routine inspection.

## Maintenance Considerations

The frequency of inspections shall be in accordance with the Stormwater Management Plan (SWMP). Berms should be inspected for evidence of erosion or deterioration. Berms should also be maintained at or above the minimum required height. Any decrease in height due to settling or erosion, which impacts the effectiveness of the BMP, shall be repaired.

## Removal

Berms should remain in place and in good condition until all up-slope disturbed areas are permanently stabilized. There is no need to remove a berm upon stabilization, provided the berm is stabilized and functioning properly.

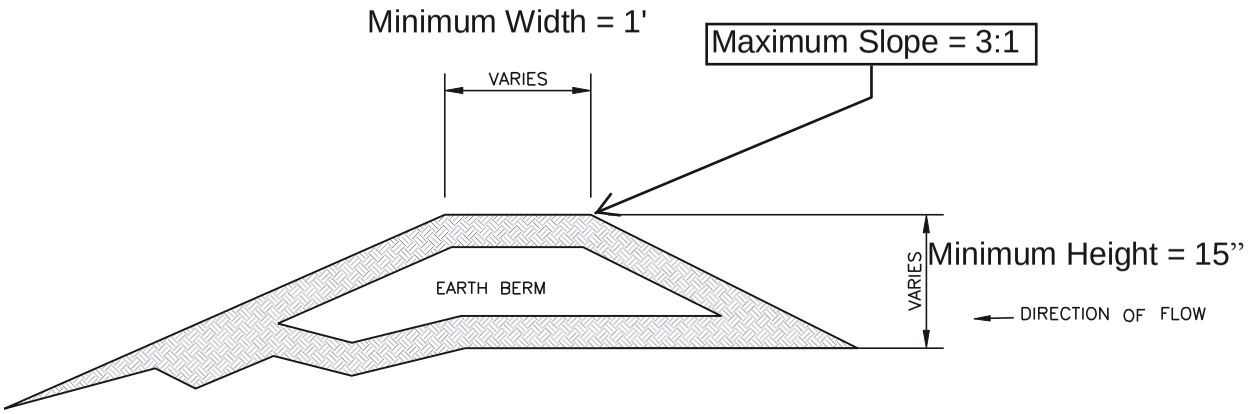
## References

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Storm Water Runoff Control.* Washington, D.C., February, 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005.http://www.dec.ny.gov/chemical/29066.html

Urban Drainage and Flood Control District, *Volume 3 Stormwater Quality*. Denver, CO, November 2015. http://udfcd.org/volume-three

# FIGURE B-1
## Earth Berm




Notes:
1. Soil must be compactable and sufficiently impervious to retain/deflect stormwater.
2. Earthen Berms must be compacted to be effective.

SCALE: NOT TO SCALE

# Culvert Protection (CP)



## Description

Culvert protection may be required at the inlet (upstream side) of the culvert and/or the outlet (downstream side) of the culvert. Protection helps to reduce erosion from culverts with concentrated, high velocity flows.

Culvert inlet protection involves placing boulders, riprap, gabions, rock retaining walls, slash, and/or any other protection at the inlet pipes. Riprap, or other energy-dissipating devices, will reduce the velocity of stormwater flows and thereby prevent erosion and help protect the inlet structure.

Culvert outlet protection involves placing structurally lined aprons or other appropriate energy-dissipating devices, such as large boulders or plunge pools, at the outlets of the pipes. Lined aprons or other appropriate energy-dissipating devices will reduce the velocity of stormwater flows and thereby prevent scour at stormwater outlets, protect the outlet structure, and minimize potential for erosion downstream.

## Applicability

Riprap inlet protection should be used where velocities and energies at the inlets of culverts are sufficient to erode the inlet structure. Riprap may also be used to help channel the stormwater into the inlet of the culvert.

Culvert outlet protection should be used where discharge velocities and energies at the outlets of the culverts or channels are sufficient to erode the next downstream reach.

## Limitations

Rock aprons at the culvert outlets should not be placed on slopes steeper than 10 %. Runoff from pipe outlets at the top of cut/fills or on slopes steeper than 10% should be routed using slope drains or riprap chutes to a rock apron at the toe of the slope. Otherwise, the flow will re- concentrate and gain velocity as the flow leaves the apron.

## Design Criteria

See Figure CP-2 and Table CP-1 for design criteria.

### Culvert Inlet Protection

Riprap, gabions, or rock retaining walls at culvert inlets shall be designed according to RIPRAP (R) or RETAINING WALL (RW).

### Culvert Outlet Protection

Gabions or rock retaining walls at culvert outlets shall be designed according to RETAINING WALL (RW). Riprap aprons at culvert outlets shall be designed as follows:

**Tail-water depth:** The depth of tail-water immediately below the pipe outlet must be determined for the design capacity of the pipe. If the tail-water depth is less than half the diameter of the outlet pipe, and the receiving stream is wide enough to accept divergence of the flow, it shall be classified as a minimum tail-water condition. If the tail-water depth is greater than half the pipe diameter and the receiving stream will continue to confine the flow, it shall be classified as a maximum tail-water condition. Pipes out-letting onto flat areas with no defined channel may be assumed to have a minimum tail-water condition.

**Riprap apron size and D50 size:** The apron length (LA) and the D50 size of the riprap will be determined using Table CP-1 according to the design flow and weather there is a minimum or maximum tail-water condition. The apron width (W) shall then be determined as (W=d+0.4LA) where d is the diameter of the culvert. If the pipe discharges directly into a well-defined channel, the apron shall extend across the channel bottom and up the channel banks to an elevation one foot above the maximum tail-water depth or to the top of the bank, whichever is less. The upstream end of the apron, adjacent to the pipe, shall have a width of two times the diameter of the outlet pipe.

**Riprap materials:** The outlet protection may be done using rock riprap or grouted riprap. Riprap shall be composed of a well-graded mixture of stone size such that 50% of the pieces, by weight, shall be larger than the D50 size determined from Table CP-1. A well-graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone size in such a mixture shall be 1.5 times the D50 size. All grout for grouted riprap must be 1-part Portland cement for every 3-parts sand, mixed thoroughly with water.

**Filter:** If a filter cloth or gravel is used, it should be designed according to RIPRAP (R).

**Apron thickness:** The minimum thickness of the riprap layer shall be 1.5 times the maximum stone diameter for a D50 of 15 inches or less and 1.2 times the maximum stone size for a D50 greater than 15 inches.

**Riprap stone quality:** Stone for riprap shall consist of field stone or rough un-hewn angular stone. The stone shall be hard and angular and of a quality that will not disintegrate with exposure to water or weathering. The specific gravity of the individual stone shall be at least 2.5. Site rock or site boulders may be used providing it has a density of at least 150 pounds per cubic foot and does not have any exposed steel or reinforcing bars

## Construction Specifications

### Culvert Inlet Protection

- Riprap, gabions, or rock retaining walls at culvert inlets shall be constructed in accordance to RIPRAP (R) or RETAINING WALL (RW).
- After installation of a culvert, examine the stream channel for the amount of debris, logs, and brushy vegetation present. In channels with large amounts of debris, consider using oversized pipes.
- Boulders should be dry-stacked around the culvert inlet and up the slope to the edge of the road.

**Culvert Outlet Protection**

Gabions or rock retaining walls at culvert outlets shall be designed according to RETAINING WALL (RW). Riprap aprons at culvert outlets shall be constructed according to CP-2 and the following:

- Prepare the sub-grade for the riprap to the required lines and grades. Any fill required in the sub-grade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- If a pipe discharges into a well-defined channel, the channel's side slopes may not be steeper than 2:1.
- Construct the apron to the design length and width with no slope (Figure CP-2). The invert elevations must be equal at the receiving channel and the apron's downstream end. No over-fall at the end of the apron is allowed. The elevation of the downstream culvert outlet and of the apron shall be equal to the elevation of the receiving channel or adjacent ground. The outlet protection apron shall be located so there are no bends in the horizontal alignment.
- Line the apron with riprap, grouted riprap, or concrete. Riprap should be the appropriate size thickness and design. See RIPRAP (R) for the placement of riprap.
- If a culvert outlet discharges at the top of cut/fills or on slopes steeper than 10%, one of the following options is suggested:
    1. Transition the culvert to a slope drain according to SLOPE DRAIN (SD). The slope drain shall convey stormwater to the bottom of the slope where the riprap apron, as designed above, shall prevent erosion at the slope drain outlet.
    2. Line the slope below the culvert outlet with a riprap channel to convey stormwater to the bottom of the slope where a riprap apron, as designed above, shall prevent erosion at the bottom of the slope. The riprap channel shall be designed according to the table in the RIPRAP (R) construction specification based on depth of flow and slope. The riprap channel shall dip into the slope such that all water is contained within the channel, flows to the riprap outlet apron at the base of the slope, and does not spill over the sides onto unprotected soil.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Inspect for debris at the entrance to culverts and within culverts. Inspect riprap at culvert inlets for damage and dislodged stones. The maintenance needs are usually very low for properly installed riprap aprons at culvert outlets. However, inspect for evidence of scour beneath riprap at outlet aprons or for dislodged stones. Anything found to reduce the effectiveness of the culvert or culvert outlet protection should be repaired immediately.

## References

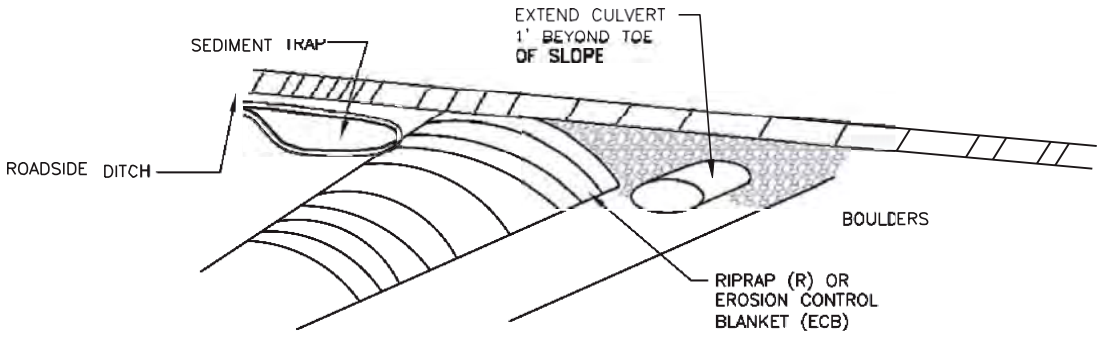
Keller, Gordon and James Sherar, *Low-Volume Roads Engineering, Best Management Practices Field Guide.* United States Department of Agriculture (USDA), Forest Service, US Agency of International Development (USAID), 2003. http://www.blm.gov/bmp/field%20guide.htm

New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005. http://www.dec.ny.gov/chemical/29066.html

## TABLE CP-1
## Outlet Protection Design

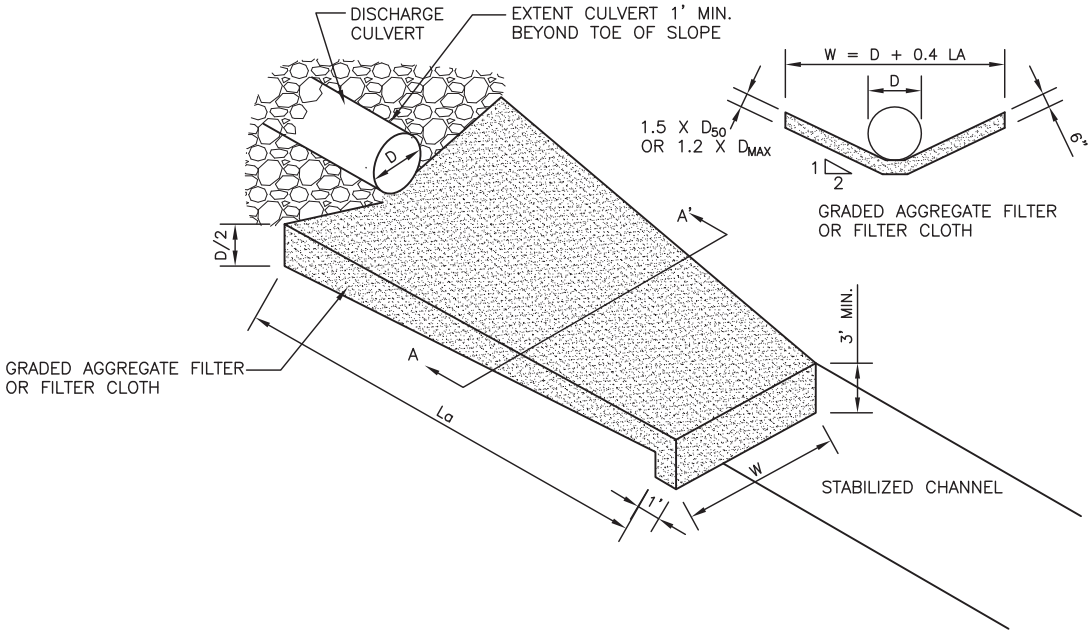
| Riprap Aprons for Low Tailwater (downstream flow depth <0.5 X pipe diameter) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Culvert Diameter | Lowest Value | | | Intermediate values to interpolate from | | | | | | | | | Highest value | | | |
| | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | |
| | Cfs | Ft | In | Cfs | Ft | In | Cfs | Ft | In | Cfs | Ft | In | Cfs | Ft | In | |
| 12" | 4 | 7 | 2.5 | 6 | 10 | 3.5 | 9 | 131 | 6 | 12 | 16 | 7 | 14 | 17 | 8.5 | |
| 15" | 6.5 | 8 | 3 | 10 | 12 | 5 | 15 | 16 | 7 | 20 | 18 | 10 | 25 | 20 | 12 | |
| 18" | 10 | 9 | 3.5 | 15 | 14 | 5.5 | 20 | 17 | 7 | 30 | 22 | 11 | 40 | 25 | 14 | |
| 21" | 15 | 11 | 4 | 25 | 18 | 7 | 35 | 22 | 10 | 45 | 26 | 13 | 60 | 29 | 18 | |
| 24" | 21 | 13 | 5 | 35 | 20 | 8.5 | 50 | 26 | 12 | 65 | 30 | 16 | 80 | 33 | 19 | |
| 27" | 27 | 14 | 5.5 | 50 | 24 | 9.5 | 70 | 29 | 14 | 90 | 34 | 18 | 110 | 37 | 22 | |
| 30" | 36 | 16 | 6 | 60 | 25 | 9.5 | 90 | 33 | 15.5 | 120 | 38 | 20 | 140 | 41 | 24 | |
| 36" | 56 | 20 | 7 | 100 | 32 | 13 | 140 | 40 | 18 | 180 | 45 | 23 | 220 | 50 | 28 | |
| 42" | 82 | 22 | 8.5 | 120 | 32 | 12 | 160 | 39 | 17 | 200 | 45 | 20 | 260 | 52 | 26 | |
| 48" | 120 | 26 | 10 | 170 | 37 | 14 | 220 | 46 | 19 | 270 | 54 | 23 | 320 | 64 | 37 | |
| Riprap Aprons for High Tailwater (downstream flow depth <0.5 X pipe diameter) | | | | | | | | | | | | | | | | |
| Culvert Diameter | Lowest Value | | | Intermediate values to interpolate from | | | | | | | | | Highest value | | | |
| | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | Q | $L_A$ | $D_{50}$ | |
| | Cfs | Ft | In | Cfs | Ft | In | Cfs | Ft | In | Cfs | Ft | In | Cfs | Ft | In | |
| 12" | 4 | 8 | 2 | 6 | 18 | 2.5 | 9 | 28 | 4.5 | 12 | 36 | 7 | 14 | 40 | 8 | |
| 15" | 7 | 8 | 2 | 10 | 20 | 2.5 | 15 | 34 | 5 | 20 | 42 | 7.5 | 25 | 50 | 10 | |
| 18" | 10 | 8 | 2 | 15 | 22 | 3 | 20 | 34 | 5 | 30 | 50 | 9 | 40 | 60 | 11 | |
| 21" | 15 | 8 | 2 | 25 | 32 | 4.5 | 35 | 48 | 7 | 45 | 58 | 11 | 60 | 72 | 14 | |
| 24" | 20 | 8 | 2 | 35 | 36 | 5 | 50 | 55 | 8.5 | 65 | 68 | 12 | 80 | 80 | 15 | |
| 27" | 27 | 10 | 2 | 50 | 41 | 6 | 70 | 58 | 10 | 90 | 70 | 14 | 110 | 82 | 17 | |
| 30" | 36 | 11 | 2 | 60 | 42 | 6 | 90 | 64 | 11 | 120 | 80 | 15 | 140 | 90 | 18 | |
| 36" | 56 | 18 | 2.5 | 100 | 60 | 7 | 140 | 85 | 13 | 180 | 104 | 18 | 220 | 120 | 23 | |
| 42" | 82 | 15 | 2.5 | 120 | 50 | 60 | 160 | 75 | 10 | 200 | 96 | 14 | 260 | 120 | 19 | |
| 48" | 120 | 20 | 2.5 | 170 | 58 | 7 | 220 | 85 | 12 | 270 | 105 | 16 | 320 | 120 | 20 | |

## FIGURE CP-1
## Typical Inlet Protection




SCALE: NOT TO SCALE

## FIGURE CP-2
## Typical Outlet Protection



# Ditch and Berm (DB)



## Description

A ditch and berm (also known as Earthen Dike and Drainage Swale) is a drainage with a parabolic or V-shaped cross-section and a supporting ridge on the lower side that is constructed across the slope. The purpose of a ditch and berm is to prevent off-site stormwater runoff (runon) from entering a disturbed area, to prevent sediment laden storm runoff from leaving the construction site or disturbed area, to prevent flows from eroding slopes, and to direct sediment laden flows to a trapping device.

## Applicability

Ditch and berms can be designed for temporary or permanent use. Regardless of timeframe, a ditch and berm should be sufficiently constructed throughout to minimize the potential for failure. Ditch and berms may be used for, but are not limited to:

- The up slope of cut or fill slopes to convey or divert flows away from disturbed areas;
- The down slope of cut or fill slopes to divert on-site runoff to a stabilized outlet or sediment trapping device;
- At the outer edge of a location to ensure that runoff remains on the pad and is diverted to a designated water collection system, such as a sediment trap, pond, etc. (if applicable);
- Where runoff from higher areas has potential for causing erosions, or interfering with, or preventing the establishment of vegetation on lower areas;
- Where the length of slopes need to be reduced so soil loss will be kept to a minimum;
- At the perimeter of a site or disturbed area.

## Limitations

- The area around the ditch and berm that is disturbed by its construction must be stabilized (with vegetation or other erosion control) so it is not subject to similar erosion as the steep slope the channel is built to protect. Overburden needs to be sufficiently compacted upon initial ditch construction.
- To alleviate erosion capability, ditch and berms must be directed into a stabilized outlet or well-vegetated area or to sediment trapping devices, where erosion sediment can be settled out of the runoff before being discharged into surface waters.
- Temporary ditch and berms should be designed to avoid crossing vehicle pathways. If a ditch needs to cross a vehicle pathway a culvert and or similar BMPs must be utilized.
- Ditch and berms should be used with caution on soils subject to slippage.

## Design Criteria

See Figures ED-1, DS-1, DS-2, DS-3, DS-4 and/or DS-5 for design criteria and installation details.

## Construction Specifications

- All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the ditch and berm. Ideally the ditch will be cut in a location that avoids obstructions and or objects as to avoid additional disturbance.
- All ditch and berms shall have uninterrupted positive grade to an outlet.
- All ditch and berms shall be parabolic or V-shaped if possible.
- The ditch and berm shall be excavated or shaped to line, grade, and cross section as required to meet the specific criteria, depending on ditch design (see ED/DS Diagram).
- All ditch and berms must be cut to a minimum depth of 15 inches from the top of the ditch to the bottom center.
- The side slopes must be 3:1 to ensure ease of maintenance, minimize erosion, and allow the ditch to adequately disperse flow.
- All ditch and berms must have a minimum width of 7.5 feet from ridge to ridge.
- In the event of an excavated ditch and berm, all overburden needs to be sufficiently compacted along the ditch edge.
- Rills shall be compacted as needed to prevent unusual settlement that would interfere with the proper functioning of the ditch and berm.
- All earth that is removed and not needed in the construction process shall be spread or disposed of on the well pad side so it will not interfere with the functioning of the ditch and berm.
- Stabilization BMPs shall be incorporated into all ditch and berms immediately after the ridge and channel are constructed in order to minimize erosion, degradation, and sediment deposition from the ditch. Permanent ditch and berms must be seeded or hydro seeded and mulched or covered with erosion control blanketing according to SEEDING (S) and MULCHING (M) or EROSION CONTROL BLANKET (ECB) along with any disturbed areas that drain into the ditch and berm.
- Diverted runoff from a disturbed area shall be conveyed to a sediment trapping device.
- Diverted runoff from an undisturbed area shall outlet to a sediment trapping device or into an undisturbed stabilized area at non-erosive velocities. Vegetative outlets shall be installed before ditch and berm construction, if needed, to ensure establishment of vegetative cover in the outlet channel.

## Location

Ditch and berms are usually located above or below cut or fill slopes. Exact ditch and berm location shall be determined by considering outlet conditions, topography, land use, soil type, length of slope, and the development layout. Where possible on shallow slopes, a vegetative buffer strip should be left between the edge of the cut or fill slope and the ditch and berm. See VEGETATIVE BUFFER (VB).

For clay vegetated channels. Ditch and berms are usually not applicable below high sediment producing areas unless structural measures, designed to prevent damaging accumulations of sediment in the channels, are installed with or before the ditch and berm.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Channels should be cleared of sediment and repairs made when necessary. Maintain ditch and berm capacity, ridge height, especially if high-sediment yielding areas are in the drainage area above the ditch and berm. Redistribute the sediment as necessary to maintain the capacity of the ditch and berm.

### Removal

Temporary ditch and berms shall remain in place only until the disturbed areas are re-graded and prepared for permanent stabilization. Permanent ditch and berms shall remain in place until final reclamation (abandonment).

## References

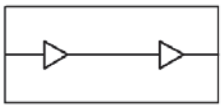

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New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005. http://www.dec.ny.gov/chemical/29066.html

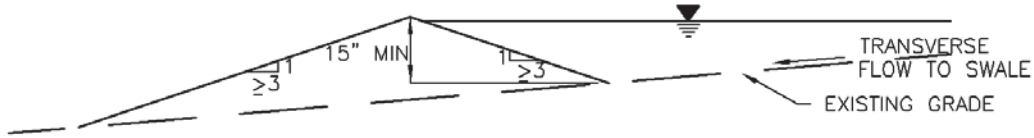
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Urban Drainage and Flood Control District, *Volume 3 Stormwater Quality*. Denver, CO, November 2015. http://udfcd.org/volume-three

# Earth Dikes and Drainage Swales (ED/DS)

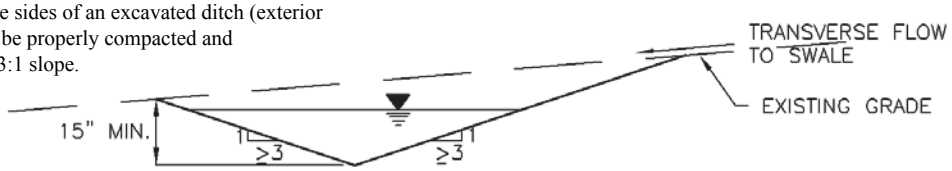





ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

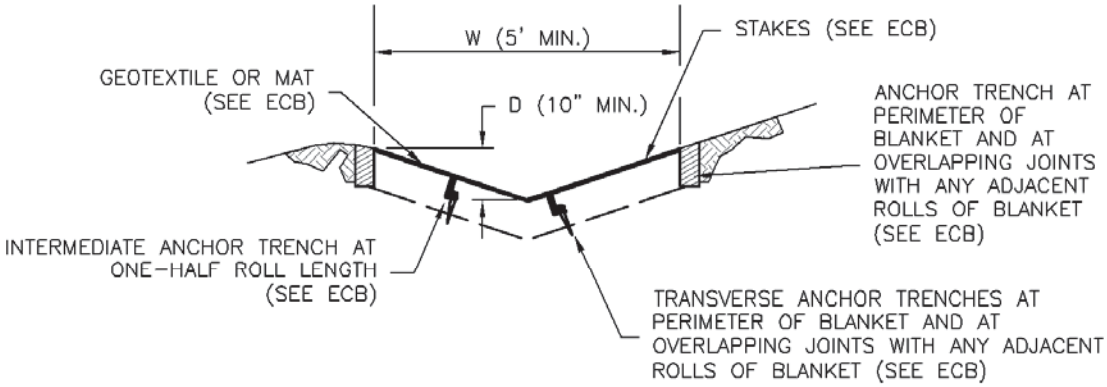
Optional: An interior berm is optional if all overburden generated during the constuction phase is removed and properly stored on location. All overburden that remains along the sides of an excavated ditch (exterior & interior) must be properly compacted and constructed at a 3:1 slope.




DS–1. COMPACTED UNLINED EXCAVATED SWALE



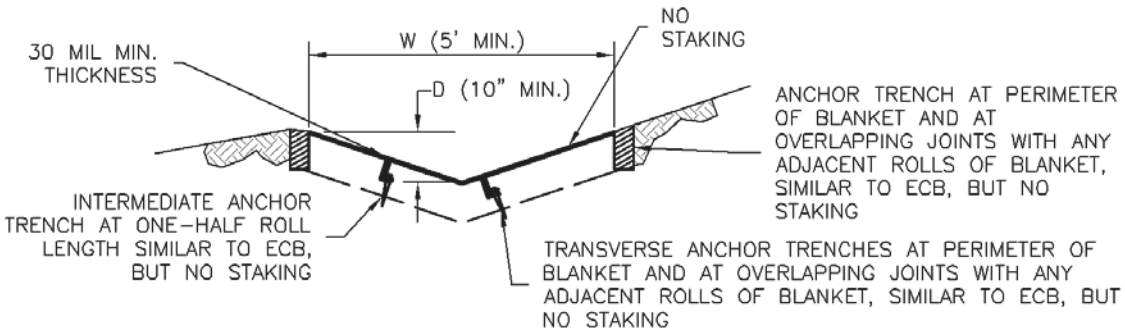

DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



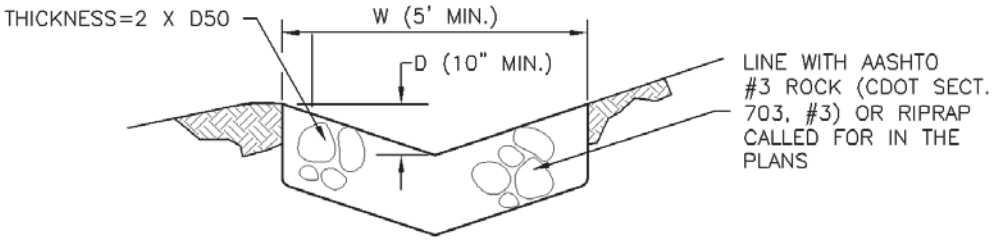

DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)

Note: Excavated or fill material used to create a ditch and berm must be compacted.
Note: Locations with site-specific engineered ditch and berm desgins will be followed in lieu of this standard design and will be documented in the site-specific SWMP diagram and/or applicable documentation.

# Earth Dikes and Drainage Swales (ED/DS)




DS-4. SYNTHETIC LINED SWALE




DS-5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   - LOCATION OF DIVERSION SWALE
   - TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
   - LENGTH OF EACH SWALE.
   - DEPTH, D, AND WIDTH, W DIMENSIONS.
   - FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
   - FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.

2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2-YEAR FLOW RATE OR 10 CFS.

3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES IN PROXIMITY.

4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.

5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.

6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS OF THE ECB DETAIL.

7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

Note: Excavated or fill material used to create a ditch and berm (dike/swale) must be compacted.

# Earth Dikes and Drainage Swales (ED/DS)

EARTH DIKE AND DRAINAGE SWALE MAINTENANCE NOTES

1. INSPECT BMPs ACCORDING TO THE APPLICABLE SWMP SCHEDULE 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 REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.

5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROIIA DOUGLAS COUNTY, COLORADO ANO THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN AUTOCAD)

# Land Grading (LG)



## Description

Grading involves reshaping the ground surface to planned grades. Grading provides more suitable topography for well pads and pipelines and helps to control runoff, soil erosion, and sediment during and after construction in these areas. Land grading includes the following.

- Proper cut and fill techniques to ensure roads and well pads remain stable over time.
- Road crowning or sloping to properly route stormwater off of the roadway.
- Surfacing of roads or well pads with gravel to avoid mud, rutting, and large quantities of sediment that will wash away during storms.

## Applicability

- The construction and maintenance of any road or well pad, but particularly those located on steep topography or easily erodible soils.
- Surface gravel areas with "soft" soils sections, steep grades, highly erosive soils, or where all-weather access is needed. Gravel may be used as "fill" material in ruts or as a full structural section over the entire road or well pad.

## Limitations

- Improper cut and fill slopes that disrupt natural stormwater patterns might lead to poor drainage, high runoff velocities, and increased peak flows during storm events.
- Rutting and wash boarding may develop if surface gravel is not designed properly or if road or well pad is not sloped properly.
- Flat-blading to maintain the roadway must be done properly to avoid changes in gravel thickness, road slope, and road grade.

## Design Criteria

Land grading should be based upon well pad and pipeline layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Clearing and grading should only occur at those areas necessary for well pad activity and equipment traffic. Maintaining undisturbed temporary or permanent buffer zones in the grading operation

provides a low cost sediment control measure that will help reduce runoff and off-site sedimentation.

### Slope Failures

Landslides and failed cuts and fills can be a major source of sediment. Slope failures can close the roads or require major repairs and can greatly increase maintenance costs. Slope failures or landslides typically occur where a slope is overly steep, where fill material is not compacted, or where cuts in natural soils encounter groundwater or zones of weak material. Good road location can often avoid landslide areas and reduce slope failures. When failure does occur, the slide area should be stabilized by removing the slide material, flattening the slope, adding drainage, or using structures as discussed below. Designs are typically site specific and may require input from geotechnical engineers and engineering geologists. Failures that occur typically impact operations and can be costly to repair. Failures near streams and channel crossings have an added risk of impact to water quality.

**Road Slope** (See Figure LG-1 for details).

All roads should be designed with one of the following three slope types:

1. Out-sloped roads minimize the concentration of water and minimize road width by avoiding the need for an inside ditch, but may require roadway surface and fill slope stabilization. Out-sloped roads with clay rich, slippery road surface materials often require surface stabilization with gravel or limited use during rainy periods to assure traffic safety. Roads with over 10% to 12% grades and on steep hill slope areas, out- sloped roads are difficult to drain and can feel unsafe.
2. In-sloped roads are the best method to control surface water. However, in-sloped roads also concentrate water and require a system of ditches and turnouts or cross draining culverts.
3. Crowned roads are appropriate for higher standard, two lane roads on gentle grades. They may or may not require roadside ditches, turnouts, and/or cross drains. It is difficult to create and maintain a crown on a narrow road, so generally in-sloped or out-sloped road drainage is more effective.

## Construction Specifications

### Cut and Fill Slopes

- All areas to be disturbed (both cut and fill) shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots, or other objectionable material.
- Fill material shall be free of brush, logs, stumps, roots, or other objectionable material that would interfere with, or prevent construction or satisfactory fills. This material can be set aside and later used at the toe of fill slopes as filter berms.
- Table LG-1 presents a range of commonly used cut and fill slope ratios appropriate for the soil and rock types described. Vertical cut slopes should not be used unless the cut is in rock or very well-cemented soil. Ideally, both cut and fill slopes should be constructed with a 2:1 or flatter slope to promote growth of vegetation, but cut slopes in dense, sterile soils or rocky material are often difficult to vegetate. All cut & fill slopes will be constructed according to the engineered diagrams when applicable.

- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence, or other related problems.
- Topsoil required for the establishment of vegetation shall be stockpiled in the amount necessary to complete finished grading of all exposed areas.

**Road Slope** (See Figure LG-1).

- Compact soil or road base material to direct runoff.
- If crowning a road, runoff is directed to both sides of the road requiring two roadside ditches, unless runoff will drain directly to well-stabilized areas.
- If using an in-slope design, runoff will be directed toward the hillside and requires a roadside ditch with periodic turnouts or cross drain culvert installation.
- If using an out-slope design, ensure a moderate road slope with dense vegetative cover.

**Surface Gravel**

- Ideally, aggregate surfacing material is (1) hard, durable, and crushed or screened to a minus 2-inch size; (2) well graded to achieve maximum density; (3) contains 5-15% clayey binder to prevent raveling; and (4) has a plasticity index of 2 to 10.
- Gravel thickness should be at least twice the diameter of the largest stone with a minimum thickness of 4 inches. Gravel thickness can be reduced with the use of geotextile or geo-grid sub-grade reinforcement when gravel is placed over very weak soils. Also, geotextile layers are useful over soft soils to separate the gravel from the soil, keep it uncontaminated, and extend the useful life of the gravel.
- Compact the aggregate during construction and maintenance to achieve a dense, smooth surface and thus reduce the amount of water that can soak into the road or well pad.
- "Spot" stabilize local wet areas and soft areas with 4 to 6 inches of coarse rocky material, add more as needed.
- Blend coarse aggregate and fine clay-rich soil (when available) with 5% to 15% fines for binder to produce a desirable composite roadway material that is coarse yet well graded.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Inspect cut and fill slopes for rills or other indications of erosion. Maintain all crowns, out slopes, in slopes, and surface gravel.

## References

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control.* Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Horizon Environmental Services, Inc, *Guidance Document Reasonable and Prudent Practices for Stabilization (RAPPS) of Oil and Gas Construction Sites.* April 2004.

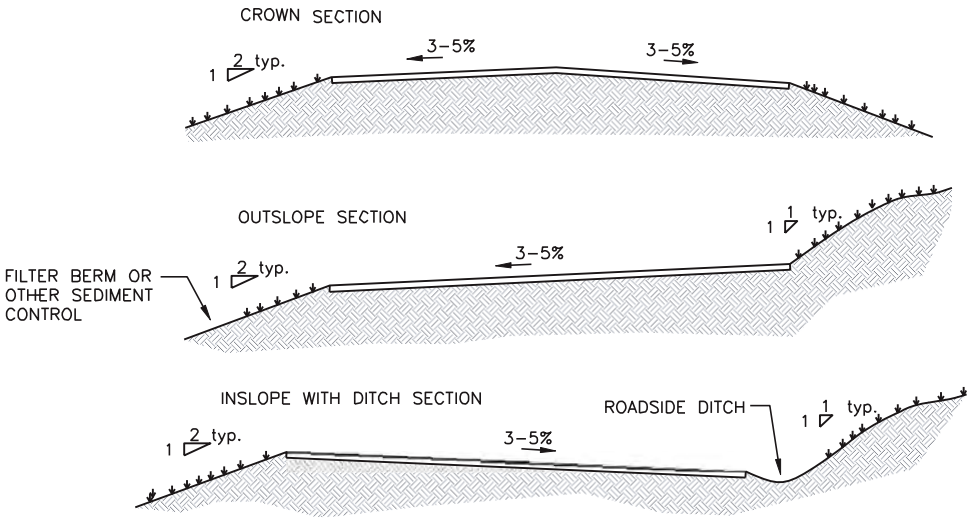
Keller, Gordon and James Sherar, *Low-Volume Roads Engineering, Best Management Practices Field Guide.* United States Department of Agriculture (USDA), Forest Service, US Agency of International Development (USAID), 2003. http://www.blm.gov/bmp/field%20guide.htm

New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005. http://www.dec.ny.gov/chemical/29066.html

## TABLE LG-1
## Stable Slope Ratios for Various Conditions

| Soil/Rock Condition | Slope Ratio (Hor:Vert) |
|---|---|
| Most rock | 1/4: 1 to 1/2: 1 |
| Very well cemented soils | 1/4: 1 to 1/2: 1 |
| Most in-place soils | 3/4: 1 to 1: 1 |
| Very fractured rock | 1: 1 to 1 1/2: 1 |
| Loose coarse granular soils | 1 1/2: 1 |
| Heavy clay soils | 2: 1 to 3: 1 |
| Soft clay rich zones or wet seepage areas | 2: 1 to 3: 1 |
| Fills of most soils | 1 1/2: 1 to 2: 1 |
| Fills of hard, angular rock | 1 1/3: 1 |
| Low cuts and fills (<10 ft high) | 2: 1 or flatter (for revegetation) |

## FIGURE LG-1
## Typical Road Surface Drainage Options




SCALE: NOT TO SCALE

# Mulching (M)



## Description

Mulching is a temporary erosion control practice in which materials such as grass, hay, wood chips, wood fibers, straw, or gravel are placed on exposed or recently planted soil surfaces. Mulching stabilizes soils by minimizing rainfall impact and reduces stormwater runoff velocity. When used in combination with seeding or planting, mulching can aid plant growth by holding seeds, fertilizers, and topsoil in place, preventing birds from eating seeds, retaining moisture, and insulating plant roots against extreme temperatures.

Mulch matting is materials such as jute or other wood fibers that are formed into sheets and are more stable than loose mulch. Jute and other wood fibers, plastic, paper, or cotton can be used individually or combined into mats to hold mulch to the ground. Netting can be used to stabilize soils while plants are growing, although netting does not retain moisture or insulate against extreme temperatures. Mulch binders consist of asphalt or synthetic materials that are sometimes used instead of netting to bind loose mulch.

## Applicability

Mulching is often used after (or in combination with) seeding to help aid in the establishment of vegetation. Hydraulic application of mulch is often used in steep areas (up to 1:1) where regular mulching is difficult because of environmental constraints. Mulch matting, with net or anchoring to hold it in place, can also be used on steep slopes or in critical areas such as waterways. Mulch can last for one to two years and is most effective when used on an area less than two acres in size.

## Limitations

- Mulching, matting, and netting might delay seed germination because the cover changes soil surface temperatures.
- The mulches are subject to erosion and may be washed away in a large storm.
- Maintenance is necessary to ensure that mulches provide effective erosion control.

## Design Criteria

See Table M-1 and M-2 for mulch materials and application rate details.

## Construction Specifications

### Site Preparation

- Prior to mulching, install the necessary temporary or permanent erosion control practices and drainage system within or adjacent to the area to be mulched.
- Slope, grade, and smooth the side to fit the needs of the selected mulch products.
- Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

### Mulching and Anchoring

- Select the appropriate mulch and application rate that will best meet the need and availability of material. When possible, organic mulches should be used for erosion control and plant establishment. See Table M-1 for suggested materials and application rates. Other materials include hydraulic mulch products with 100% post-consumer paper content and yard trimming composts. All materials should be free of seed.
- Apply mulch after soil amendments and planting is accomplished or simultaneously if hydro-seeding is used. See Table M-1 for installation guidelines.
- Use a mulch crimper to apply and anchor mulch. A crimper should have approximately 6-inch cleats with perpendicular, dull, disc blades. If a crimper is unavailable the Contractor shall apply the mulch and anchor it to the soil using one of the methods described in Table M-2. The mulch should be anchored the same day as the mulch application. Materials that are heavy enough to stay in place (for example, bark or wood chips on flat slopes) do not need anchoring. Mulches may or may not require a binder, netting, or tacking. Mulch binders should be applied at rates recommended by the manufacturer. Effective use of netting and matting material requires firm, continuous contact between the materials and the soil.

### Hydraulic Mulching

- For steep slopes or other areas where hydraulic application of mulch is desired, a high-quality type of hydraulic matrix known as a Bonded Fiber Matrix (BFM) may be used. A BFM refers to a continuous layer of elongated wood fiber strands that are held together by a water-resistant bonding agent to form a water-absorbing crust.
- A typical construction specification for wood fiber mulch (hydro-mulch) is as follows: Biodegradable green-dyed wood-cellulose-fiber mulch, which is nontoxic, free of plant growth- or germination-inhibitors, with maximum moisture content of 15% and a pH range of 4.5 to 6.5.
- A typical construction specification for weed-free-straw non-asphaltic tackifier is as follows: Organic derivative vegetative gum tackifier recommended by fiber-mulch manufacturer for a slurry application, which is nontoxic and free of plant growth-or germination-inhibitor.

- Hydraulic application of BFM must be done when no rainfall is expected, preferably within a 24-hour time period. Mix BFM in a hydraulic application machine (such as a hydro-seeder or a mulch blower) and then apply to the slope as a liquid slurry. The slurry must be constantly agitated to keep the proper application rate and achieve uniform effective coverage. The minimum application rate shall be 2,000 pounds per acre with a typical application rate between 3,000 and 4,000 pounds per acre.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Areas should be identified where mulch has loosened or been removed. Such areas should be re-seeded (if necessary) and the mulch cover replaced. If washout, breakage, or erosion occurs, surfaces should be repaired, re-seeded, and re-mulched, and new netting should be installed. Inspections should be continued until vegetation is firmly established.

### Removal

Anchor netting and any other artificial mulch material should be removed when protection is no longer needed and then disposed of in a landfill.

## References


United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control*. Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Horizon Environmental Services, Inc, *Guidance Document Reasonable and Prudent Practices for Stabilization (RAPPS) of Oil and Gas Construction Sites.* April 2004

New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005. http://www.dec.ny.gov/chemical/29066.html

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), *Field Office Technical Guide.* 2002. http://www.nrcs.usda.gov/technical/efotg/

**Table M-1**
**Typical Mulching Materials and Application Rates**

| Material | Rate per Acre | Requirements | Notes |
|---|---|---|---|
| Organic Mulches | | | |
| Straw | 1-2 tons | Dry, unchopped, unweathered; certified weed free | Spread by hand or machine; must be tacked or tied down |
| Wood fiber or wood cellulose | 1/2 - 1 ton | | Use with hydroseeder, may be used to tack straw. Do not use in hot dry weather. |
| Wood Chips | 5 - 6 tons | Air dry. Add fertilizer N. 12 lb/ton | Apply with blower, chip handler, or by hand. Not for fine turf areas. |
| Bark | 35 $yd^3$ | Air dry, shredded, or hammermilled, or chips. | Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack. |
| Nets and Mats | | | |
| Jute net | Cover area | Heavy, uniform; woven of single jute yarn. Used with organic mulch | Withstands water flow |
| Excelsior (wood fiber) mat | Cover area | | |

**Table M-2**
**Mulch Anchoring Guide**

| Anchoring Method or Material | Kind of Mulch to be Anchored | How to Apply |
|---|---|---|
| 1. Mulch netting | Hay or straw | Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manuracturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic. |
| 2. Wood cellulose fiber | Hay or straw | Apply hydroseeder immediately after mulching. Use 500 lbs. Wood fiber per acre. Some products contain an adheisive material, possibly advantageous. |
| 3. Mulch anchoring tool/Crimper | Hay or straw | Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3". |
| 4. Chemical | Hay or straw | Apply Terra Tack AR 120lbs./ac. In 480 gal. of water (#156/sec.) or Aerospray 70 (60gal./ac.) according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperatire higher than 45 deg. Ferhenheit are required. |

# Riprap (R)



## Description

Riprap is a permanent, erosion resistant layer made of stones or boulders. It is intended to stabilize areas subject to erosion and protect against scour of the soil caused by concentrated, high velocity flows.

## Applicability

Riprap can be used for areas subject to erosion or weathering, particularly where conditions prohibit the establishment of re-vegetation or where flow velocities exceed 5 feet per second.

Riprap can be used in, but is not limited to:

- Cut and fill slopes;
- Channel side slopes and/or bottoms;
- Inlets and outlets to culverts, slope drains, and sediment traps; and
- Roadside ditches.

## Limitations

Riprap is limited by steepness of slope, because slopes that are greater than 1.5:1 have potential riprap loss due to erosion and sliding. When working within flowing streams, measures should be taken to prevent excessive turbidity and erosion during construction. Bypassing base flows or temporarily blocking base flows are two possible methods.

## Design Criteria

### Gradation

A well-graded mixture of rock sizes should be used instead of one uniform size (with the exception of dry stacking boulders). Fifty percent by weight should be larger than the specified design size. The diameter of the largest stone size in such a mixture should be 1.5 times the D50 size with smaller sizes graded down to one inch. When dry stacking up a slope, boulders may be uniform in size or may get gradually smaller as the boulders are placed up the slope.

**Quality**

Riprap must be durable so freeze/thaw cycles do not decompose it in a short time. They should be angular and not subject to breaking down when exposed to water or weathering.

**Size**

The sizes of stones used for riprap protection are determined by the purpose and specific site conditions:

- **Slope Stabilization:** Riprap stone for slope stabilization not subject to flowing water should be sized for the proposed grade. The gradient of the slope to be stabilized should be less than the natural angle of the repose of the stone selected. Angles of the repose of riprap stones may be estimated using Figure R-1. Riprap used for surface stabilization of slopes does not add significant resistance to sliding or slope failure and should not be considered a retaining wall. Slopes approaching 1.5:1 may require special stability analysis. The inherent ability of the soil must be satisfactory before riprap is used for surface stabilization.
- **Outlet Protection.** Design criteria for sizing stone and determining dimensions of riprap aprons are presented in CULVERT PROTECTION (CP).
- **Stream Bank Protection.** If the shear stress is estimated, riprap stone for stream bank protection can be selected from the gradations in Table R-1, below. The shear stress can be estimated from the depth of flow and the channel slope (see note for Table R-1). The riprap should extend 2 feet below the channel bottom and be keyed into the bank both at the upstream end and downstream end of the proposed work or reach.

**Filter Material**

Filter material is sometimes used between riprap and the underlying soil surface to prevent soil from moving through the riprap. Filter cloth material or a layer of sand and/or gravel is usually used for the filter.

The design of a sand/gravel filter blanket is based on the ratio of particle size in the overlying filter material to that of the base material in accordance with the criteria below. Multiple layers (each a minimum of 6-inches thick) may be designed to affect a proper filter if necessary. A sand/gravel filter blanket should have the following relationship for a stable design.

The design of a synthetic filter fabric, which may be used with or in place of gravel filters, is as follows:

- Filter fabric covering a base containing 50 percent or less by weight of fine particles (#200 sieve size).
- Total open area of filter fabric should not exceed 36%.
- Filter fabric covering other soils.
- Equivalent opening size (EOS) is no larger than 0.21 mm (#70 sieve size).
- Total open area of filter fabric should not exceed 10%.
- *EOS- Equivalent opening size compared to a U.S. standard sieve size.

No filter fabric should have less than 4% open area or an EOS less than U.S. Standard Sieve #100 (0.15 mm). The permeability of the fabric must be greater than that of the soil. The fabric may be

made of woven or non-woven monofilament yarns and should meet the following minimum requirements:

- Thickness 20-60 mils
- Grab strength 90-120 lbs
- Conform to ASTM D-1682 or ASTM D-177

## Construction Specifications

See Figure R-2 for riprap slope stabilization and stream bank protection. See Figure R-3 for dry stacking boulders. See SEDIMENT TRAP (ST) for a detail of a riprap lined channel leading into a sediment trap. For culvert outlet protection, construct according to CULVERT PROTECTION (CP).

### Sub-Grade Preparation

Prepare the sub-grade for riprap to the required lines and grades. Compact any fill required in the sub-grade to a density approximating that of the undisturbed material or overfill depressions with riprap. Remove brush, trees, stumps, and other objectionable material. Cut the sub-grade sufficiently deep so the finished grade of the riprap will be at the elevation of the surrounding area. Channels should be excavated sufficiently to allow placement of the riprap in a manner such that the finished inside dimensions and grade of the riprap meet design specifications.

### Sand/Gravel Filter Basket

If using a granular filter, spread filter stone in a uniform layer to the specified depth. Where more than one layer of filter material is used, spread the layers with minimal mixing.

### Synthetic Filter Fabric

If using a filter fabric, place the cloth directly on the prepared foundation. Where large stones are to be placed, a 4-inch layer of fine sand or gravel is recommended to protect the filter cloth. Filter fabric is not recommended as a filter on slopes steeper than 2:1.

### Stone Placement

Place riprap so it forms a dense, well-graded mass of stone with a minimum of voids. The desired distribution of stones throughout the mass may be obtained by selective loading at the quarry and controlled dumping during the final placement. Place riprap through chutes or other methods that cause segregation of stone sizes. If a filter is used, be careful not to lodge the underlying base filter or damage the filter cloth when placing the stones. If damage occurs, remove the riprap and repair the filter.

The toe of the riprap should be keyed into a stable foundation at its base as shown in Figure R-2 if required for slope stabilization and stream bank protection. The finished slope should be free of pockets of small stones or clusters of large stones. Hand placing may be necessary to achieve proper distribution of stone sizes to produce a relatively smooth, uniform surface. The finished grade of the riprap should blend with the surrounding area.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). If riprap has been damaged or dislodged, repairs should be made to prevent a progressive failure. If repairs are needed repeatedly at one location, the site should be evaluated to determine if the original design conditions have changed. Channel obstructions such as trees and sediment bars can change flow patterns and cause erosive forces that may damage riprap. Control of weed and brush growth may be needed in some locations.

### Removal

Riprap is generally not removed. If it is anticipated that riprap shall be removed from a location, removal generally occurs during pullback/reduction methods.

## References

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control*. Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005. http://www.dec.ny.gov/chemical/29066.html

## TABLE R-1
## Riprap Gradations

| Unit shear stress ($lb/ft^2$) | $D_{50}$ | $d_{max}$ | Minimum blanket thickness (inches) |
|---|---|---|---|
| 0.67 | 2 | 4 | 6 |
| 2 | 6 | 9 | 14 |
| 3 | 9 | 14 | 20 |
| 4 | 12 | 18 | 27 |
| 5 | 15 | 22 | 32 |
| 6 | 18 | 27 | 32 |
| 7.8 | 21 | 32 | 38 |
| 8 | 24 | 36 | 43 |

Unit shear stress calculated as T=y*d*s where:

T=shear stress in $lb/ft^2$

y=unit weight of water, 62.4 $lb/ft^2$

d=flow depth in ft

s=channel gradient in ft/ft

## FIGURE R-1
## Angles of Repose of Riprap Stones

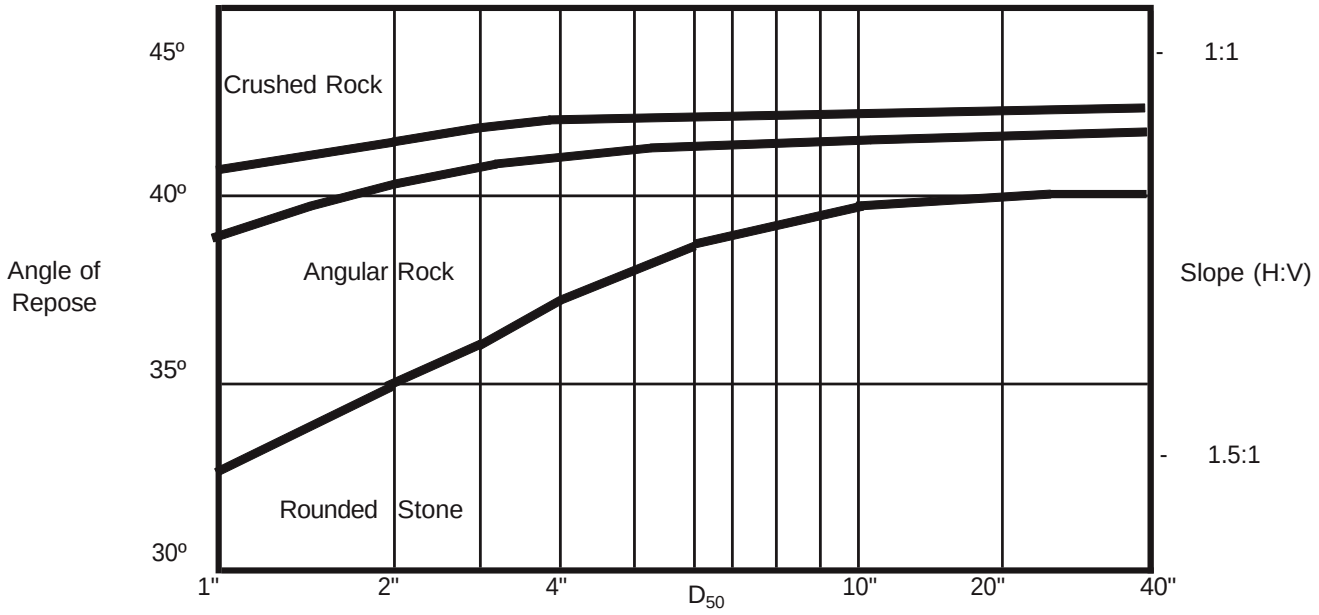


Figure R-2
Typical Riprap Slope Protection
Detail

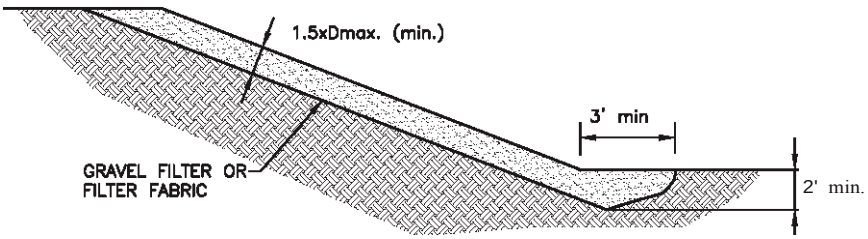
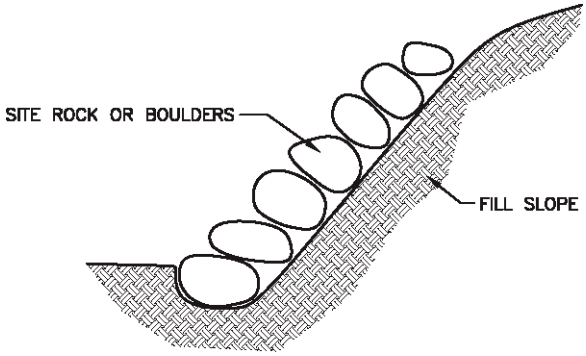



Figure R-3
Typical Boulder Drystack
Detail




SCALE: NOT TO SCALE

# Sediment Basin (SB)



## Description

Sediment basins can be used to temporarily pond and capture eroded or disturbed soil transported in stormwater runoff. Sediment basins are designed to capture runoff in a large pool or pond and allow sediment to settle from runoff prior to discharge from a location. The pool is dewatered through a single riser and drainage hole leading to a suitable outlet on the downstream side of the embankment or through the gravel of a rock dam. The water is released more slowly than it would be without the control structure. Many sediment basins are constructed in a location where it will remain after post-construction to serve as a permanent means of sediment settling.

## Applicability

Sediment ponds are usually used for drainage areas greater than 2 acres. They can be temporary or permanent. Sediment ponds designed to be used for up to 3 years are usually described as temporary. Those designed for longer service are considered permanent. Temporary sediment basins can be converted into permanent stormwater runoff management ponds, but they must meet all regulatory requirements for wet ponds.

## Limitations

Do not use a sediment pond with an earthen embankment or a rock dam in an area of continuously running water (live streams). Do not use a sediment pond in an area where failure of the earthen or rock dam will result in loss of life or damage to homes or other buildings. Do not use sediment basins in areas where failure will prevent the use of public roads or utilities.

## Design Criteria

Investigate potential sites for sediment ponds during the initial site evaluation. Construct the ponds before any grading takes place in the drainage area. Ponds should take into account basin storage volume, geometry, dam embankment, and inflow structure (See Table SB-1). For permanent structures, a qualified professional engineer experienced in designing dams should complete the basin design.

## Construction Specification

A sediment pond is constructed by excavation or by erecting an earthen embankment across a low area or drainage swale. Some sediment ponds are designed to drain completely during dry periods. Others are constructed so a shallow pool of water remains between storm events. See Diagram SD and Table SB for installation details.

## Maintenance Considerations

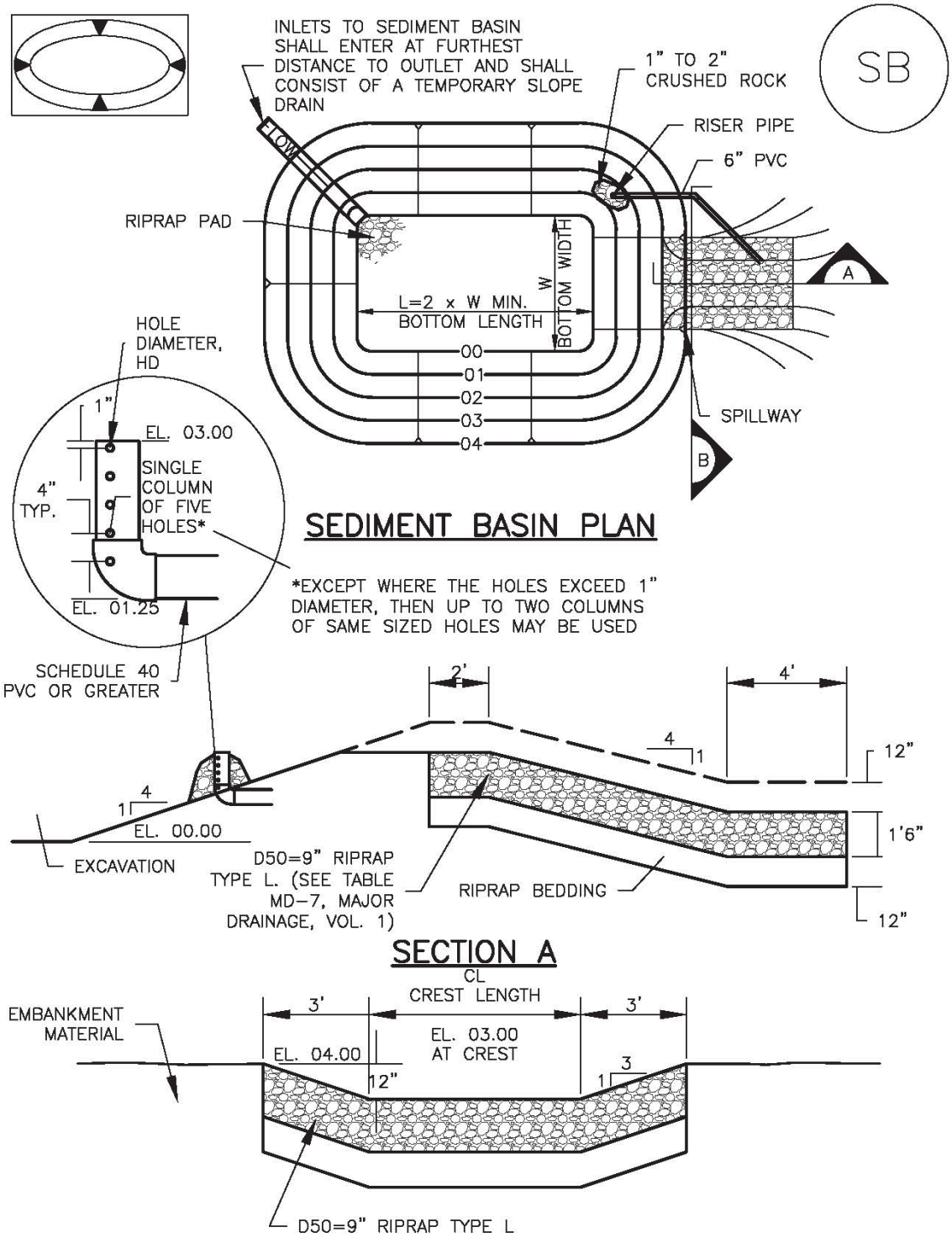
The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP) to ensure proper drainage from the collection pool and determine the need for structural repairs. Replace material eroded from earthen embankments or stones moved from rock dams immediately. Locate sediment basins in an area that is easily accessible to maintenance crews for removal of accumulated sediment. Remove sediment from the basin when the storage capacity has reached approximately 50%. Remove trash and debris from around dewatering devices promptly after rainfall events.

## References

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control*. Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Urban Drainage and Flood Control District, *Volume 3 Stormwater Quality*. Denver, CO, November 2015. http://udfcd.org/volume-three

# Sediment Basin (SB)




Note: Excavated or fill material used to create a sediment basin must be compacted.

# Sediment Basin (SB)

| TABLE SB–1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN | | | |
|---|---|---|---|
| Upstream Drainage Area (rounded to nearest acre), (ac) | Basin Bottom Width (W), (ft) | Spillway Crest Length (CL), (ft) | Hole Diameter (HD), (in) |
| 1 | 12 ½ | 2 | 9/32 |
| 2 | 21 | 3 | 13/16 |
| 3 | 28 | 5 | ½ |
| 4 | 33 ½ | 6 | 9/16 |
| 5 | 38 ½ | 8 | 21/32 |
| 6 | 43 | 9 | 21/32 |
| 7 | 47 ¼ | 11 | 25/32 |
| 8 | 51 | 12 | 27/32 |
| 9 | 55 | 13 | 7/8 |
| 10 | 58 ¼ | 15 | 15/16 |
| 11 | 61 | 16 | 31/32 |
| 12 | 64 | 18 | 1 |
| 13 | 67 ½ | 19 | 1 1/16 |
| 14 | 70 ½ | 21 | 1 1/8 |
| 15 | 73 ¼ | 22 | 1 3/16 |

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - –LOCATION OF SEDIMENT BASIN.
   - –TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
   - –FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
   - –FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.

3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND–DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL.

4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.

6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

# Sediment Basin (SB)

SEDIMENT BASIN MAINTENANCE NOTES

1. INSPECT BMPs IN ACCORDANCE WITH THE APPLICABLE SWMP FREQUENCY, 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 REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E.. TWO FEET BELOW THE SPILLWAY CREST).

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

# Sediment Trap (ST)



## Description

Sediment traps are traps formed by excavation of an area or by placing an earthen embankment across a low area or drainage swale. Sediment traps are designed to capture drainage from disturbed areas and allow settling of sediment prior to discharge from a location.

## Applicability

Sediment traps are generally temporary control measures used at the outlets of stormwater diversion structures, channels, slope drains, construction site entrance wash racks, or any other runoff conveyance that discharges waters containing erosion sediment and debris. Sediment traps should be used for drainage areas of five acres or less. Sediment traps shall remain in place until the upstream disturbed area is stabilized. Traps may be located in a series to accommodate larger drainage areas and allow for backup control in case one trap fails.

## Limitations

- Regular maintenance is needed to remove sediment. Traps should be located near roads or where accessible to remove sediment.
- Although sediment traps allow eroded soils to settle, due to the short detention periods for stormwater, traps typically do not remove fine particles such as silts and clays.
- Water may remain in sediment traps for extended periods causing mosquitoes and other insects to gather. Locate the trap in a sunny spot if possible.
- Never construct a sediment trap on a live flow stream or in wetlands.

## Design Criteria

Traps should be located at points of discharge from disturbed areas. The location will be determined by the natural terrain, drainage pattern of the runoff, and the accessibility for maintenance. Sediment traps should not be located in areas where their failure due to stormwater runoff excess can lead to further erosive damage of the landscape. Alternative diversion pathways should be designed to accommodate these potential overflows. Sediment trap locations should also allow for easy maintenance access for the periodic removal of accumulated sediment.

## Construction Specifications

See Figure ST for installation details.

- Sediment traps, along with other perimeter controls, shall be installed before any land disturbance takes place in the drainage area.
- Traps should be located above the floodplain, where possible. If there are space constraints, several small sediment traps may be constructed in series.
- Area under embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material, or other objectionable material.
- The sediment trap must have a minimum depth of 2.5 feet from the bottom of the trap to the top of the earthen berm. The sediment trap must also have a minimum width of 12 feet measured from berm-to-berm. Sizes vary on a site-specific basis.
- The sides of the sediment trap must be 2:1 to minimize erosion and ensure sufficient pooling of stormwater runoff.
- The berm of the sediment trap must be compacted or similar BMPs implemented.
- Stabilization of the embankment should be performed as soon as possible after construction of the sediment trap. This includes sufficient compaction, slope grade, or similar stabilization BMPs.
- The top of the earthen berm shall be, at minimum, 6 inches higher than the center of the outlet. The spillway must consist of Type M riprap (D50) 12 inches in size, at minimum, and extend 8 feet beyond the outlet. Smaller rock may be allowable for smaller traps if approved by local jurisdiction. Alternatives to a Type M riprap spill way include, but are not limited to, the combination of an erosion control blanket and wattles, a series of wattles, and/or Silt Soxx on properly compacted spillways.
- Sediment traps may be used in conjunction with the perimeter ditch in order to slow down the velocity of the water moving through the ditch and provide the sediment an intermediate location whereby it can fall/settle out of the water. In this instance, the trap(s) is/are placed in-line with the perimeter ditch with an outlet/spillway directing water either offsite (perpendicular to the ditch), or to continue on into the ditch downgradient of the sediment trap.
- In the event that an outlet is not constructed (enclosed design), sediment traps may be cleaned via hydro-vacuuming as needed and stortmwater will be properly disposed of off-site as described in the SWMP.
- Seeding of sediment trap embankments can be conducted if the life expectancy of a trap exceeds 12 months (1 year).

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). The primary maintenance consideration for temporary sediment traps is the removal of accumulated sediment from the basin to ensure the continued effectiveness of the sediment trap. Sediments should be removed when the trap reaches approximately 50% sediment capacity. Inspectors should also ensure that the trap is draining properly (if applicable) and check the structure for damage from erosion.

**Removal**

The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

## References


Colorado Department of Transportation (CDOT), *Erosion Control and Stormwater Quality Guide.* 2002. http://www.coloradodot.info/programs/environmental/water-quality/documents/erosion-storm-quality

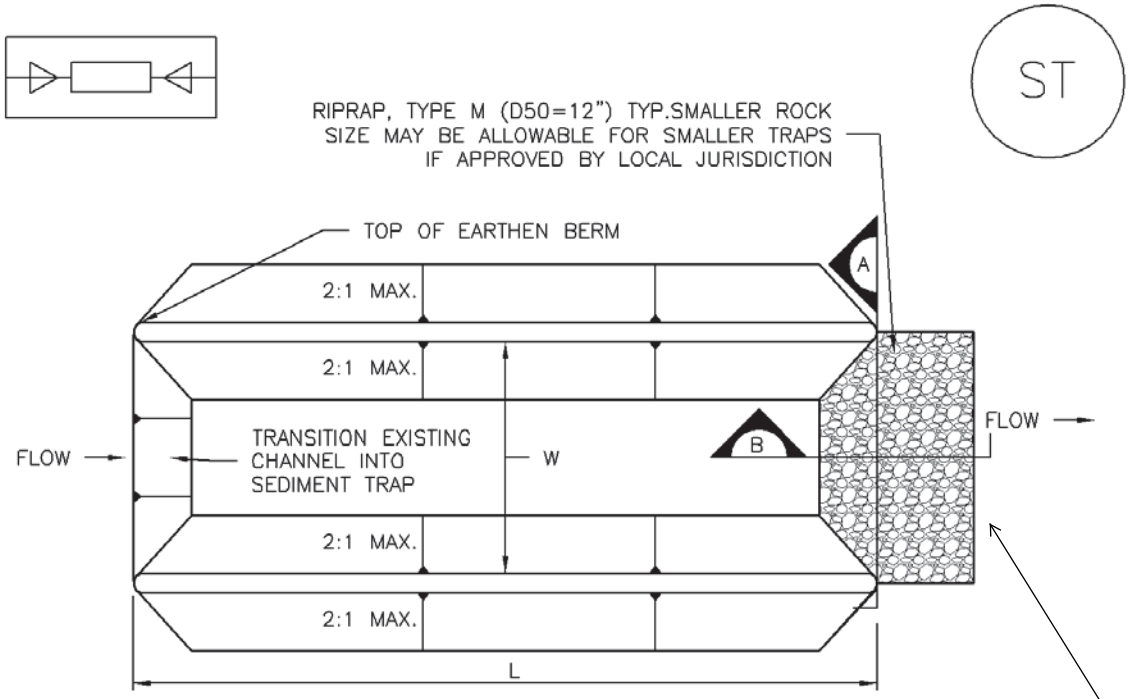
Colorado Department of Transportation (CDOT), *Erosion Control and Stormwater Quality Field Guide.* 2011. https://www.codot.gov/programs/environmental/water-quality/documents/CDOT%20Pocket%20Guide%20122211.pdf

Fank and Pat Pfister. *Stormwater - Sediment Trap.* 2011. http://forum.sws.org/eve/forums/a/tpc/f/2756008642/m/6897034506

Horizon Environmental Services, Inc, *Guidance Document Reasonable and Prudent Practices for Stabilization (RAPPS) of Oil and Gas Construction Sites.* April 2004

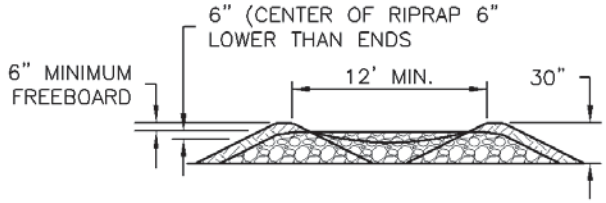
Urban Drainage and Flood Control District, *Volume 3 Stormwater Quality*. Denver, CO, November 2015. http://udfcd.org/volume-three

# Sediment Trap (ST)

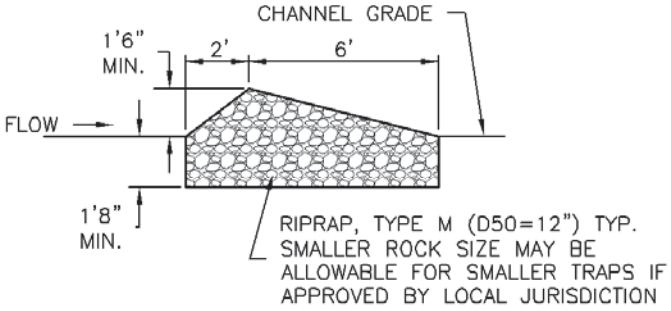



SEDIMENT TRAP PLAN

Optional: Enclosed sediment traps (where no rock apron or outlet is provided) can have stormwater removed as needed via hydro-vacuuming and will be properly disposed of off-site.




SECTION A

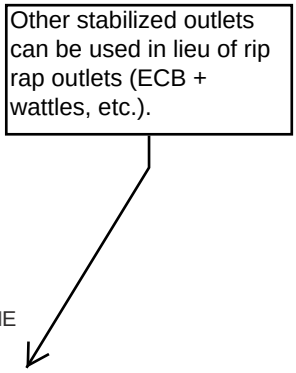



SECTION B

ST–1. SEDIMENT TRAP

Note: Excavated or fill material used to create a sediment trap must be compacted.
Note: Locations with site-specific engineeried sediment trap desgins will be followed in lieu of this standard design and will be documented in the site-specific SWMP diagram and/or applicable documentation.

# Sediment Trap (ST)




SEDIMENT TRAP INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.

2. ONLY USE FOR DRAINAGE AREAS LESS THAN 5 ACRES.

3. SEDIMENT TRAPS SHALL BE INSTALLED PRIOR *TO* ANY UPGRADIENI LAND-DISTURBING ACTIVITIES.

4. SEDIMENT TRAP BERM SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION. THE BERM SHALL BE COMPACTED.

5. SEDIMENT TRAP OUTLET *TO* BE CONSTRUCTED OF RIPRAP, TYPE M (050=12") TYP.SMALLER ROCK SIZE MAY BE ALLOWABLE FOR SMALLER TRAPS IF APPROVED BY LOCAL JURISDICTION.

6. THE TOP OF THE EARTHEN BERM SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF THE RIPRAP OUTLET STRUCTURE.

7. THE ENDS OF THE RIPRAP OUTLET STRUCTURE SHALL BE A MINIMUM OF 6" HIGHER THAN THE CENTER OF THE OUTLET STRUCTURE.

SEDIMENT TRAP MAINTENANCE NOTES

1. INSPECT BMPs IN ACCORDANCE WITH THE APPLICABLE SWMP FREQUENCY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE FOLLOWING A STORM THA 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.

J. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITPTEO UPON DISCOVERY OF THE FAILURE.

4. REMOVE SEDIMENT ACCUMULATED IN TRAP AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN THE SEDIMENT DEPTH REACHES )2 THE HEIGHT OF THE RIPRAP OUTLET.

5. SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED.

6. WHEN SEDIMENT TRAPS ARE REMOVED. THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED.

(DETAILS ADAPTED FRDM DOUGLAS COUNTY, COLORIIDO, NOT AVAILABLE N AUTOCAO)

# Seeding (S)



## Description

Seeding involves planting seed to establish a vegetative cover in disturbed areas that will be inactive for an extended period. Seeding establishes vegetation that reduces erosion and sediment displacement by stabilizing disturbed areas in a manner that is economical, adaptable to site conditions, and allows selection of the most appropriate plant material.

Seeding also:

- Absorbs the impact of raindrops;
- Reduces the velocity of runoff;
- Reduces runoff volumes by increasing water permeation into the soil;
- Binds soil with roots;
- Protects soil from wind;
- Improves wildlife habitat; and
- Enhances natural beauty.

## Applicability

Seeding is most effective on slopes no steeper than 2:1. Seeding may be used as a permanent control or a temporary control in areas where exposed soil surfaces are not to be re-graded for periods longer than 30 days. Such areas include denuded areas, soil stockpiles, berms, temporary road banks, etc.

## Limitations

The effectiveness of seeding can be limited by:

- High erosion potential during establishment.
- The need for stable soil temperature and soil moisture content during germination and early growth.
- The need to re-seed areas that fail to establish.
- Limited seeding times depending on the season.

Proper seedbed preparation and the use of quality seed are important in this practice. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.

Seeding does not immediately stabilize soils. Prior to seeding, install necessary erosion and sediment control practices such as diversions, straw bales, and basins until vegetation is established.

## Design Criteria

Successful plant establishment can be maximized with proper planning; consideration of soil characteristics; selection of plant materials that are suitable for the site; adequate seedbed preparation, liming, and fertilization; timely planting; and regular maintenance.

### When to Seed

Areas to be stabilized with vegetation must be seeded or planted one to four months after grading is completed unless temporary stabilization measures are in place. Temporary stabilization measures should be installed through "no growth" periods during winter months until the weather can support seed growth.

### Seed Mix

Climate, soils, and topography are major factors that dictate the suitability of plants for a particular site. Vegetation that has adapted to the site, has strong roots, and provides good ground cover should be used. Although a native seed mix is best, some grasses such as Vetiver have been used extensively worldwide because of their strong deep roots, adaptability, and non- invasive properties.

## Construction Specifications

- Seeding does not immediately stabilize soils. Temporary erosion and sediment control measures should be in place to prevent off-site transport of sediments from disturbed areas until vegetation is established.
- Vegetation should not be established on slopes that are unsuitable due to inappropriate soil texture, poor internal structure or internal drainage, volume of overland flow, or excessive steepness, until measures have been taken to correct these problems.
- If the area has been recently loosened or disturbed, no further roughening is required. When the area is compacted, crusted, or hardened, the soil surface shall be loosened by disking, raking, harrowing, or other acceptable means to ensure good water infiltration and root penetration (see SOIL ROUGHENING [SR]).
- The soil on a disturbed site may need to be modified to provide an optimum environment for seed germination and seedling growth. To maintain a good stand of vegetation, the soil must meet certain minimum requirements as a growth medium. If any of the below criteria cannot be met then topsoil shall be applied. The existing soil must have these characteristics:
    1. Enough fine-grained material to maintain adequate moisture and nutrient supply.

2. Sufficient depth of soil to provide an adequate root zone. The depth to rock or impermeable layers such as hard-pans shall be 12 inches or more, except on slopes steeper than 2:1 where the addition of soil is not feasible.
3. A favorable pH range for plant growth. If the soil is so acidic that a pH range of 6.0 to 7.0 cannot be attained by addition of pH-modifying materials, then the soil is considered an unsuitable environment for plant roots and further soil modification would be required.
4. Freedom from toxic amounts of materials harmful to plant growth.
5. Freedom from excessive quantities of roots, branches, large stones and clods of earth, or trash of any kind. Clods and stones may be left on slopes steeper than 3:1 if they do not significantly impede good seed-soil contact.

- Add fertilizer and/or lime, if necessary. Lime and fertilizer may be incorporated into the top 2 to 4 inches of the soil if possible. The addition of lime is equally as important as applying fertilizer. Lime will modify the pH and supply calcium and magnesium. Its effect on pH makes other nutrients more available to the plant.
- The appropriate seed shall be evenly applied with a broadcast seeder, drill, cultipacker or hydro-seeder. Seeding depth should be \1 to Yz inch.
- If necessary, apply mulch according to MULCHING (M). The mulch will hold moisture and modify temperature extremes and prevent erosion while seedlings are growing.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Vegetation is considered established when a density of at least 70% of pre-disturbance levels has been reached throughout the area. Seeded areas should be inspected for failure and any necessary repairs and re-seeding should be made prior to the next growing season.

## References

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control*. Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Horizon Environmental Services, Inc, *Guidance Document Reasonable and Prudent Practices for Stabilization (RAPPS) of Oil and Gas Construction Sites.* April 2004.

Keller, Gordon and James Sherar, *Low-Volume Roads Engineering, Best Management Practices Field Guide.* United States Department of Agriculture (USDA), Forest Service, US Agency of International Development (USAID), 2003. http://www.blm.gov/bmp/field%20guide.html

# Soil Roughening (SR)



## Description

Soil (surface) roughening is an erosion control practice that involves tracking, scarifying, imprinting, or tilling a disturbed area to provide temporary stabilization of disturbed areas. Surface roughening creates variations in the soil surface that help to minimize wind and water erosion. Depending on the technique used, surface roughening may also help establish conditions favorable to establishment of vegetation.

## Applicability

Soil roughening is most effective for areas of one acre or less, or in conjunction with other sediment controls on larger locations, and works well for the following applications:

- Any slope, but particularly fill slopes greater than 3:1;
- Areas with highly erodible soils; and
- Soils that are frequently disturbed

## Limitations

- Soil roughening is not appropriate for rocky slopes.
- Soil compaction might occur when roughening with tracked machinery.
- Soil roughening is of limited effectiveness in anything more than a gentle or shallow depth rain.
- If roughening is washed away in a heavy storm, the surface will have to be re-roughened.

## Design Criteria

The selection for the appropriate method of soil roughening depends on the type of slope. Steepness, mowing requirements, and/or a cut or fill slope operation are all factors considered in choosing a roughening method. See Figure SR-1 and Figure SR-2 for design criteria and installation details.

## Construction Specifications

- To slow erosion, roughening should be done as soon as possible after grading activities have ceased (temporarily or permanently) in an area.
- All cut and fill slopes should be roughened whenever possible.

- Do not blade or scrape the final fill slope face.
- Excessive compacting of the soil surface should be avoided during roughening, and areas should be seeded as soon as possible after roughening is completed.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Roughening might need to be repeated after storm events.

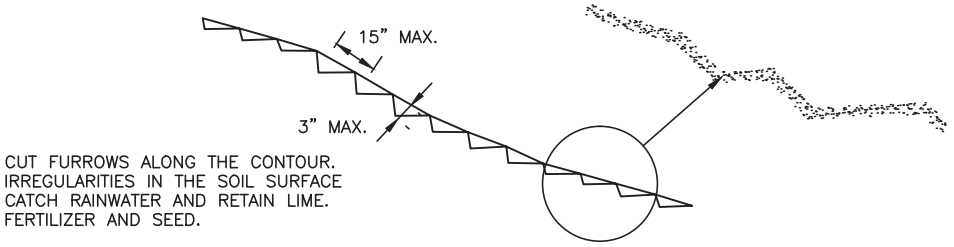
## References

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control*. Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

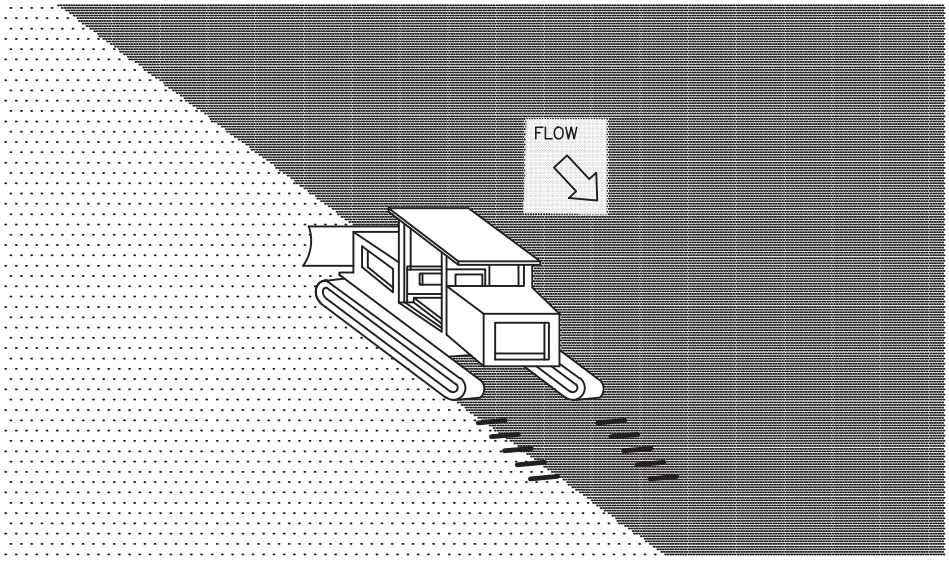
Horizon Environmental Services, Inc, *Guidance Document Reasonable and Prudent Practices for Stabilization (RAPPS) of Oil and Gas Construction Sites.* April 2004.

New York State Department of Environmental Conservation, *New York Guidelines for Erosion and Sediment Control*. New York. August 2005. http://www.dec.ny.gov/chemical/29066.html

## FIGURE SR-1
## Corrugation/Grooving




## FIGURE SR-2
## Tracking




SCALE: NOT TO SCALE

# Tracking Pad (TP)



## Description

A stabilized construction entrance (i.e., tracking pad) is a pad of gravel where construction traffic leaves a site. The purpose of a stabilized access to a site is to minimize the amount of tracked mud that leaves a site. As a vehicle drives over the gravel tracking pad, mud and sediment are removed from the vehicle's wheels and off-site transport of soil is reduced. The gravel tracking pad also reduces erosion and rutting in the soil beneath the stabilized structure. The filter fabric separates the gravel from the soil below, preventing the gravel from being ground into the soil. The fabric also reduces the amount of rutting caused by vehicle tires by spreading the vehicle's weight over a larger soil area than just the width of the tire. Tracking pads are generally used in conjunction with stabilization material such as surface armor, road base, etc.

## Applicability

Typically, stabilized construction accesses are installed at locations where construction traffic leaves or enters an existing paved road. However, the applicability of the site access stabilization should be extended to any roadway or entrance where vehicles will enter or leave the site.

## Limitations

- Although stabilizing construction access is a good way to help reduce the amount of sediment leaving a site, some soil may still be deposited from vehicle tires onto paved surfaces. To further reduce the chance of these sediments polluting stormwater runoff, sweeping of the paved area adjacent to the stabilized site access is recommended.
- Site traps or other secondary sediment controls may be needed to capture sediment that accumulates at the pad and may run off during storm events.

## Design Criteria

Construct all tracking pads on a level surface. Where feasible, grade the tracking control towards the construction site in order to reduce off-site runoff. There are several different types of stabilized tracking pads including:

1. **Aggregate Vehicle Tracking Control:** This type of tracking pad consists of a coarse-aggregate surfaced pad underlain by a geotextile to minimize compaction of tracking material. This tracking pad can be effective at removing sediment from vehicle tires when properly maintained and refreshed.

2. **Aggregate Vehicle Tracking Control with Was Rock:** This type of tracking pad may consists of a coarse-aggregate surface similar to VTC-1, with the addition of a sediment trapping device, and the optional installation of a geotextile. A concrete or steel rack is utilized for shaking and washing purposes and to dispose of sediment and/or sediment laden water in a designated location (if applicable). This is the most common vehicle tracking control and when properly maintained can be effective at removing sediment from vehicle tires.
3. **Vehicle Tracking Control with Construction Mat:** This type of tracking pad may be appropriate for locations with a small access and low traffic volume over vegetated areas. Although this application does not typically remove sediment from vehicles, it helps protect existing vegetation and provides a stabilized entrance.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Stabilization of site accesses should be maintained until the remainder of the construction site has been fully stabilized. Stone and gravel might need to be periodically added to each stabilized construction site access to keep the access effective. Soil that is tracked off site should be swept up immediately and properly disposed of.

## References

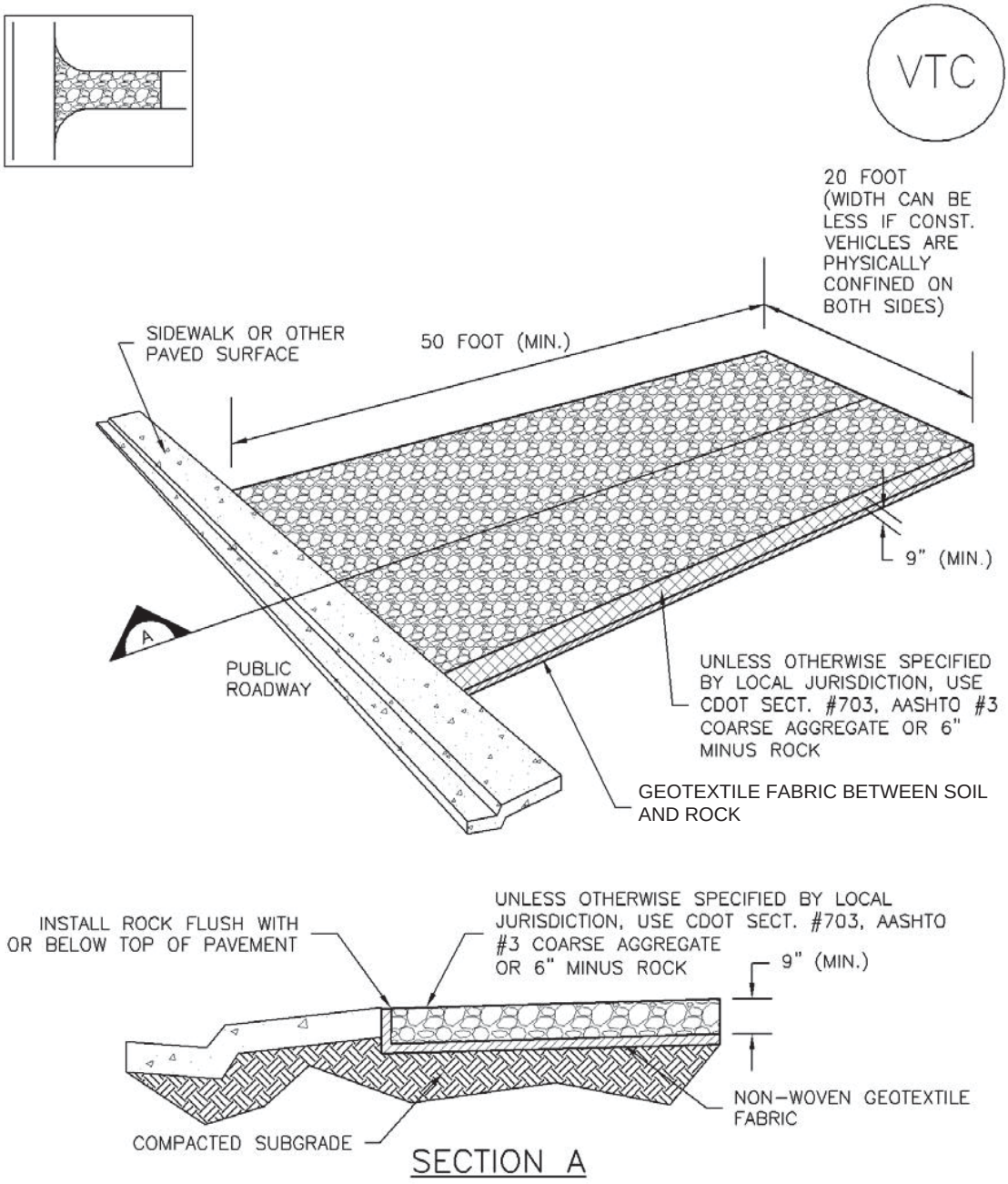
Colorado Department of Transportation (CDOT), *Erosion Control and Stormwater Quality Guide*. 2002. http://www.coloradodot.info/programs/environmental/water- quality/documents/erosion-storm-quality

United States Environmental Protection Agency (EPA), *National Pollutant Discharge Elimination System (NPDES). Construction Site Stormwater Runoff Control*. Washington, D.C., February 2003. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Horizon Environmental Services, Inc, *Guidance Document Reasonable and Prudent Practices for Stabilization (RAPPS) of Oil and Gas Construction Sites.* April 2004.

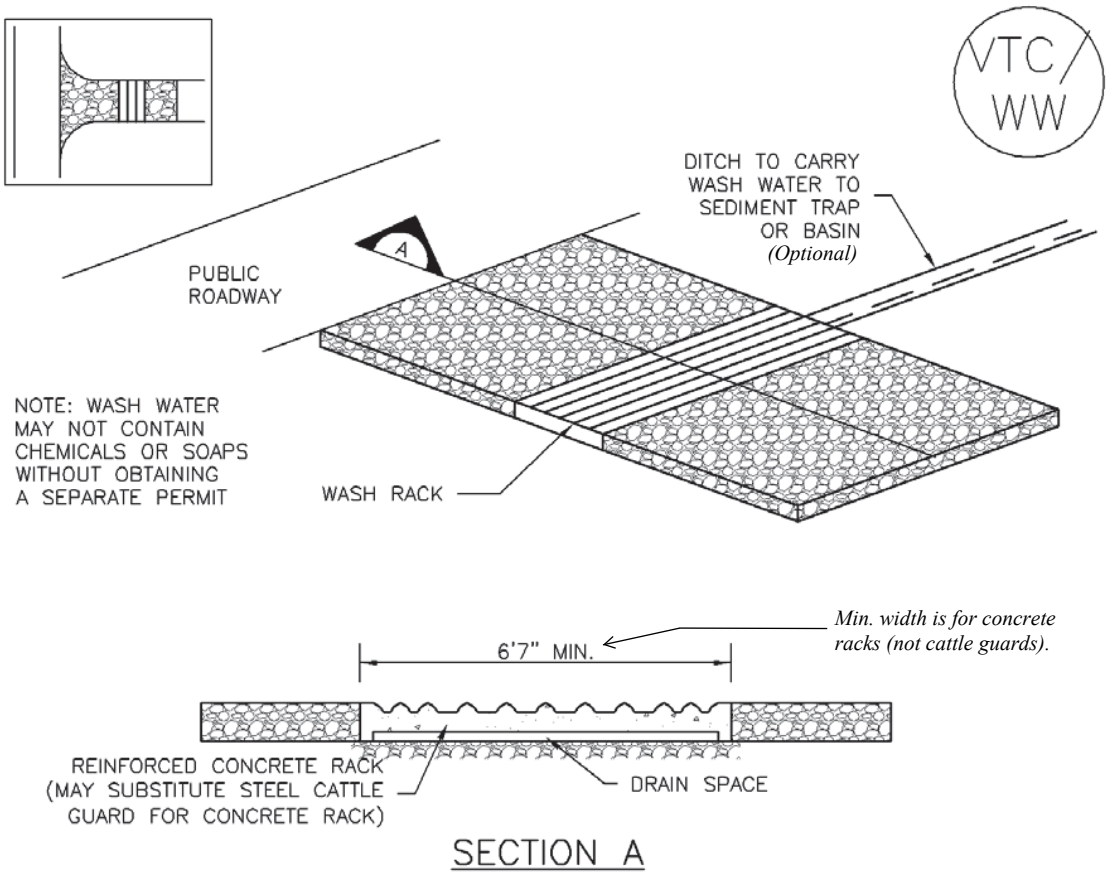
Urban Drainage and Flood Control District, *Volume 3 Stormwater Quality*. Denver, CO, November 2015. http://udfcd.org/volume-three

# Vehicle Tracking Control (VTC)




VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

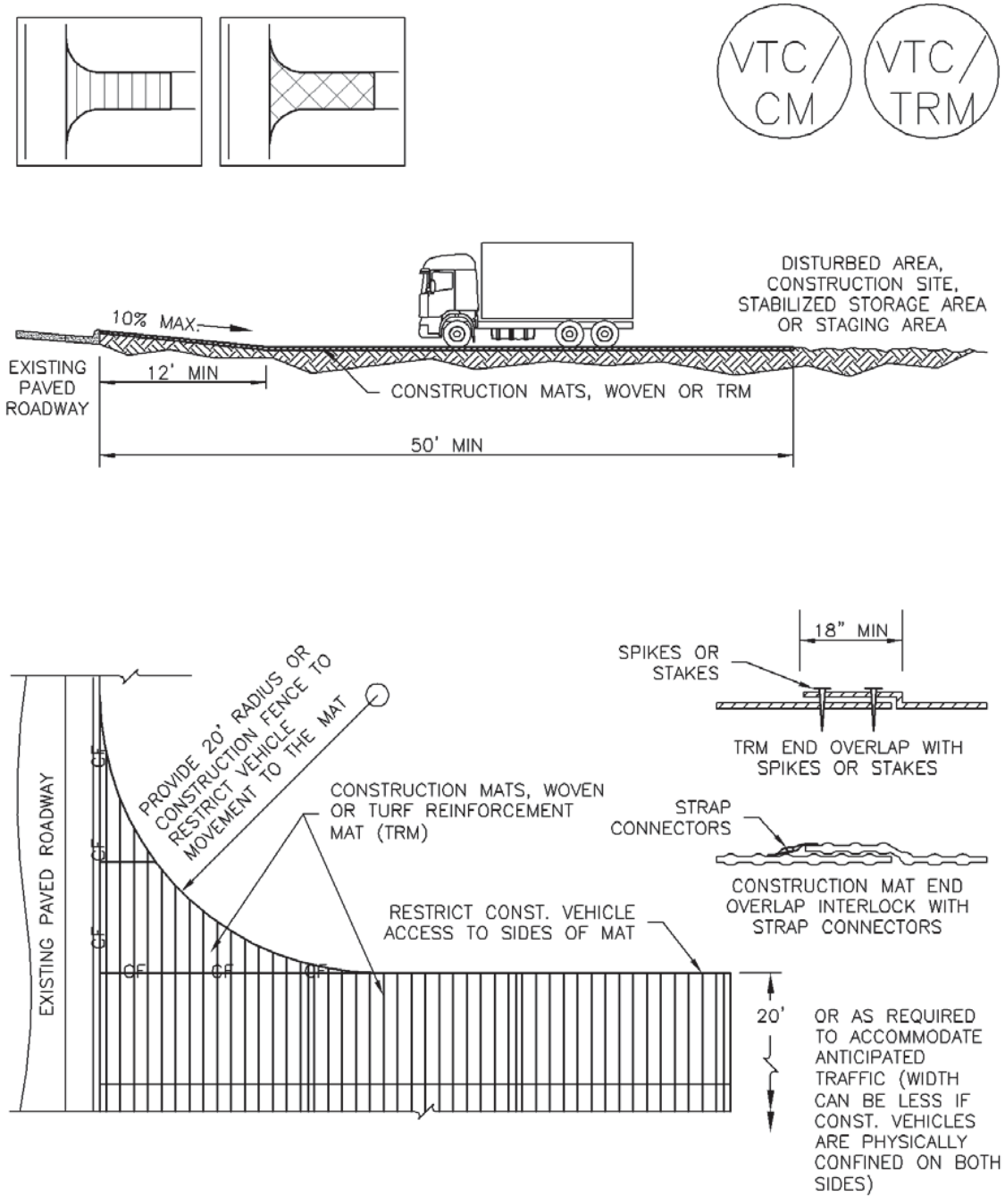
# Vehicle Tracking Control (VTC)




VTC–2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

Note: Locations which use a steel cattle guard for tracking control purposes do no require the use of a ditch and sediment trap combination to control sediment and/or stormwater. All cattle guards will be inspected in accordance with the SWMP and cleaned out once 50% capacity is reached.
Note: Cattle guards may be used in series if additional tracking control is required.

# Vehicle Tracking Control (VTC)




VTC–3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

# Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs IN ACCORDANCE WITH THE APPLICABLE SWMP FREQUENCY, AND MAINTEN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE 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 REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

# Wattles (W)



## Description

A wattle (also called a Sediment Control Log) consists of straw, flax, or other similar synthetic materials bound into a tight tubular roll. When wattles are placed at the toe and on the face of slopes, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff. By interrupting the length of a slope, wattles can also reduce erosion.

## Applicability

Wattles may be a suitable BMP choice:

- Along the top, face, and at the grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow;
- At the end of a downward slope where it transitions to a steeper slope;
- Along the perimeter of a project;
- At the overflow location of sediment traps;
- As check dams in unlined ditches; and/or
- Around temporary stockpiles.

## Limitations

- Wattles are not effective unless trenched and staked properly.
- The maximum allowable drainage area per 100 lineal feet of wattles installed along the contour is approximately 0.25 acres with a disturbed slope length of up to 150 feet and a slope gradient no steeper than 3:1. Longer and steeper slopes require additional measures (i.e. larger diameter wattles, stacked wattles, etc.).
- Difficult to move once saturated.
- If not properly staked and trenched in, wattles could be transported in high flows.
- Wattles have a very limited sediment capture zone.
- Wattles should not be used on slopes subject to creep, slumping, or landslide.
- Wattles should not be used where periodic road or surface maintenance activities are expected.

- If wattles are installed in an area that experiences concentrated flow, "J-hook" installation may be appropriate to force runoff to pond and evaporate or infiltrate multiple areas rather than concentrate and cause erosive conditions parallel to the BMP.

## Design Criteria

See Figures SCL-1, SCL-2, and SCL-3 for design criteria.

## Construction Specifications

Wattles should be either prefabricated rolls or rolled tubes of erosion control blankets. A minimum diameter of 9" is required for prefabricated rolls. If using erosion control blankets, roll the length of erosion control blanket into a tube with a minimum of 8 inches in diameter and bind the roll at each end and every 4 feet along the length of the roll with jute-type twine.

Locate wattles on a level contour and spaced as follows:

- Slope inclination of 4:1 or flatter: Fiber rolls should be placed at a maximum interval of 20 feet.
- Slope inclination between 4:1 and 2:1: Fiber rolls should be placed at a maximum of 15 feet.
- Slope inclination 2:1 or greater: Fiber rolls should be placed at a maximum interval of 10 feet.
- Turn the ends of the wattles upslope to prevent runoff from going around the roll.
- Stake the wattles into a trench with a depth of 1/3 the wattle diameter and a trench width equal to the diameter of the wattle.
- Drive stakes at the end of each wattle and space 4 feet maximum on center.
- If more than one wattle is placed in a row, the rolls should be overlapped, not abutted.
- Cross stake the ends of the wattles and throughout as necessary to minimize the potential of a wattle to be lifted and/or removed from location.

## Maintenance Considerations

The frequency of inspections should be in accordance with the Stormwater Management Plan (SWMP). Repair or replace split, torn, unraveling, or slumping rolls. If the wattle is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates must be periodically removed in order to maintain wattle effectiveness. Sediment should be removed when sediment accumulation reaches half the distance between the top of the wattle and the adjacent ground surface.

## Removal

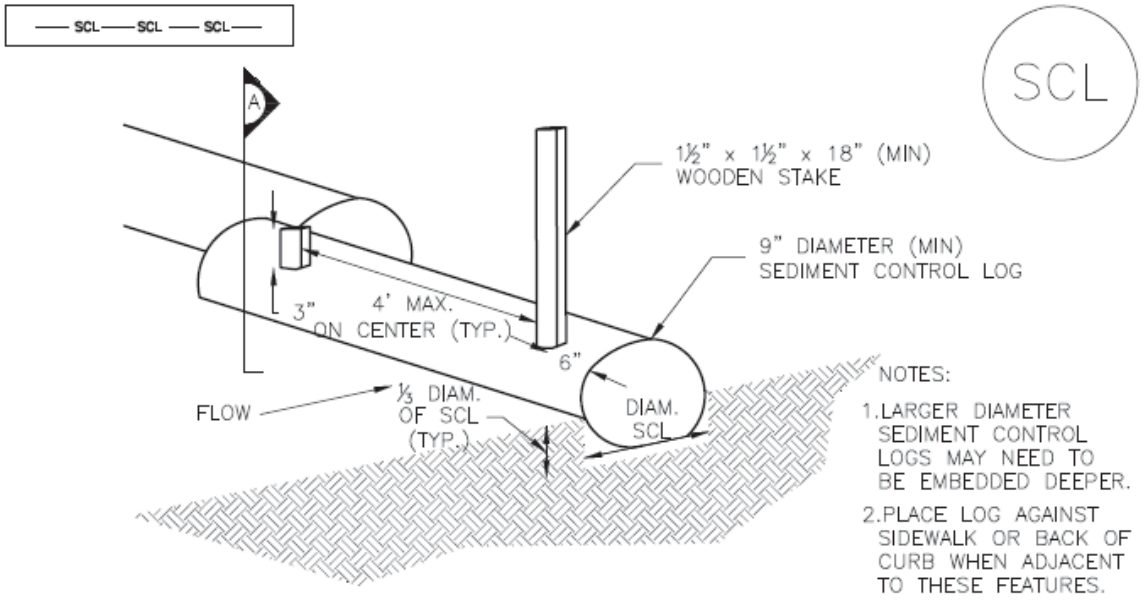
Wattles are typically left in place until final stabilization. If wattles are removed, collect and dispose of sediment accumulation, and fill and compact holes, trenches, depressions, or any other ground disturbance to blend with adjacent ground.

## References

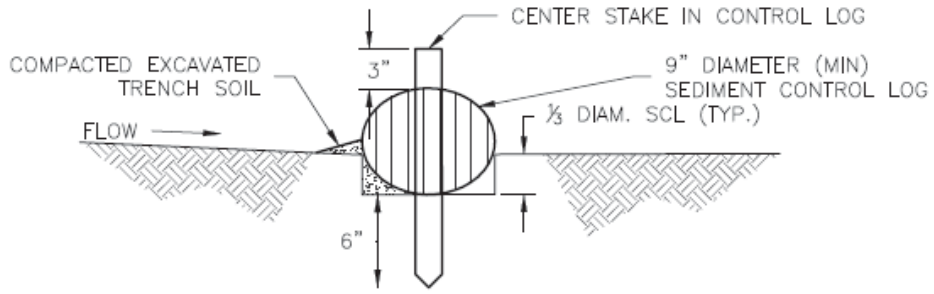
California Stormwater Quality Association (CASQA). 2003. Stormwater Best Management *Practice Handbook: Construction.* https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx

Urban Drainage and Flood Control District, *Volume 3 Stormwater Quality*. Denver, CO, November 2015. http://udfcd.org/volume-three

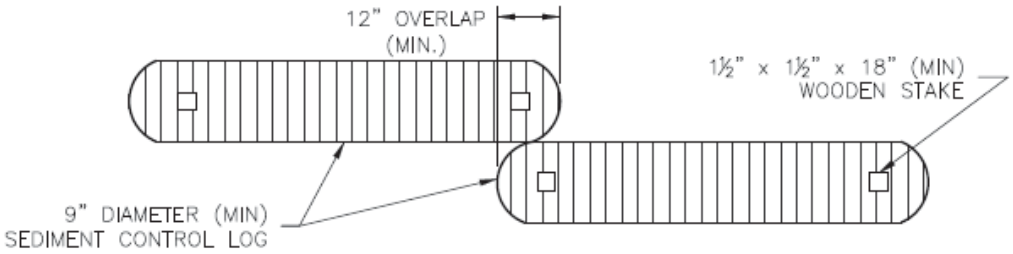
# Sediment Control Log (SCL)




TRENCHED SEDIMENT CONTROL LOG




SECTION Ⓐ
TRENCHED SEDIMENT CONTROL LOG

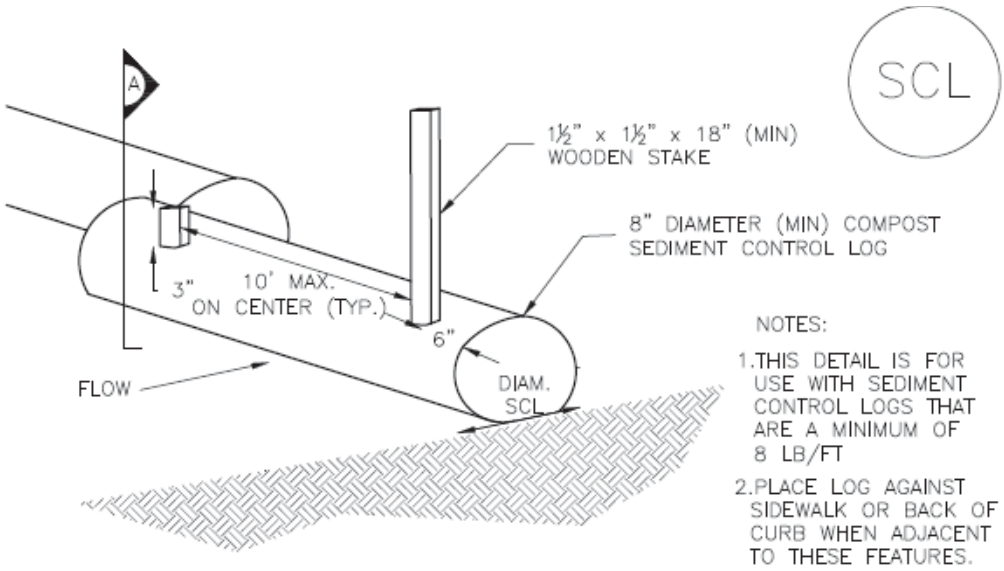



LOG JOINTS

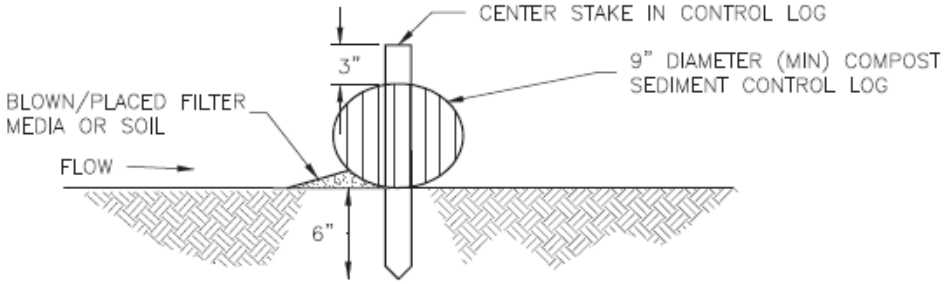
SCL–1. TRENCHED SEDIMENT CONTROL LOG

Note: Wattles may be cross-staked at the ends and throughout to prevent lifting of wattles off stakes.

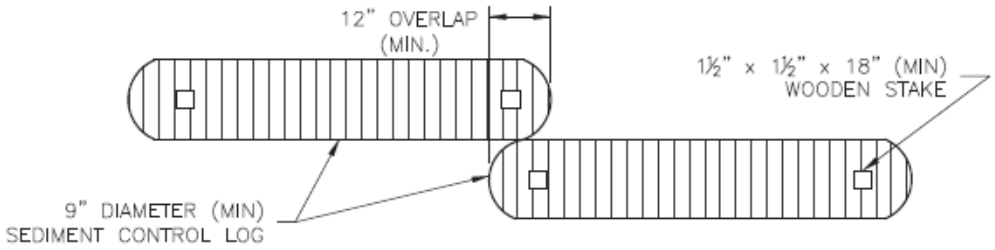
# Sediment Control Log (SCL)




COMPOST SEDIMENT CONTROL LOG (WEIGHTED)




SECTION (A)
COMPOST SEDIMENT CONTROL LOG

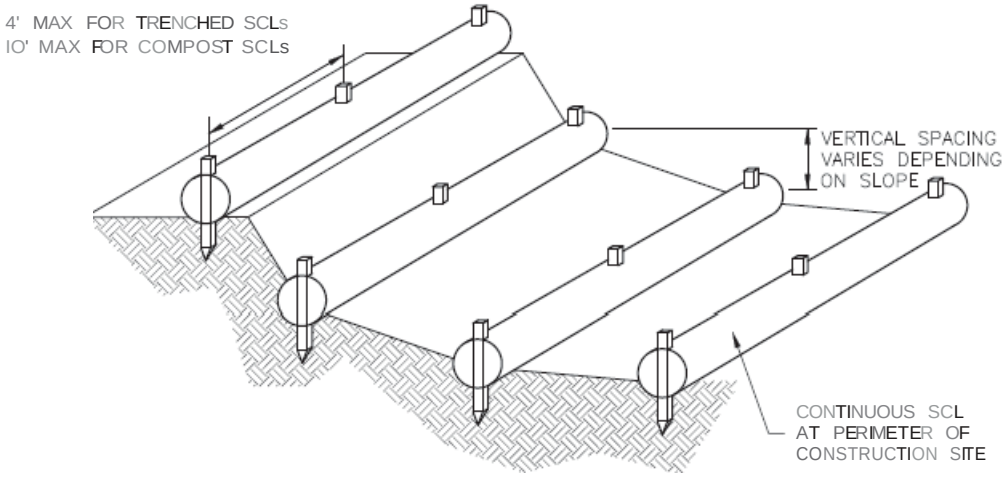



LOG JOINTS

SCL–2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

Note: Wattles may be cross-staked at the ends and throughout to prevent lifting of wattles off stakes.

# Sediment Control Log (SCL)




SCL-3. SEDIMENT CONTROL LOGS TO CONTROL SLOPE LENGTH

# Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY Y.i OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT *DO* NOT NEED TO BE TRENCHED.

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 1O' ON CENTER.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. INSPECT BMPs ACCORDING TO THE APPLICABLE SWMP FREQUENCY, 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 REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM *TOWN* OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY Of AURORA. COLORADO, NOT AVALABLE IN AVTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

## Proof of Ownership

State Land Board ownership originated from the federal land grant at statehood (as was nearly all Sections 16 and 36 of each township). BLM patent/serial no. COCOAA 000001 44.

| | |
|---|---|
| ***To:*** | John Piekara, Civitas Resources<br>Claude Boiteau, Civitas Resources |
| ***From:*** | Lily Vagelatos, PE, Tetra Tech<br>Bill Zahniser, PE, Tetra Tech |
| ***Date:*** | March 27, 2026 |
| ***Subject:*** | Eagle Pad Oil and Gas Development, Traffic Impact Study – Rev. 02 |

Extraction Oil & Gas, Inc. (Extraction, a subsidiary of Civitas Resources, Inc.) is planning development of the Eagle Pad located north of East 120th Avenue (E. 120th Ave.) and east of Picadilly Road, in the southeast ¼ of Section 36, Township 1 South, Range 66 West. Extraction has contracted services from Tetra Tech Inc. (Tetra Tech) to provide a traffic impact study (TIS) for the proposed oil and gas development. The initial TIS was submitted in December 2025 for a proposed haul route using 152nd Ave to Picadilly. This revised TIS has been developed to provide desktop review of an alternative haul route using 120th Ave. (**Figure 1**).

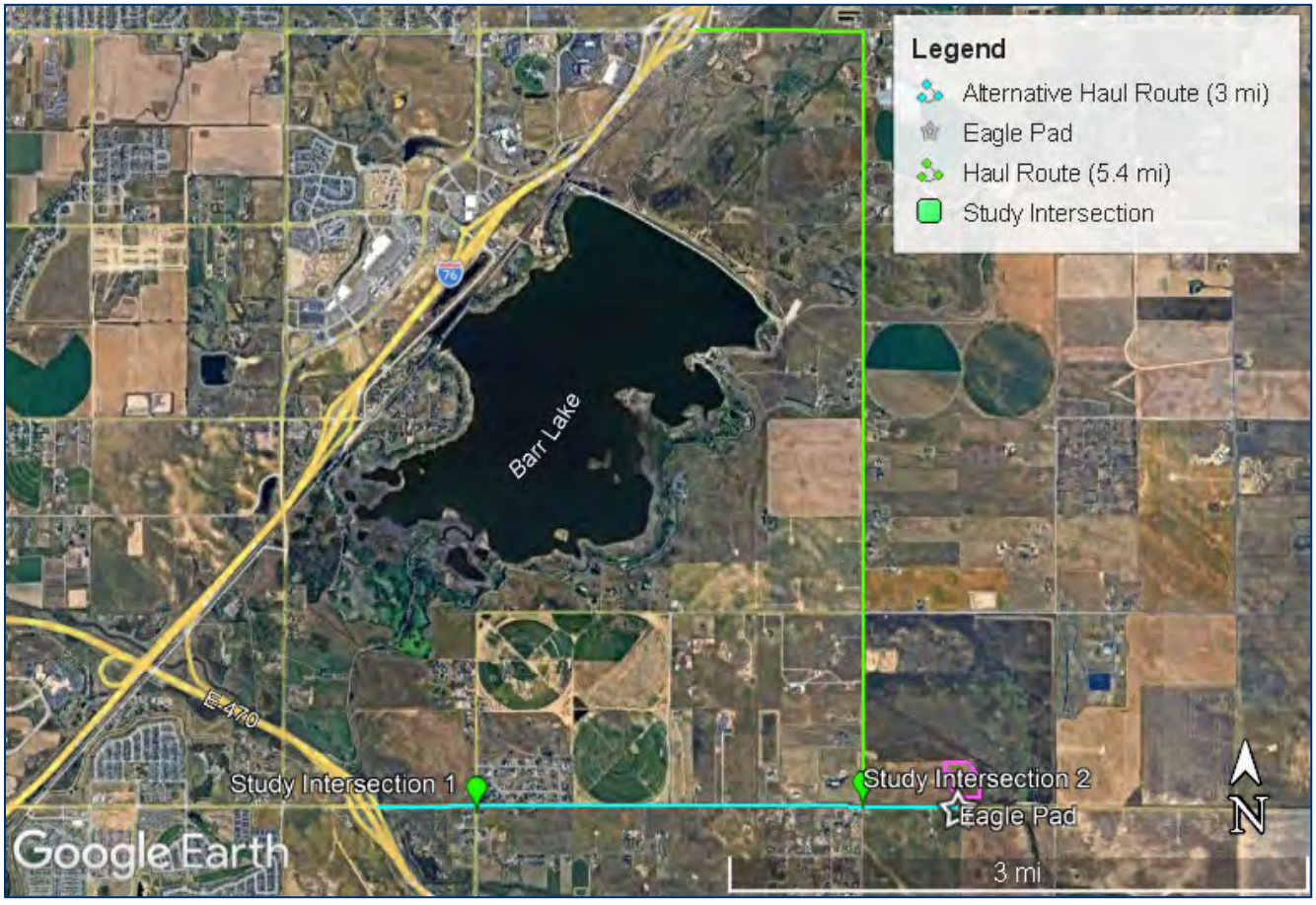



**Figure 1. Site location and traffic route.**

# 1.0 CURRENT CONDITIONS

The proposed location for the development is a vacant, privately owned, land parcel in Adams County, Colorado. The main access will be from E. 120th Ave., approximately 0.5 miles east of the intersection with Picadilly Road. Refer to the main traffic impact study (TIS) for the original haul route information (Tetra Tech, Inc., 2025). The alternative haul route evaluated in this revised TIS has project traffic using the following:

- Toll Road E-470 (E-470) – E-470 is maintained by the Colorado Department of Transportation (CDOT) and is not included in this study.
- Eastbound E. 120th Ave. to site access
    - Approximately 3 miles
    - A 2-lane paved principal arterial roadway, with no median and gravel shoulders.

Traffic leaving the development will return to E-470 by the same route.

## 1.1 STUDY INTERSECTIONS

Study intersections evaluated for the alternative haul route include (**Figure 1**):

1. **Study Intersection 1** is a stop light controlled four-way intersection at E. 120th Ave. and Tower Road. E. 120th Ave. is a two lane, paved, principal arterial roadway with a speed limit of 45 MPH. Tower Road is a two lane, paved, minor arterial roadway, with a speed limit of 55 MPH.
2. **Study Intersection 2** is a four-way intersection at E. 120th Ave. and Picadilly Road. E. 120th Ave. has the same geometry, and classifications at this location as at Study Intersection 1, but with a speed limit of 55 MPH and is not stop-controlled at Study Intersection 2. Picadilly Road is stop-controlled at Study Intersection 2 both north- and southbound. South of Study Intersection 2, Picadilly Road transitions to a 2-lane gravel roadway.
3. **Proposed Access**. A new access driveway will also be constructed on the north side of E. 120th Ave. to provide private road access to the Eagle Pad location. The new pad entrance will be permitted with the County, and the private road and access driveway radius dimensions will be designed to accommodate the largest vehicle anticipated during the project development phase. This TIS will consider access visibility concerns (e.g. a sight distance evaluation) and whether auxiliary turn lanes may be warranted at the new access location once the facility is constructed.

## 1.2 TRAFFIC COUNT SURVEY

Traffic count surveys were performed at each intersection. **Table 1** presents a summary of the data collected over a 48-hour period. Full traffic count reports are provided as **Attachment A**.

Tetra Tech used the traffic survey data to calculate the existing use of the study roadways. The numbers and types of vehicles moving through each intersection were converted to the number of Equivalent Single Axle

Loads (ESALs) that the paved roads are currently supporting. An ESAL is a standardized unit of 18,000-pounds (80 kN) single axle loads that is used for pavement design and for evaluating the damaging effect of vehicle loads on pavement. ESALs are used to convert a mixed stream of vehicles (passenger cars, 2-axle trucks, multi-axle semis, buses etc.) into a single common measure of pavement wear and damage. ESALs were calculated using methods consistent with CDOT design standards and are summarized along with the vehicle counts in **Table 1**.

Tetra Tech also used the traffic count data to estimate Peak Hour Factors (PHF) for each lane direction at each intersection. PHF is an index used in traffic impact studies to describe how traffic is distributed within the busiest hour. It compares the total volume in the peak hour to the highest short-interval flow within that hour (15-minute intervals for this study). PHF are an important metric for signal timing and level of service (LOS) calculations. A PHF of 1.0 indicates that the flow of traffic is constant or uniform across the hour. PHF values less than 1 are indicative of traffic flowing in shorter, more concentrated intervals. The calculated PHFs for the surveyed traffic conditions are included in **Table 1**.

**Table 1. Existing Peak-Hour Traffic Volumes at Study Intersections, September 16 and 17, 2025**

| Travel Direction | Left, Veh (ESAL) | Through, Veh (ESAL) | Right, Veh (ESAL) | Peak Hour Factor | Heavy Vehicle Percentage |
|---|---|---|---|---|---|
| **Study Intersection 1: E. 120th Ave. (E/W) and Tower Road (N/S)** | | | | | |
| Eastbound | 24 (0) | 94 (2) | 404 (7) | 0.85 | 0.9% |
| Westbound | 23 (0) | 125 (5) | 2 (0) | 0.81 | 2.4% |
| Northbound | 594 (9) | 125 (2) | 34 (1) | 0.96 | 0.9% |
| Southbound | 0 (0) | 74 (1) | 44 (0) | 0.83 | 0.9% |
| **Study Intersection 2: E. 120th Ave. (E/W) and Picadilly Road (N/S)** | | | | | |
| Eastbound | 7 (0) | 101 (6) | 15 (0) | 0.60 | 3.1% |
| Westbound | 3 (0) | 131 (3) | 11 (0) | 0.80 | 1.4% |
| Northbound | 25 (1) | 2 (1) | 1 (0) | 0.78 | 3.6% |
| Southbound | 5 (0) | 4 (0) | 3 (0) | 0.63 | 0.0% |

**Notes:**

Veh – vehicles. ESAL – Equivalent Single Axle Load. The Colorado Department of Transportation (CDOT) has created a generalized average set of ESALs based on dividing vehicle classification into three bins. ESALs used in this table are from CDOT 2024 Table H.2 for Flexible Pavement. Passenger cars and pickups (less than 20 ft long) = 0.003 ESAL, single unit trucks (20 – 40 ft long) = 0.249 ESAL, combination trucks (greater than 40 ft long) = 1.087 ESAL.

PHF = Hourly volume / (4 x Highest 15-minute volume).

Values presented are averages of counts collected September 16 and 17, 2025. Peak-hour varies between days and intersections.

## 1.3 CURRENT LEVEL OF SERVICE

Using the turning movement data collected, the Study Intersections were evaluated for baseline level of service (LOS). Commerce City provided signal timing for Study Intersection 1 which was used to support this

evaluation. The LOS is a measure of the delay that an average vehicle will experience after approaching the intersection. The LOS analysis provides a standardized means of describing transportation facility operation by assigning a letter grade to it. As shown in **Table 2**, LOS ranges from A to F with LOS A representing the best conditions (free flow) and LOS F representing the worst conditions (most congested). All procedures that were used in these analyses came from the Highway Capacity Manual (HCM) guidelines for determining LOS. Per the guidelines, the delay must be analyzed for each movement of the intersection independently. If several movements share a lane, the capacities are calculated separately then combined into a shared movement capacity that is used in the delay equation in place of movement capacity. Intersection LOS was analyzed using Highway Capacity Software (HCS) 2022.

**Table 2. LOS Definitions**

| LOS | Signalized Intersection Delay (seconds) | Unsignalized Intersection Delay (seconds) | Adams County Thresholds | Commerce City Thresholds |
|---|---|---|---|---|
| A | 0-10 | 0-10 | Acceptable | Acceptable |
| B | 11-20 | 11-15 | Acceptable | Acceptable |
| C | 21-35 | 16-25 | Acceptable | Acceptable |
| D | 36-55 | 26-35 | Acceptable during peak hours, but not off-peak hours. | Not Acceptable |
| E | 56-80 | 36-50 | Not Acceptable | Not Acceptable |
| F | >80 | >50 | Not Acceptable | Not Acceptable |

The Adams County Access Design and Traffic Requirements (Adams County, 2020) Section 8-20-06-06-02 defines the threshold acceptable LOS as C during off-peak hours and not less than D for peak hours. The Commerce City Construction Standards and Specifications state that improvements or mitigation is required for LOS of D or less (Section 5.02.1.(K)) (Commerce City, 2021).

The existing LOS evaluation results are summarized in **Table 3**. The existing LOS at Study Intersection 1 ranges between B and C depending on approach. The existing LOS at Study Intersection 2 is A for the free-flowing traffic on 120th Ave, and B for the stop-controlled traffic on Picadilly Rd. **Attachment B** provides the modeled HCS result.

**Table 3. Existing LOS Summary**

| Study Intersection | Approach | Existing LOS | Delay (sec) |
|---|---|---|---|
| 1. E. 120th Ave./Tower Rd.[1] | Eastbound | B | 19.2 |
| | Westbound | C | 28.7 |
| | Northbound | B | 13.4 |
| | Southbound | C | 28.1 |
| 2. E. 120th Ave./Picadilly Rd. | Eastbound | A | 0.5 |
| | Westbound | A | 0.2 |
| | Northbound | B | 11.6 |
| | Southbound | B | 10.9 |

## 1.4 SIGHT DISTANCE EVALUATIONS

Sight distance is an important measure to determine the safety of a vehicle entering a roadway. Stopping sight distance (SSD) is the minimum distance a vehicle driver needs to be able to see to have room to stop before colliding with an object in the roadway. Insufficient sight distance can adversely affect the safety or operations of a roadway or intersection. A desktop evaluation of sight distance measurements was made using Google Earth at the proposed Eagle Pad access. The posted traffic speed limit along E. 120th Ave. is 55 miles per hour (mph). Using the CDOT State Highway Access Code (SHAC) (Colorado Department of Transportation, 2002), the design stopping distance for a 55-mph road is 550 feet[1]. The stretch of E. 120th Ave. with the proposed site access, is straight, relatively flat and there are no trees or obstructing structures. Using street view in Google Earth, the SSD of 550 feet is clear both east- and westbound toward the access (**Attachment C**).

Another important measure of sight distance is the entering sight distance. Guidelines for measuring these distances can also be found in the State Highway Access Code. Entering sight distance is the sight distance a vehicle entering a roadway needs to safely make the movement. Section 4.3 of the SHAC provides a list of required entering sight distance values for varying types of entering vehicles. An entering sight distance of 935 feet is required for multi-unit trucks for a two-lane roadway at 55 mph, such as E. 120th Ave. Again, using street view in Google Earth, the entering sight distance of 935 feet is clear both east- and westbound looking out from the proposed access (**Attachment C**).

[1] The Adams County Roadway Standards and Technical Criteria were reviewed to assess whether they had unique/local requirements. Table 7.3 from the Adams County criteria presents the similar distances used by CDOT and presented in this report.

# 2.0 EAGLE PAD DEVELOPMENT PLAN

Extraction is in the process of permitting the drilling and completion of up to nineteen horizontal wells and the installation of related surface production equipment on one well pad that will be serviced by a new access road from E. 120th Ave. They are also planning the construction of a product pipeline at this location to reduce the number of product trucks accessing the site. The installation of this pipeline is projected to eliminate as many as 49,612 tanker truck and facility service rig trips over the projected 30-year life of the facility. Construction, drilling and completion phases of the project are considered to be a temporary use, and do not factor into long term changes to the site access. Once completed, it is anticipated that one to two operators will access the site daily in light duty trucks to check equipment.

## 2.1 TRAFFIC FORECASTS

Extraction has provided traffic estimates and durations for each phase of the project. The duration of each phase is dependent on the number of wells drilled. The traffic data provided in **Table 4** conservatively assumes all nineteen proposed wells are drilled and completed in a single occupation. This condition is representative of the maximum possible traffic use.

**Table 4. Estimated Traffic Volumes and Durations**

| Phase | Duration (Days) | Truck[1] Trips, Total (ESAL) | Average Truck Trips per Day (ESAL) | Light Duty Crew Traffic, Trips per Day | Total Trips per Day (ESAL) | Peak Hour Vehicles (ESAL)[2] |
|---|---|---|---|---|---|---|
| **Pad Construction** | 40 | 1,802 (1,959) | 45 (49) | 10 (0.03) | 55 (49) | 11 (5) |
| **Drilling** | 82 | 1,968 (2,139) | 24 (26) | 36 (0.11) | 60 (26) | 24 (3) |
| **Completions[4]** | 133[3] | | | | | |
| *Completions* | 68 | 12,240 (13,305) | 180 (196) | 66[3] (0.20) | 164 (107) | 49 (11) |
| *Mill Out/Tubing* | 65 | 650 (707) | 10 (11) | | | |
| *Facility Construction* | 70 | 80 (87) | 1.1 (1.2) | | | |
| **Flowback[4]** | 60 | 5,246 (5,702) | 87 (95) | 2 (0.01) | 89 (95) | 10 (10) |
| **Interim Reclamation** | 60 | 966 (1,050) | 16 (18) | 10 (0.03) | 26 (18) | 8 (2) |
| **Production[5]** | 15-30 years | -- | -- | 2 (0.01) | 2 (0.01) | 2 (0) |

**Notes:**

ESAL – Equivalent Single Axle Load. ESALs used in this table are from CDOT 2024 Table H.2 for Flexible Pavement. Passenger cars and pick ups (less than 20 ft long) = 0.003 ESAL, single unit trucks (20 – 40 ft long) = 0.249 ESAL, combination trucks (greater than 40 ft long) = 1.087 ESAL.

1. Extraction indicated that the majority of the truck traffic for the project will be Class 8 through 13 combo units (1.087 ESAL), but that there may be some Class 4 through 7 single unit trucks (0.249 ESAL). To be conservative, all ESAL calculations assume combo units for the total volumes.
2. Truck traffic distributed evenly throughout the shift for a given activity. Assume 24-hour shifts for drilling and completions, and 10-hour shifts for all other activities. Crew traffic distributed at shift changes. 3 shifts for drilling and completions, 2 shifts for all other activities.
3. Facilities construction is anticipated to occur in parallel to completions and the mill out/tubing → the total completions duration shown is the amount of time for completions plus the mill out/tubing phases. Crew traffic is indicative of peak overlapping phases and accounts for facility construction activities that occur in parallel.
4. Only produced water will be trucked offsite during flowback.
5. Actual amount may vary depending on actual years of operation. Extraction anticipates approximately 240 light duty vehicles per year.

## 2.2 PROPOSED LEVEL OF SERVICE

Analyses were performed for LOS during the highest peak hour traffic generating period of the pre-production stages. The highest peak hour count occurs during the completions stage. Using the highest impact portion of the pre-production phase of the Project is conservative as it will consider the worst possible LOS that local motorists will experience during development of the Project. The completions stage will occur during a 133-day period assuming a single occupation. The entire pre-production development will occur over the course of around a single year. The production phase impacts to LOS, once the pad has been developed, will be negligible (two light duty vehicles per day).

LOS was analyzed at both Study Intersections for the maximum peak hour volume using the existing conditions plus the 49 vehicles of peak hour traffic anticipated for the maximum completions phases (**Table 4**). In addition, the percentage of heavy vehicles was adjusted to account for the number of multi-axle vehicles. The results of the LOS analysis show the impact of project traffic on LOS will be minimal (**Table 5**). The only change in LOS for the proposed condition was from B to C for eastbound traffic at Study Intersection 1.

**Table 5. Comparison of Existing Average LOS and Maximum Proposed LOS at Study Intersections.**

| Study Intersection | Approach | Existing LOS | Delay (sec) | Proposed LOS | Delay (sec) | Change |
|---|---|---|---|---|---|---|
| 1. E. 120th Ave./Tower Rd. (Commerce City) | Eastbound | B | 19.2 | C | 20.0 | 0.8 sec. |
| | Westbound | C | 28.7 | C | 29.6 | 0.9 sec. |
| | Northbound | B | 13.4 | B | 13.4 | None |
| | Southbound | C | 28.1 | C | 28.1 | None |
| 2. E. 120th Ave./Picadilly Rd. (Adams County) | Eastbound | A | 0.5 | A | 0.5 | None |
| | Westbound | A | 0.2 | A | 0.2 | None |
| | Northbound | B | 11.6 | B | 12.7 | 1.1 sec |
| | Southbound | B | 10.9 | B | 11.7 | 0.8 sec |

**Attachment B** shows the HCS Results Summary for the proposed condition. Both Study Intersections along the proposed haul route meet the Commerce City and Adams County criterion for the proposed condition during the most heavily traveled portion of the pre-production phase of the Project.

## 2.3 AUXILARY LANE REQUIREMENTS

An auxiliary lane analysis was performed for the Proposed Access for the production phase of development. The production phase trip estimates were used for this analysis, due to the temporary nature of the pre-production phase. The Adams County Access Design and Traffic Requirements (Adams County, 2020) Section 8-01-08-02 presents the criteria for auxiliary turn lanes as described below:

- A left turn lane with storage length plus taper length is required for any access with a projected peak hour left ingress turning volume greater than 25 vph. **If the posted speed is greater than 40 mph, a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph.** The taper length will be included within the deceleration length.
- A right turn lane with storage length plus taper length is required for any access with a projected peak hour right ingress turning volume greater than 50 vph. **If the posted speed is greater than 40 mph, a right turn deceleration lane with taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph.** The taper length will be included within the deceleration length.
- **A right turn acceleration lane with taper is required for any access with a projected peak hour right turning volume greater than 50 vph when the posted speed on the highway is greater than 40 mph and the highway has only one lane for through traffic in the direction of the right turn.** A right turn acceleration lane is not required on multi-lane highways of this category. The taper length will be included within the required acceleration length
- A left turn acceleration lane with transition taper may be required if it would be a benefit to the safety and operation of the roadway. A left turn acceleration lane is generally not required where: the posted speed is less than 45 mph, or the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access.

**Table 6** presents a summary of the auxiliary turn lane evaluation for the proposed alternative haul route.

**Table 6. Auxiliary Turn Lane Evaluation.**

| Movement | County Auxiliary Lane Warrant | Current Conditions | Proposed Conditions |
|---|---|---|---|
| **Proposed Site Access** | | | |
| Eastbound, left turn | 10 | 0 | 2 |
| Northbound, right turn (stop controlled) | 50 | 0 | 2 |

As discussed previously, because the fluids produced from the wells will be piped from this facility, once build-out is complete there will only be one to two peak-hour vehicle trips each day. This project trip estimation falls below the County's thresholds for all potential turn lane movements.

## 3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the details above, Tetra Tech anticipates that the Eagle Pad will have a minor impact on traffic volume during the construction and development period of the project. After completion of the construction build-out phase, there should be minimal impacts to traffic along the proposed alternative haul road.

The proposed access will meet safety requirements for both the driving public and the development traffic. There is adequate visibility for inbound and outbound project traffic to negotiate the access and make full turn movements. Tetra Tech recommends a traffic control plan with additional signage during the peak periods of construction traffic to alleviate concerns with traffic movements in and out of the Proposed Access. Impacts at Study Intersection 1 were evaluated using signal timing information from Commerce City. The majority of the traffic at this intersection consists of vehicles turning from Tower Road onto 120th Ave. and vice versa. The intersection already has auxiliary turn lanes and this study demonstrates that project traffic using the through lanes at this intersection should have a minimal impact on existing LOS delays.

## 4.0 REFERENCES

Adams County. (2020, December 8). Chapter 8 - Access Design and Traffic Requirments. *Adams Couty Development Standards and Regulations*. Colorado, USA.

Colorado Department of Transportation. (2002). State Highway Access Code. Transportation Commission and Office of Transportation Safety.

Commerce City. (2021, October 5). Engineering Construction Standards and Specifications. Commerce City, Colorado, USA: City of Commerce City Department of Public Works.

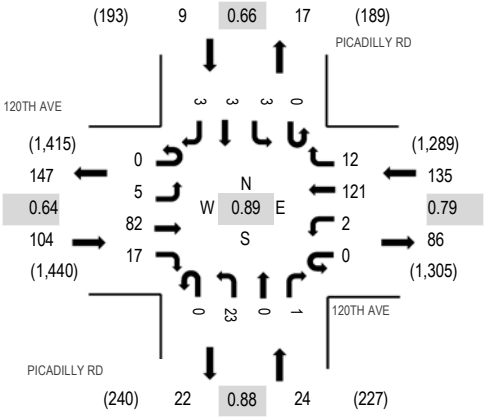
Tetra Tech, Inc. (2025, December 9). Eagle Pad Oil and Gas Development, Traffic Impact Study. Longmont, CO, USA.

# ATTACHMENT A: 48-HOUR TURN MOVEMENT COUNTS

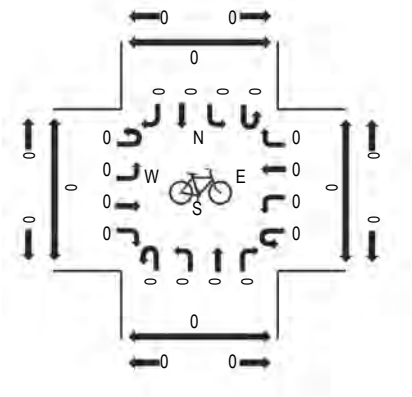
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 1 PICADILLY RD & 120TH AVE AM
**Date:** Tuesday, September 16, 2025
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:00 AM - 07:15 AM

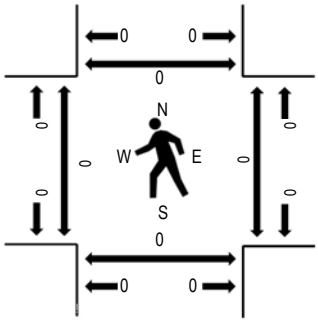
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles



## Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | PICADILLY RD Northbound | | | | PICADILLY RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 25 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 22 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 24 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 6 | 9 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 14 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 19 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 27 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 32 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 53 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 8 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 13 | 72 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 9 | 92 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 17 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 134 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 16 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 26 | 196 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 14 | 0 | 0 | 0 | 7 | 2 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 1 | 33 | 221 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 39 | 2 | 0 | 0 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 231 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 61 | 0 | 0 | 0 | 14 | 0 | 0 | 1 | 2 | 0 | 0 | 8 | 0 | 0 | 86 | 231 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 36 | 1 | 0 | 0 | 11 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 51 | 218 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 1 | 17 | 0 | 0 | 0 | 13 | 3 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 2 | 43 | 236 | 0 | 0 | 0 | 0 |
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| 7:00 AM | 0 | 1 | 20 | 4 | 0 | 1 | 43 | 2 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 76 | 272 | 0 | 0 | 0 | 0 |
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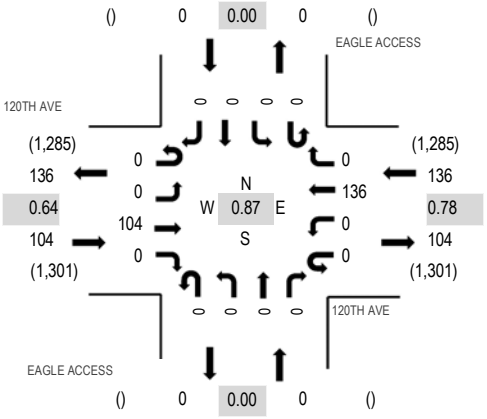
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| 8:45 AM | 0 | 1 | 17 | 2 | 0 | 0 | 21 | 1 | 0 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 48 | 190 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 2 | 20 | 2 | 0 | 0 | 24 | 2 | 0 | 7 | 1 | 0 | 0 | 1 | 2 | 2 | 63 | 173 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 1 | 14 | 1 | 0 | 0 | 13 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 150 | 0 | 0 | 0 | 0 |
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| 10:15 AM | 0 | 0 | 8 | 4 | 0 | 0 | 15 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 34 | 121 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 10 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 31 | 128 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 1 | 11 | 5 | 0 | 0 | 17 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 40 | 137 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 0 | 7 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 16 | 118 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 2 | 9 | 2 | 0 | 0 | 16 | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 4 | 2 | 41 | 145 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 2 | 16 | 0 | 0 | 1 | 11 | 1 | 0 | 3 | 1 | 2 | 0 | 2 | 1 | 0 | 40 | 148 | 0 | 0 | 0 | 0 |
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| 8:15 PM | 0 | 0 | 14 | 4 | 0 | 0 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 30 | 92 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 1 | 14 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 1 | 0 | 25 | 79 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 14 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 21 | 67 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 10 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 16 | 61 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 12 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 57 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 6 | 0 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 13 | 48 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 6 | 0 | 0 | 1 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 15 | 74 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 12 | 69 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 4 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 63 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 2 | 2 | 0 | 0 | 31 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 39 | 60 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 10 | 25 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Count Total | 1 | 61 | 1,207 | 171 | 0 | 11 | 1,193 | 85 | 0 | 168 | 43 | 16 | 0 | 82 | 58 | 53 | 3,149 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 5 | 82 | 17 | 0 | 2 | 121 | 12 | 0 | 23 | 0 | 1 | 0 | 3 | 3 | 3 | 272 | 0 | 0 | 0 | 0 |

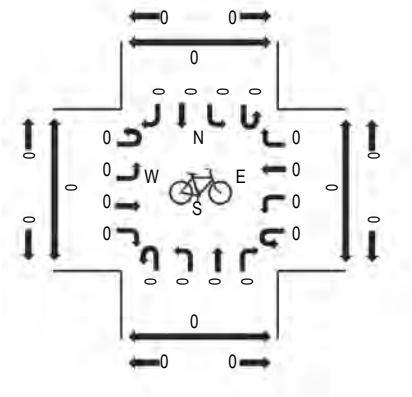
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 4 EAGLE ACCESS & 120TH AVE AM
**Date:** Tuesday, September 16, 2025
**Peak Hour:** 06:15 AM - 07:15 AM
**Peak 15-Minutes:** 06:30 AM - 06:45 AM

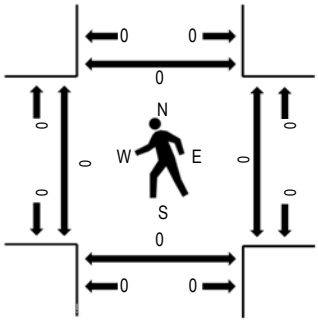
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | EAGLE ACCESS Northbound | | | | EAGLE ACCESS Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 23 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 21 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 21 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 15 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 25 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 30 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 50 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 9 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 70 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 6 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 86 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 15 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 124 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 20 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 181 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 21 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 208 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 39 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 218 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 66 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 214 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 42 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 204 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 21 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 211 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 0 | 24 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 240 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 34 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 237 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 0 | 24 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 222 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 0 | 22 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 214 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 19 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 192 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 14 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 189 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 26 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 172 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 15 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 159 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 20 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 157 | 0 | 0 | 0 | 0 |

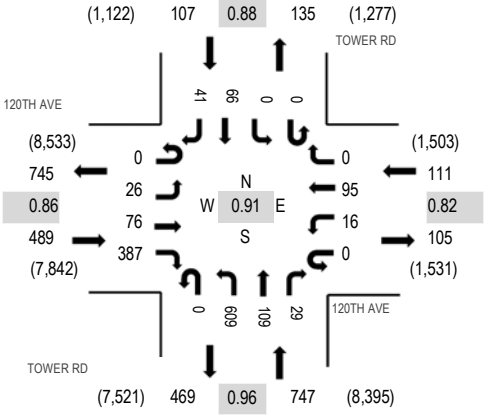
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 0 | 22 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 152 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 17 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 146 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 0 | 18 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 130 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 0 | 18 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 124 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 0 | 14 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 117 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 0 | 14 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 118 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 0 | 14 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 120 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 0 | 8 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 96 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 12 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 98 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 0 | 9 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 99 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 0 | 9 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 90 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 0 | 10 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 110 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 0 | 20 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 116 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 0 | 10 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 106 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 0 | 20 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 119 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 122 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 0 | 11 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 124 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 0 | 19 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 138 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 0 | 22 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 148 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 0 | 20 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 149 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 0 | 25 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 145 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 0 | 18 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 152 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 157 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 0 | 9 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 152 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 0 | 9 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 155 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 0 | 7 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 156 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 0 | 14 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 155 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 17 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 179 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 0 | 16 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 187 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 0 | 22 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 185 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 0 | 21 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 191 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 24 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 178 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 21 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 169 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 21 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 165 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 18 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 152 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 141 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 22 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 138 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 23 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 125 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 0 | 17 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 110 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 0 | 21 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 92 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 0 | 10 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 87 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 0 | 5 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 86 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 0 | 7 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 77 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 18 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 85 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 0 | 20 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 84 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 0 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 80 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 0 | 15 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 85 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 16 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 78 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 0 | 19 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 70 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 14 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 63 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 59 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 54 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 8 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 43 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 8 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 66 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 61 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 55 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 2 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 54 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 21 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 16 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 1,301 | 0 | 0 | 0 | 1,285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,586 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 104 | 0 | 0 | 0 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 0 | 0 | 0 |

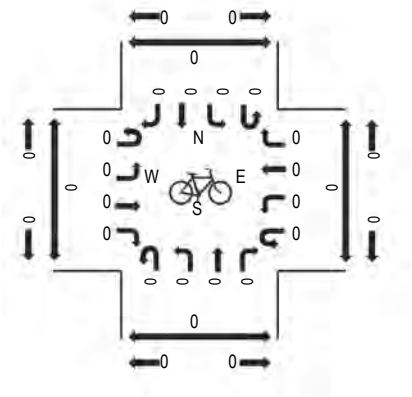
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 7 TOWER RD & 120TH AVE AM
**Date:** Tuesday, September 16, 2025
**Peak Hour:** 04:45 PM - 05:45 PM
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

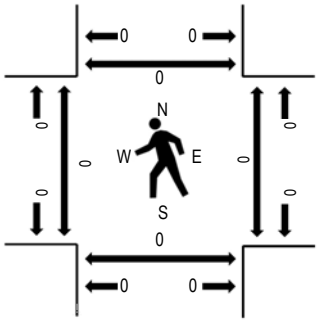
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | TOWER RD Northbound | | | | TOWER RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 0 | 11 | 0 | 1 | 3 | 0 | 0 | 29 | 4 | 2 | 0 | 0 | 0 | 1 | 51 | 189 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 0 | 10 | 0 | 1 | 4 | 0 | 0 | 26 | 1 | 0 | 0 | 0 | 0 | 0 | 42 | 176 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 1 | 0 | 12 | 0 | 0 | 5 | 0 | 0 | 34 | 1 | 2 | 0 | 0 | 0 | 1 | 56 | 164 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 0 | 5 | 0 | 0 | 6 | 0 | 0 | 25 | 4 | 0 | 0 | 0 | 0 | 0 | 40 | 135 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 5 | 0 | 0 | 3 | 0 | 0 | 24 | 5 | 0 | 0 | 0 | 0 | 0 | 38 | 122 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 1 | 6 | 0 | 1 | 2 | 0 | 0 | 17 | 2 | 1 | 0 | 0 | 0 | 0 | 30 | 103 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 2 | 0 | 27 | 108 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 15 | 2 | 0 | 0 | 0 | 0 | 0 | 27 | 100 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 19 | 100 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 1 | 12 | 0 | 0 | 1 | 0 | 0 | 18 | 1 | 0 | 0 | 0 | 2 | 0 | 35 | 114 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 123 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 1 | 0 | 27 | 142 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 21 | 0 | 1 | 5 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 33 | 157 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 1 | 2 | 25 | 0 | 0 | 1 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 190 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 2 | 25 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 3 | 0 | 38 | 249 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 4 | 22 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 1 | 0 | 0 | 6 | 0 | 42 | 320 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 7 | 41 | 0 | 0 | 3 | 0 | 0 | 12 | 1 | 1 | 0 | 0 | 1 | 0 | 66 | 406 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 1 | 6 | 61 | 0 | 1 | 5 | 0 | 0 | 17 | 2 | 1 | 0 | 0 | 9 | 0 | 103 | 505 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 2 | 16 | 50 | 0 | 1 | 6 | 0 | 0 | 23 | 3 | 0 | 0 | 0 | 6 | 2 | 109 | 648 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 1 | 14 | 72 | 0 | 2 | 1 | 0 | 0 | 20 | 10 | 2 | 0 | 0 | 4 | 2 | 128 | 842 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 16 | 85 | 0 | 2 | 9 | 0 | 0 | 36 | 2 | 1 | 0 | 0 | 13 | 1 | 165 | 994 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 2 | 41 | 123 | 0 | 2 | 10 | 0 | 0 | 39 | 7 | 2 | 0 | 0 | 17 | 3 | 246 | 1,110 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 58 | 141 | 0 | 4 | 9 | 0 | 0 | 58 | 13 | 5 | 0 | 0 | 13 | 2 | 303 | 1,164 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 2 | 27 | 124 | 0 | 0 | 15 | 0 | 0 | 72 | 17 | 3 | 0 | 0 | 17 | 3 | 280 | 1,196 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 3 | 16 | 147 | 0 | 4 | 12 | 0 | 0 | 63 | 11 | 4 | 0 | 0 | 18 | 3 | 281 | 1,249 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 4 | 25 | 125 | 0 | 5 | 20 | 0 | 0 | 79 | 8 | 8 | 0 | 0 | 22 | 4 | 300 | 1,319 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 7 | 24 | 141 | 0 | 4 | 19 | 0 | 0 | 88 | 11 | 4 | 0 | 0 | 31 | 6 | 335 | 1,318 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 7 | 23 | 130 | 0 | 10 | 33 | 0 | 0 | 78 | 15 | 3 | 0 | 1 | 27 | 6 | 333 | 1,327 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 12 | 23 | 111 | 0 | 8 | 39 | 0 | 0 | 97 | 16 | 4 | 0 | 0 | 33 | 8 | 351 | 1,385 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 3 | 15 | 116 | 0 | 5 | 22 | 0 | 0 | 93 | 11 | 4 | 0 | 0 | 21 | 9 | 299 | 1,316 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 1 | 13 | 128 | 0 | 5 | 30 | 1 | 0 | 111 | 10 | 6 | 0 | 0 | 32 | 7 | 344 | 1,317 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 5 | 31 | 132 | 0 | 11 | 37 | 0 | 0 | 126 | 18 | 6 | 0 | 0 | 20 | 5 | 391 | 1,241 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 3 | 12 | 108 | 0 | 1 | 31 | 0 | 0 | 96 | 9 | 5 | 0 | 0 | 13 | 4 | 282 | 1,086 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 3 | 22 | 128 | 0 | 3 | 19 | 0 | 0 | 105 | 4 | 2 | 0 | 0 | 10 | 4 | 300 | 1,090 | 0 | 0 | 0 | 0 |

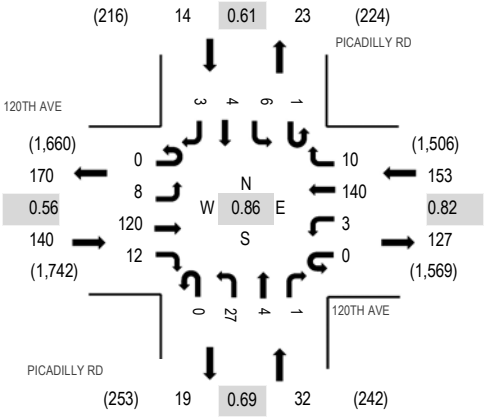
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 4 | 16 | 100 | 0 | 3 | 12 | 0 | 0 | 91 | 16 | 6 | 0 | 0 | 15 | 5 | 268 | 1,036 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 2 | 19 | 77 | 0 | 2 | 25 | 0 | 0 | 76 | 13 | 5 | 0 | 0 | 14 | 3 | 236 | 999 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 6 | 19 | 83 | 0 | 6 | 30 | 0 | 0 | 105 | 16 | 5 | 0 | 0 | 10 | 6 | 286 | 954 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 2 | 10 | 89 | 0 | 4 | 18 | 0 | 0 | 99 | 9 | 2 | 0 | 0 | 10 | 3 | 246 | 884 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 1 | 17 | 74 | 0 | 7 | 18 | 0 | 0 | 85 | 12 | 0 | 0 | 0 | 9 | 8 | 231 | 883 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 0 | 9 | 68 | 0 | 2 | 11 | 0 | 0 | 73 | 8 | 7 | 0 | 1 | 9 | 3 | 191 | 887 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 1 | 10 | 72 | 0 | 5 | 20 | 0 | 0 | 77 | 16 | 1 | 0 | 0 | 11 | 3 | 216 | 905 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 4 | 11 | 92 | 0 | 5 | 18 | 1 | 0 | 93 | 8 | 3 | 0 | 0 | 6 | 4 | 245 | 883 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 5 | 11 | 81 | 0 | 2 | 13 | 0 | 0 | 101 | 9 | 2 | 0 | 0 | 8 | 3 | 235 | 839 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 3 | 10 | 52 | 0 | 6 | 18 | 0 | 0 | 91 | 9 | 6 | 0 | 0 | 9 | 5 | 209 | 833 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 7 | 5 | 74 | 0 | 5 | 7 | 0 | 0 | 70 | 12 | 5 | 0 | 0 | 7 | 2 | 194 | 869 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 1 | 16 | 69 | 0 | 5 | 10 | 0 | 0 | 78 | 11 | 5 | 0 | 0 | 2 | 4 | 201 | 891 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 4 | 6 | 61 | 0 | 5 | 12 | 1 | 0 | 109 | 8 | 9 | 0 | 0 | 7 | 7 | 229 | 946 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 2 | 9 | 81 | 0 | 1 | 8 | 0 | 0 | 105 | 19 | 5 | 0 | 0 | 9 | 6 | 245 | 961 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 1 | 16 | 79 | 0 | 6 | 15 | 0 | 0 | 72 | 12 | 7 | 0 | 0 | 8 | 0 | 216 | 958 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 2 | 14 | 103 | 0 | 6 | 12 | 1 | 0 | 86 | 14 | 3 | 0 | 0 | 11 | 4 | 256 | 991 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 4 | 13 | 83 | 0 | 5 | 12 | 0 | 0 | 102 | 8 | 5 | 0 | 0 | 8 | 4 | 244 | 970 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 7 | 18 | 81 | 0 | 5 | 13 | 0 | 0 | 87 | 12 | 7 | 0 | 1 | 10 | 1 | 242 | 980 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 1 | 20 | 75 | 0 | 3 | 19 | 0 | 0 | 109 | 12 | 2 | 0 | 0 | 7 | 1 | 249 | 968 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 8 | 17 | 76 | 0 | 7 | 12 | 0 | 0 | 86 | 7 | 9 | 0 | 0 | 11 | 2 | 235 | 950 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 3 | 22 | 60 | 0 | 3 | 16 | 0 | 0 | 120 | 11 | 2 | 0 | 0 | 14 | 3 | 254 | 1,031 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 2 | 12 | 66 | 0 | 3 | 14 | 0 | 0 | 99 | 12 | 8 | 0 | 0 | 10 | 4 | 230 | 1,101 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 4 | 11 | 58 | 0 | 3 | 11 | 0 | 0 | 120 | 11 | 4 | 0 | 0 | 6 | 3 | 231 | 1,181 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 3 | 14 | 95 | 0 | 7 | 35 | 0 | 0 | 122 | 18 | 4 | 0 | 0 | 15 | 3 | 316 | 1,255 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 2 | 13 | 104 | 0 | 1 | 31 | 0 | 0 | 146 | 12 | 2 | 0 | 0 | 11 | 2 | 324 | 1,279 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 11 | 10 | 84 | 0 | 5 | 31 | 0 | 0 | 129 | 20 | 4 | 0 | 0 | 12 | 4 | 310 | 1,267 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 5 | 10 | 79 | 0 | 1 | 20 | 0 | 0 | 147 | 23 | 7 | 0 | 0 | 11 | 2 | 305 | 1,255 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 9 | 17 | 78 | 0 | 4 | 17 | 0 | 0 | 135 | 45 | 8 | 0 | 0 | 21 | 6 | 340 | 1,292 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 11 | 19 | 91 | 0 | 7 | 25 | 1 | 0 | 107 | 33 | 7 | 0 | 0 | 10 | 1 | 312 | 1,283 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 3 | 17 | 84 | 0 | 6 | 21 | 0 | 0 | 123 | 26 | 6 | 0 | 0 | 9 | 3 | 298 | 1,299 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 4 | 28 | 84 | 0 | 3 | 27 | 0 | 0 | 140 | 25 | 6 | 0 | 0 | 18 | 7 | 342 | 1,363 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 2 | 23 | 87 | 0 | 5 | 23 | 0 | 0 | 142 | 22 | 5 | 0 | 0 | 15 | 7 | 331 | 1,421 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 1 | 18 | 87 | 0 | 3 | 15 | 0 | 0 | 149 | 29 | 7 | 0 | 0 | 13 | 6 | 328 | 1,429 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 7 | 21 | 85 | 0 | 5 | 32 | 0 | 0 | 151 | 32 | 8 | 0 | 0 | 16 | 5 | 362 | 1,454 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 6 | 18 | 109 | 0 | 6 | 20 | 0 | 0 | 162 | 29 | 4 | 0 | 0 | 20 | 26 | 400 | 1,419 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 7 | 17 | 90 | 0 | 3 | 26 | 0 | 0 | 144 | 22 | 9 | 0 | 0 | 15 | 6 | 339 | 1,315 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 6 | 20 | 103 | 0 | 2 | 17 | 0 | 0 | 152 | 26 | 8 | 0 | 0 | 15 | 4 | 353 | 1,269 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 5 | 22 | 122 | 0 | 1 | 19 | 0 | 0 | 122 | 16 | 6 | 0 | 0 | 9 | 5 | 327 | 1,161 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 3 | 20 | 112 | 0 | 6 | 8 | 0 | 0 | 108 | 18 | 4 | 0 | 0 | 11 | 6 | 296 | 1,060 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 8 | 24 | 109 | 0 | 5 | 7 | 1 | 0 | 101 | 22 | 8 | 0 | 0 | 6 | 2 | 293 | 958 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 4 | 11 | 81 | 0 | 4 | 19 | 1 | 0 | 95 | 11 | 3 | 0 | 0 | 14 | 2 | 245 | 877 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 1 | 8 | 77 | 0 | 7 | 5 | 0 | 0 | 103 | 14 | 3 | 0 | 0 | 6 | 2 | 226 | 825 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 3 | 9 | 69 | 0 | 5 | 6 | 0 | 0 | 80 | 10 | 4 | 0 | 0 | 7 | 1 | 194 | 757 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 1 | 16 | 68 | 0 | 4 | 12 | 0 | 0 | 84 | 18 | 4 | 0 | 0 | 2 | 3 | 212 | 723 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 5 | 20 | 54 | 0 | 1 | 6 | 0 | 0 | 82 | 10 | 3 | 0 | 0 | 10 | 2 | 193 | 659 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 4 | 11 | 49 | 0 | 2 | 5 | 0 | 0 | 75 | 4 | 1 | 0 | 0 | 5 | 2 | 158 | 582 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 2 | 12 | 53 | 0 | 4 | 11 | 0 | 0 | 59 | 9 | 3 | 0 | 0 | 6 | 1 | 160 | 549 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 16 | 45 | 0 | 5 | 8 | 0 | 0 | 57 | 7 | 2 | 0 | 0 | 7 | 1 | 148 | 479 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 0 | 10 | 35 | 0 | 1 | 4 | 0 | 0 | 47 | 11 | 4 | 0 | 0 | 3 | 1 | 116 | 444 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 1 | 13 | 40 | 0 | 2 | 1 | 0 | 0 | 60 | 3 | 3 | 0 | 0 | 2 | 0 | 125 | 419 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 3 | 7 | 31 | 0 | 2 | 3 | 0 | 0 | 32 | 7 | 3 | 0 | 0 | 2 | 0 | 90 | 404 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 11 | 36 | 0 | 1 | 4 | 0 | 0 | 48 | 6 | 3 | 0 | 0 | 3 | 1 | 113 | 398 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 1 | 7 | 29 | 0 | 1 | 2 | 0 | 0 | 41 | 5 | 3 | 0 | 0 | 0 | 2 | 91 | 360 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 1 | 7 | 38 | 0 | 1 | 6 | 0 | 0 | 49 | 3 | 2 | 0 | 0 | 2 | 1 | 110 | 375 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 0 | 37 | 0 | 0 | 6 | 0 | 0 | 34 | 3 | 1 | 0 | 0 | 2 | 1 | 84 | 334 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 2 | 2 | 21 | 0 | 0 | 1 | 0 | 0 | 39 | 4 | 4 | 0 | 0 | 2 | 0 | 75 | 300 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 3 | 27 | 0 | 3 | 29 | 0 | 0 | 38 | 0 | 3 | 0 | 0 | 3 | 0 | 106 | 280 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 1 | 24 | 0 | 0 | 5 | 0 | 0 | 28 | 8 | 0 | 0 | 0 | 3 | 0 | 69 | 225 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 6 | 10 | 0 | 0 | 3 | 0 | 0 | 29 | 1 | 0 | 0 | 0 | 1 | 0 | 50 | 198 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 3 | 10 | 0 | 0 | 1 | 0 | 0 | 37 | 2 | 0 | 0 | 0 | 2 | 0 | 55 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 1 | 12 | 0 | 0 | 4 | 0 | 0 | 26 | 5 | 0 | 0 | 0 | 2 | 1 | 51 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 12 | 0 | 0 | 2 | 0 | 0 | 25 | 2 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 253 | 1,200 | 6,389 | 0 | 284 | 1,212 | 7 | 0 | 7,050 | 1,017 | 328 | 0 | 3 | 848 | 271 | 18,862 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 26 | 76 | 387 | 0 | 16 | 95 | 0 | 0 | 609 | 109 | 29 | 0 | 0 | 66 | 41 | 1,454 | 0 | 0 | 0 | 0 |

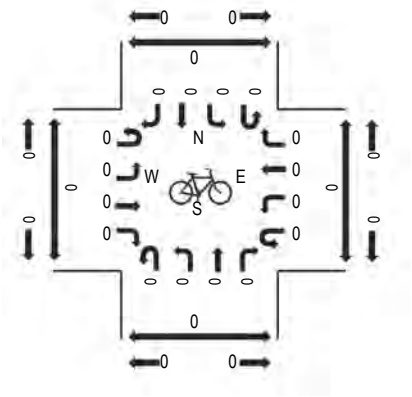
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 1 PICADILLY RD & 120TH AVE AM
**Date:** Wednesday, September 17, 2025
**Peak Hour:** 06:45 AM - 07:45 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

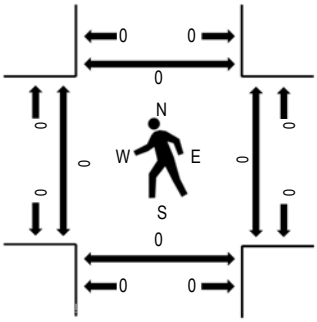
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | PICADILLY RD Northbound | | | | PICADILLY RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 30 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 31 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 18 | 27 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 11 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 8 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 7 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 10 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 15 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 19 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 26 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 36 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 55 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 8 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 77 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 5 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 14 | 105 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 13 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 23 | 145 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 12 | 0 | 0 | 0 | 9 | 2 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 28 | 227 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 1 | 21 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 40 | 245 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 38 | 1 | 0 | 0 | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 54 | 255 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 1 | 79 | 0 | 0 | 0 | 14 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 2 | 105 | 247 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 35 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 46 | 218 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 25 | 1 | 0 | 0 | 19 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 50 | 252 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 3 | 21 | 1 | 0 | 0 | 19 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 46 | 298 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 43 | 1 | 0 | 0 | 26 | 1 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 76 | 316 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 2 | 41 | 2 | 0 | 0 | 23 | 0 | 0 | 4 | 1 | 0 | 0 | 3 | 2 | 2 | 80 | 339 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 4 | 37 | 5 | 0 | 1 | 35 | 4 | 0 | 2 | 3 | 0 | 1 | 2 | 2 | 0 | 96 | 314 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 2 | 15 | 4 | 0 | 0 | 31 | 0 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 1 | 64 | 286 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 27 | 1 | 0 | 2 | 51 | 6 | 0 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 99 | 278 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 1 | 20 | 4 | 0 | 0 | 23 | 2 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 55 | 232 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 3 | 18 | 3 | 0 | 0 | 33 | 2 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 1 | 68 | 216 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 2 | 21 | 4 | 0 | 0 | 22 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 56 | 188 | 0 | 0 | 0 | 0 |

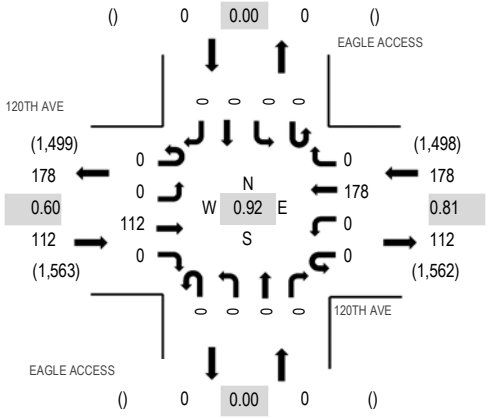
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 1 | 26 | 3 | 0 | 0 | 16 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 53 | 169 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 6 | 15 | 0 | 0 | 0 | 13 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 39 | 147 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 0 | 19 | 2 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 40 | 156 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 3 | 13 | 2 | 0 | 0 | 14 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 37 | 137 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 0 | 10 | 1 | 0 | 1 | 14 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 31 | 128 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 5 | 18 | 3 | 0 | 0 | 15 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 48 | 121 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 1 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 21 | 107 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 0 | 10 | 3 | 0 | 0 | 9 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 28 | 128 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 2 | 10 | 1 | 0 | 0 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 24 | 142 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 0 | 15 | 2 | 0 | 1 | 11 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 34 | 157 | 0 | 0 | 0 | 0 |
| 11:00 AM | 1 | 0 | 13 | 2 | 0 | 0 | 14 | 3 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 4 | 42 | 159 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 1 | 14 | 0 | 0 | 0 | 22 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 42 | 163 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 0 | 14 | 1 | 0 | 1 | 12 | 0 | 0 | 3 | 1 | 0 | 0 | 2 | 1 | 4 | 39 | 168 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 1 | 14 | 1 | 0 | 0 | 15 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 36 | 177 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 0 | 15 | 2 | 0 | 0 | 19 | 0 | 0 | 4 | 2 | 2 | 0 | 1 | 1 | 0 | 46 | 197 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 2 | 17 | 3 | 0 | 1 | 20 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 47 | 204 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 1 | 23 | 2 | 0 | 0 | 14 | 1 | 0 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 48 | 212 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 1 | 29 | 4 | 0 | 0 | 15 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 56 | 215 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 4 | 19 | 3 | 0 | 0 | 23 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 53 | 214 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 0 | 22 | 4 | 0 | 0 | 17 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 4 | 2 | 55 | 206 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 1 | 21 | 3 | 0 | 0 | 19 | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 51 | 201 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 1 | 25 | 5 | 0 | 0 | 19 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 55 | 209 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 1 | 14 | 2 | 0 | 1 | 22 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 45 | 227 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 1 | 16 | 3 | 0 | 1 | 18 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 3 | 50 | 240 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 2 | 11 | 2 | 0 | 0 | 29 | 9 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 59 | 242 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 4 | 23 | 1 | 0 | 1 | 35 | 2 | 0 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 73 | 265 | 0 | 0 | 0 | 0 |
| 3:00 PM | 1 | 1 | 25 | 3 | 0 | 0 | 22 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 0 | 58 | 255 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 1 | 22 | 5 | 0 | 0 | 14 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 1 | 2 | 52 | 276 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 3 | 25 | 2 | 0 | 0 | 40 | 5 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 2 | 82 | 304 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 2 | 18 | 1 | 0 | 1 | 36 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 63 | 309 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 1 | 29 | 2 | 0 | 0 | 36 | 2 | 0 | 3 | 0 | 0 | 0 | 1 | 3 | 2 | 79 | 325 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 1 | 30 | 4 | 0 | 0 | 36 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 80 | 323 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 3 | 23 | 2 | 0 | 1 | 51 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 87 | 319 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 4 | 25 | 4 | 0 | 0 | 39 | 2 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 79 | 294 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 5 | 26 | 5 | 0 | 0 | 32 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 2 | 77 | 280 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 29 | 7 | 0 | 1 | 27 | 2 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 1 | 76 | 267 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 1 | 20 | 4 | 0 | 0 | 28 | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 2 | 62 | 241 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 27 | 6 | 0 | 0 | 22 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 1 | 1 | 65 | 223 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 2 | 19 | 8 | 0 | 0 | 23 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 3 | 64 | 201 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 2 | 16 | 5 | 0 | 0 | 18 | 2 | 0 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 50 | 178 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 1 | 17 | 3 | 0 | 0 | 16 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 1 | 44 | 170 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 1 | 16 | 5 | 0 | 0 | 18 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 43 | 154 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 1 | 11 | 7 | 0 | 0 | 18 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 41 | 151 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 20 | 4 | 0 | 0 | 9 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 1 | 0 | 42 | 138 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 0 | 10 | 3 | 0 | 0 | 9 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 28 | 114 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 0 | 24 | 1 | 0 | 0 | 3 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 3 | 0 | 40 | 119 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 1 | 11 | 2 | 0 | 0 | 9 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 28 | 96 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 9 | 2 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 18 | 84 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 1 | 20 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 33 | 81 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 17 | 67 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 1 | 12 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 66 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 68 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 11 | 1 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 19 | 56 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 7 | 3 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 82 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 4 | 3 | 0 | 0 | 4 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 2 | 0 | 18 | 74 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 65 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 5 | 2 | 0 | 0 | 32 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 45 | 69 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 8 | 31 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 30 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 2 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| Count Total | 2 | 89 | 1,472 | 179 | 0 | 14 | 1,411 | 81 | 1 | 175 | 53 | 13 | 1 | 84 | 59 | 72 | 3,706 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 8 | 120 | 12 | 0 | 3 | 140 | 10 | 0 | 27 | 4 | 1 | 1 | 6 | 4 | 3 | 339 | 0 | 0 | 0 | 0 |

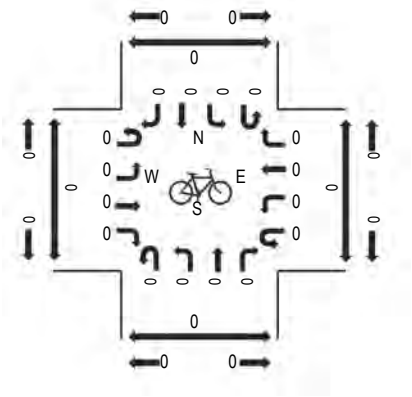
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 4 EAGLE ACCESS & 120TH AVE AM
**Date:** Wednesday, September 17, 2025
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:30 PM - 04:45 PM

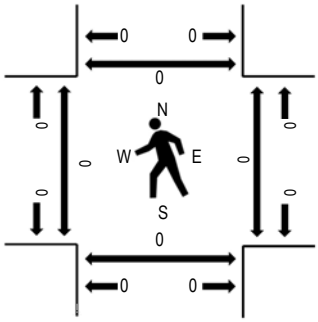
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | EAGLE ACCESS Northbound | | | | EAGLE ACCESS Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 28 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 29 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 5 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 25 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 24 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 36 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 55 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 7 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 72 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 98 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 15 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 133 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 15 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 202 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 28 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 231 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 39 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 243 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 80 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 93 | 236 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 44 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 215 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 29 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 229 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 0 | 21 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 254 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 46 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 72 | 266 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 0 | 43 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66 | 277 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 0 | 34 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 256 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 21 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 235 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 25 | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 | 226 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 22 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 185 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 18 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 174 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 22 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 155 | 0 | 0 | 0 | 0 |

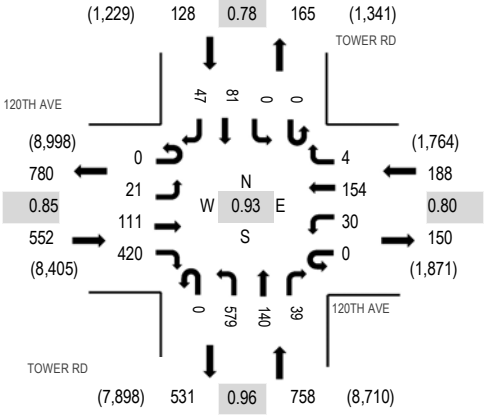
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 0 | 26 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 137 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 19 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 121 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 0 | 19 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 122 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 0 | 13 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 106 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 0 | 11 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 100 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 0 | 19 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 93 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 0 | 11 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 85 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 97 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 10 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 111 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 0 | 14 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 118 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 0 | 14 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 121 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 0 | 13 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 128 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 0 | 17 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 132 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 0 | 15 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 145 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 0 | 18 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 161 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 0 | 18 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 166 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 0 | 25 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 171 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 0 | 30 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 174 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 0 | 20 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 173 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 0 | 26 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 167 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 0 | 22 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 159 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 0 | 26 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 169 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 0 | 15 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 184 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 194 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 0 | 12 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 198 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 0 | 24 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 217 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 0 | 24 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 210 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 23 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 236 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 0 | 25 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 267 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 0 | 17 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 275 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 0 | 32 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 290 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 30 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 274 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 24 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 261 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 26 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 237 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 26 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 218 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 27 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 208 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 24 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55 | 186 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 27 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 164 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 0 | 19 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 149 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 131 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 0 | 19 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 129 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 0 | 15 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 115 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 0 | 11 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 109 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 24 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 100 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 0 | 11 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 83 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 0 | 25 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 90 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 79 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 73 | 0 | 0 | 0 | 0 |
| 8:30 PM | 1 | 0 | 19 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 70 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 10 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 60 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 56 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 52 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 11 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 40 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 8 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 66 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 60 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 59 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 5 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 64 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 29 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 28 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| Count Total | 1 | 0 | 1,562 | 0 | 0 | 0 | 1,498 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,061 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 112 | 0 | 0 | 0 | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 290 | 0 | 0 | 0 | 0 |

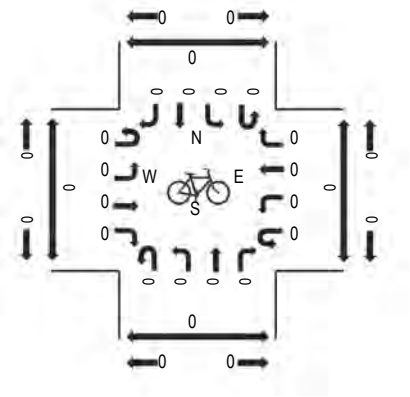
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 7 TOWER RD & 120TH AVE AM
**Date:** Wednesday, September 17, 2025
**Peak Hour:** 04:30 PM - 05:30 PM
**Peak 15-Minutes:** 05:15 PM - 05:30 PM

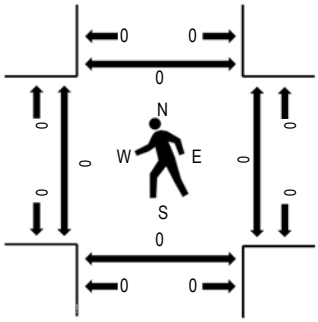
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | TOWER RD Northbound | | | | TOWER RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 2 | 13 | 0 | 0 | 2 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 135 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 2 | 5 | 0 | 0 | 4 | 0 | 0 | 20 | 2 | 0 | 0 | 1 | 2 | 0 | 36 | 129 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 1 | 9 | 0 | 0 | 8 | 1 | 0 | 13 | 5 | 1 | 0 | 0 | 0 | 0 | 38 | 122 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 1 | 1 | 5 | 0 | 1 | 3 | 1 | 0 | 17 | 3 | 0 | 0 | 0 | 0 | 0 | 32 | 111 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 23 | 107 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 10 | 0 | 2 | 1 | 0 | 0 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 29 | 100 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 0 | 11 | 0 | 0 | 1 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 27 | 96 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 12 | 0 | 1 | 2 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 28 | 93 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 16 | 88 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 0 | 11 | 0 | 0 | 2 | 0 | 0 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 25 | 100 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 | 0 | 0 | 2 | 0 | 24 | 116 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 2 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 23 | 146 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 0 | 16 | 0 | 1 | 1 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 28 | 171 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 1 | 3 | 24 | 0 | 0 | 1 | 0 | 0 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 41 | 206 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 4 | 34 | 0 | 1 | 1 | 0 | 0 | 9 | 1 | 0 | 0 | 0 | 4 | 0 | 54 | 262 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 24 | 0 | 1 | 1 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 4 | 0 | 48 | 332 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 6 | 41 | 0 | 2 | 0 | 0 | 0 | 11 | 1 | 1 | 0 | 0 | 1 | 0 | 63 | 397 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 1 | 7 | 50 | 0 | 1 | 6 | 0 | 0 | 23 | 0 | 1 | 0 | 0 | 8 | 0 | 97 | 504 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 9 | 69 | 0 | 0 | 7 | 0 | 0 | 25 | 6 | 1 | 0 | 0 | 7 | 0 | 124 | 649 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 1 | 14 | 61 | 0 | 1 | 9 | 0 | 0 | 19 | 2 | 0 | 0 | 0 | 6 | 0 | 113 | 823 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 23 | 90 | 0 | 1 | 7 | 0 | 0 | 32 | 3 | 1 | 0 | 0 | 12 | 1 | 170 | 981 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 1 | 40 | 120 | 0 | 1 | 14 | 0 | 0 | 35 | 11 | 2 | 0 | 0 | 17 | 1 | 242 | 1,079 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 74 | 128 | 0 | 4 | 12 | 0 | 0 | 44 | 6 | 7 | 0 | 0 | 19 | 4 | 298 | 1,165 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 2 | 29 | 128 | 0 | 2 | 12 | 0 | 0 | 58 | 18 | 4 | 0 | 0 | 14 | 4 | 271 | 1,224 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 19 | 131 | 0 | 2 | 12 | 0 | 0 | 60 | 15 | 4 | 0 | 0 | 21 | 4 | 268 | 1,274 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 5 | 24 | 146 | 0 | 2 | 22 | 0 | 0 | 85 | 13 | 5 | 0 | 0 | 20 | 6 | 328 | 1,354 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 5 | 43 | 135 | 0 | 2 | 23 | 0 | 0 | 95 | 19 | 4 | 0 | 0 | 27 | 4 | 357 | 1,364 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 9 | 39 | 123 | 0 | 3 | 22 | 0 | 0 | 87 | 17 | 4 | 0 | 0 | 14 | 3 | 321 | 1,416 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 10 | 29 | 116 | 0 | 6 | 34 | 0 | 0 | 89 | 17 | 9 | 0 | 0 | 25 | 13 | 348 | 1,453 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 4 | 18 | 133 | 0 | 10 | 25 | 0 | 0 | 89 | 14 | 4 | 0 | 0 | 28 | 13 | 338 | 1,439 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 3 | 23 | 147 | 0 | 8 | 55 | 0 | 0 | 125 | 9 | 9 | 0 | 0 | 20 | 10 | 409 | 1,410 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 2 | 19 | 125 | 0 | 6 | 33 | 0 | 0 | 123 | 13 | 9 | 0 | 0 | 21 | 7 | 358 | 1,300 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 5 | 17 | 126 | 0 | 5 | 31 | 0 | 0 | 113 | 12 | 5 | 0 | 0 | 13 | 7 | 334 | 1,199 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 6 | 31 | 119 | 0 | 6 | 24 | 0 | 0 | 89 | 9 | 5 | 0 | 0 | 13 | 7 | 309 | 1,094 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 3 | 22 | 102 | 0 | 3 | 19 | 0 | 0 | 104 | 12 | 6 | 0 | 0 | 22 | 6 | 299 | 1,036 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 2 | 19 | 96 | 0 | 4 | 19 | 0 | 0 | 89 | 10 | 4 | 0 | 0 | 10 | 4 | 257 | 929 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 3 | 17 | 58 | 0 | 8 | 12 | 0 | 0 | 95 | 13 | 6 | 0 | 0 | 11 | 6 | 229 | 917 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 4 | 15 | 91 | 0 | 5 | 11 | 0 | 0 | 93 | 10 | 7 | 0 | 0 | 10 | 5 | 251 | 870 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 4 | 12 | 42 | 0 | 4 | 19 | 0 | 0 | 84 | 15 | 0 | 0 | 0 | 7 | 5 | 192 | 823 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 4 | 22 | 82 | 0 | 6 | 7 | 1 | 0 | 95 | 8 | 3 | 0 | 0 | 9 | 8 | 245 | 844 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 1 | 11 | 73 | 0 | 2 | 10 | 0 | 0 | 60 | 15 | 3 | 0 | 0 | 5 | 2 | 182 | 807 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 3 | 11 | 77 | 0 | 3 | 13 | 0 | 0 | 79 | 7 | 2 | 0 | 0 | 5 | 4 | 204 | 832 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 8 | 77 | 0 | 1 | 9 | 0 | 0 | 92 | 9 | 4 | 0 | 0 | 10 | 3 | 213 | 839 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 8 | 16 | 69 | 0 | 1 | 11 | 0 | 0 | 79 | 7 | 5 | 0 | 0 | 8 | 4 | 208 | 850 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 4 | 13 | 66 | 0 | 3 | 20 | 0 | 0 | 79 | 7 | 5 | 0 | 0 | 8 | 2 | 207 | 920 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 2 | 10 | 72 | 0 | 6 | 16 | 1 | 0 | 83 | 6 | 5 | 0 | 0 | 5 | 5 | 211 | 961 | 0 | 0 | 0 | 0 |
| 11:30 AM | 1 | 0 | 15 | 54 | 0 | 7 | 21 | 0 | 0 | 90 | 16 | 4 | 0 | 0 | 10 | 6 | 224 | 1,014 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 11 | 12 | 96 | 0 | 4 | 16 | 0 | 0 | 108 | 10 | 5 | 0 | 0 | 9 | 7 | 278 | 1,044 | 0 | 0 | 0 | 0 |
| 12:00 PM | 1 | 6 | 19 | 78 | 0 | 2 | 22 | 0 | 0 | 94 | 7 | 3 | 0 | 0 | 10 | 6 | 248 | 1,025 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 5 | 13 | 91 | 0 | 3 | 21 | 0 | 0 | 104 | 11 | 6 | 0 | 0 | 7 | 3 | 264 | 1,018 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 6 | 21 | 84 | 0 | 4 | 10 | 0 | 0 | 88 | 11 | 11 | 0 | 1 | 10 | 8 | 254 | 1,014 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 5 | 23 | 68 | 0 | 8 | 17 | 0 | 0 | 98 | 17 | 8 | 0 | 1 | 9 | 5 | 259 | 1,009 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 2 | 24 | 81 | 0 | 5 | 19 | 0 | 0 | 77 | 8 | 6 | 0 | 0 | 12 | 7 | 241 | 1,034 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 5 | 23 | 70 | 0 | 6 | 21 | 1 | 0 | 103 | 10 | 6 | 0 | 0 | 10 | 5 | 260 | 1,071 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 2 | 20 | 89 | 0 | 5 | 19 | 0 | 0 | 78 | 9 | 7 | 0 | 0 | 15 | 5 | 249 | 1,123 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 5 | 25 | 72 | 0 | 1 | 21 | 0 | 0 | 122 | 15 | 8 | 0 | 0 | 13 | 2 | 284 | 1,169 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 1 | 16 | 87 | 0 | 7 | 19 | 1 | 0 | 112 | 14 | 9 | 0 | 0 | 6 | 6 | 278 | 1,247 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 2 | 16 | 101 | 0 | 7 | 17 | 0 | 0 | 130 | 16 | 3 | 0 | 0 | 14 | 6 | 312 | 1,303 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 5 | 14 | 85 | 0 | 7 | 32 | 0 | 0 | 119 | 17 | 5 | 0 | 0 | 9 | 2 | 295 | 1,343 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 2 | 20 | 106 | 0 | 5 | 29 | 0 | 0 | 147 | 27 | 7 | 0 | 0 | 16 | 3 | 362 | 1,440 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 5 | 19 | 101 | 0 | 6 | 21 | 0 | 0 | 136 | 17 | 8 | 0 | 0 | 15 | 6 | 334 | 1,408 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 4 | 22 | 90 | 0 | 3 | 23 | 0 | 0 | 145 | 27 | 14 | 0 | 0 | 16 | 8 | 352 | 1,457 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 4 | 20 | 111 | 0 | 5 | 32 | 2 | 0 | 164 | 23 | 10 | 0 | 0 | 18 | 3 | 392 | 1,496 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 2 | 18 | 88 | 0 | 6 | 35 | 0 | 0 | 142 | 22 | 7 | 0 | 0 | 8 | 2 | 330 | 1,524 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 4 | 23 | 107 | 0 | 8 | 27 | 0 | 0 | 149 | 33 | 10 | 0 | 0 | 15 | 7 | 383 | 1,574 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 6 | 30 | 109 | 0 | 4 | 39 | 0 | 0 | 139 | 35 | 10 | 0 | 0 | 14 | 5 | 391 | 1,582 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 6 | 27 | 104 | 0 | 11 | 50 | 0 | 0 | 155 | 37 | 13 | 0 | 0 | 14 | 3 | 420 | 1,626 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 3 | 25 | 96 | 0 | 1 | 42 | 1 | 0 | 132 | 34 | 7 | 0 | 0 | 28 | 11 | 380 | 1,583 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 4 | 27 | 102 | 0 | 9 | 39 | 0 | 0 | 136 | 36 | 10 | 0 | 0 | 17 | 11 | 391 | 1,584 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 8 | 32 | 118 | 0 | 9 | 23 | 3 | 0 | 156 | 33 | 9 | 0 | 0 | 22 | 22 | 435 | 1,549 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 7 | 27 | 108 | 0 | 6 | 29 | 0 | 0 | 140 | 29 | 4 | 0 | 0 | 20 | 7 | 377 | 1,448 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 3 | 27 | 107 | 0 | 4 | 25 | 0 | 0 | 157 | 27 | 9 | 0 | 0 | 17 | 5 | 381 | 1,337 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 3 | 16 | 101 | 0 | 9 | 21 | 0 | 0 | 171 | 20 | 5 | 0 | 0 | 9 | 1 | 356 | 1,256 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 3 | 22 | 117 | 0 | 5 | 20 | 1 | 0 | 127 | 21 | 3 | 0 | 0 | 14 | 1 | 334 | 1,161 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 2 | 19 | 84 | 0 | 4 | 13 | 0 | 0 | 102 | 20 | 7 | 0 | 0 | 12 | 3 | 266 | 1,046 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 7 | 12 | 85 | 0 | 2 | 24 | 0 | 0 | 132 | 15 | 8 | 0 | 0 | 10 | 5 | 300 | 971 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 5 | 17 | 88 | 0 | 5 | 9 | 0 | 0 | 100 | 12 | 8 | 0 | 0 | 12 | 5 | 261 | 880 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 19 | 74 | 0 | 4 | 19 | 1 | 0 | 76 | 13 | 5 | 0 | 0 | 5 | 3 | 219 | 787 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 3 | 15 | 66 | 0 | 4 | 8 | 0 | 0 | 63 | 19 | 1 | 0 | 0 | 9 | 3 | 191 | 742 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 6 | 22 | 67 | 0 | 2 | 7 | 0 | 0 | 81 | 9 | 6 | 0 | 0 | 8 | 1 | 209 | 686 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 4 | 7 | 44 | 0 | 2 | 10 | 0 | 0 | 81 | 8 | 4 | 0 | 0 | 5 | 3 | 168 | 624 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 4 | 11 | 52 | 0 | 3 | 6 | 0 | 0 | 72 | 11 | 3 | 0 | 0 | 11 | 1 | 174 | 558 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 0 | 22 | 44 | 0 | 2 | 8 | 0 | 0 | 44 | 8 | 1 | 0 | 0 | 5 | 1 | 135 | 485 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 1 | 8 | 56 | 0 | 3 | 7 | 0 | 0 | 59 | 9 | 3 | 0 | 0 | 1 | 0 | 147 | 459 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 14 | 25 | 0 | 2 | 3 | 0 | 0 | 42 | 7 | 3 | 0 | 0 | 6 | 0 | 102 | 409 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 2 | 6 | 22 | 0 | 3 | 4 | 0 | 0 | 56 | 4 | 2 | 0 | 0 | 1 | 1 | 101 | 383 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 1 | 9 | 33 | 0 | 3 | 5 | 1 | 0 | 49 | 3 | 3 | 0 | 0 | 2 | 0 | 109 | 368 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 1 | 7 | 38 | 0 | 1 | 2 | 0 | 0 | 39 | 3 | 3 | 0 | 0 | 3 | 0 | 97 | 359 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 1 | 7 | 22 | 0 | 1 | 7 | 0 | 0 | 35 | 1 | 1 | 0 | 0 | 1 | 0 | 76 | 351 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 1 | 35 | 0 | 0 | 0 | 0 | 0 | 42 | 5 | 0 | 0 | 0 | 2 | 1 | 86 | 337 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 7 | 35 | 0 | 5 | 18 | 0 | 0 | 31 | 1 | 0 | 0 | 0 | 3 | 0 | 100 | 334 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 1 | 4 | 20 | 0 | 2 | 12 | 0 | 0 | 47 | 1 | 0 | 0 | 0 | 2 | 0 | 89 | 305 | 0 | 0 | 0 | 0 |
| 11:00 PM | 1 | 0 | 3 | 16 | 0 | 2 | 2 | 0 | 0 | 35 | 1 | 0 | 0 | 0 | 2 | 0 | 62 | 267 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 2 | 21 | 0 | 1 | 2 | 0 | 0 | 45 | 5 | 1 | 0 | 0 | 6 | 0 | 83 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 1 | 3 | 17 | 0 | 1 | 3 | 0 | 0 | 39 | 4 | 1 | 0 | 0 | 2 | 0 | 71 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 12 | 0 | 0 | 4 | 0 | 0 | 30 | 1 | 1 | 0 | 0 | 2 | 0 | 51 | 0 | 0 | 0 | 0 |
| Count Total | 3 | 253 | 1,474 | 6,675 | 0 | 325 | 1,424 | 15 | 0 | 7,243 | 1,073 | 394 | 0 | 3 | 898 | 328 | 20,108 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 21 | 111 | 420 | 0 | 30 | 154 | 4 | 0 | 579 | 140 | 39 | 0 | 0 | 81 | 47 | 1,626 | 0 | 0 | 0 | 0 |

# ATTACHMENT B: LEVEL OF SERVICE ANALYSIS AND SIGNAL TIMING

# SEPAC ECOM All Data

2/27/2026
5:24:29PM

Intersection Name: **120th & Tower** Intersection Alias: **120Tower**

## Access Data

1 :**1200 Baud**
3 :**1200 Baud**

Access Code: [redacted] Channel: Address: **1**

Revision: **3.58d** IP Address: [redacted]

## Phase Initialization Data

| Phase | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial | 0-None | 1-Inact | 0-None | 1-Inact | 1-Inact | 1-Inact | 0-None | 1-Inact | 0-None | 0-None | 0-None | 0-None | 0-None | 0-None | 0-None | 0-None |

## PHASE DATA

Vehical Basic Timings | Misc Timings | Pedestrian Timings

| Phase | Min Grn | Passage | Max1 | Max2 | Yellow | All Red | Dyn Max Limit | Dyn Max Step | Green Delay | Yellow Delay | Walk Offset Time | Walk Offset Mode | Bike Green | Bike Psg | Walk | Ped Clr | Alt Walk | Alt Ped Clr | Flash Walk | Ext Ped Clr | Act. Rest in Walk |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Phase Data Bank: 1** | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 2.0 | 30 | 30 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 3 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 10 | 2.0 | 30 | 30 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 5 | 8 | 3.0 | 25 | 20 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 2.0 | 35 | 35 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 7 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 10 | 2.0 | 30 | 30 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| **Phase Data Bank: 2** | | | | | | | | | | | | | | | | | | | | | |
| 1 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 3 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 5 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 7 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

**Phase Data Bank: 3**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 3 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 5 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 7 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

**Phase Data Bank: 4**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 3 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 5 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 7 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

| Vehicle Density Timings | | | | | | | General Control | | | | | Miscellaneous | | | | | Special Sequence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ph. | Added Initial | Max Initial | Time B4 Redu | Car B4 Redu | Time To Redu | Min Gap | Non-Act Response | Veh Recall | Veh Recall Delay | Ped Recall | Ped Recall Delay | Non Lock | Dual Entry | Last Car Pass | Condit Service | No Simu Gap Out | Omit | Minus Yel | Omit Call |
| **Phase Data Bank: 1** | | | | | | | | | | | | | | | | | | | |
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | Min | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| | | | | | | | Vol/Occ period: 0 | | | | | | | | | | | | |
| **Phase Data Bank: 2** | | | | | | | | | | | | | | | | | | | |
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| | | | | | | | Vol/Occ period: 0 | | | | | | | | | | | | |
| **Phase Data Bank: 3** | | | | | | | | | | | | | | | | | | | |
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |

Vol/Occ period: 0

**Phase Data Bank: 4**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |

Vol/Occ period: 0

**Vehicle Detector Values**

## Phase Data Bank: 1

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 2 | 2 | - | 0 | 5.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 5 | - | 0 | 5.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 11 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 19 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

## Phase Data Bank: 2

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 9 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 19 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

**Phase Data Bank: 3**

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 9 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 11 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 19 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

**Phase Data Bank: 4**

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 9 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 11 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

**Ped Detector Values**

## Phase Data Bank: 1

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

## Phase Data Bank: 2

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

## Phase Data Bank: 3

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

## Phase Data Bank: 4

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

**Special Detector Values**

## Phase Data Bank:

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Unit Data

## General Control

**Startup Time:** 1 sec
**Startup State:** Flash
**Red Revert:** 4.0 sec
**Auto Ped Clr:** No
**Stop T Reset:** No
**Alt Sequence:** 0
**Special Seq:** 1-Int'l Seq

| Ring | Input Respons | Output Selection |
|---|---|---|
| 1 | Ring 1 | Ring 1 |
| 2 | Ring 2 | Ring 2 |
| 3 | None | None |
| 4 | None | None |

**I/O Modes:**

**ABC Input(Entry) Modes:** 0
**D Input(Entry) Modes:** 0
**ABC Output(O/STS) Modes:** 0
**D Output(O/STS) Modes:** 0

## Remote Flash

Test A = Flash No

| Phase | Entry | Exit |
|---|---|---|
| 2 | Yes | Yes |
| 6 | Yes | Yes |

**Default Data - No Flash**

## Not Assigned Overlaps

A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P

## Standard Overlaps

| Overlap | Trail Green (sec) | Yellow (sec) | Red (sec) | Tr. Grn Pt. (sec) | Parent Phases | Plus Green Phases | Minus G/Y Phases | Minus PED Phases |
|---|---|---|---|---|---|---|---|---|

## FYA Overlaps

| Overlap | Delay (sec) | Permissive Phases | Protected Phases | Minus PED Phases | Permissive Overlaps | Protected Overlaps |
|---|---|---|---|---|---|---|

## Pedestrian Overlaps

| Overlap | Ped Walk 1 (sec) | Ped Clr 1 (sec) | Ped Walk 2 (sec) | Ped Clr 2 (sec) | Parent Phases (sec) |
|---|---|---|---|---|---|

## Priority Overlaps

| Overlap | Transit Yellow (sec) | Transit Red (sec) |
|---|---|---|

## Ring

| Phase | Ring | Next Phase |
|---|---|---|
| 2 | 1 | 3 |
| 4 | 1 | 1 |
| 5 | 2 | 6 |
| 6 | 2 | 7 |
| 8 | 2 | 5 |

Phase(s)

| Concurrent Phases | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 1 | 3 | 3 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | 5 | 5 | 7 | 7 | 2 | 2 | 4 | 4 | | | | | | | | |
| | 6 | 6 | 8 | 8 | 5 | 6 | 7 | 8 | | | | | | | | |

Alternate Sequences

No Alternate Sequences Programmed

## Port 1 Data

| BIU Addr | Port Status | Basic Det | Message 40 |
|---|---|---|---|

Default Data

| Load Switch | Red Type | Red Arg | Yellow Type | Yellow Arg | Green Type | Green Arg |
|---|---|---|---|---|---|---|
| 1 | 1 - Phase Vehicle 1 | Red | 1 - Phase Vehicle 1 | Yellow | 1 - Phase Vehicle 1 | Green |
| 2 | 2 - Phase Vehicle 2 | Red | 2 - Phase Vehicle 2 | Yellow | 2 - Phase Vehicle 2 | Green |
| 3 | 18 - Phase Pedestrian 2 | Don't Walk | 18 - Phase Pedestrian 2 | Ped Clear | 18 - Phase Pedestrian 2 | Walk |
| 4 | 3 - Phase Vehicle 3 | Red | 3 - Phase Vehicle 3 | Yellow | 3 - Phase Vehicle 3 | Green |
| 5 | 4 - Phase Vehicle 4 | Red | 4 - Phase Vehicle 4 | Yellow | 4 - Phase Vehicle 4 | Green |
| 6 | 20 - Phase Pedestrian 4 | Don't Walk | 20 - Phase Pedestrian 4 | Ped Clear | 20 - Phase Pedestrian 4 | Walk |
| 7 | 5 - Phase Vehicle 5 | Red | 5 - Phase Vehicle 5 | Yellow | 5 - Phase Vehicle 5 | Green |
| 8 | 6 - Phase Vehicle 6 | Red | 6 - Phase Vehicle 6 | Yellow | 6 - Phase Vehicle 6 | Green |
| 9 | 22 - Phase Pedestrian 6 | Don't Walk | 22 - Phase Pedestrian 6 | Ped Clear | 22 - Phase Pedestrian 6 | Walk |
| 10 | 7 - Phase Vehicle 7 | Red | 7 - Phase Vehicle 7 | Yellow | 7 - Phase Vehicle 7 | Green |
| 11 | 8 - Phase Vehicle 8 | Red | 8 - Phase Vehicle 8 | Yellow | 8 - Phase Vehicle 8 | Green |
| 12 | 24 - Phase Pedestrian 8 | Don't Walk | 24 - Phase Pedestrian 8 | Ped Clear | 24 - Phase Pedestrian 8 | Walk |
| 13 | 33 - Overlap A | Red | 33 - Overlap A | Yellow | 33 - Overlap A | Green |
| 14 | 34 - Overlap B | Red | 34 - Overlap B | Yellow | 34 - Overlap B | Green |
| 15 | 17 - Phase Pedestrian 1 | Don't Walk | 17 - Phase Pedestrian 1 | Ped Clear | 17 - Phase Pedestrian 1 | Walk |
| 16 | 35 - Overlap C | Red | 35 - Overlap C | Yellow | 35 - Overlap C | Green |
| 17 | 36 - Overlap D | Red | 36 - Overlap D | Yellow | 36 - Overlap D | Green |
| 18 | 19 - Phase Pedestrian 3 | Don't Walk | 19 - Phase Pedestrian 3 | Ped Clear | 19 - Phase Pedestrian 3 | Walk |
| 19 | 0 - None | None | 0 - None | None | 0 - None | None |
| 20 | 0 - None | None | 0 - None | None | 0 - None | None |
| 21 | 0 - None | None | 0 - None | None | 0 - None | None |
| 22 | 0 - None | None | 0 - None | None | 0 - None | None |
| 23 | 0 - None | None | 0 - None | None | 0 - None | None |
| 24 | 0 - None | None | 0 - None | None | 0 - None | None |
| 25 | 0 - None | None | 0 - None | None | 0 - None | None |
| 26 | 0 - None | None | 0 - None | None | 0 - None | None |
| 27 | 0 - None | None | 0 - None | None | 0 - None | None |
| 28 | 0 - None | None | 0 - None | None | 0 - None | None |
| 29 | 0 - None | None | 0 - None | None | 0 - None | None |
| 30 | 0 - None | None | 0 - None | None | 0 - None | None |
| 31 | 0 - None | None | 0 - None | None | 0 - None | None |
| 32 | 0 - None | None | 0 - None | None | 0 - None | None |

**P2P Sources**

**Unit Bank:**

| ID | Peer IP | Timeout | PeerName |
|---|---|---|---|

**Peer Functions**

**Unit Bank:**

| ID | Peer ID | Source Functio | Source Index | Input Function | Input Index | Fail State |
|---|---|---|---|---|---|---|

## Coordination Data

**Dial/Split** **Cycle**

/

**General Coordination Dat**

**Operation Mode:** 0=Free **Offset Mode:** 0=Beg Grn **Manual Dial:** 1

**Coordination Mode:** 0=Permissive **Force Mode:** 0=Plan **Manual Split:** 1

**Maximun Mode:** 2=Max 2 **Max Dwell Time:** 0 **Manual Offset:** 1

**Correction Mode:** 0=Dwell **Yield Period:** 0

## Split Times and Phase Modes

**Dial / Split**

| Ph. | Splits | Ph. Mode | Ph. | Splits | Ph. Mode | Ph. | Splits | Ph. Mode | Ph. | Splits | Ph. Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Traffic Plan Data

Plan: //

Offset Time:

Alternat Sequence:

Rg 2 Lag Time:

Rg 3 Lag Time:

Rg 4 Lag Time:

Mode:

Special Function:

Correction Mode:

## Local TBC Data

Start of Daylight Saving Month: 0 Week: 0 Cycle Zero Reference Hours: 0 Min: 0

End of Daylight Saving Month: 0 Week: 0

Source Day: Equate Days 1 2 3 4 5 6 7

## Traffic Data

PHASE FUNCTION

| Event | Day | Time | D/S/O | flash | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | : | // | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

## AUX. Events

| Event | Program Day | Hour | Min. | Aux 1 | Ouputs 2 | 3 | Det. Diag. D1 | Det. Rpt. D2 | Det. Mult100 D3 | Dimming | Special Function Outputs 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Default Data - No Special Day(s) or Week(s) Programmed

## Special Functions

| Function | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 | SF10 | SF11 | SF12 | SF13 | SF14 | SF15 | SF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Special Function 1 | X | | | | | | | | | | | | | | | |
| Special Function 2 | | X | | | | | | | | | | | | | | |
| Special Function 3 | | | X | | | | | | | | | | | | | |
| Special Function 4 | | | | X | | | | | | | | | | | | |
| Special Function 5 | | | | | X | | | | | | | | | | | |
| Special Function 6 | | | | | | X | | | | | | | | | | |
| Special Function 7 | | | | | | | X | | | | | | | | | |
| Special Function 8 | | | | | | | | X | | | | | | | | |

## Phase Function

| | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase 1 Max2 | X | | | | | | | | | | | | | | | |
| Phase 2 Max2 | | X | | | | | | | | | | | | | | |
| Phase 3 Max2 | | | X | | | | | | | | | | | | | |
| Phase 4 Max2 | | | | X | | | | | | | | | | | | |
| Phase 5 Max2 | | | | | X | | | | | | | | | | | |
| Phase 6 Max2 | | | | | | X | | | | | | | | | | |
| Phase 7 Max2 | | | | | | | X | | | | | | | | | |
| Phase 8 Max2 | | | | | | | | X | | | | | | | | |

## Phase Omit

| | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase 1 Phase Omit | | | | | | | | | X | | | | | | | |
| Phase 2 Phase Omit | | | | | | | | | | X | | | | | | |
| Phase 3 Phase Omit | | | | | | | | | | | X | | | | | |
| Phase 4 Phase Omit | | | | | | | | | | | | X | | | | |
| Phase 5 Phase Omit | | | | | | | | | | | | | X | | | |
| Phase 6 Phase Omit | | | | | | | | | | | | | | X | | |
| Phase 7 Phase Omit | | | | | | | | | | | | | | | X | |
| Phase 8 Phase Omit | | | | | | | | | | | | | | | | X |

## Ped Omit

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Coord ReSvc

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Function Phase Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Phase Min Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Ped Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Bike Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Vehicle Function

## Veh Det Switch Omit

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Switch Now

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| Veh Det Switch Also | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| Overlap Function | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**Dimming Data**

**Default Data - No Dimming Programmed**

**Lane Defination**

| Lanes | Name | Green Inbound | Yellow Inbound | Red Inbound | Green Outbound | Yellow Outbound |
|---|---|---|---|---|---|---|

**Default Data - Lane Defination**

program_day program_hour program_minute LanePhFun

## Preemption Data

| Preempt | NLock | Link to Pmpt | Preempt Timers Del | Ext | Dur | Max Call | De Lock-Out | Boun ce | Gate Ext | Min G \| W | Select Ped Clear | Yel | Red | Track Grn | Ped | Yel | Red | Dwell Green | Return Ped Clear | Yel | Red | Sel Ret Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 2 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 3 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 4 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 5 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 6 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 7 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 8 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 9 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 10 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 11 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 12 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |

## Preempt Timers

| Preempt | Override Flash | Override Next | Ret To Coord | Override priority | Preempt Detector | Extended Ped Clear |
|---|---|---|---|---|---|---|
| 1 | Yes | Yes | No | Yes | Prmpt Det-1 | 0-Use Phase |
| 2 | Yes | Yes | No | Yes | Prmpt Det-2 | 0-Use Phase |
| 3 | Yes | Yes | No | No | Prmpt Det-3 | 0-Use Phase |
| 4 | Yes | Yes | No | No | Prmpt Det-4 | 0-Use Phase |
| 5 | Yes | Yes | No | No | Prmpt Det-5 | 0-Use Phase |
| 6 | Yes | Yes | No | No | Prmpt Det-6 | 0-Use Phase |
| 7 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 8 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 9 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 10 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 11 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 12 | Yes | N/A | No | No | 0 | 0-Use Phase |

**Preempt 1**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 2**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 3**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 4**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 5**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 6**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 7**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 8**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 9**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 10**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 11**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 12**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

## Priority Timers

| Priority | Non-Locking | Delay | Extend | Free Dial | Free Split | Min Green | No Lock out | Lock out A | Lock out B | Max Green | Pre-Green | Recall | Excl-co Phase Svc. | Transit Overlap | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Signal Type | Blankout |
| 1 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 2 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 3 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 4 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 5 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 6 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |

## Priority Detector Channels

**Priority 1**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 2**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 3**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 4**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 5**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 6**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Priority Fixed Phases

**Priority 1**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 2**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 3**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 4**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 5**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 6**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Legend: 0 1
CO-PHASE FALSE TRUE
QJ-PHASE

## Priority Bank

**Priority** 1

**Priority Bank** : 1 Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank** : 2 Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank** : 3 Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 2**

**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 3**

**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority** 4
**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority** 5
**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority** 6
**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Codes: 0 FALSE X TRUE

**Priority : 1**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 2**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 3**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 4**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 5**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 6**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

| Priority : 1 | | | | | | | | Priority : 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bank 1 | | | | | | | | Bank 1 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 2 | | | | | | | | Bank 2 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 3 | | | | | | | | Bank 3 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 4 | | | | | | | | Bank 4 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |

| Priority : 3 | | | | | | | | Priority : 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bank 1 | | | | | | | | Bank 1 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 2 | | | | | | | | Bank 2 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 3 | | | | | | | | Bank 3 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 4 | | | | | | | | Bank 4 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |

| Priority : 5 | | | | | | | | Priority : 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bank 1 | | | | | | | | Bank 1 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 2 | | | | | | | | Bank 2 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 3 | | | | | | | | Bank 3 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 4 | | | | | | | | Bank 4 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |

## Preempt 1

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 2

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 3

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 4

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 5

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 6

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 7

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 8

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 9

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 10

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 11

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 12

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

1st Phone:

2nd Phone:

Local Free: No  Cycle Failure: No  Coord Failure: No  Conflict Flash: No  Remote Flash: No

Local Fash: No  Cycle Fault: No  Coord Fault: No  Premption: No  Voltage Monitor: No

Special Status 1: No  Special Status 2: No  Special Status 3: No  Special Status 4: No  Special Status 5: No  Special Status 6: No

### Traffic Responsive

| System Detector | Detector Channel | Name | Veh/ Hr | Average Time(mins) | Occupancy Correction/10 | Min Volume % | Queue 1 Detectors | Queue 1 System Detectors | Queue 1 Weight Factor | Queue 2 Detectors | Queue 2 System Detectors | Queue 2 Weight Factor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Default Data**

Sample Interval: 0

**Default Data**

**Queue: 1**

Input Selection: 0=Average

Detector Failed Level : 0

**Queue: 2**

Input Selection: 0=Average

Detector Failed Level : 0

**Default Data**

**Queue:**

| Level | Enter | Leave | Dial / Split / Offset |
|---|---|---|---|
| | | | / / |

**Default Data**

**Vehical Detector**

Diagnostic Value 0

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Vehical Detector**

Diagnostic Value 1

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Special Detector**

Diagnostic Value 0

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Default Data - Diag 0 Values**

**Default Data - No Diag 1 Values**

**Default Data - No Diag 0 Valu**

**Pedestrian Detector**

Diagnostic Value 0

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Pedestrian Detector**

Diagnostic Value 1

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Special Detector**

Diagnostic Value 1

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Default Data - No Diag 0 Values**

**Default Data - No Diag 1 Values**

**Default Data - No Diag 1 Values**

### Speed Trap Data

Speed Trap:

Measurement:

Detector 1  Detector_2  Distance :

Dial/Split/Offset

//

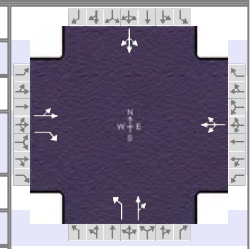
**Default Data**

| Speed Trap Low Treshold | Speed Trap High Treshold |
|---|---|

**Default Data**

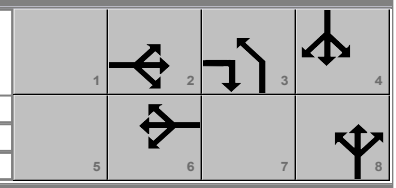
# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Morning Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_EC_AM.xus | | |
| Project Description | Existing Conditions AM Peak | | | | |



| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 19 | 89 | 521 | 30 | 147 | 0 | 426 | 53 | 31 | 0 | 94 | 43 |

| Signal Information | | | | | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 | | | | | | | | | | | | | |
| Offset, s | 0 | Reference Point | End | Green | 30.0 | 25.0 | | 30.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Uncoordinated | Yes | Simult. Gap E/W | On | Yellow | 4.0 | 4.0 | | 4.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Force Mode | Fixed | Simult. Gap N/S | On | Red | 2.0 | 2.0 | | 2.0 | 0.0 | 0.0 | 0.0 | | | | | |



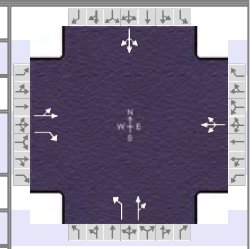

| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.2 | | 3.2 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 25.2 | | 9.7 | 16.2 | 4.1 | | 8.1 |
| Green Extension Time ( $g_e$ ), s | | 1.0 | | 1.7 | 0.6 | 0.4 | | 0.3 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.53 | | 0.00 | 0.02 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 108 | 521 | | 177 | | 426 | 84 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1762 | 1598 | | 1768 | | 1810 | 1754 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 23.2 | | 0.0 | | 14.2 | 2.1 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 4.5 | 23.2 | | 7.7 | | 14.2 | 2.1 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 554 | 853 | | 556 | | 804 | 1039 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.195 | 0.611 | | 0.318 | | 0.530 | 0.081 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 88 | 311 | | 152 | | 223 | 33 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 3.5 | 12.4 | | 5.9 | | 8.9 | 1.3 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.93 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 27.5 | 16.6 | | 28.6 | | 13.9 | 9.0 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.9 | | 0.1 | | 0.3 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 27.5 | 17.5 | | 28.7 | | 14.3 | 9.0 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 19.2 | B | | 28.7 | C | | 13.4 | B | | 28.1 | C | |
| Intersection Delay, s/veh / LOS | 19.2 | | | | | | B | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.53 | B | 0.78 | A | 1.33 | A | 0.71 | A |

# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Evening Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_EC_PM.xus | | |
| Project Description | Existing Conditions PM Peak | | | | |

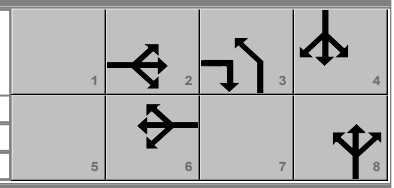


| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 21 | 111 | 420 | 30 | 154 | 4 | 579 | 140 | 39 | 0 | 81 | 47 |

| Signal Information | | | |
|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 |
| Offset, s | 0 | Reference Point | End |
| Uncoordinated | Yes | Simult. Gap E/W | On |
| Force Mode | Fixed | Simult. Gap N/S | On |



| | | | | | | |
|---|---|---|---|---|---|---|
| Green | 30.0 | 25.0 | 30.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 4.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Red | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |



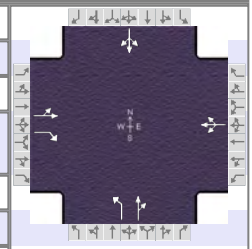

| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.1 | | 3.1 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 19.1 | | 10.3 | 23.6 | 6.6 | | 7.7 |
| Green Extension Time ( $g_e$ ), s | | 1.3 | | 1.4 | 0.2 | 0.5 | | 0.5 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.03 | | 0.00 | 1.00 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 132 | 420 | | 188 | | 579 | 179 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1774 | 1598 | | 1764 | | 1810 | 1800 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 17.1 | | 0.0 | | 21.6 | 4.6 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 5.5 | 17.1 | | 8.3 | | 21.6 | 4.6 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 557 | 853 | | 554 | | 812 | 1066 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.237 | 0.492 | | 0.339 | | 0.713 | 0.168 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 109 | 239 | | 162 | | 329 | 74 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 4.3 | 9.5 | | 6.3 | | 13.2 | 2.9 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 27.8 | 15.2 | | 28.8 | | 15.6 | 9.5 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.2 | | 0.1 | | 2.6 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 27.9 | 15.3 | | 28.9 | | 18.2 | 9.5 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 18.3 | B | | 28.9 | C | | 16.2 | B | | 28.0 | C | |
| Intersection Delay, s/veh / LOS | 19.3 | | | | | | B | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.40 | A | 0.80 | A | 1.74 | B | 0.70 | A |

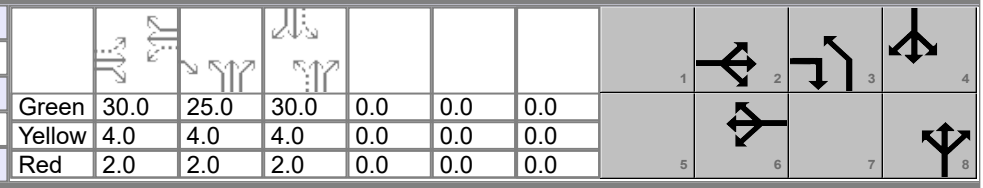
# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Morning Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_PGT_AM.xus | | |
| Project Description | Peak Generated Trips AM Peak | | | | |



| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 19 | 138 | 521 | 30 | 196 | 0 | 426 | 53 | 31 | 0 | 94 | 43 |

| Signal Information | | | |
|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 |
| Offset, s | 0 | Reference Point | End |
| Uncoordinated | Yes | Simult. Gap E/W | On |
| Force Mode | Fixed | Simult. Gap N/S | On |




| | | | | | | |
|---|---|---|---|---|---|---|
| Green | 30.0 | 25.0 | 30.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 4.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Red | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |

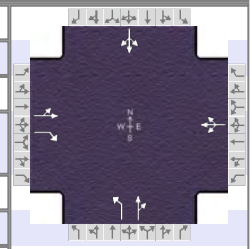
| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.1 | | 3.1 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 25.2 | | 12.1 | 16.2 | 4.1 | | 8.1 |
| Green Extension Time ( $g_e$ ), s | | 1.1 | | 1.8 | 0.6 | 0.4 | | 0.3 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.55 | | 0.00 | 0.02 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 157 | 521 | | 226 | | 426 | 84 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1799 | 1598 | | 1785 | | 1810 | 1754 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 23.2 | | 0.0 | | 14.2 | 2.1 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 6.7 | 23.2 | | 10.1 | | 14.2 | 2.1 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 563 | 853 | | 560 | | 804 | 1039 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.279 | 0.611 | | 0.404 | | 0.530 | 0.081 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 132 | 311 | | 198 | | 223 | 33 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 5.2 | 12.4 | | 7.7 | | 8.9 | 1.3 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.93 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 28.2 | 16.6 | | 29.5 | | 13.9 | 9.0 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.9 | | 0.2 | | 0.3 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 28.3 | 17.5 | | 29.6 | | 14.3 | 9.0 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 20.0 | C | | 29.6 | C | | 13.4 | B | | 28.1 | C | |
| Intersection Delay, s/veh / LOS | 20.0 | | | | | | B | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.61 | B | 0.86 | A | 1.33 | A | 0.71 | A |

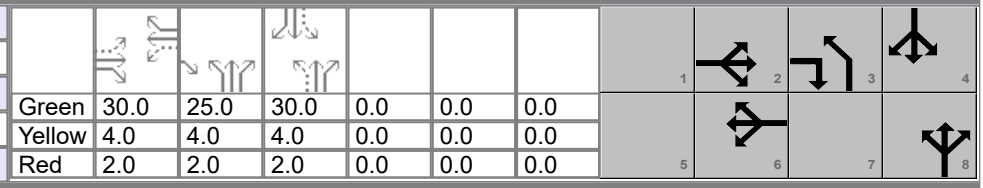
# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Evening Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_PGT_PM.xus | | |
| Project Description | Peak Generated Trips PM Peak | | | | |



| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 21 | 160 | 420 | 30 | 203 | 4 | 579 | 140 | 39 | 0 | 81 | 47 |

| Signal Information | | | |
|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 |
| Offset, s | 0 | Reference Point | End |
| Uncoordinated | Yes | Simult. Gap E/W | On |
| Force Mode | Fixed | Simult. Gap N/S | On |




| | | | | | | |
|---|---|---|---|---|---|---|
| Green | 30.0 | 25.0 | 30.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 4.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Red | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |

| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.1 | | 3.1 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 19.1 | | 12.7 | 23.6 | 6.6 | | 7.7 |
| Green Extension Time ( $g_e$ ), s | | 1.4 | | 1.6 | 0.2 | 0.5 | | 0.5 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.04 | | 0.00 | 1.00 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 181 | 420 | | 237 | | 579 | 179 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1802 | 1598 | | 1780 | | 1810 | 1800 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 17.1 | | 0.0 | | 21.6 | 4.6 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 7.8 | 17.1 | | 10.7 | | 21.6 | 4.6 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 564 | 853 | | 558 | | 812 | 1066 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.321 | 0.492 | | 0.425 | | 0.713 | 0.168 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 154 | 239 | | 207 | | 329 | 74 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 6.1 | 9.5 | | 8.1 | | 13.2 | 2.9 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 28.6 | 15.2 | | 29.7 | | 15.6 | 9.5 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.2 | | 0.2 | | 2.6 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 28.8 | 15.3 | | 29.9 | | 18.2 | 9.5 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 19.4 | B | | 29.9 | C | | 16.2 | B | | 28.0 | C | |
| Intersection Delay, s/veh / LOS | 20.1 | | | | | | C | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.48 | A | 0.88 | A | 1.74 | B | 0.70 | A |

# HCS Two-Way Stop-Control Report

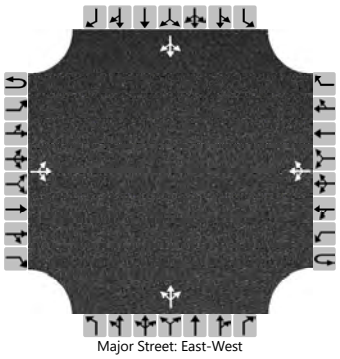
## General Information

| | |
|---|---|
| Analyst | L. Vagelatos |
| Agency/Co. | Adams County |
| Date Performed | 3/23/2026 |
| Analysis Year | 2026 |
| Time Analyzed | 6:45 to 7:30 |
| Intersection Orientation | East-West |
| Project Description | Existing Conditions AM Peak |

## Site Information

| | |
|---|---|
| Intersection | 120th and Picadilly Rd |
| Jurisdiction | Adam County |
| East/West Street | East 120th Ave. |
| North/South Street | Picadilly Rd. |
| Peak Hour Factor | 0.82 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes


Major Street: East-West

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | | LTR | | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 8 | 120 | 12 | | 3 | 140 | 10 | | 27 | 4 | 1 | | 6 | 4 | 3 |
| Percent Heavy Vehicles (%) | | 0 | | | | 0 | | | | 0 | 25 | 0 | | 0 | 0 | 0 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | 0 | | | | 0 | | | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type \| Storage | Undivided | | | | | | | | | | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 7.1 | 6.5 | 6.2 |
| Critical Headway (sec) | | 4.10 | | | | 4.10 | | | | 7.10 | 6.75 | 6.20 | | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.3 |
| Follow-Up Headway (sec) | | 2.20 | | | | 2.20 | | | | 3.50 | 4.23 | 3.30 | | 3.50 | 4.00 | 3.30 |

## Delay, Queue Length, and Level of Service

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | 10 | | | | 4 | | | | | 39 | | | | 16 | |
| Capacity, c (veh/h) | | 1404 | | | | 1430 | | | | | 582 | | | | 625 | |
| v/c Ratio | | 0.01 | | | | 0.00 | | | | | 0.07 | | | | 0.03 | |
| 95% Queue Length, $Q_{95}$ (veh) | | 0.0 | | | | 0.0 | | | | | 0.2 | | | | 0.1 | |
| 95% Queue Length, $Q_{95}$ (ft) | | 0.0 | | | | 0.0 | | | | | 5.1 | | | | 2.5 | |
| Control Delay (s/veh) | | 7.6 | 0.1 | 0.1 | | 7.5 | 0.0 | 0.0 | | | 11.6 | | | | 10.9 | |
| Level of Service (LOS) | | A | A | A | | A | A | A | | | B | | | | B | |
| Approach Delay (s/veh) | 0.5 | | | | 0.2 | | | | 11.6 | | | | 10.9 | | | |
| Approach LOS | A | | | | A | | | | B | | | | B | | | |

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# HCS Two-Way Stop-Control Report

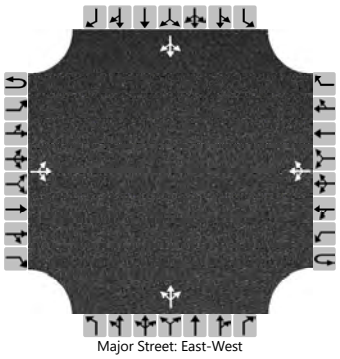
## General Information

| | |
|---|---|
| Analyst | L. Vagelatos |
| Agency/Co. | Adams Couty |
| Date Performed | 3/23/2026 |
| Analysis Year | 2026 |
| Time Analyzed | 6:45 to 7:30 |
| Intersection Orientation | East-West |
| Project Description | Proposed AM Peak |

## Site Information

| | |
|---|---|
| Intersection | 120th and Picadilly Rd. |
| Jurisdiction | Adams County |
| East/West Street | East 120th Avenue |
| North/South Street | Picadilly Road |
| Peak Hour Factor | 0.86 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes


Major Street: East-West

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | | LTR | | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 8 | 169 | 12 | | 3 | 189 | 10 | | 27 | 4 | 1 | | 6 | 4 | 3 |
| Percent Heavy Vehicles (%) | | 0 | | | | 0 | | | | 0 | 25 | 0 | | 0 | 0 | 0 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | 0 | | | | 0 | | | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type \| Storage | Undivided | | | | | | | | | | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 7.1 | 6.5 | 6.2 |
| Critical Headway (sec) | | 4.10 | | | | 4.10 | | | | 7.10 | 6.75 | 6.20 | | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.3 |
| Follow-Up Headway (sec) | | 2.20 | | | | 2.20 | | | | 3.50 | 4.23 | 3.30 | | 3.50 | 4.00 | 3.30 |

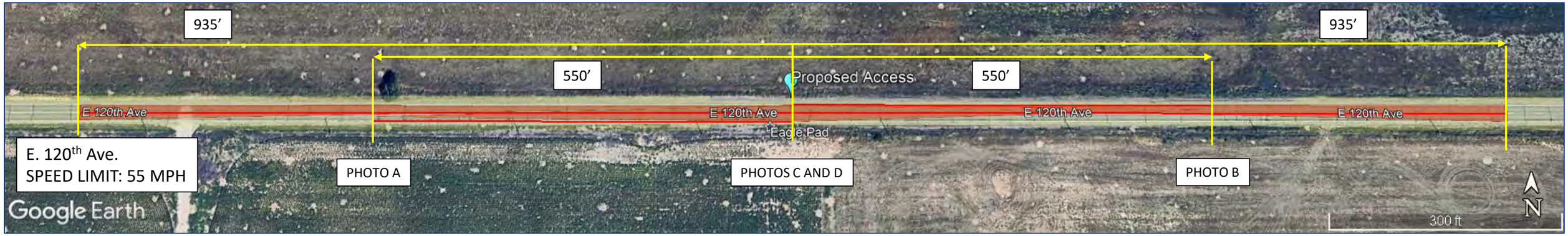
## Delay, Queue Length, and Level of Service

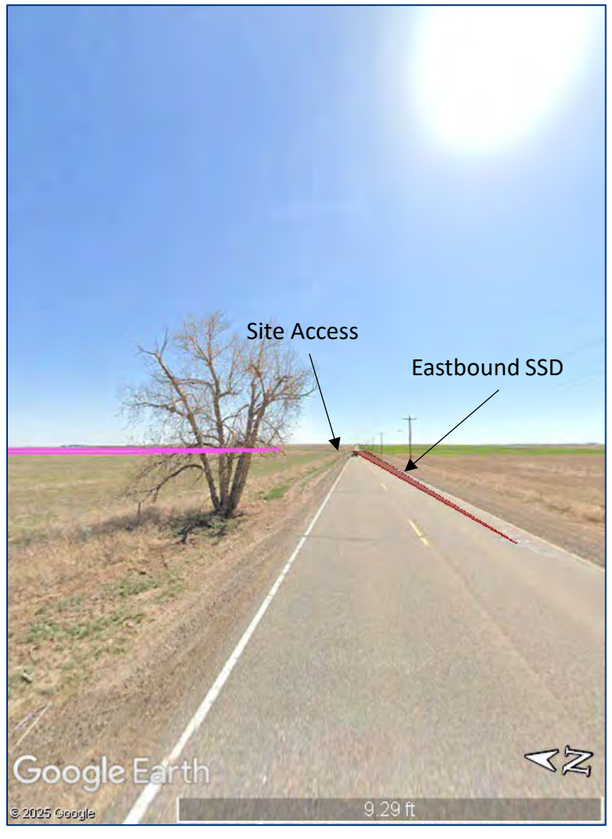
| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | 9 | | | | 3 | | | | | 37 | | | | 15 | |
| Capacity, c (veh/h) | | 1348 | | | | 1372 | | | | | 504 | | | | 550 | |
| v/c Ratio | | 0.01 | | | | 0.00 | | | | | 0.07 | | | | 0.03 | |
| 95% Queue Length, $Q_{95}$ (veh) | | 0.0 | | | | 0.0 | | | | | 0.2 | | | | 0.1 | |
| 95% Queue Length, $Q_{95}$ (ft) | | 0.0 | | | | 0.0 | | | | | 5.1 | | | | 2.5 | |
| Control Delay (s/veh) | | 7.7 | 0.1 | 0.1 | | 7.6 | 0.0 | 0.0 | | | 12.7 | | | | 11.7 | |
| Level of Service (LOS) | | A | A | A | | A | A | A | | | B | | | | B | |
| Approach Delay (s/veh) | 0.4 | | | | 0.1 | | | | 12.7 | | | | 11.7 | | | |
| Approach LOS | A | | | | A | | | | B | | | | B | | | |

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# ATTACHMENT C: SIGHT DISTANCE

# Exhibit 1: Sight Distance Evaluation – Proposed Site Access

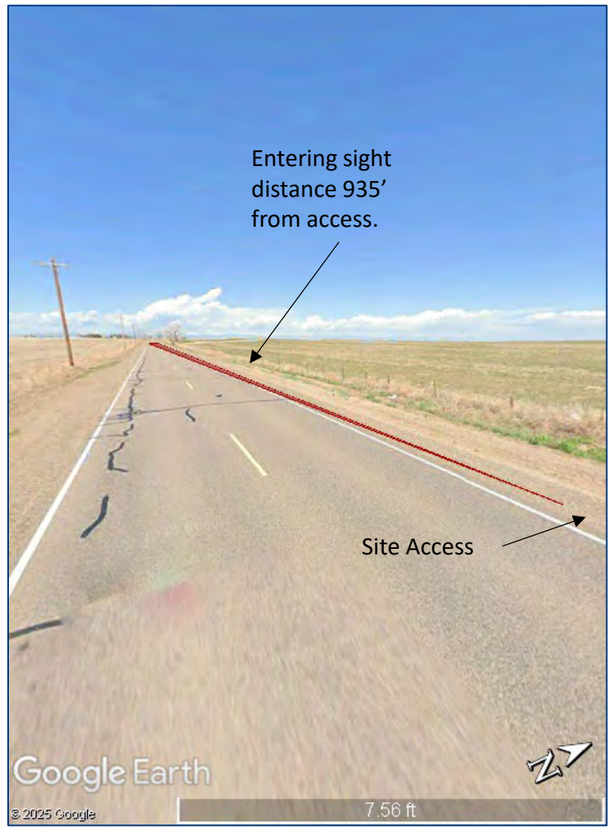


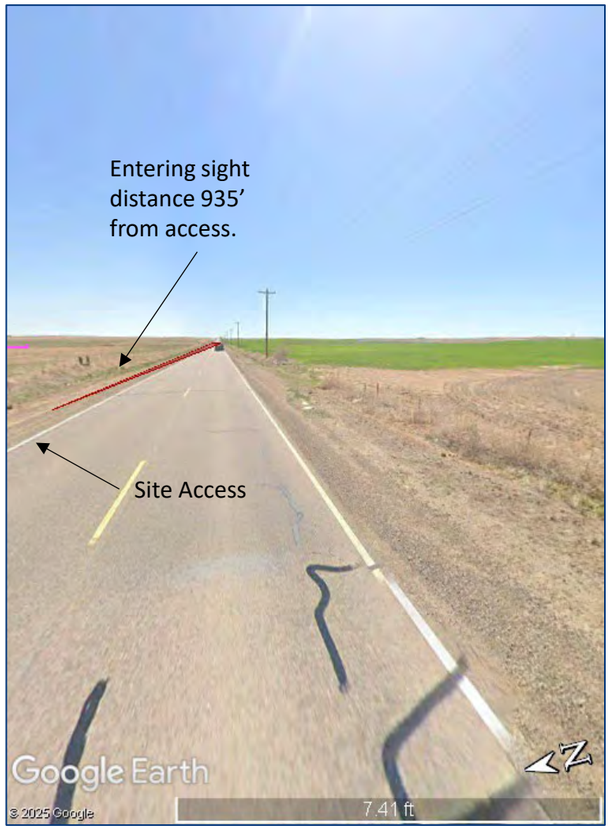

**Photograph A**: Sight stopping distance. **Eastbound** E. 120th Ave. approximately 550 ft from the Proposed Site Access.




**Photograph B**: Sight stopping distance. **Westbound** E. 120th Ave. approximately 550 ft from the Proposed Site Access.




**Photograph C**: Entering sight distance. From Proposed Site Access facing **West** 935 ft distance.




**Photograph D**: Entering sight distance. From Proposed Site Access facing **East** 935 ft distance.

All photographs and measurements from Google Earth.

| Adams County<br>Community and Economic Development Department<br>Development Review – Engineering Comments | | | | | | |
|---|---|---|---|---|---|---|
| **Case Number: EGR2025-00044** | | | **Case Name: Eagle Pad** | | | |
| **Applicant: John Piekara** | | | **Date Initiated: 12/12/2025** | | | |
| **Document #: 6910093** | | | | | | |
| **No.** | **Reviewer Initials** | **Sheet No./ Page No./ Subject** | **County Comment** | **Applicant Response** (date) | **County Comment** (6/24/2026) | **Applicant Response** (date) |
| 1 | LC | General Comment | All necessary paperwork such as Commissioners Resolutions, Development Agreements, and Collateral Agreements will need to be on file with the Adams County Public Works Department / Construction Management section prior to the issuance of any building permits. | Comment acknowledged | No additional comment. | |
| 2 | LC | Condition of Approval | The developer/applicant may be required to enter into an Improvements Agreement (IA) with the County and bond for all public and drainage infrastructure to ensure the public improvements are completed. No building permits will be issued until all public improvements are completed and preliminarily accepted by the County. | Comment acknowledged | The Improvements Agreement template and cost estimate spreadsheet will be provided to you. The cost estimate shall include all public improvements and onsite drainage facilities. | |
| 3 | LC | General Comment | Upon completion of review and approval of these drawings and acceptance of the IA, the applicant will be required to obtain the necessary permits in order to construct the proposed improvements. This/these permit(s) will be obtained from the Adams County Public Works Department / Construction Management Section. An Infrastructure Permit (INF) will be required for the construction of all site improvements. | Comment acknowledged | An Infrastructure Permit (INF) will be required for the construction of all site improvements. | |
| 4 | LC | General Comment | All storm sewer pipes within the public right-of-way must be RCP Class III material. In the event that the soil chemistry is not conducive to this type of material, the applicant shall propose solutions to Adams County Public Works Department staff to mitigate the situation if it should arise. | Not applicable | No additional comment. | |
| 5 | LC | General Comment | Flood Insurance Rate Map – FIRM Panel *Flood Insurance Rate Map – FIRM Panel #08001C0365H,* Federal Emergency Management Agency, January 20, 2016.<br><br>According to the above references, the “Eagle Pad” site is NOT located within a delineated 100-year flood hazard zone; A floodplain use permit will not be required. | Comment acknowledged | No additional comment. | |

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| 6 | LC | General Comment | **A.** The contractor will be held responsible for the cleanliness and safety of all roadways adjacent to this site. If at any time, these roadways are found to be dangerous or not passable due to debris or mud, the Adams County Public Works Department will shut down the project, until the roadway conditions have improved and are deemed acceptable. If the contractor/applicant fails to keep the adjacent roadways clean and free from debris, the Public Works Department has the option to do the required clean up and bill the charges directly to the contractor/applicant.<br><br>**B.** Erosion and sediment control measures shall be required during construction. Adams County field inspection personnel shall be able to mandate corrective action to be taken by the developer and/or contractor if any of the following situations occur:<br><br>• construction plans lack sufficient detail for erosion protection<br>• it has been determined that the submitted erosion control measures are not applicable to actual field conditions<br>• installed erosion & sediment controls are non-functional<br><br>**C.** The contractor shall contact the Adams County Public Works Department / Construction Management section to find out if a preconstruction meeting is required.<br><br>**D.** The developer/contractor shall be responsible for repairing or replacing damaged infrastructure adjacent to the site.<br><br>**E. <u>All design and construction drawings submitted to Adams County for review and approval must be signed and stamped by a Professional Engineer. In addition, the drainage study must be signed by the developer.</u>**<br><br>**F.** Asphalt patching shall include the removal of asphalt from the furthest saw cut line to the lip of gutter. A saw cut will be made 1' south of the initial saw cut for the "T" patch.<br><br>**G.** If traffic control is necessary; all property and business owners in the area shall be notified. The applicant should contact Adams County Traffic Services at 303-853-7137 with any necessary information. After hours contact ADCOM at 303-288-1535. This notification is required for any disturbance to within street ROW. | A - Comment acknowledged<br>B - Comment acknowledged<br>C- Comment acknowledged<br>D - Comment acknowledged<br>E - Comment acknowledged<br>F - Comment acknowledged<br>G – Not applicable<br>H – Construction of the well pad will occur during the day. Drilling and completions will occur 24/7<br>I - Comment acknowledged<br>J - Comment acknowledged | No additional comment. | |

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| | | | **H.** Work hours and work schedule shall be coordinated with Adams County Public Works Department / Construction Management Section.<br><br>**I.** A Traffic Control Plan may be required to be submitted for approval prior to issuance of construction permits.<br><br>**J.** The contractor is responsible for the material testing required during the construction and installation of the approved design drawings. | | | |
| 7 | LC | General Comment | The applicant shall be responsible to ensure compliance with all Federal, State, and Local water quality construction requirements. In the event that the disturbed area of the site exceeds 1 acre and the site is within the Adams County MS4 area, then the applicant shall be responsible to prepare the SWMP plan using the Adams County ESC Template, and obtain both a County SWQ Permit and State Permit COR400000.<br><br>The Eagle Pad site is not located within the Adams County MS4 permit area. An Adams County SWQ Permit is not required for development of this site. | Comment acknowledged | CDPS GENERAL PERMIT COR401178 has been provided. No additional comment. | |
| 8 | LC | General comment | The County has the right to enter the property to conduct inspections of the installation of the facilities. | Comment acknowledged | No additional comment. | |
| 9 | LC | General Comment | Add the Adams County "General Construction Notes" to the plan set. The County's General Construction Notes can be found on the last page of this document. | Comment acknowledged | No additional comment. | |
| 10 | LC | General Notification | In compliance with Colorado Revised Statute 37-92-602(8), concerning water rights, all flood control stormwater facilities that detain stormwater must be registered with the Statewide Notification Compliance Portal (SNCP). It is the responsibility of the design engineer to register the stormwater facility on the SNCP. The facility must be registered with the SNCP when the facility becomes operational and prior to the engineer of record submitting the final pond certification to Adams County. The County is required to verify the registration of the stormwater facility within 30 days of posting.<br><br>The Statewide Notification Compliance Portal can be found at the following web address:<br><br>https://maperture.digitaldataservices.com/gvh/?viewer=cswdif | Comment acknowledged | No additional comment. | |
| 11 | LC | General Comment | If applicant proposes to import greater than 10 CY of soil to this site, additional permitting is required. Per Section 4-04-02-02, of the Adams County Development Standards and Regulations, a Temporary or Special Use Permit is required to ensure that only | Not Applicable | No additional comment. | |

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| | | | clean, inert soil is imported into any site within un-incorporated Adams County. A Conditional Use Permit will be required if the importation exceeds 500,000 CY. | | | |
| 12 | LC | General Notification | ***Colorado Revised Statutes 2018, Title 9, Article 1.5, 9-1.5-103. Plans and specifications - notice of excavation - duties of excavators - duties of owners and operators - fee – repeal, (10)*** states that "All new underground facilities, including laterals up to the structure or building being served, installed on or after August 8, 2018, must be electronically locatable when installed". Therefore, all newly installed underground utilities, including storm sewer, must be electronically locatable in compliance with State Statute and shall be depicted on applicable construction documents. See Adams County tracer wire details for locating storm sewer in the public right-of-way.<br><br>If the development includes storm sewer pipes/infrastructure that will be owned by the County upon completion the pipes must be installed using the Adams County "Storm Sewer - Tracer Wire Specification" The specifications are available for download in PDF format from the County's website. | Electric utilities will service this location, but no sewer will be installed. | No additional comment. | |
| 13 | LC | Traffic Impact Study | Additional review comments will be provided if alternate haul route(s) are proposed. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. | No additional comment. | |
| 14 | LC | Traffic Impact Study | The following comments are specific to the proposed haul route (E 120th Ave to Picadilly Rd to E 152nd Ave). | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. | No additional comment. | |
| 15 | LC | Traffic Impact Study | All segments of the proposed haul route will require testing and evaluation of existing pavement conditions to determine structural adequacy for the proposed traffic loads. Pavement design will be required to bring the roads into compliance with expected truck traffic. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. | No additional comment. | |
| 16 | LC | Traffic Impact Study | The segment of Picadilly Rd between E 120th Ave and E 128th Ave is of particular concern. Existing pavement conditions are believed to be insufficient for the proposed traffic loads. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. | No additional comment. | |
| 17 | LC | Traffic Impact Study | There are two existing bridges north of E 128th Ave on Picadilly Rd. These bridges should be evaluated for structural | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. | No additional comment. | |
| 18 | LC | Traffic Impact Study | A stop sign will be required at the intersection of Picadilly Rd and E 152nd Ave. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. | No additional comment. | |
| 19 | LC | Traffic Impact Study | Turn lanes will be required at the intersection of Picadilly Rd and E 152nd Ave. Construction and | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A | No additional comment. | |

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| | | | development traffic should be used in the calculations and the "temporary" nature of the need for turn lanes is not a valid argument to forego construction. | new Traffic Impact Study has been conducted and can be located in folder 3l. | | |
| 20 | LC | Site Plans and Operations Plan | Construction Plans should include, cover sheet with general notes, site plan(s), grading plan(s), drainage plan(s), erosion control plan(s), site details, grading details, drainage details, erosion control details, etc. See Engineering Checklists at https://adamscountyco.gov/our-county/community-economic-development/appendix-b-engineering-checklists-and-standard-details/. Provide an explanation of the two different sets of plans, neither of which are complete Site Construction Plans sets. | Please see the document "EAGLE PAD_CONSTRUCTION_SITE_AND_OPS_PLANS_REV_20260512.pdf" in folder 3l. EGR Application & Engineering Documents. There is now one file with all construction drawings / site plans. | No additional comment. | |
| 21 | LC | Drainage Report | Show and describe where flows will be directed downstream from the emergency spillway. Where is the intended outfall location? | Please see "EAGLE PAD_CONSTRUCTION_SITE_AND_OPS_PLANS_REV_20260512.pdf" in folder 3l. EGR Application & Engineering Documents which depicts topography and direction of potential over land flow from the detention basin. | No additional comment. | |
| 22 | LC | Drainage Report | Use the latest version of Mile High Flood District (MHFD) Criteria Manual, Volume 1 for design and calculations. Some design criteria, such as impervious values, were revised in 2024. The latest versions of MHFD spreadsheets and other tools shall be used. | Has been revised | No additional comment. | |
| 23 | LC | Drainage Report | Provide pipe capacity calculations for outlet pipes. | Has been revised | No additional comment. | |
| 24 | LC | Drainage Report | Provide riprap calculations. | Has been revised | No additional comment. | |
| 25 | LC | Drainage Easements | Provide easement documents for the detention pond and access from public right-of-way. | Will be provided at a later date. | Provide easement documents for the detention pond and access from public right-of-way. | |
| 26 | LC | SWMP Report | The SWMP Report is approved as submitted. | Comment acknowledged. | No additional comment. | |
| 27 | LC | GESC Plans | The GESC Plans are approved as submitted. | Comment acknowledged. | No additional comment. | |
| 28 | LC | O&M Manual | The O&M Manual is approved as submitted. | Comment acknowledged. | No additional comment. | |
| 29 | LC | Drainage Report | | | The Developer Certification requires a signature. | |
| 30 | LC | Traffic Impact Study | | | Please address all redline review comments. | |
| | | General Comment | **The listed items above may or may not represent all comments regarding the project. Adams County reserves the right to provide additional comments as the plans progress.** | | | |

Current Disposition: Resubmit

**The review is for general compliance with Adams County Standards for the design and construction of public improvements. The sole responsibility for completeness and accuracy of the construction documents shall remain with the Project Principals and Registered Professional Engineer sealing the plans. Adams County does not accept liability for facilities designed by others.**

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| ***To:*** | John Piekara, Civitas Resources<br>Claude Boiteau, Civitas Resources |
| ***From:*** | Lily Vagelatos, PE, Tetra Tech<br>Bill Zahniser, PE, Tetra Tech |
| ***Date:*** | March 27, 2026 |
| ***Subject:*** | Eagle Pad Oil and Gas Development, Traffic Impact Study – Rev. 02 |

Extraction Oil & Gas, Inc. (Extraction, a subsidiary of Civitas Resources, Inc.) is planning development of the Eagle Pad located north of East 120th Avenue (E. 120th Ave.) and east of Picadilly Road, in the southeast ¼ of Section 36, Township 1 South, Range 66 West. Extraction has contracted services from Tetra Tech Inc. (Tetra Tech) to provide a traffic impact study (TIS) for the proposed oil and gas development. The initial TIS was submitted in December 2025 for a proposed haul route using 152nd Ave to Picadilly. This revised TIS has been developed to provide desktop review of an alternative haul route using 120th Ave. (**Figure 1**).

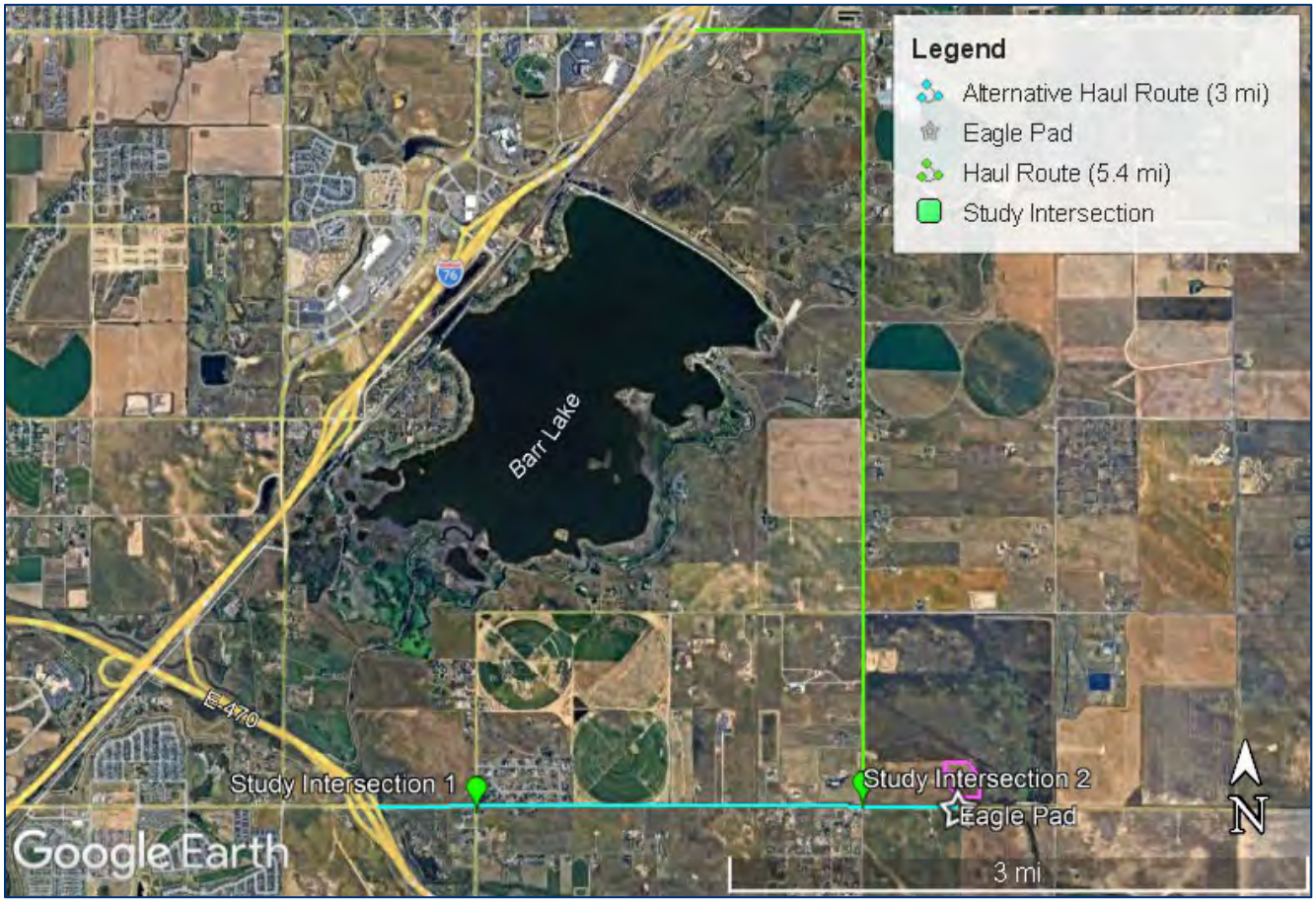



**Figure 1. Site location and traffic route.**

# 1.0 CURRENT CONDITIONS

The proposed location for the development is a vacant, privately owned, land parcel in Adams County, Colorado. The main access will be from E. 120th Ave., approximately 0.5 miles east of the intersection with Picadilly Road. Refer to the main traffic impact study (TIS) for the original haul route information (Tetra Tech, Inc., 2025). The alternative haul route evaluated in this revised TIS has project traffic using the following:

- Toll Road E-470 (E-470) – E-470 is maintained by the Colorado Department of Transportation (CDOT) and is not included in this study.
- Eastbound E. 120th Ave. to site access
  - Approximately 3 miles
  - A 2-lane paved principal arterial roadway, with no median and gravel shoulders.

Traffic leaving the development will return to E-470 by the same route.

## 1.1 STUDY INTERSECTIONS

Study intersections evaluated for the alternative haul route include (**Figure 1**):

1. **Study Intersection 1** is a stop light controlled four-way intersection at E. 120th Ave. and Tower Road. E. 120th Ave. is a two lane, paved, principal arterial roadway with a speed limit of 45 MPH. Tower Road is a two lane, paved, minor arterial roadway, with a speed limit of 55 MPH.
2. **Study Intersection 2** is a four-way intersection at E. 120th Ave. and Picadilly Road. E. 120th Ave. has the same geometry, and classifications at this location as at Study Intersection 1, but with a speed limit of 55 MPH and is not stop-controlled at Study Intersection 2. Picadilly Road is stop-controlled at Study Intersection 2 both north- and southbound. South of Study Intersection 2, Picadilly Road transitions to a 2-lane gravel roadway.
3. **Proposed Access**. A new access driveway will also be constructed on the north side of E. 120th Ave. to provide private road access to the Eagle Pad location. The new pad entrance will be permitted with the County, and the private road and access driveway radius dimensions will be designed to accommodate the largest vehicle anticipated during the project development phase. This TIS will consider access visibility concerns (e.g. a sight distance evaluation) and whether auxiliary turn lanes may be warranted at the new access location once the facility is constructed.

## 1.2 TRAFFIC COUNT SURVEY

Traffic count surveys were performed at each intersection. **Table 1** presents a summary of the data collected over a 48-hour period. Full traffic count reports are provided as **Attachment A**.

Tetra Tech used the traffic survey data to calculate the existing use of the study roadways. The numbers and types of vehicles moving through each intersection were converted to the number of Equivalent Single Axle

Loads (ESALs) that the paved roads are currently supporting. An ESAL is a standardized unit of 18,000-pounds (80 kN) single axle loads that is used for pavement design and for evaluating the damaging effect of vehicle loads on pavement. ESALs are used to convert a mixed stream of vehicles (passenger cars, 2-axle trucks, multi-axle semis, buses etc.) into a single common measure of pavement wear and damage. ESALs were calculated using methods consistent with CDOT design standards and are summarized along with the vehicle counts in **Table 1**.

Tetra Tech also used the traffic count data to estimate Peak Hour Factors (PHF) for each lane direction at each intersection. PHF is an index used in traffic impact studies to describe how traffic is distributed within the busiest hour. It compares the total volume in the peak hour to the highest short-interval flow within that hour (15-minute intervals for this study). PHF are an important metric for signal timing and level of service (LOS) calculations. A PHF of 1.0 indicates that the flow of traffic is constant or uniform across the hour. PHF values less than 1 are indicative of traffic flowing in shorter, more concentrated intervals. The calculated PHFs for the surveyed traffic conditions are included in **Table 1**.

**Table 1. Existing Peak-Hour Traffic Volumes at Study Intersections, September 16 and 17, 2025**

| Travel Direction | Left, Veh (ESAL) | Through, Veh (ESAL) | Right, Veh (ESAL) | Peak Hour Factor | Heavy Vehicle Percentage |
|---|---|---|---|---|---|
| **Study Intersection 1: E. 120th Ave. (E/W) and Tower Road (N/S)** | | | | | |
| Eastbound | 24 (0) | 94 (2) | 404 (7) | 0.85 | 0.9% |
| Westbound | 23 (0) | 125 (5) | 2 (0) | 0.81 | 2.4% |
| Northbound | 594 (9) | 125 (2) | 34 (1) | 0.96 | 0.9% |
| Southbound | 0 (0) | 74 (1) | 44 (0) | 0.83 | 0.9% |
| **Study Intersection 2: E. 120th Ave. (E/W) and Picadilly Road (N/S)** | | | | | |
| Eastbound | 7 (0) | 101 (6) | 15 (0) | 0.60 | 3.1% |
| Westbound | 3 (0) | 131 (3) | 11 (0) | 0.80 | 1.4% |
| Northbound | 25 (1) | 2 (1) | 1 (0) | 0.78 | 3.6% |
| Southbound | 5 (0) | 4 (0) | 3 (0) | 0.63 | 0.0% |

**Notes:**

Veh – vehicles. ESAL – Equivalent Single Axle Load. The Colorado Department of Transportation (CDOT) has created a generalized average set of ESALs based on dividing vehicle classification into three bins. ESALs used in this table are from CDOT 2024 Table H.2 for Flexible Pavement. Passenger cars and pickups (less than 20 ft long) = 0.003 ESAL, single unit trucks (20 – 40 ft long) = 0.249 ESAL, combination trucks (greater than 40 ft long) = 1.087 ESAL.

PHF = Hourly volume / (4 x Highest 15-minute volume).

Values presented are averages of counts collected September 16 and 17, 2025. Peak-hour varies between days and intersections.

## 1.3 CURRENT LEVEL OF SERVICE

Using the turning movement data collected, the Study Intersections were evaluated for baseline level of service (LOS). Commerce City provided signal timing for Study Intersection 1 which was used to support this

evaluation. The LOS is a measure of the delay that an average vehicle will experience after approaching the intersection. The LOS analysis provides a standardized means of describing transportation facility operation by assigning a letter grade to it. As shown in **Table 2**, LOS ranges from A to F with LOS A representing the best conditions (free flow) and LOS F representing the worst conditions (most congested). All procedures that were used in these analyses came from the Highway Capacity Manual (HCM) guidelines for determining LOS. Per the guidelines, the delay must be analyzed for each movement of the intersection independently. If several movements share a lane, the capacities are calculated separately then combined into a shared movement capacity that is used in the delay equation in place of movement capacity. Intersection LOS was analyzed using Highway Capacity Software (HCS) 2022.

**Table 2. LOS Definitions**

| LOS | Signalized Intersection Delay (seconds) | Unsignalized Intersection Delay (seconds) | Adams County Thresholds | Commerce City Thresholds |
|---|---|---|---|---|
| A | 0-10 | 0-10 | Acceptable | Acceptable |
| B | 11-20 | 11-15 | Acceptable | Acceptable |
| C | 21-35 | 16-25 | Acceptable | Acceptable |
| D | 36-55 | 26-35 | Acceptable during peak hours, but not off-peak hours. | Not Acceptable |
| E | 56-80 | 36-50 | Not Acceptable | Not Acceptable |
| F | >80 | >50 | Not Acceptable | Not Acceptable |

The Adams County Access Design and Traffic Requirements (Adams County, 2020) Section 8-20-06-06-02 defines the threshold acceptable LOS as C during off-peak hours and not less than D for peak hours. The Commerce City Construction Standards and Specifications state that improvements or mitigation is required for LOS of D or less (Section 5.02.1.(K)) (Commerce City, 2021).

The existing LOS evaluation results are summarized in **Table 3**. The existing LOS at Study Intersection 1 ranges between B and C depending on approach. The existing LOS at Study Intersection 2 is A for the free-flowing traffic on 120th Ave, and B for the stop-controlled traffic on Picadilly Rd. **Attachment B** provides the modeled HCS result.

**Table 3. Existing LOS Summary**

| Study Intersection | Approach | Existing LOS | Delay (sec) |
|---|---|---|---|
| 1. E. 120th Ave./Tower Rd.[1] | Eastbound | B | 19.2 |
| | Westbound | C | 28.7 |
| | Northbound | B | 13.4 |
| | Southbound | C | 28.1 |
| 2. E. 120th Ave./Picadilly Rd. | Eastbound | A | 0.5 |
| | Westbound | A | 0.2 |
| | Northbound | B | 11.6 |
| | Southbound | B | 10.9 |

## 1.4 SIGHT DISTANCE EVALUATIONS

Sight distance is an important measure to determine the safety of a vehicle entering a roadway. Stopping sight distance (SSD) is the minimum distance a vehicle driver needs to be able to see to have room to stop before colliding with an object in the roadway. Insufficient sight distance can adversely affect the safety or operations of a roadway or intersection. A desktop evaluation of sight distance measurements was made using Google Earth at the proposed Eagle Pad access. The posted traffic speed limit along E. 120th Ave. is 55 miles per hour (mph). Using the CDOT State Highway Access Code (SHAC) (Colorado Department of Transportation, 2002), the design stopping distance for a 55-mph road is 550 feet[1]. The stretch of E. 120th Ave. with the proposed site access, is straight, relatively flat and there are no trees or obstructing structures. Using street view in Google Earth, the SSD of 550 feet is clear both east- and westbound toward the access (**Attachment C**).

Another important measure of sight distance is the entering sight distance. Guidelines for measuring these distances can also be found in the State Highway Access Code. Entering sight distance is the sight distance a vehicle entering a roadway needs to safely make the movement. Section 4.3 of the SHAC provides a list of required entering sight distance values for varying types of entering vehicles. An entering sight distance of 935 feet is required for multi-unit trucks for a two-lane roadway at 55 mph, such as E. 120th Ave. Again, using street view in Google Earth, the entering sight distance of 935 feet is clear both east- and westbound looking out from the proposed access (**Attachment C**).

[1] The Adams County Roadway Standards and Technical Criteria were reviewed to assess whether they had unique/local requirements. Table 7.3 from the Adams County criteria presents the similar distances used by CDOT and presented in this report.

# 2.0 EAGLE PAD DEVELOPMENT PLAN

Extraction is in the process of permitting the drilling and completion of up to nineteen horizontal wells and the installation of related surface production equipment on one well pad that will be serviced by a new access road from E. 120th Ave. They are also planning the construction of a product pipeline at this location to reduce the number of product trucks accessing the site. The installation of this pipeline is projected to eliminate as many as 49,612 tanker truck and facility service rig trips over the projected 30-year life of the facility. Construction, drilling and completion phases of the project are considered to be a temporary use, and do not factor into long term changes to the site access. Once completed, it is anticipated that one to two operators will access the site daily in light duty trucks to check equipment.

## 2.1 TRAFFIC FORECASTS

Extraction has provided traffic estimates and durations for each phase of the project. The duration of each phase is dependent on the number of wells drilled. The traffic data provided in **Table 4** conservatively assumes all nineteen proposed wells are drilled and completed in a single occupation. This condition is representative of the maximum possible traffic use.

**Table 4. Estimated Traffic Volumes and Durations**

| Phase | Duration (Days) | Truck[1] Trips, Total (ESAL) | Average Truck Trips per Day (ESAL) | Light Duty Crew Traffic, Trips per Day | Total Trips per Day (ESAL) | Peak Hour Vehicles (ESAL)[2] |
|---|---|---|---|---|---|---|
| **Pad Construction** | 40 | 1,802 (1,959) | 45 (49) | 10 (0.03) | 55 (49) | 11 (5) |
| **Drilling** | 82 | 1,968 (2,139) | 24 (26) | 36 (0.11) | 60 (26) | 24 (3) |
| **Completions[4]** | 133[3] | | | | | |
| *Completions* | 68 | 12,240 (13,305) | 180 (196) | 66[3] (0.20) | 164 (107) | 49 (11) |
| *Mill Out/Tubing* | 65 | 650 (707) | 10 (11) | | | |
| *Facility Construction* | 70 | 80 (87) | 1.1 (1.2) | | | |
| **Flowback[4]** | 60 | 5,246 (5,702) | 87 (95) | 2 (0.01) | 89 (95) | 10 (10) |
| **Interim Reclamation** | 60 | 966 (1,050) | 16 (18) | 10 (0.03) | 26 (18) | 8 (2) |
| **Production[5]** | 15-30 years | -- | -- | 2 (0.01) | 2 (0.01) | 2 (0) |

**Notes:**

ESAL – Equivalent Single Axle Load. ESALs used in this table are from CDOT 2024 Table H.2 for Flexible Pavement. Passenger cars and pick ups (less than 20 ft long) = 0.003 ESAL, single unit trucks (20 – 40 ft long) = 0.249 ESAL, combination trucks (greater than 40 ft long) = 1.087 ESAL.

1. Extraction indicated that the majority of the truck traffic for the project will be Class 8 through 13 combo units (1.087 ESAL), but that there may be some Class 4 through 7 single unit trucks (0.249 ESAL). To be conservative, all ESAL calculations assume combo units for the total volumes.
2. Truck traffic distributed evenly throughout the shift for a given activity. Assume 24-hour shifts for drilling and completions, and 10-hour shifts for all other activities. Crew traffic distributed at shift changes. 3 shifts for drilling and completions, 2 shifts for all other activities.
3. Facilities construction is anticipated to occur in parallel to completions and the mill out/tubing → the total completions duration shown is the amount of time for completions plus the mill out/tubing phases. Crew traffic is indicative of peak overlapping phases and accounts for facility construction activities that occur in parallel.
4. Only produced water will be trucked offsite during flowback.
5. Actual amount may vary depending on actual years of operation. Extraction anticipates approximately 240 light duty vehicles per year.

## 2.2 PROPOSED LEVEL OF SERVICE

Analyses were performed for LOS during the highest peak hour traffic generating period of the pre-production stages. The highest peak hour count occurs during the completions stage. Using the highest impact portion of the pre-production phase of the Project is conservative as it will consider the worst possible LOS that local motorists will experience during development of the Project. The completions stage will occur during a 133-day period assuming a single occupation. The entire pre-production development will occur over the course of around a single year. The production phase impacts to LOS, once the pad has been developed, will be negligible (two light duty vehicles per day).

LOS was analyzed at both Study Intersections for the maximum peak hour volume using the existing conditions plus the 49 vehicles of peak hour traffic anticipated for the maximum completions phases (**Table 4**). In addition, the percentage of heavy vehicles was adjusted to account for the number of multi-axle vehicles. The results of the LOS analysis show the impact of project traffic on LOS will be minimal (**Table 5**). The only change in LOS for the proposed condition was from B to C for eastbound traffic at Study Intersection 1.

**Table 5. Comparison of Existing Average LOS and Maximum Proposed LOS at Study Intersections.**

| Study Intersection | Approach | Existing LOS | Delay (sec) | Proposed LOS | Delay (sec) | Change |
|---|---|---|---|---|---|---|
| 1. E. 120th Ave./Tower Rd. (Commerce City) | Eastbound | B | 19.2 | C | 20.0 | 0.8 sec. |
| | Westbound | C | 28.7 | C | 29.6 | 0.9 sec. |
| | Northbound | B | 13.4 | B | 13.4 | None |
| | Southbound | C | 28.1 | C | 28.1 | None |
| 2. E. 120th Ave./Picadilly Rd. (Adams County) | Eastbound | A | 0.5 | A | 0.5 | None |
| | Westbound | A | 0.2 | A | 0.2 | None |
| | Northbound | B | 11.6 | B | 12.7 | 1.1 sec |
| | Southbound | B | 10.9 | B | 11.7 | 0.8 sec |

**Attachment B** shows the HCS Results Summary for the proposed condition. Both Study Intersections along the proposed haul route meet the Commerce City and Adams County criterion for the proposed condition during the most heavily traveled portion of the pre-production phase of the Project.

## 2.3 AUXILARY LANE REQUIREMENTS

An auxiliary lane analysis was performed for the Proposed Access for the production phase of development. The production phase trip estimates were used for this analysis, due to the temporary nature of the pre-production phase. The Adams County Access Design and Traffic Requirements (Adams County, 2020) Section 8-01-08-02 presents the criteria for auxiliary turn lanes as described below:

- A left turn lane with storage length plus taper length is required for any access with a projected peak hour left ingress turning volume greater than 25 vph. **If the posted speed is greater than 40 mph, a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph.** The taper length will be included within the deceleration length.
- A right turn lane with storage length plus taper length is required for any access with a projected peak hour right ingress turning volume greater than 50 vph. **If the posted speed is greater than 40 mph, a right turn deceleration lane with taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph.** The taper length will be included within the deceleration length.
- **A right turn acceleration lane with taper is required for any access with a projected peak hour right turning volume greater than 50 vph when the posted speed on the highway is greater than 40 mph and the highway has only one lane for through traffic in the direction of the right turn.** A right turn acceleration lane is not required on multi-lane highways of this category. The taper length will be included within the required acceleration length
- A left turn acceleration lane with transition taper may be required if it would be a benefit to the safety and operation of the roadway. A left turn acceleration lane is generally not required where: the posted speed is less than 45 mph, or the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access.

**Table 6** presents a summary of the auxiliary turn lane evaluation for the proposed alternative haul route.

**Table 6. Auxiliary Turn Lane Evaluation.**

| Movement | County Auxiliary Lane Warrant | Current Conditions | Proposed Conditions |
|---|---|---|---|
| **Proposed Site Access** | | | |
| Eastbound, left turn | 10 | 0 | 2 |
| Northbound, right turn (stop controlled) | 50 | 0 | 2 |

As discussed previously, because the fluids produced from the wells will be piped from this facility, once build-out is complete there will only be one to two peak-hour vehicle trips each day. This project trip estimation falls below the County's thresholds for all potential turn lane movements.

## 3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the details above, Tetra Tech anticipates that the Eagle Pad will have a minor impact on traffic volume during the construction and development period of the project. After completion of the construction build-out phase, there should be minimal impacts to traffic along the proposed alternative haul road.

The proposed access will meet safety requirements for both the driving public and the development traffic. There is adequate visibility for inbound and outbound project traffic to negotiate the access and make full turn movements. Tetra Tech recommends a traffic control plan with additional signage during the peak periods of construction traffic to alleviate concerns with traffic movements in and out of the Proposed Access. Impacts at Study Intersection 1 were evaluated using signal timing information from Commerce City. The majority of the traffic at this intersection consists of vehicles turning from Tower Road onto 120th Ave. and vice versa. The intersection already has auxiliary turn lanes and this study demonstrates that project traffic using the through lanes at this intersection should have a minimal impact on existing LOS delays.

## 4.0 REFERENCES

Adams County. (2020, December 8). Chapter 8 - Access Design and Traffic Requirments. *Adams Couty Development Standards and Regulations*. Colorado, USA.

Colorado Department of Transportation. (2002). State Highway Access Code. Transportation Commission and Office of Transportation Safety.

Commerce City. (2021, October 5). Engineering Construction Standards and Specifications. Commerce City, Colorado, USA: City of Commerce City Department of Public Works.

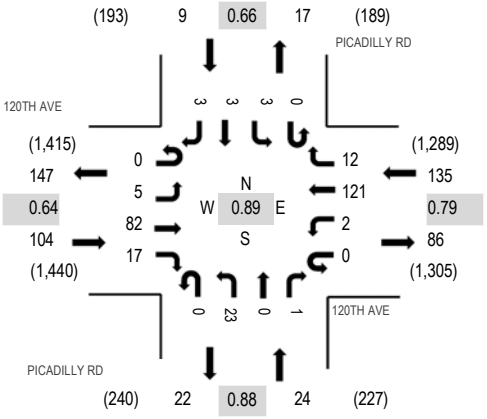
Tetra Tech, Inc. (2025, December 9). Eagle Pad Oil and Gas Development, Traffic Impact Study. Longmont, CO, USA.

# ATTACHMENT A: 48-HOUR TURN MOVEMENT COUNTS

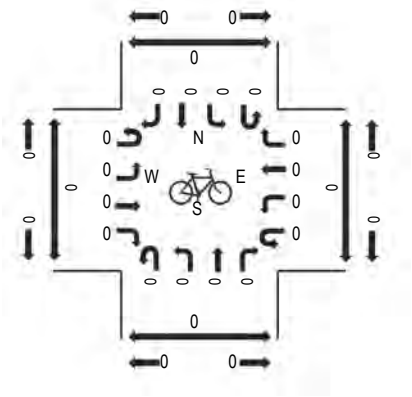
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 1 PICADILLY RD & 120TH AVE AM
**Date:** Tuesday, September 16, 2025
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:00 AM - 07:15 AM

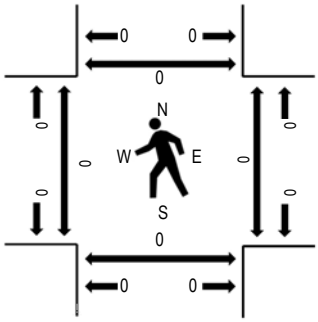
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles



## Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | PICADILLY RD Northbound | | | | PICADILLY RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 25 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 22 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 24 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 6 | 9 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
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| 2:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 14 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 19 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 27 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 32 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 53 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 8 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 13 | 72 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 9 | 92 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 17 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 134 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 16 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 26 | 196 | 0 | 0 | 0 | 0 |
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| 5:30 AM | 0 | 0 | 61 | 0 | 0 | 0 | 14 | 0 | 0 | 1 | 2 | 0 | 0 | 8 | 0 | 0 | 86 | 231 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 36 | 1 | 0 | 0 | 11 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 51 | 218 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 1 | 17 | 0 | 0 | 0 | 13 | 3 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 2 | 43 | 236 | 0 | 0 | 0 | 0 |
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| 6:45 AM | 0 | 2 | 21 | 2 | 0 | 1 | 34 | 1 | 0 | 3 | 0 | 1 | 0 | 2 | 1 | 1 | 69 | 269 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 1 | 20 | 4 | 0 | 1 | 43 | 2 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 76 | 272 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 2 | 20 | 4 | 0 | 0 | 19 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 53 | 253 | 0 | 0 | 0 | 0 |
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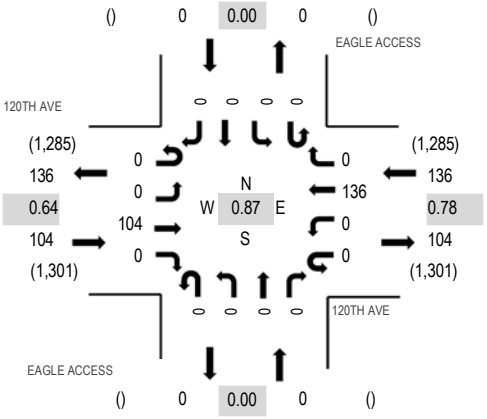
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| 10:30 AM | 0 | 0 | 10 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 31 | 128 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 1 | 11 | 5 | 0 | 0 | 17 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 40 | 137 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 0 | 7 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 16 | 118 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 2 | 9 | 2 | 0 | 0 | 16 | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 4 | 2 | 41 | 145 | 0 | 0 | 0 | 0 |
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| 3:00 PM | 0 | 0 | 14 | 2 | 0 | 0 | 15 | 4 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 39 | 192 | 0 | 0 | 0 | 0 |
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| 4:00 PM | 0 | 0 | 20 | 8 | 0 | 0 | 32 | 3 | 0 | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 68 | 235 | 0 | 0 | 0 | 0 |
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| 6:45 PM | 0 | 0 | 5 | 5 | 0 | 0 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 29 | 117 | 0 | 0 | 0 | 0 |
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| 7:45 PM | 0 | 1 | 8 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 18 | 101 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 0 | 14 | 1 | 0 | 0 | 9 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 28 | 104 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 14 | 4 | 0 | 0 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 30 | 92 | 0 | 0 | 0 | 0 |
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| 9:00 PM | 0 | 0 | 10 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 16 | 61 | 0 | 0 | 0 | 0 |
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| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Count Total | 1 | 61 | 1,207 | 171 | 0 | 11 | 1,193 | 85 | 0 | 168 | 43 | 16 | 0 | 82 | 58 | 53 | 3,149 | 0 | 0 | 0 | 0 |
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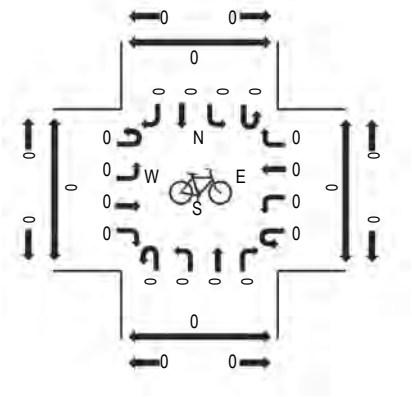
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 4 EAGLE ACCESS & 120TH AVE AM
**Date:** Tuesday, September 16, 2025
**Peak Hour:** 06:15 AM - 07:15 AM
**Peak 15-Minutes:** 06:30 AM - 06:45 AM

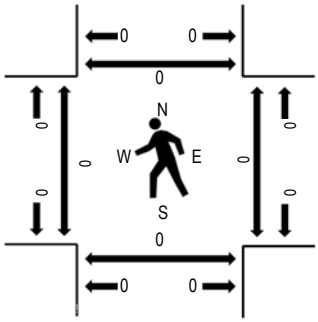
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | EAGLE ACCESS Northbound | | | | EAGLE ACCESS Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 23 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 21 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 21 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 15 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 25 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 30 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 50 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 9 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 70 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 6 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 86 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 15 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 124 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 20 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 181 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 21 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 208 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 39 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 218 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 66 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 214 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 42 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 204 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 21 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 211 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 0 | 24 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 240 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 34 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 237 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 0 | 24 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 222 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 0 | 22 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 214 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 19 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 192 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 14 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 189 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 26 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 172 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 15 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 159 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 20 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 157 | 0 | 0 | 0 | 0 |

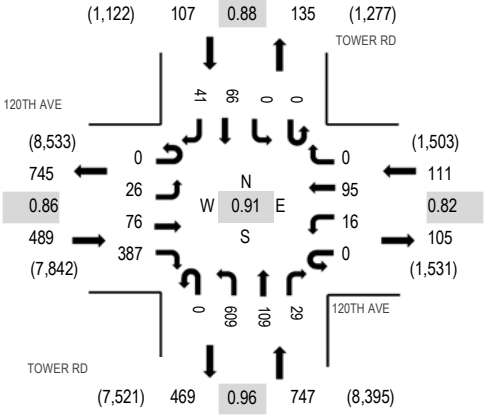
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 0 | 22 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 152 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 17 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 146 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 0 | 18 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 130 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 0 | 18 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 124 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 0 | 14 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 117 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 0 | 14 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 118 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 0 | 14 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 120 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 0 | 8 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 96 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 12 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 98 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 0 | 9 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 99 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 0 | 9 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 90 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 0 | 10 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 110 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 0 | 20 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 116 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 0 | 10 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 106 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 0 | 20 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 119 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 122 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 0 | 11 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 124 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 0 | 19 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 138 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 0 | 22 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 148 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 0 | 20 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 149 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 0 | 25 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 145 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 0 | 18 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 152 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 157 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 0 | 9 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 152 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 0 | 9 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 155 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 0 | 7 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 156 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 0 | 14 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 155 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 17 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 179 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 0 | 16 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 187 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 0 | 22 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 185 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 0 | 21 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 191 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 24 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 178 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 21 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 169 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 21 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 165 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 18 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 152 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 141 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 22 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 138 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 23 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 125 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 0 | 17 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 110 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 0 | 21 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 92 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 0 | 10 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 87 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 0 | 5 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 86 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 0 | 7 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 77 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 18 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 85 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 0 | 20 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 84 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 0 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 80 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 0 | 15 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 85 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 16 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 78 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 0 | 19 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 70 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 14 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 63 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 59 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 54 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 8 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 43 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 8 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 66 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 61 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 55 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 2 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 54 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 21 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 16 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 1,301 | 0 | 0 | 0 | 1,285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,586 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 104 | 0 | 0 | 0 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 0 | 0 | 0 |

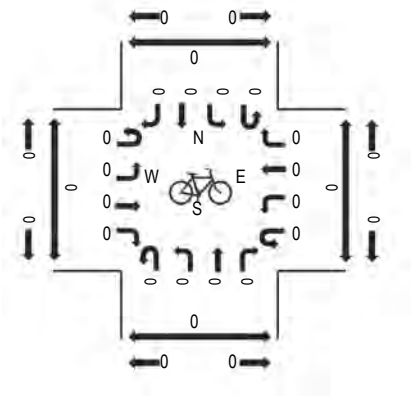
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 7 TOWER RD & 120TH AVE AM
**Date:** Tuesday, September 16, 2025
**Peak Hour:** 04:45 PM - 05:45 PM
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

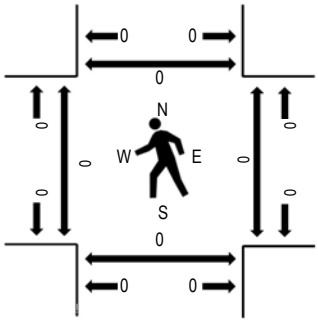
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | TOWER RD Northbound | | | | TOWER RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 0 | 11 | 0 | 1 | 3 | 0 | 0 | 29 | 4 | 2 | 0 | 0 | 0 | 1 | 51 | 189 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 0 | 10 | 0 | 1 | 4 | 0 | 0 | 26 | 1 | 0 | 0 | 0 | 0 | 0 | 42 | 176 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 1 | 0 | 12 | 0 | 0 | 5 | 0 | 0 | 34 | 1 | 2 | 0 | 0 | 0 | 1 | 56 | 164 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 0 | 5 | 0 | 0 | 6 | 0 | 0 | 25 | 4 | 0 | 0 | 0 | 0 | 0 | 40 | 135 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 5 | 0 | 0 | 3 | 0 | 0 | 24 | 5 | 0 | 0 | 0 | 0 | 0 | 38 | 122 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 1 | 6 | 0 | 1 | 2 | 0 | 0 | 17 | 2 | 1 | 0 | 0 | 0 | 0 | 30 | 103 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 2 | 0 | 27 | 108 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 15 | 2 | 0 | 0 | 0 | 0 | 0 | 27 | 100 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 19 | 100 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 1 | 12 | 0 | 0 | 1 | 0 | 0 | 18 | 1 | 0 | 0 | 0 | 2 | 0 | 35 | 114 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 123 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 1 | 0 | 27 | 142 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 21 | 0 | 1 | 5 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 33 | 157 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 1 | 2 | 25 | 0 | 0 | 1 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 190 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 2 | 25 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 3 | 0 | 38 | 249 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 4 | 22 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 1 | 0 | 0 | 6 | 0 | 42 | 320 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 7 | 41 | 0 | 0 | 3 | 0 | 0 | 12 | 1 | 1 | 0 | 0 | 1 | 0 | 66 | 406 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 1 | 6 | 61 | 0 | 1 | 5 | 0 | 0 | 17 | 2 | 1 | 0 | 0 | 9 | 0 | 103 | 505 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 2 | 16 | 50 | 0 | 1 | 6 | 0 | 0 | 23 | 3 | 0 | 0 | 0 | 6 | 2 | 109 | 648 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 1 | 14 | 72 | 0 | 2 | 1 | 0 | 0 | 20 | 10 | 2 | 0 | 0 | 4 | 2 | 128 | 842 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 16 | 85 | 0 | 2 | 9 | 0 | 0 | 36 | 2 | 1 | 0 | 0 | 13 | 1 | 165 | 994 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 2 | 41 | 123 | 0 | 2 | 10 | 0 | 0 | 39 | 7 | 2 | 0 | 0 | 17 | 3 | 246 | 1,110 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 58 | 141 | 0 | 4 | 9 | 0 | 0 | 58 | 13 | 5 | 0 | 0 | 13 | 2 | 303 | 1,164 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 2 | 27 | 124 | 0 | 0 | 15 | 0 | 0 | 72 | 17 | 3 | 0 | 0 | 17 | 3 | 280 | 1,196 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 3 | 16 | 147 | 0 | 4 | 12 | 0 | 0 | 63 | 11 | 4 | 0 | 0 | 18 | 3 | 281 | 1,249 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 4 | 25 | 125 | 0 | 5 | 20 | 0 | 0 | 79 | 8 | 8 | 0 | 0 | 22 | 4 | 300 | 1,319 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 7 | 24 | 141 | 0 | 4 | 19 | 0 | 0 | 88 | 11 | 4 | 0 | 0 | 31 | 6 | 335 | 1,318 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 7 | 23 | 130 | 0 | 10 | 33 | 0 | 0 | 78 | 15 | 3 | 0 | 1 | 27 | 6 | 333 | 1,327 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 12 | 23 | 111 | 0 | 8 | 39 | 0 | 0 | 97 | 16 | 4 | 0 | 0 | 33 | 8 | 351 | 1,385 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 3 | 15 | 116 | 0 | 5 | 22 | 0 | 0 | 93 | 11 | 4 | 0 | 0 | 21 | 9 | 299 | 1,316 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 1 | 13 | 128 | 0 | 5 | 30 | 1 | 0 | 111 | 10 | 6 | 0 | 0 | 32 | 7 | 344 | 1,317 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 5 | 31 | 132 | 0 | 11 | 37 | 0 | 0 | 126 | 18 | 6 | 0 | 0 | 20 | 5 | 391 | 1,241 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 3 | 12 | 108 | 0 | 1 | 31 | 0 | 0 | 96 | 9 | 5 | 0 | 0 | 13 | 4 | 282 | 1,086 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 3 | 22 | 128 | 0 | 3 | 19 | 0 | 0 | 105 | 4 | 2 | 0 | 0 | 10 | 4 | 300 | 1,090 | 0 | 0 | 0 | 0 |

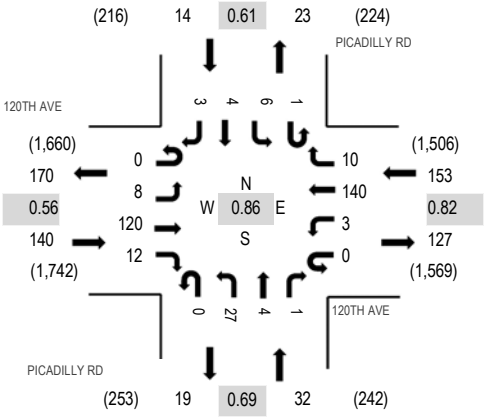
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 4 | 16 | 100 | 0 | 3 | 12 | 0 | 0 | 91 | 16 | 6 | 0 | 0 | 15 | 5 | 268 | 1,036 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 2 | 19 | 77 | 0 | 2 | 25 | 0 | 0 | 76 | 13 | 5 | 0 | 0 | 14 | 3 | 236 | 999 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 6 | 19 | 83 | 0 | 6 | 30 | 0 | 0 | 105 | 16 | 5 | 0 | 0 | 10 | 6 | 286 | 954 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 2 | 10 | 89 | 0 | 4 | 18 | 0 | 0 | 99 | 9 | 2 | 0 | 0 | 10 | 3 | 246 | 884 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 1 | 17 | 74 | 0 | 7 | 18 | 0 | 0 | 85 | 12 | 0 | 0 | 0 | 9 | 8 | 231 | 883 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 0 | 9 | 68 | 0 | 2 | 11 | 0 | 0 | 73 | 8 | 7 | 0 | 1 | 9 | 3 | 191 | 887 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 1 | 10 | 72 | 0 | 5 | 20 | 0 | 0 | 77 | 16 | 1 | 0 | 0 | 11 | 3 | 216 | 905 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 4 | 11 | 92 | 0 | 5 | 18 | 1 | 0 | 93 | 8 | 3 | 0 | 0 | 6 | 4 | 245 | 883 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 5 | 11 | 81 | 0 | 2 | 13 | 0 | 0 | 101 | 9 | 2 | 0 | 0 | 8 | 3 | 235 | 839 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 3 | 10 | 52 | 0 | 6 | 18 | 0 | 0 | 91 | 9 | 6 | 0 | 0 | 9 | 5 | 209 | 833 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 7 | 5 | 74 | 0 | 5 | 7 | 0 | 0 | 70 | 12 | 5 | 0 | 0 | 7 | 2 | 194 | 869 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 1 | 16 | 69 | 0 | 5 | 10 | 0 | 0 | 78 | 11 | 5 | 0 | 0 | 2 | 4 | 201 | 891 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 4 | 6 | 61 | 0 | 5 | 12 | 1 | 0 | 109 | 8 | 9 | 0 | 0 | 7 | 7 | 229 | 946 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 2 | 9 | 81 | 0 | 1 | 8 | 0 | 0 | 105 | 19 | 5 | 0 | 0 | 9 | 6 | 245 | 961 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 1 | 16 | 79 | 0 | 6 | 15 | 0 | 0 | 72 | 12 | 7 | 0 | 0 | 8 | 0 | 216 | 958 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 2 | 14 | 103 | 0 | 6 | 12 | 1 | 0 | 86 | 14 | 3 | 0 | 0 | 11 | 4 | 256 | 991 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 4 | 13 | 83 | 0 | 5 | 12 | 0 | 0 | 102 | 8 | 5 | 0 | 0 | 8 | 4 | 244 | 970 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 7 | 18 | 81 | 0 | 5 | 13 | 0 | 0 | 87 | 12 | 7 | 0 | 1 | 10 | 1 | 242 | 980 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 1 | 20 | 75 | 0 | 3 | 19 | 0 | 0 | 109 | 12 | 2 | 0 | 0 | 7 | 1 | 249 | 968 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 8 | 17 | 76 | 0 | 7 | 12 | 0 | 0 | 86 | 7 | 9 | 0 | 0 | 11 | 2 | 235 | 950 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 3 | 22 | 60 | 0 | 3 | 16 | 0 | 0 | 120 | 11 | 2 | 0 | 0 | 14 | 3 | 254 | 1,031 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 2 | 12 | 66 | 0 | 3 | 14 | 0 | 0 | 99 | 12 | 8 | 0 | 0 | 10 | 4 | 230 | 1,101 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 4 | 11 | 58 | 0 | 3 | 11 | 0 | 0 | 120 | 11 | 4 | 0 | 0 | 6 | 3 | 231 | 1,181 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 3 | 14 | 95 | 0 | 7 | 35 | 0 | 0 | 122 | 18 | 4 | 0 | 0 | 15 | 3 | 316 | 1,255 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 2 | 13 | 104 | 0 | 1 | 31 | 0 | 0 | 146 | 12 | 2 | 0 | 0 | 11 | 2 | 324 | 1,279 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 11 | 10 | 84 | 0 | 5 | 31 | 0 | 0 | 129 | 20 | 4 | 0 | 0 | 12 | 4 | 310 | 1,267 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 5 | 10 | 79 | 0 | 1 | 20 | 0 | 0 | 147 | 23 | 7 | 0 | 0 | 11 | 2 | 305 | 1,255 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 9 | 17 | 78 | 0 | 4 | 17 | 0 | 0 | 135 | 45 | 8 | 0 | 0 | 21 | 6 | 340 | 1,292 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 11 | 19 | 91 | 0 | 7 | 25 | 1 | 0 | 107 | 33 | 7 | 0 | 0 | 10 | 1 | 312 | 1,283 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 3 | 17 | 84 | 0 | 6 | 21 | 0 | 0 | 123 | 26 | 6 | 0 | 0 | 9 | 3 | 298 | 1,299 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 4 | 28 | 84 | 0 | 3 | 27 | 0 | 0 | 140 | 25 | 6 | 0 | 0 | 18 | 7 | 342 | 1,363 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 2 | 23 | 87 | 0 | 5 | 23 | 0 | 0 | 142 | 22 | 5 | 0 | 0 | 15 | 7 | 331 | 1,421 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 1 | 18 | 87 | 0 | 3 | 15 | 0 | 0 | 149 | 29 | 7 | 0 | 0 | 13 | 6 | 328 | 1,429 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 7 | 21 | 85 | 0 | 5 | 32 | 0 | 0 | 151 | 32 | 8 | 0 | 0 | 16 | 5 | 362 | 1,454 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 6 | 18 | 109 | 0 | 6 | 20 | 0 | 0 | 162 | 29 | 4 | 0 | 0 | 20 | 26 | 400 | 1,419 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 7 | 17 | 90 | 0 | 3 | 26 | 0 | 0 | 144 | 22 | 9 | 0 | 0 | 15 | 6 | 339 | 1,315 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 6 | 20 | 103 | 0 | 2 | 17 | 0 | 0 | 152 | 26 | 8 | 0 | 0 | 15 | 4 | 353 | 1,269 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 5 | 22 | 122 | 0 | 1 | 19 | 0 | 0 | 122 | 16 | 6 | 0 | 0 | 9 | 5 | 327 | 1,161 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 3 | 20 | 112 | 0 | 6 | 8 | 0 | 0 | 108 | 18 | 4 | 0 | 0 | 11 | 6 | 296 | 1,060 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 8 | 24 | 109 | 0 | 5 | 7 | 1 | 0 | 101 | 22 | 8 | 0 | 0 | 6 | 2 | 293 | 958 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 4 | 11 | 81 | 0 | 4 | 19 | 1 | 0 | 95 | 11 | 3 | 0 | 0 | 14 | 2 | 245 | 877 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 1 | 8 | 77 | 0 | 7 | 5 | 0 | 0 | 103 | 14 | 3 | 0 | 0 | 6 | 2 | 226 | 825 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 3 | 9 | 69 | 0 | 5 | 6 | 0 | 0 | 80 | 10 | 4 | 0 | 0 | 7 | 1 | 194 | 757 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 1 | 16 | 68 | 0 | 4 | 12 | 0 | 0 | 84 | 18 | 4 | 0 | 0 | 2 | 3 | 212 | 723 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 5 | 20 | 54 | 0 | 1 | 6 | 0 | 0 | 82 | 10 | 3 | 0 | 0 | 10 | 2 | 193 | 659 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 4 | 11 | 49 | 0 | 2 | 5 | 0 | 0 | 75 | 4 | 1 | 0 | 0 | 5 | 2 | 158 | 582 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 2 | 12 | 53 | 0 | 4 | 11 | 0 | 0 | 59 | 9 | 3 | 0 | 0 | 6 | 1 | 160 | 549 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 16 | 45 | 0 | 5 | 8 | 0 | 0 | 57 | 7 | 2 | 0 | 0 | 7 | 1 | 148 | 479 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 0 | 10 | 35 | 0 | 1 | 4 | 0 | 0 | 47 | 11 | 4 | 0 | 0 | 3 | 1 | 116 | 444 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 1 | 13 | 40 | 0 | 2 | 1 | 0 | 0 | 60 | 3 | 3 | 0 | 0 | 2 | 0 | 125 | 419 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 3 | 7 | 31 | 0 | 2 | 3 | 0 | 0 | 32 | 7 | 3 | 0 | 0 | 2 | 0 | 90 | 404 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 11 | 36 | 0 | 1 | 4 | 0 | 0 | 48 | 6 | 3 | 0 | 0 | 3 | 1 | 113 | 398 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 1 | 7 | 29 | 0 | 1 | 2 | 0 | 0 | 41 | 5 | 3 | 0 | 0 | 0 | 2 | 91 | 360 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 1 | 7 | 38 | 0 | 1 | 6 | 0 | 0 | 49 | 3 | 2 | 0 | 0 | 2 | 1 | 110 | 375 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 0 | 37 | 0 | 0 | 6 | 0 | 0 | 34 | 3 | 1 | 0 | 0 | 2 | 1 | 84 | 334 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 2 | 2 | 21 | 0 | 0 | 1 | 0 | 0 | 39 | 4 | 4 | 0 | 0 | 2 | 0 | 75 | 300 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 3 | 27 | 0 | 3 | 29 | 0 | 0 | 38 | 0 | 3 | 0 | 0 | 3 | 0 | 106 | 280 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 1 | 24 | 0 | 0 | 5 | 0 | 0 | 28 | 8 | 0 | 0 | 0 | 3 | 0 | 69 | 225 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 6 | 10 | 0 | 0 | 3 | 0 | 0 | 29 | 1 | 0 | 0 | 0 | 1 | 0 | 50 | 198 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 3 | 10 | 0 | 0 | 1 | 0 | 0 | 37 | 2 | 0 | 0 | 0 | 2 | 0 | 55 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 1 | 12 | 0 | 0 | 4 | 0 | 0 | 26 | 5 | 0 | 0 | 0 | 2 | 1 | 51 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 12 | 0 | 0 | 2 | 0 | 0 | 25 | 2 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 253 | 1,200 | 6,389 | 0 | 284 | 1,212 | 7 | 0 | 7,050 | 1,017 | 328 | 0 | 3 | 848 | 271 | 18,862 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 26 | 76 | 387 | 0 | 16 | 95 | 0 | 0 | 609 | 109 | 29 | 0 | 0 | 66 | 41 | 1,454 | 0 | 0 | 0 | 0 |

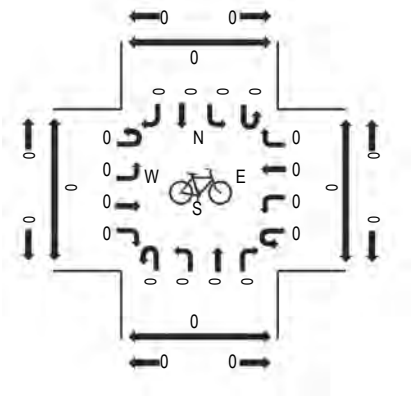
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 1 PICADILLY RD & 120TH AVE AM
**Date:** Wednesday, September 17, 2025
**Peak Hour:** 06:45 AM - 07:45 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

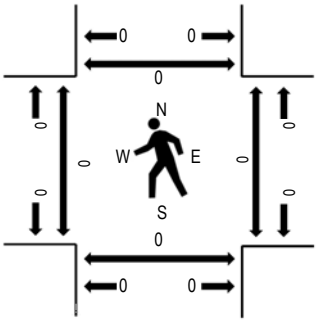
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | PICADILLY RD Northbound | | | | PICADILLY RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 30 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 31 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 18 | 27 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 11 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 8 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 7 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 10 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 15 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 19 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 26 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 36 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 55 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 8 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 77 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 5 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 14 | 105 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 13 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 23 | 145 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 12 | 0 | 0 | 0 | 9 | 2 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 28 | 227 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 1 | 21 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 40 | 245 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 38 | 1 | 0 | 0 | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 54 | 255 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 1 | 79 | 0 | 0 | 0 | 14 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 2 | 105 | 247 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 35 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 46 | 218 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 25 | 1 | 0 | 0 | 19 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 50 | 252 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 3 | 21 | 1 | 0 | 0 | 19 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 46 | 298 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 43 | 1 | 0 | 0 | 26 | 1 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 76 | 316 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 2 | 41 | 2 | 0 | 0 | 23 | 0 | 0 | 4 | 1 | 0 | 0 | 3 | 2 | 2 | 80 | 339 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 4 | 37 | 5 | 0 | 1 | 35 | 4 | 0 | 2 | 3 | 0 | 1 | 2 | 2 | 0 | 96 | 314 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 2 | 15 | 4 | 0 | 0 | 31 | 0 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 1 | 64 | 286 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 27 | 1 | 0 | 2 | 51 | 6 | 0 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 99 | 278 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 1 | 20 | 4 | 0 | 0 | 23 | 2 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 55 | 232 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 3 | 18 | 3 | 0 | 0 | 33 | 2 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 1 | 68 | 216 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 2 | 21 | 4 | 0 | 0 | 22 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 56 | 188 | 0 | 0 | 0 | 0 |

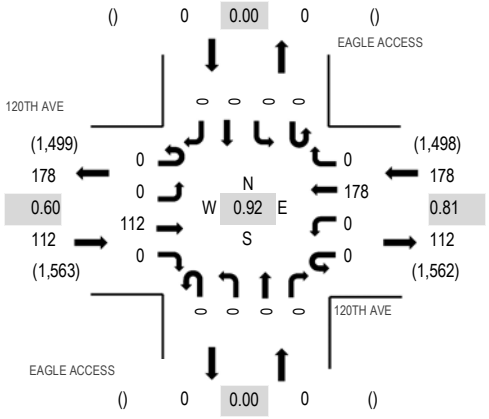
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 1 | 26 | 3 | 0 | 0 | 16 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 53 | 169 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 6 | 15 | 0 | 0 | 0 | 13 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 39 | 147 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 0 | 19 | 2 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 40 | 156 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 3 | 13 | 2 | 0 | 0 | 14 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 37 | 137 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 0 | 10 | 1 | 0 | 1 | 14 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 31 | 128 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 5 | 18 | 3 | 0 | 0 | 15 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 48 | 121 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 1 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 21 | 107 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 0 | 10 | 3 | 0 | 0 | 9 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 28 | 128 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 2 | 10 | 1 | 0 | 0 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 24 | 142 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 0 | 15 | 2 | 0 | 1 | 11 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 34 | 157 | 0 | 0 | 0 | 0 |
| 11:00 AM | 1 | 0 | 13 | 2 | 0 | 0 | 14 | 3 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 4 | 42 | 159 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 1 | 14 | 0 | 0 | 0 | 22 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 42 | 163 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 0 | 14 | 1 | 0 | 1 | 12 | 0 | 0 | 3 | 1 | 0 | 0 | 2 | 1 | 4 | 39 | 168 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 1 | 14 | 1 | 0 | 0 | 15 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 36 | 177 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 0 | 15 | 2 | 0 | 0 | 19 | 0 | 0 | 4 | 2 | 2 | 0 | 1 | 1 | 0 | 46 | 197 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 2 | 17 | 3 | 0 | 1 | 20 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 47 | 204 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 1 | 23 | 2 | 0 | 0 | 14 | 1 | 0 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 48 | 212 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 1 | 29 | 4 | 0 | 0 | 15 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 56 | 215 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 4 | 19 | 3 | 0 | 0 | 23 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 53 | 214 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 0 | 22 | 4 | 0 | 0 | 17 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 4 | 2 | 55 | 206 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 1 | 21 | 3 | 0 | 0 | 19 | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 51 | 201 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 1 | 25 | 5 | 0 | 0 | 19 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 55 | 209 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 1 | 14 | 2 | 0 | 1 | 22 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 45 | 227 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 1 | 16 | 3 | 0 | 1 | 18 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 3 | 50 | 240 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 2 | 11 | 2 | 0 | 0 | 29 | 9 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 59 | 242 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 4 | 23 | 1 | 0 | 1 | 35 | 2 | 0 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 73 | 265 | 0 | 0 | 0 | 0 |
| 3:00 PM | 1 | 1 | 25 | 3 | 0 | 0 | 22 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 0 | 58 | 255 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 1 | 22 | 5 | 0 | 0 | 14 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 1 | 2 | 52 | 276 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 3 | 25 | 2 | 0 | 0 | 40 | 5 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 2 | 82 | 304 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 2 | 18 | 1 | 0 | 1 | 36 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 63 | 309 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 1 | 29 | 2 | 0 | 0 | 36 | 2 | 0 | 3 | 0 | 0 | 0 | 1 | 3 | 2 | 79 | 325 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 1 | 30 | 4 | 0 | 0 | 36 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 80 | 323 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 3 | 23 | 2 | 0 | 1 | 51 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 87 | 319 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 4 | 25 | 4 | 0 | 0 | 39 | 2 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 79 | 294 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 5 | 26 | 5 | 0 | 0 | 32 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 2 | 77 | 280 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 29 | 7 | 0 | 1 | 27 | 2 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 1 | 76 | 267 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 1 | 20 | 4 | 0 | 0 | 28 | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 2 | 62 | 241 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 27 | 6 | 0 | 0 | 22 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 1 | 1 | 65 | 223 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 2 | 19 | 8 | 0 | 0 | 23 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 3 | 64 | 201 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 2 | 16 | 5 | 0 | 0 | 18 | 2 | 0 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 50 | 178 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 1 | 17 | 3 | 0 | 0 | 16 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 1 | 44 | 170 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 1 | 16 | 5 | 0 | 0 | 18 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 43 | 154 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 1 | 11 | 7 | 0 | 0 | 18 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 41 | 151 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 20 | 4 | 0 | 0 | 9 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 1 | 0 | 42 | 138 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 0 | 10 | 3 | 0 | 0 | 9 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 28 | 114 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 0 | 24 | 1 | 0 | 0 | 3 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 3 | 0 | 40 | 119 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 1 | 11 | 2 | 0 | 0 | 9 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 28 | 96 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 9 | 2 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 18 | 84 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 1 | 20 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 33 | 81 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 17 | 67 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 1 | 12 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 66 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 68 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 11 | 1 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 19 | 56 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 7 | 3 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 82 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 4 | 3 | 0 | 0 | 4 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 2 | 0 | 18 | 74 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 65 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 5 | 2 | 0 | 0 | 32 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 45 | 69 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 8 | 31 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 30 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 2 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| Count Total | 2 | 89 | 1,472 | 179 | 0 | 14 | 1,411 | 81 | 1 | 175 | 53 | 13 | 1 | 84 | 59 | 72 | 3,706 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 8 | 120 | 12 | 0 | 3 | 140 | 10 | 0 | 27 | 4 | 1 | 1 | 6 | 4 | 3 | 339 | 0 | 0 | 0 | 0 |

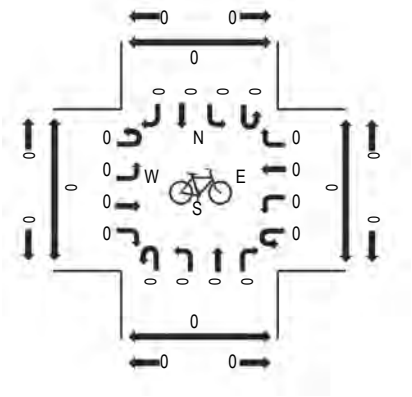
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 4 EAGLE ACCESS & 120TH AVE AM
**Date:** Wednesday, September 17, 2025
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:30 PM - 04:45 PM

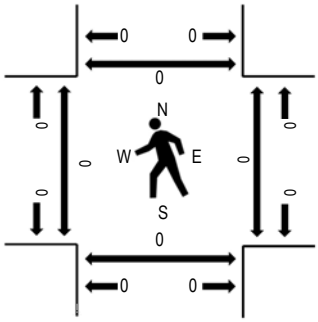
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | EAGLE ACCESS Northbound | | | | EAGLE ACCESS Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 28 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 29 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 5 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 25 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 24 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 36 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 55 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 7 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 72 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 98 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 15 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 133 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 0 | 15 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 202 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 28 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 231 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 0 | 39 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 243 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 80 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 93 | 236 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 0 | 44 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 215 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 29 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 229 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 0 | 21 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 254 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 0 | 46 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 72 | 266 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 0 | 43 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66 | 277 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 0 | 34 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 256 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 21 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 235 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 25 | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 | 226 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 22 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 185 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 18 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 174 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 22 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 155 | 0 | 0 | 0 | 0 |

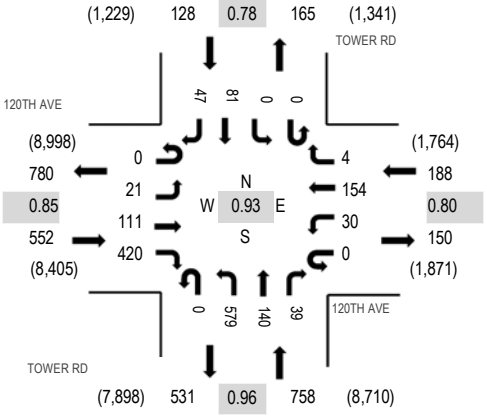
| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 0 | 26 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 137 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 19 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 121 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 0 | 19 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 122 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 0 | 13 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 106 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 0 | 11 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 100 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 0 | 19 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 93 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 0 | 11 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 85 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 97 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 10 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 111 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 0 | 14 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 118 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 0 | 14 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 121 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 0 | 13 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 128 | 0 | 0 | 0 | 0 |
| 11:30 AM | 0 | 0 | 17 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 132 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 0 | 15 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 145 | 0 | 0 | 0 | 0 |
| 12:00 PM | 0 | 0 | 18 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 161 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 0 | 18 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 166 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 0 | 25 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 171 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 0 | 30 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 174 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 0 | 20 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 173 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 0 | 26 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 167 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 0 | 22 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 159 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 0 | 26 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 169 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 0 | 15 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 184 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 194 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 0 | 12 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 198 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 0 | 24 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 217 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 0 | 24 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 210 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 23 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 236 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 0 | 25 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 267 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 0 | 17 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 275 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 0 | 32 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 290 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 30 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 274 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 24 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 261 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 26 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 237 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 26 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 218 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 27 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 208 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 24 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55 | 186 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 27 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 164 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 0 | 19 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 149 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 0 | 15 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 131 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 0 | 19 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 129 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 0 | 15 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 115 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 0 | 11 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 109 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 24 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 100 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 0 | 11 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 83 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 0 | 25 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 90 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 79 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 73 | 0 | 0 | 0 | 0 |
| 8:30 PM | 1 | 0 | 19 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 70 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 0 | 10 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 60 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 12 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 56 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 52 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 11 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 40 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 8 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 66 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 60 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 59 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 5 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 64 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 29 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 28 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| Count Total | 1 | 0 | 1,562 | 0 | 0 | 0 | 1,498 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,061 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 112 | 0 | 0 | 0 | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 290 | 0 | 0 | 0 | 0 |

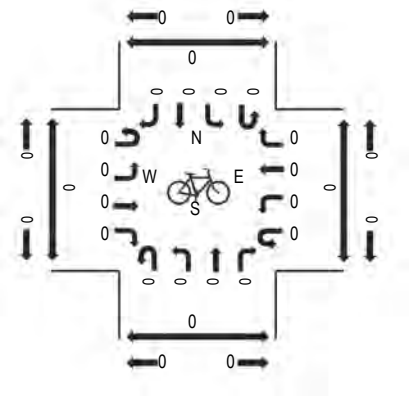
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 7 TOWER RD & 120TH AVE AM
**Date:** Wednesday, September 17, 2025
**Peak Hour:** 04:30 PM - 05:30 PM
**Peak 15-Minutes:** 05:15 PM - 05:30 PM

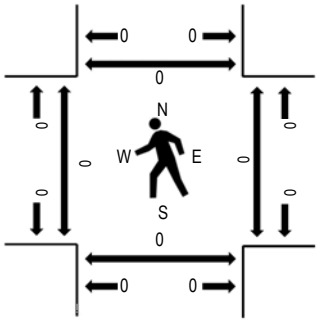
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | 120TH AVE Eastbound | | | | 120TH AVE Westbound | | | | TOWER RD Northbound | | | | TOWER RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 12:00 AM | 0 | 0 | 2 | 13 | 0 | 0 | 2 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 135 | 0 | 0 | 0 | 0 |
| 12:15 AM | 0 | 0 | 2 | 5 | 0 | 0 | 4 | 0 | 0 | 20 | 2 | 0 | 0 | 1 | 2 | 0 | 36 | 129 | 0 | 0 | 0 | 0 |
| 12:30 AM | 0 | 0 | 1 | 9 | 0 | 0 | 8 | 1 | 0 | 13 | 5 | 1 | 0 | 0 | 0 | 0 | 38 | 122 | 0 | 0 | 0 | 0 |
| 12:45 AM | 0 | 1 | 1 | 5 | 0 | 1 | 3 | 1 | 0 | 17 | 3 | 0 | 0 | 0 | 0 | 0 | 32 | 111 | 0 | 0 | 0 | 0 |
| 1:00 AM | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 23 | 107 | 0 | 0 | 0 | 0 |
| 1:15 AM | 0 | 0 | 0 | 10 | 0 | 2 | 1 | 0 | 0 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 29 | 100 | 0 | 0 | 0 | 0 |
| 1:30 AM | 0 | 0 | 0 | 11 | 0 | 0 | 1 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 27 | 96 | 0 | 0 | 0 | 0 |
| 1:45 AM | 0 | 0 | 0 | 12 | 0 | 1 | 2 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 28 | 93 | 0 | 0 | 0 | 0 |
| 2:00 AM | 0 | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 16 | 88 | 0 | 0 | 0 | 0 |
| 2:15 AM | 0 | 0 | 0 | 11 | 0 | 0 | 2 | 0 | 0 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 25 | 100 | 0 | 0 | 0 | 0 |
| 2:30 AM | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 | 0 | 0 | 2 | 0 | 24 | 116 | 0 | 0 | 0 | 0 |
| 2:45 AM | 0 | 0 | 2 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 23 | 146 | 0 | 0 | 0 | 0 |
| 3:00 AM | 0 | 0 | 0 | 16 | 0 | 1 | 1 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 28 | 171 | 0 | 0 | 0 | 0 |
| 3:15 AM | 0 | 1 | 3 | 24 | 0 | 0 | 1 | 0 | 0 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 41 | 206 | 0 | 0 | 0 | 0 |
| 3:30 AM | 0 | 0 | 4 | 34 | 0 | 1 | 1 | 0 | 0 | 9 | 1 | 0 | 0 | 0 | 4 | 0 | 54 | 262 | 0 | 0 | 0 | 0 |
| 3:45 AM | 0 | 0 | 5 | 24 | 0 | 1 | 1 | 0 | 0 | 12 | 1 | 0 | 0 | 0 | 4 | 0 | 48 | 332 | 0 | 0 | 0 | 0 |
| 4:00 AM | 0 | 0 | 6 | 41 | 0 | 2 | 0 | 0 | 0 | 11 | 1 | 1 | 0 | 0 | 1 | 0 | 63 | 397 | 0 | 0 | 0 | 0 |
| 4:15 AM | 0 | 1 | 7 | 50 | 0 | 1 | 6 | 0 | 0 | 23 | 0 | 1 | 0 | 0 | 8 | 0 | 97 | 504 | 0 | 0 | 0 | 0 |
| 4:30 AM | 0 | 0 | 9 | 69 | 0 | 0 | 7 | 0 | 0 | 25 | 6 | 1 | 0 | 0 | 7 | 0 | 124 | 649 | 0 | 0 | 0 | 0 |
| 4:45 AM | 0 | 1 | 14 | 61 | 0 | 1 | 9 | 0 | 0 | 19 | 2 | 0 | 0 | 0 | 6 | 0 | 113 | 823 | 0 | 0 | 0 | 0 |
| 5:00 AM | 0 | 0 | 23 | 90 | 0 | 1 | 7 | 0 | 0 | 32 | 3 | 1 | 0 | 0 | 12 | 1 | 170 | 981 | 0 | 0 | 0 | 0 |
| 5:15 AM | 0 | 1 | 40 | 120 | 0 | 1 | 14 | 0 | 0 | 35 | 11 | 2 | 0 | 0 | 17 | 1 | 242 | 1,079 | 0 | 0 | 0 | 0 |
| 5:30 AM | 0 | 0 | 74 | 128 | 0 | 4 | 12 | 0 | 0 | 44 | 6 | 7 | 0 | 0 | 19 | 4 | 298 | 1,165 | 0 | 0 | 0 | 0 |
| 5:45 AM | 0 | 2 | 29 | 128 | 0 | 2 | 12 | 0 | 0 | 58 | 18 | 4 | 0 | 0 | 14 | 4 | 271 | 1,224 | 0 | 0 | 0 | 0 |
| 6:00 AM | 0 | 0 | 19 | 131 | 0 | 2 | 12 | 0 | 0 | 60 | 15 | 4 | 0 | 0 | 21 | 4 | 268 | 1,274 | 0 | 0 | 0 | 0 |
| 6:15 AM | 0 | 5 | 24 | 146 | 0 | 2 | 22 | 0 | 0 | 85 | 13 | 5 | 0 | 0 | 20 | 6 | 328 | 1,354 | 0 | 0 | 0 | 0 |
| 6:30 AM | 0 | 5 | 43 | 135 | 0 | 2 | 23 | 0 | 0 | 95 | 19 | 4 | 0 | 0 | 27 | 4 | 357 | 1,364 | 0 | 0 | 0 | 0 |
| 6:45 AM | 0 | 9 | 39 | 123 | 0 | 3 | 22 | 0 | 0 | 87 | 17 | 4 | 0 | 0 | 14 | 3 | 321 | 1,416 | 0 | 0 | 0 | 0 |
| 7:00 AM | 0 | 10 | 29 | 116 | 0 | 6 | 34 | 0 | 0 | 89 | 17 | 9 | 0 | 0 | 25 | 13 | 348 | 1,453 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 4 | 18 | 133 | 0 | 10 | 25 | 0 | 0 | 89 | 14 | 4 | 0 | 0 | 28 | 13 | 338 | 1,439 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 3 | 23 | 147 | 0 | 8 | 55 | 0 | 0 | 125 | 9 | 9 | 0 | 0 | 20 | 10 | 409 | 1,410 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 2 | 19 | 125 | 0 | 6 | 33 | 0 | 0 | 123 | 13 | 9 | 0 | 0 | 21 | 7 | 358 | 1,300 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 5 | 17 | 126 | 0 | 5 | 31 | 0 | 0 | 113 | 12 | 5 | 0 | 0 | 13 | 7 | 334 | 1,199 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 6 | 31 | 119 | 0 | 6 | 24 | 0 | 0 | 89 | 9 | 5 | 0 | 0 | 13 | 7 | 309 | 1,094 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 0 | 3 | 22 | 102 | 0 | 3 | 19 | 0 | 0 | 104 | 12 | 6 | 0 | 0 | 22 | 6 | 299 | 1,036 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 2 | 19 | 96 | 0 | 4 | 19 | 0 | 0 | 89 | 10 | 4 | 0 | 0 | 10 | 4 | 257 | 929 | 0 | 0 | 0 | 0 |
| 9:00 AM | 0 | 3 | 17 | 58 | 0 | 8 | 12 | 0 | 0 | 95 | 13 | 6 | 0 | 0 | 11 | 6 | 229 | 917 | 0 | 0 | 0 | 0 |
| 9:15 AM | 0 | 4 | 15 | 91 | 0 | 5 | 11 | 0 | 0 | 93 | 10 | 7 | 0 | 0 | 10 | 5 | 251 | 870 | 0 | 0 | 0 | 0 |
| 9:30 AM | 0 | 4 | 12 | 42 | 0 | 4 | 19 | 0 | 0 | 84 | 15 | 0 | 0 | 0 | 7 | 5 | 192 | 823 | 0 | 0 | 0 | 0 |
| 9:45 AM | 0 | 4 | 22 | 82 | 0 | 6 | 7 | 1 | 0 | 95 | 8 | 3 | 0 | 0 | 9 | 8 | 245 | 844 | 0 | 0 | 0 | 0 |
| 10:00 AM | 0 | 1 | 11 | 73 | 0 | 2 | 10 | 0 | 0 | 60 | 15 | 3 | 0 | 0 | 5 | 2 | 182 | 807 | 0 | 0 | 0 | 0 |
| 10:15 AM | 0 | 3 | 11 | 77 | 0 | 3 | 13 | 0 | 0 | 79 | 7 | 2 | 0 | 0 | 5 | 4 | 204 | 832 | 0 | 0 | 0 | 0 |
| 10:30 AM | 0 | 0 | 8 | 77 | 0 | 1 | 9 | 0 | 0 | 92 | 9 | 4 | 0 | 0 | 10 | 3 | 213 | 839 | 0 | 0 | 0 | 0 |
| 10:45 AM | 0 | 8 | 16 | 69 | 0 | 1 | 11 | 0 | 0 | 79 | 7 | 5 | 0 | 0 | 8 | 4 | 208 | 850 | 0 | 0 | 0 | 0 |
| 11:00 AM | 0 | 4 | 13 | 66 | 0 | 3 | 20 | 0 | 0 | 79 | 7 | 5 | 0 | 0 | 8 | 2 | 207 | 920 | 0 | 0 | 0 | 0 |
| 11:15 AM | 0 | 2 | 10 | 72 | 0 | 6 | 16 | 1 | 0 | 83 | 6 | 5 | 0 | 0 | 5 | 5 | 211 | 961 | 0 | 0 | 0 | 0 |
| 11:30 AM | 1 | 0 | 15 | 54 | 0 | 7 | 21 | 0 | 0 | 90 | 16 | 4 | 0 | 0 | 10 | 6 | 224 | 1,014 | 0 | 0 | 0 | 0 |
| 11:45 AM | 0 | 11 | 12 | 96 | 0 | 4 | 16 | 0 | 0 | 108 | 10 | 5 | 0 | 0 | 9 | 7 | 278 | 1,044 | 0 | 0 | 0 | 0 |
| 12:00 PM | 1 | 6 | 19 | 78 | 0 | 2 | 22 | 0 | 0 | 94 | 7 | 3 | 0 | 0 | 10 | 6 | 248 | 1,025 | 0 | 0 | 0 | 0 |
| 12:15 PM | 0 | 5 | 13 | 91 | 0 | 3 | 21 | 0 | 0 | 104 | 11 | 6 | 0 | 0 | 7 | 3 | 264 | 1,018 | 0 | 0 | 0 | 0 |
| 12:30 PM | 0 | 6 | 21 | 84 | 0 | 4 | 10 | 0 | 0 | 88 | 11 | 11 | 0 | 1 | 10 | 8 | 254 | 1,014 | 0 | 0 | 0 | 0 |
| 12:45 PM | 0 | 5 | 23 | 68 | 0 | 8 | 17 | 0 | 0 | 98 | 17 | 8 | 0 | 1 | 9 | 5 | 259 | 1,009 | 0 | 0 | 0 | 0 |
| 1:00 PM | 0 | 2 | 24 | 81 | 0 | 5 | 19 | 0 | 0 | 77 | 8 | 6 | 0 | 0 | 12 | 7 | 241 | 1,034 | 0 | 0 | 0 | 0 |
| 1:15 PM | 0 | 5 | 23 | 70 | 0 | 6 | 21 | 1 | 0 | 103 | 10 | 6 | 0 | 0 | 10 | 5 | 260 | 1,071 | 0 | 0 | 0 | 0 |
| 1:30 PM | 0 | 2 | 20 | 89 | 0 | 5 | 19 | 0 | 0 | 78 | 9 | 7 | 0 | 0 | 15 | 5 | 249 | 1,123 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 5 | 25 | 72 | 0 | 1 | 21 | 0 | 0 | 122 | 15 | 8 | 0 | 0 | 13 | 2 | 284 | 1,169 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 1 | 16 | 87 | 0 | 7 | 19 | 1 | 0 | 112 | 14 | 9 | 0 | 0 | 6 | 6 | 278 | 1,247 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 2 | 16 | 101 | 0 | 7 | 17 | 0 | 0 | 130 | 16 | 3 | 0 | 0 | 14 | 6 | 312 | 1,303 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 5 | 14 | 85 | 0 | 7 | 32 | 0 | 0 | 119 | 17 | 5 | 0 | 0 | 9 | 2 | 295 | 1,343 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 2 | 20 | 106 | 0 | 5 | 29 | 0 | 0 | 147 | 27 | 7 | 0 | 0 | 16 | 3 | 362 | 1,440 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 5 | 19 | 101 | 0 | 6 | 21 | 0 | 0 | 136 | 17 | 8 | 0 | 0 | 15 | 6 | 334 | 1,408 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 4 | 22 | 90 | 0 | 3 | 23 | 0 | 0 | 145 | 27 | 14 | 0 | 0 | 16 | 8 | 352 | 1,457 | 0 | 0 | 0 | 0 |
| 3:30 PM | 0 | 4 | 20 | 111 | 0 | 5 | 32 | 2 | 0 | 164 | 23 | 10 | 0 | 0 | 18 | 3 | 392 | 1,496 | 0 | 0 | 0 | 0 |
| 3:45 PM | 0 | 2 | 18 | 88 | 0 | 6 | 35 | 0 | 0 | 142 | 22 | 7 | 0 | 0 | 8 | 2 | 330 | 1,524 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 4 | 23 | 107 | 0 | 8 | 27 | 0 | 0 | 149 | 33 | 10 | 0 | 0 | 15 | 7 | 383 | 1,574 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 6 | 30 | 109 | 0 | 4 | 39 | 0 | 0 | 139 | 35 | 10 | 0 | 0 | 14 | 5 | 391 | 1,582 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 6 | 27 | 104 | 0 | 11 | 50 | 0 | 0 | 155 | 37 | 13 | 0 | 0 | 14 | 3 | 420 | 1,626 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 3 | 25 | 96 | 0 | 1 | 42 | 1 | 0 | 132 | 34 | 7 | 0 | 0 | 28 | 11 | 380 | 1,583 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 4 | 27 | 102 | 0 | 9 | 39 | 0 | 0 | 136 | 36 | 10 | 0 | 0 | 17 | 11 | 391 | 1,584 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 8 | 32 | 118 | 0 | 9 | 23 | 3 | 0 | 156 | 33 | 9 | 0 | 0 | 22 | 22 | 435 | 1,549 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 7 | 27 | 108 | 0 | 6 | 29 | 0 | 0 | 140 | 29 | 4 | 0 | 0 | 20 | 7 | 377 | 1,448 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 3 | 27 | 107 | 0 | 4 | 25 | 0 | 0 | 157 | 27 | 9 | 0 | 0 | 17 | 5 | 381 | 1,337 | 0 | 0 | 0 | 0 |
| 6:00 PM | 0 | 3 | 16 | 101 | 0 | 9 | 21 | 0 | 0 | 171 | 20 | 5 | 0 | 0 | 9 | 1 | 356 | 1,256 | 0 | 0 | 0 | 0 |
| 6:15 PM | 0 | 3 | 22 | 117 | 0 | 5 | 20 | 1 | 0 | 127 | 21 | 3 | 0 | 0 | 14 | 1 | 334 | 1,161 | 0 | 0 | 0 | 0 |
| 6:30 PM | 0 | 2 | 19 | 84 | 0 | 4 | 13 | 0 | 0 | 102 | 20 | 7 | 0 | 0 | 12 | 3 | 266 | 1,046 | 0 | 0 | 0 | 0 |
| 6:45 PM | 0 | 7 | 12 | 85 | 0 | 2 | 24 | 0 | 0 | 132 | 15 | 8 | 0 | 0 | 10 | 5 | 300 | 971 | 0 | 0 | 0 | 0 |
| 7:00 PM | 0 | 5 | 17 | 88 | 0 | 5 | 9 | 0 | 0 | 100 | 12 | 8 | 0 | 0 | 12 | 5 | 261 | 880 | 0 | 0 | 0 | 0 |
| 7:15 PM | 0 | 0 | 19 | 74 | 0 | 4 | 19 | 1 | 0 | 76 | 13 | 5 | 0 | 0 | 5 | 3 | 219 | 787 | 0 | 0 | 0 | 0 |
| 7:30 PM | 0 | 3 | 15 | 66 | 0 | 4 | 8 | 0 | 0 | 63 | 19 | 1 | 0 | 0 | 9 | 3 | 191 | 742 | 0 | 0 | 0 | 0 |
| 7:45 PM | 0 | 6 | 22 | 67 | 0 | 2 | 7 | 0 | 0 | 81 | 9 | 6 | 0 | 0 | 8 | 1 | 209 | 686 | 0 | 0 | 0 | 0 |
| 8:00 PM | 0 | 4 | 7 | 44 | 0 | 2 | 10 | 0 | 0 | 81 | 8 | 4 | 0 | 0 | 5 | 3 | 168 | 624 | 0 | 0 | 0 | 0 |
| 8:15 PM | 0 | 4 | 11 | 52 | 0 | 3 | 6 | 0 | 0 | 72 | 11 | 3 | 0 | 0 | 11 | 1 | 174 | 558 | 0 | 0 | 0 | 0 |
| 8:30 PM | 0 | 0 | 22 | 44 | 0 | 2 | 8 | 0 | 0 | 44 | 8 | 1 | 0 | 0 | 5 | 1 | 135 | 485 | 0 | 0 | 0 | 0 |
| 8:45 PM | 0 | 1 | 8 | 56 | 0 | 3 | 7 | 0 | 0 | 59 | 9 | 3 | 0 | 0 | 1 | 0 | 147 | 459 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 14 | 25 | 0 | 2 | 3 | 0 | 0 | 42 | 7 | 3 | 0 | 0 | 6 | 0 | 102 | 409 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 2 | 6 | 22 | 0 | 3 | 4 | 0 | 0 | 56 | 4 | 2 | 0 | 0 | 1 | 1 | 101 | 383 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 1 | 9 | 33 | 0 | 3 | 5 | 1 | 0 | 49 | 3 | 3 | 0 | 0 | 2 | 0 | 109 | 368 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 1 | 7 | 38 | 0 | 1 | 2 | 0 | 0 | 39 | 3 | 3 | 0 | 0 | 3 | 0 | 97 | 359 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 1 | 7 | 22 | 0 | 1 | 7 | 0 | 0 | 35 | 1 | 1 | 0 | 0 | 1 | 0 | 76 | 351 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 1 | 35 | 0 | 0 | 0 | 0 | 0 | 42 | 5 | 0 | 0 | 0 | 2 | 1 | 86 | 337 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 7 | 35 | 0 | 5 | 18 | 0 | 0 | 31 | 1 | 0 | 0 | 0 | 3 | 0 | 100 | 334 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 1 | 4 | 20 | 0 | 2 | 12 | 0 | 0 | 47 | 1 | 0 | 0 | 0 | 2 | 0 | 89 | 305 | 0 | 0 | 0 | 0 |
| 11:00 PM | 1 | 0 | 3 | 16 | 0 | 2 | 2 | 0 | 0 | 35 | 1 | 0 | 0 | 0 | 2 | 0 | 62 | 267 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 2 | 21 | 0 | 1 | 2 | 0 | 0 | 45 | 5 | 1 | 0 | 0 | 6 | 0 | 83 | | 0 | 0 | 0 | 0 |
| 11:30 PM | 0 | 1 | 3 | 17 | 0 | 1 | 3 | 0 | 0 | 39 | 4 | 1 | 0 | 0 | 2 | 0 | 71 | | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:45 PM | 0 | 0 | 1 | 12 | 0 | 0 | 4 | 0 | 0 | 30 | 1 | 1 | 0 | 0 | 2 | 0 | 51 | 0 | 0 | 0 | 0 |
| Count Total | 3 | 253 | 1,474 | 6,675 | 0 | 325 | 1,424 | 15 | 0 | 7,243 | 1,073 | 394 | 0 | 3 | 898 | 328 | 20,108 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 21 | 111 | 420 | 0 | 30 | 154 | 4 | 0 | 579 | 140 | 39 | 0 | 0 | 81 | 47 | 1,626 | 0 | 0 | 0 | 0 |

# ATTACHMENT B: LEVEL OF SERVICE ANALYSIS AND SIGNAL TIMING

# SEPAC ECOM All Data

2/27/2026
5:24:29PM

Intersection Name: **120th & Tower** Intersection Alias: **120Tower**

## Access Data

1 :**1200 Baud**
3 :**1200 Baud**

Access Code: [redacted] Channel: Address: **1**

Revision: **3.58d** IP Address: [redacted]

## Phase Initialization Data

| Phase | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial | 0-None | 1-Inact | 0-None | 1-Inact | 1-Inact | 1-Inact | 0-None | 1-Inact | 0-None | 0-None | 0-None | 0-None | 0-None | 0-None | 0-None | 0-None |

## PHASE DATA

Vehical Basic Timings | Misc Timings | Pedestrian Timings

| Phase | Min Grn | Passage | Max1 | Max2 | Yellow | All Red | Dyn Max Limit | Dyn Max Step | Green Delay | Yellow Delay | Walk Offset Time | Walk Offset Mode | Bike Green | Bike Psg | Walk | Ped Clr | Alt Walk | Alt Ped Clr | Flash Walk | Ext Ped Clr | Act. Rest in Walk |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Phase Data Bank: 1** | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 2.0 | 30 | 30 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 3 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 10 | 2.0 | 30 | 30 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 5 | 8 | 3.0 | 25 | 20 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 2.0 | 35 | 35 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 7 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 10 | 2.0 | 30 | 30 | 4.0 | 2.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| **Phase Data Bank: 2** | | | | | | | | | | | | | | | | | | | | | |
| 1 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 3 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 5 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 7 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

**Phase Data Bank: 3**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 3 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 5 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 7 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

**Phase Data Bank: 4**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 2 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 3 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 4 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 5 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 6 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 7 | 10 | 4.0 | 25 | 30 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 8 | 15 | 5.0 | 35 | 50 | 4.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 7 | 8 | 0 | 0 | No | 0 | No |
| 9 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 10 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 11 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 12 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 13 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 14 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 15 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |
| 16 | 0 | 0.0 | 0 | 0 | 3.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0-Advance | 0.0 | 0.0 | 0 | 0 | 0 | 0 | No | 0 | No |

| Vehicle Density Timings | | | | | | | General Control | | | | | Miscellaneous | | | | | Special Sequence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ph. | Added Initial | Max Initial | Time B4 Redu | Car B4 Redu | Time To Redu | Min Gap | Non-Act Response | Veh Recall | Veh Recall Delay | Ped Recall | Ped Recall Delay | Non Lock | Dual Entry | Last Car Pass | Condit Service | No Simu Gap Out | Omit | Minus Yel | Omit Call |
| **Phase Data Bank: 1** | | | | | | | | | | | | | | | | | | | |
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | Min | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | Yes | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | Yes | Yes | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| | | | | | | | Vol/Occ period: 0 | | | | | | | | | | | | |
| **Phase Data Bank: 2** | | | | | | | | | | | | | | | | | | | |
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| | | | | | | | Vol/Occ period: 0 | | | | | | | | | | | | |
| **Phase Data Bank: 3** | | | | | | | | | | | | | | | | | | | |
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |

Vol/Occ period: 0

**Phase Data Bank: 4**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 3 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 6 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActI | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 7 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 8 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | NonActII | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 9 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 10 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 11 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 12 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 13 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 14 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 15 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |
| 16 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | None | None | 0 | None | 0 | No | No | No | No | No | 0 | 0 | 0 |

Vol/Occ period: 0

**Vehicle Detector Values**

## Phase Data Bank: 1

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 2 | 2 | - | 0 | 5.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 5 | - | 0 | 5.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 11 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 19 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

## Phase Data Bank: 2

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 9 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 19 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

**Phase Data Bank: 3**

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 9 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 11 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 19 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

**Phase Data Bank: 4**

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 3 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 4 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 5 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 6 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 7 | 2 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 9 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 11 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 12 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 13 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 14 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 15 | 4 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 17 | 1 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 18 | 3 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 21 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 22 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 23 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 24 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 25 | 6 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 29 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 31 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 33 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 34 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 35 | 8 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 37 | 5 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |
| 38 | 7 | - | 0 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | Y | N | Y | Y |

**Ped Detector Values**

## Phase Data Bank: 1

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

## Phase Data Bank: 2

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

## Phase Data Bank: 3

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

## Phase Data Bank: 4

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 4 | 4 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 6 | 6 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |
| 8 | 8 | - | 1 | 0.0 | 0.0 | 0 | 255 | 0 | N | N | N | N | N | Y |

**Special Detector Values**

## Phase Data Bank:

| Det | Assigned Phase | Switch Phase | Op Mode | Extend | Delay | Queue Limit | Failed Time | Lock | Volume Log | Occupy Log | Passage | Queue | Added Initial | Call |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Unit Data

## General Control

**Startup Time:** 1 sec
**Startup State:** Flash
**Red Revert:** 4.0 sec
**Auto Ped Clr:** No
**Stop T Reset:** No
**Alt Sequence:** 0
**Special Seq:** 1-Int'l Seq

| Ring | Input Respons | Output Selection |
|---|---|---|
| 1 | Ring 1 | Ring 1 |
| 2 | Ring 2 | Ring 2 |
| 3 | None | None |
| 4 | None | None |

**I/O Modes:**

**ABC Input(Entry) Modes:** 0
**D Input(Entry) Modes:** 0
**ABC Output(O/STS) Modes:** 0
**D Output(O/STS) Modes:** 0

## Remote Flash

Test A = Flash No

| Phase | Entry | Exit |
|---|---|---|
| 2 | Yes | Yes |
| 6 | Yes | Yes |

**Default Data - No Flash**

## Not Assigned Overlaps

A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P

## Standard Overlaps

| Overlap | Trail Green (sec) | Yellow (sec) | Red (sec) | Tr. Grn Pt. (sec) | Parent Phases | Plus Green Phases | Minus G/Y Phases | Minus PED Phases |
|---|---|---|---|---|---|---|---|---|

## FYA Overlaps

| Overlap | Delay (sec) | Permissive Phases | Protected Phases | Minus PED Phases | Permissive Overlaps | Protected Overlaps |
|---|---|---|---|---|---|---|

## Pedestrian Overlaps

| Overlap | Ped Walk 1 (sec) | Ped Clr 1 (sec) | Ped Walk 2 (sec) | Ped Clr 2 (sec) | Parent Phases (sec) |
|---|---|---|---|---|---|

## Priority Overlaps

| Overlap | Transit Yellow (sec) | Transit Red (sec) |
|---|---|---|

## Ring

| Phase | Ring | Next Phase |
|---|---|---|
| 2 | 1 | 3 |
| 4 | 1 | 1 |
| 5 | 2 | 6 |
| 6 | 2 | 7 |
| 8 | 2 | 5 |

Phase(s)

| Concurrent Phases | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 1 | 3 | 3 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | 5 | 5 | 7 | 7 | 2 | 2 | 4 | 4 | | | | | | | | |
| | 6 | 6 | 8 | 8 | 5 | 6 | 7 | 8 | | | | | | | | |

Alternate Sequences

No Alternate Sequences Programmed

## Port 1 Data

| BIU Addr | Port Status | Basic Det | Message 40 |
|---|---|---|---|

Default Data

| Load Switch | Red Type | Red Arg | Yellow Type | Yellow Arg | Green Type | Green Arg |
|---|---|---|---|---|---|---|
| 1 | 1 - Phase Vehicle 1 | Red | 1 - Phase Vehicle 1 | Yellow | 1 - Phase Vehicle 1 | Green |
| 2 | 2 - Phase Vehicle 2 | Red | 2 - Phase Vehicle 2 | Yellow | 2 - Phase Vehicle 2 | Green |
| 3 | 18 - Phase Pedestrian 2 | Don't Walk | 18 - Phase Pedestrian 2 | Ped Clear | 18 - Phase Pedestrian 2 | Walk |
| 4 | 3 - Phase Vehicle 3 | Red | 3 - Phase Vehicle 3 | Yellow | 3 - Phase Vehicle 3 | Green |
| 5 | 4 - Phase Vehicle 4 | Red | 4 - Phase Vehicle 4 | Yellow | 4 - Phase Vehicle 4 | Green |
| 6 | 20 - Phase Pedestrian 4 | Don't Walk | 20 - Phase Pedestrian 4 | Ped Clear | 20 - Phase Pedestrian 4 | Walk |
| 7 | 5 - Phase Vehicle 5 | Red | 5 - Phase Vehicle 5 | Yellow | 5 - Phase Vehicle 5 | Green |
| 8 | 6 - Phase Vehicle 6 | Red | 6 - Phase Vehicle 6 | Yellow | 6 - Phase Vehicle 6 | Green |
| 9 | 22 - Phase Pedestrian 6 | Don't Walk | 22 - Phase Pedestrian 6 | Ped Clear | 22 - Phase Pedestrian 6 | Walk |
| 10 | 7 - Phase Vehicle 7 | Red | 7 - Phase Vehicle 7 | Yellow | 7 - Phase Vehicle 7 | Green |
| 11 | 8 - Phase Vehicle 8 | Red | 8 - Phase Vehicle 8 | Yellow | 8 - Phase Vehicle 8 | Green |
| 12 | 24 - Phase Pedestrian 8 | Don't Walk | 24 - Phase Pedestrian 8 | Ped Clear | 24 - Phase Pedestrian 8 | Walk |
| 13 | 33 - Overlap A | Red | 33 - Overlap A | Yellow | 33 - Overlap A | Green |
| 14 | 34 - Overlap B | Red | 34 - Overlap B | Yellow | 34 - Overlap B | Green |
| 15 | 17 - Phase Pedestrian 1 | Don't Walk | 17 - Phase Pedestrian 1 | Ped Clear | 17 - Phase Pedestrian 1 | Walk |
| 16 | 35 - Overlap C | Red | 35 - Overlap C | Yellow | 35 - Overlap C | Green |
| 17 | 36 - Overlap D | Red | 36 - Overlap D | Yellow | 36 - Overlap D | Green |
| 18 | 19 - Phase Pedestrian 3 | Don't Walk | 19 - Phase Pedestrian 3 | Ped Clear | 19 - Phase Pedestrian 3 | Walk |
| 19 | 0 - None | None | 0 - None | None | 0 - None | None |
| 20 | 0 - None | None | 0 - None | None | 0 - None | None |
| 21 | 0 - None | None | 0 - None | None | 0 - None | None |
| 22 | 0 - None | None | 0 - None | None | 0 - None | None |
| 23 | 0 - None | None | 0 - None | None | 0 - None | None |
| 24 | 0 - None | None | 0 - None | None | 0 - None | None |
| 25 | 0 - None | None | 0 - None | None | 0 - None | None |
| 26 | 0 - None | None | 0 - None | None | 0 - None | None |
| 27 | 0 - None | None | 0 - None | None | 0 - None | None |
| 28 | 0 - None | None | 0 - None | None | 0 - None | None |
| 29 | 0 - None | None | 0 - None | None | 0 - None | None |
| 30 | 0 - None | None | 0 - None | None | 0 - None | None |
| 31 | 0 - None | None | 0 - None | None | 0 - None | None |
| 32 | 0 - None | None | 0 - None | None | 0 - None | None |

**P2P Sources**

**Unit Bank:**

| ID | Peer IP | Timeout | PeerName |
|---|---|---|---|

**Peer Functions**

**Unit Bank:**

| ID | Peer ID | Source Functio | Source Index | Input Function | Input Index | Fail State |
|---|---|---|---|---|---|---|

## Coordination Data

**Dial/Split** **Cycle**

/

**General Coordination Dat**

**Operation Mode:** 0=Free **Offset Mode:** 0=Beg Grn **Manual Dial:** 1

**Coordination Mode:** 0=Permissive **Force Mode:** 0=Plan **Manual Split:** 1

**Maximun Mode:** 2=Max 2 **Max Dwell Time:** 0 **Manual Offset:** 1

**Correction Mode:** 0=Dwell **Yield Period:** 0

## Split Times and Phase Modes

**Dial / Split**

| Ph. | Splits | Ph. Mode | Ph. | Splits | Ph. Mode | Ph. | Splits | Ph. Mode | Ph. | Splits | Ph. Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Traffic Plan Data

Plan: //

Offset Time:

Alternat Sequence:

Rg 2 Lag Time:

Rg 3 Lag Time:

Rg 4 Lag Time:

Mode:

Special Function:

Correction Mode:

## Local TBC Data

Start of Daylight Saving Month: 0 Week: 0 Cycle Zero Reference Hours: 0 Min: 0

End of Daylight Saving Month: 0 Week: 0

Source Day: Equate Days 1 2 3 4 5 6 7

## Traffic Data

PHASE FUNCTION

| Event | Day | Time | D/S/O | flash | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | : | // | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

## AUX. Events

| Event | Program Day | Hour | Min. | Aux 1 | Ouputs 2 | 3 | Det. Diag. D1 | Det. Rpt. D2 | Det. Mult100 D3 | Dimming | Special Function Outputs 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Default Data - No Special Day(s) or Week(s) Programmed

## Special Functions

| Function | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 | SF10 | SF11 | SF12 | SF13 | SF14 | SF15 | SF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Special Function 1 | X | | | | | | | | | | | | | | | |
| Special Function 2 | | X | | | | | | | | | | | | | | |
| Special Function 3 | | | X | | | | | | | | | | | | | |
| Special Function 4 | | | | X | | | | | | | | | | | | |
| Special Function 5 | | | | | X | | | | | | | | | | | |
| Special Function 6 | | | | | | X | | | | | | | | | | |
| Special Function 7 | | | | | | | X | | | | | | | | | |
| Special Function 8 | | | | | | | | X | | | | | | | | |

## Phase Function

| | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase 1 Max2 | X | | | | | | | | | | | | | | | |
| Phase 2 Max2 | | X | | | | | | | | | | | | | | |
| Phase 3 Max2 | | | X | | | | | | | | | | | | | |
| Phase 4 Max2 | | | | X | | | | | | | | | | | | |
| Phase 5 Max2 | | | | | X | | | | | | | | | | | |
| Phase 6 Max2 | | | | | | X | | | | | | | | | | |
| Phase 7 Max2 | | | | | | | X | | | | | | | | | |
| Phase 8 Max2 | | | | | | | | X | | | | | | | | |

## Phase Omit

| | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase 1 Phase Omit | | | | | | | | | X | | | | | | | |
| Phase 2 Phase Omit | | | | | | | | | | X | | | | | | |
| Phase 3 Phase Omit | | | | | | | | | | | X | | | | | |
| Phase 4 Phase Omit | | | | | | | | | | | | X | | | | |
| Phase 5 Phase Omit | | | | | | | | | | | | | X | | | |
| Phase 6 Phase Omit | | | | | | | | | | | | | | X | | |
| Phase 7 Phase Omit | | | | | | | | | | | | | | | X | |
| Phase 8 Phase Omit | | | | | | | | | | | | | | | | X |

## Ped Omit

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Coord ReSvc

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Function Phase Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Phase Min Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Ped Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Bike Recall

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Vehicle Function

## Veh Det Switch Omit

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Veh Det Switch Now

| PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| Veh Det Switch Also | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| Overlap Function | PF1 | PF2 | PF3 | PF4 | PF5 | PF6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF12 | PF13 | PF14 | PF15 | PF16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**Dimming Data**

**Default Data - No Dimming Programmed**

**Lane Defination**

| Lanes | Name | Green Inbound | Yellow Inbound | Red Inbound | Green Outbound | Yellow Outbound |
|---|---|---|---|---|---|---|

**Default Data - Lane Defination**

program_day program_hour program_minute LanePhFun

## Preemption Data

| Preempt | NLock | Link to Pmpt | Preempt Timers Del | Ext | Dur | Max Call | De Lock-Out | Boun ce | Gate Ext | Min G \| W | Select Ped Clear | Yel | Red | Track Grn | Ped | Yel | Red | Dwell Green | Return Ped Clear | Yel | Red | Sel Ret Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 2 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 3 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 4 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 5 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 6 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 7 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 8 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 9 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 10 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 11 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |
| 12 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 10 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | 10 | 8 | 4.0 | 2.0 | F Aut |

## Preempt Timers

| Preempt | Override Flash | Override Next | Ret To Coord | Override priority | Preempt Detector | Extended Ped Clear |
|---|---|---|---|---|---|---|
| 1 | Yes | Yes | No | Yes | Prmpt Det-1 | 0-Use Phase |
| 2 | Yes | Yes | No | Yes | Prmpt Det-2 | 0-Use Phase |
| 3 | Yes | Yes | No | No | Prmpt Det-3 | 0-Use Phase |
| 4 | Yes | Yes | No | No | Prmpt Det-4 | 0-Use Phase |
| 5 | Yes | Yes | No | No | Prmpt Det-5 | 0-Use Phase |
| 6 | Yes | Yes | No | No | Prmpt Det-6 | 0-Use Phase |
| 7 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 8 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 9 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 10 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 11 | Yes | Yes | No | No | 0 | 0-Use Phase |
| 12 | Yes | N/A | No | No | 0 | 0-Use Phase |

**Preempt 1**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 2**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 3**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 4**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 5**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 6**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 7**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 8**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 9**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 10**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 11**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

**Preempt 12**

| Phase | Exit Phase | Exit Calls |
|---|---|---|

## Priority Timers

| Priority | Non-Locking | Delay | Extend | Free Dial | Free Split | Min Green | No Lock out | Lock out A | Lock out B | Max Green | Pre-Green | Recall | Excl-co Phase Svc. | Transit Overlap | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Signal Type | Blankout |
| 1 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 2 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 3 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 4 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 5 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |
| 6 | No | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0-None | No | 0-None,0-No Output | 0-None,0-No Output |

## Priority Detector Channels

**Priority 1**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 2**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 3**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 4**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 5**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 6**

| Detector | 1A | 2A | 3A | 4A | 5A | 6A | B | C | X |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Priority Fixed Phases

**Priority 1**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 2**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 3**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 4**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 5**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 6**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Co-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **QJ-Phase** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Legend: 0 1
CO-PHASE FALSE TRUE
QJ-PHASE

## Priority Bank

**Priority** 1

**Priority Bank** : 1 Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank** : 2 Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank** : 3 Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 2**

**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority 3**

**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority** 4
**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority** 5
**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority** 6
**Priority Bank : 1** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 2** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 3** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Priority Bank : 4** Level 0

| Partial Priority | | Full Priority | | Recovery | |
|---|---|---|---|---|---|
| Alt Seq | 0 | Freq. Override | False | Method | 0-Normal |
| Alt Seq Enabled | False | Ped skip | 0 | Return | 0-Cycle |
| Min Walk | 0 | Force full Priority | False | PedWait | 0 |
| | | Frequency | 0 | PedOverride | 0 |
| | | Freq. Level | 1-Partial | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exit Call** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ped Omit** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Recovery** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Codes: 0 FALSE X TRUE

**Priority : 1**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 2**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 3**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 4**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 5**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

**Priority : 6**

**Priority Bank : 1**
Queue Phase Detector Time
**Default data**
**Priority Bank : 2**
Queue Phase Detector Time
**Default data**
**Priority Bank : 3**
Queue Phase Detector Time
**Default data**
**Priority Bank : 4**
Queue Phase Detector Time
**Default data**

| Priority : 1 | | | | | | | | Priority : 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bank 1 | | | | | | | | Bank 1 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 2 | | | | | | | | Bank 2 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 3 | | | | | | | | Bank 3 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 4 | | | | | | | | Bank 4 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |

| Priority : 3 | | | | | | | | Priority : 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bank 1 | | | | | | | | Bank 1 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 2 | | | | | | | | Bank 2 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 3 | | | | | | | | Bank 3 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 4 | | | | | | | | Bank 4 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |

| Priority : 5 | | | | | | | | Priority : 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bank 1 | | | | | | | | Bank 1 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 2 | | | | | | | | Bank 2 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 3 | | | | | | | | Bank 3 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |
| Bank 4 | | | | | | | | Bank 4 | | | | | | | |
| Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B | Detector | PE | 1A | 2A | 3A | 4A | 5A | 6A | B |
| Default Data | | | | | | | | Default Data | | | | | | | |

## Preempt 1

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 2

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 3

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 4

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 5

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 6

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp. | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 7

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 8

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 9

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 10

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 11

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## Preempt 12

**Vehical Phases**

| Ph. | Track | Dwell | Cycle |
|---|---|---|---|
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Pedestrian Phases**

| Ph | Track | Dwell | Cycle |
|---|---|---|---|
| 1 | Dark | Dark | No |
| 3 | Dark | Dark | No |
| 5 | Dark | Dark | No |
| 7 | Dark | Dark | No |
| 9 | Dark | Dark | No |
| 10 | Dark | Dark | No |
| 11 | Dark | Dark | No |
| 12 | Dark | Dark | No |
| 13 | Dark | Dark | No |
| 14 | Dark | Dark | No |
| 15 | Dark | Dark | No |
| 16 | Dark | Dark | No |

**Overlaps**

| Ovlp | Track | Dwell | Cycle | Trail Grn |
|---|---|---|---|---|
| A | Dark | Dark | No | No Trail |
| B | Dark | Dark | No | No Trail |
| C | Dark | Dark | No | No Trail |
| D | Dark | Dark | No | No Trail |
| E | Dark | Dark | No | No Trail |
| F | Dark | Dark | No | No Trail |
| G | Dark | Dark | No | No Trail |
| H | Dark | Dark | No | No Trail |
| I | Dark | Dark | No | No Trail |
| J | Dark | Dark | No | No Trail |
| K | Dark | Dark | No | No Trail |
| L | Dark | Dark | No | No Trail |
| M | Dark | Dark | No | No Trail |
| N | Dark | Dark | No | No Trail |
| O | Dark | Dark | No | No Trail |
| P | Dark | Dark | No | No Trail |

## System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

1st Phone:

2nd Phone:

Local Free: No  Cycle Failure: No  Coord Failure: No  Conflict Flash: No  Remote Flash: No

Local Fash: No  Cycle Fault: No  Coord Fault: No  Premption: No  Voltage Monitor: No

Special Status 1: No  Special Status 2: No  Special Status 3: No  Special Status 4: No  Special Status 5: No  Special Status 6: No

### Traffic Responsive

| System Detector | Detector Channel | Name | Veh/ Hr | Average Time(mins) | Occupancy Correction/10 | Min Volume % | Queue 1 Detectors | Queue 1 System Detectors | Queue 1 Weight Factor | Queue 2 Detectors | Queue 2 System Detectors | Queue 2 Weight Factor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Default Data**

Sample Interval: 0

**Default Data**

**Queue: 1**

Input Selection: 0=Average

Detector Failed Level : 0

**Queue: 2**

Input Selection: 0=Average

Detector Failed Level : 0

**Default Data**

**Queue:**

| Level | Enter | Leave | Dial / Split / Offset |
|---|---|---|---|
| | | | / / |

**Default Data**

**Vehical Detector**

Diagnostic Value 0

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Vehical Detector**

Diagnostic Value 1

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Special Detector**

Diagnostic Value 0

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Default Data - Diag 0 Values**

**Default Data - No Diag 1 Values**

**Default Data - No Diag 0 Valu**

**Pedestrian Detector**

Diagnostic Value 0

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Pedestrian Detector**

Diagnostic Value 1

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Special Detector**

Diagnostic Value 1

| Detector | Max Presence | No Activity | Erratic Count |
|---|---|---|---|

**Default Data - No Diag 0 Values**

**Default Data - No Diag 1 Values**

**Default Data - No Diag 1 Values**

### Speed Trap Data

Speed Trap:

Measurement:

Detector 1  Detector_2  Distance :

Dial/Split/Offset

//

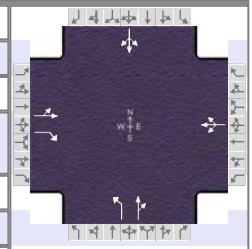
**Default Data**

| Speed Trap Low Treshold | Speed Trap High Treshold |
|---|---|

**Default Data**

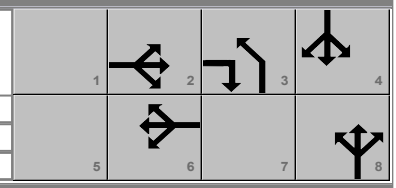
# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Morning Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_EC_AM.xus | | |
| Project Description | Existing Conditions AM Peak | | | | |



| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 19 | 89 | 521 | 30 | 147 | 0 | 426 | 53 | 31 | 0 | 94 | 43 |

| Signal Information | | | | | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 | | | | | | | | | | | | | |
| Offset, s | 0 | Reference Point | End | Green | 30.0 | 25.0 | | 30.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Uncoordinated | Yes | Simult. Gap E/W | On | Yellow | 4.0 | 4.0 | | 4.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Force Mode | Fixed | Simult. Gap N/S | On | Red | 2.0 | 2.0 | | 2.0 | 0.0 | 0.0 | 0.0 | | | | | |



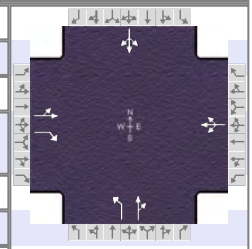

| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.2 | | 3.2 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 25.2 | | 9.7 | 16.2 | 4.1 | | 8.1 |
| Green Extension Time ( $g_e$ ), s | | 1.0 | | 1.7 | 0.6 | 0.4 | | 0.3 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.53 | | 0.00 | 0.02 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 108 | 521 | | 177 | | 426 | 84 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1762 | 1598 | | 1768 | | 1810 | 1754 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 23.2 | | 0.0 | | 14.2 | 2.1 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 4.5 | 23.2 | | 7.7 | | 14.2 | 2.1 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 554 | 853 | | 556 | | 804 | 1039 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.195 | 0.611 | | 0.318 | | 0.530 | 0.081 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 88 | 311 | | 152 | | 223 | 33 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 3.5 | 12.4 | | 5.9 | | 8.9 | 1.3 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.93 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 27.5 | 16.6 | | 28.6 | | 13.9 | 9.0 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.9 | | 0.1 | | 0.3 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 27.5 | 17.5 | | 28.7 | | 14.3 | 9.0 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 19.2 | B | | 28.7 | C | | 13.4 | B | | 28.1 | C | |
| Intersection Delay, s/veh / LOS | 19.2 | | | | | | B | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.53 | B | 0.78 | A | 1.33 | A | 0.71 | A |

# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Evening Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_EC_PM.xus | | |
| Project Description | Existing Conditions PM Peak | | | | |

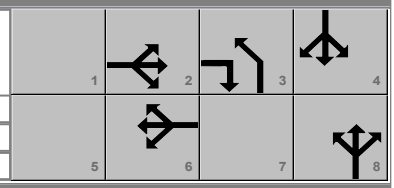


| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 21 | 111 | 420 | 30 | 154 | 4 | 579 | 140 | 39 | 0 | 81 | 47 |

| Signal Information | | | |
|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 |
| Offset, s | 0 | Reference Point | End |
| Uncoordinated | Yes | Simult. Gap E/W | On |
| Force Mode | Fixed | Simult. Gap N/S | On |



| | | | | | | |
|---|---|---|---|---|---|---|
| Green | 30.0 | 25.0 | 30.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 4.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Red | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |



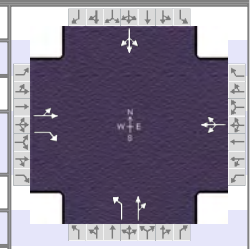

| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.1 | | 3.1 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 19.1 | | 10.3 | 23.6 | 6.6 | | 7.7 |
| Green Extension Time ( $g_e$ ), s | | 1.3 | | 1.4 | 0.2 | 0.5 | | 0.5 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.03 | | 0.00 | 1.00 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 132 | 420 | | 188 | | 579 | 179 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1774 | 1598 | | 1764 | | 1810 | 1800 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 17.1 | | 0.0 | | 21.6 | 4.6 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 5.5 | 17.1 | | 8.3 | | 21.6 | 4.6 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 557 | 853 | | 554 | | 812 | 1066 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.237 | 0.492 | | 0.339 | | 0.713 | 0.168 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 109 | 239 | | 162 | | 329 | 74 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 4.3 | 9.5 | | 6.3 | | 13.2 | 2.9 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 27.8 | 15.2 | | 28.8 | | 15.6 | 9.5 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.2 | | 0.1 | | 2.6 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 27.9 | 15.3 | | 28.9 | | 18.2 | 9.5 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 18.3 | B | | 28.9 | C | | 16.2 | B | | 28.0 | C | |
| Intersection Delay, s/veh / LOS | 19.3 | | | | | | B | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.40 | A | 0.80 | A | 1.74 | B | 0.70 | A |

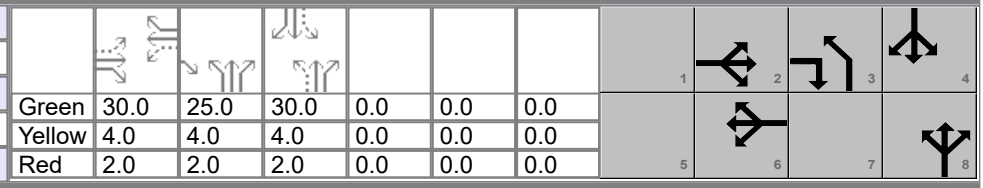
# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Morning Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_PGT_AM.xus | | |
| Project Description | Peak Generated Trips AM Peak | | | | |



| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 19 | 138 | 521 | 30 | 196 | 0 | 426 | 53 | 31 | 0 | 94 | 43 |

| Signal Information | | | |
|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 |
| Offset, s | 0 | Reference Point | End |
| Uncoordinated | Yes | Simult. Gap E/W | On |
| Force Mode | Fixed | Simult. Gap N/S | On |




| | | | | | | |
|---|---|---|---|---|---|---|
| Green | 30.0 | 25.0 | 30.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 4.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Red | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |

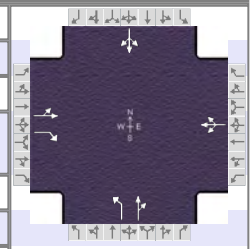
| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.1 | | 3.1 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 25.2 | | 12.1 | 16.2 | 4.1 | | 8.1 |
| Green Extension Time ( $g_e$ ), s | | 1.1 | | 1.8 | 0.6 | 0.4 | | 0.3 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.55 | | 0.00 | 0.02 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 157 | 521 | | 226 | | 426 | 84 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1799 | 1598 | | 1785 | | 1810 | 1754 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 23.2 | | 0.0 | | 14.2 | 2.1 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 6.7 | 23.2 | | 10.1 | | 14.2 | 2.1 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 563 | 853 | | 560 | | 804 | 1039 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.279 | 0.611 | | 0.404 | | 0.530 | 0.081 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 132 | 311 | | 198 | | 223 | 33 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 5.2 | 12.4 | | 7.7 | | 8.9 | 1.3 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.93 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 28.2 | 16.6 | | 29.5 | | 13.9 | 9.0 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.9 | | 0.2 | | 0.3 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 28.3 | 17.5 | | 29.6 | | 14.3 | 9.0 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 20.0 | C | | 29.6 | C | | 13.4 | B | | 28.1 | C | |
| Intersection Delay, s/veh / LOS | 20.0 | | | | | | B | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.61 | B | 0.86 | A | 1.33 | A | 0.71 | A |

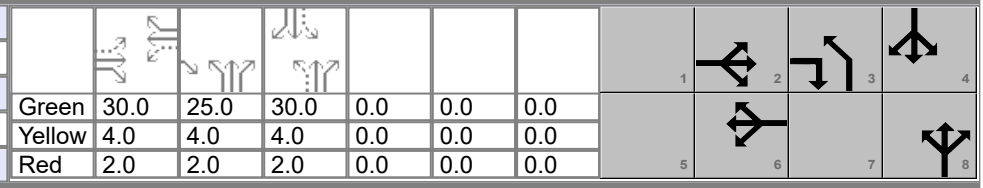
# HCS Signalized Intersection Results Summary

| General Information | | | | Intersection Information | |
|---|---|---|---|---|---|
| Agency | Adams County | | | Duration, h | 1.000 |
| Analyst | EAW | Analysis Date | 3/24/2026 | Area Type | Other |
| Jurisdiction | | Time Period | Evening Peak Hour | PHF | 1.00 |
| Urban Street | 120th | Analysis Year | 2026 | Analysis Period | 1> 7:00 |
| Intersection | 120th at Tower Road | File Name | 120atTower_PGT_PM.xus | | |
| Project Description | Peak Generated Trips PM Peak | | | | |



| Demand Information | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Demand ( *v* ), veh/h | 21 | 160 | 420 | 30 | 203 | 4 | 579 | 140 | 39 | 0 | 81 | 47 |

| Signal Information | | | |
|---|---|---|---|
| Cycle, s | 103.0 | Reference Phase | 6 |
| Offset, s | 0 | Reference Point | End |
| Uncoordinated | Yes | Simult. Gap E/W | On |
| Force Mode | Fixed | Simult. Gap N/S | On |




| | | | | | | |
|---|---|---|---|---|---|---|
| Green | 30.0 | 25.0 | 30.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 4.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Red | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |

| Timer Results | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Assigned Phase | | 2 | | 6 | 3 | 8 | | 4 |
| Case Number | | 7.0 | | 8.0 | 1.0 | 4.0 | | 8.3 |
| Phase Duration, s | | 36.0 | | 36.0 | 31.0 | 67.0 | | 36.0 |
| Change Period, ( $Y+R_c$ ), s | | 6.0 | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Max Allow Headway ( *MAH* ), s | | 3.1 | | 3.1 | 3.0 | 3.0 | | 3.0 |
| Queue Clearance Time ( $g_s$ ), s | | 19.1 | | 12.7 | 23.6 | 6.6 | | 7.7 |
| Green Extension Time ( $g_e$ ), s | | 1.4 | | 1.6 | 0.2 | 0.5 | | 0.5 |
| Phase Call Probability | | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Max Out Probability | | 0.04 | | 0.00 | 1.00 | 0.00 | | 0.00 |

| Movement Group Results | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach Movement | L | T | R | L | T | R | L | T | R | L | T | R |
| Assigned Movement | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Adjusted Flow Rate ( *v* ), veh/h | | 181 | 420 | | 237 | | 579 | 179 | | | 0 | |
| Adjusted Saturation Flow Rate ( *s* ), veh/h/ln | | 1802 | 1598 | | 1780 | | 1810 | 1800 | | | 0 | |
| Queue Service Time ( $g_s$ ), s | | 0.0 | 17.1 | | 0.0 | | 21.6 | 4.6 | | | 0.0 | |
| Cycle Queue Clearance Time ( $g_c$ ), s | | 7.8 | 17.1 | | 10.7 | | 21.6 | 4.6 | | | 0.0 | |
| Green Ratio ( *g/C* ) | | 0.29 | 0.53 | | 0.29 | | 0.55 | 0.59 | | | | |
| Capacity ( *c* ), veh/h | | 564 | 853 | | 558 | | 812 | 1066 | | | | |
| Volume-to-Capacity Ratio ( *X* ) | | 0.321 | 0.492 | | 0.425 | | 0.713 | 0.168 | | | 0.000 | |
| Back of Queue ( *Q* ), ft/ln ( 95 th percentile) | | 154 | 239 | | 207 | | 329 | 74 | | | 0 | |
| Back of Queue ( *Q* ), veh/ln ( 95 th percentile) | | 6.1 | 9.5 | | 8.1 | | 13.2 | 2.9 | | | 0.0 | |
| Queue Storage Ratio ( *RQ* ) ( 95 th percentile) | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | | | 0.00 | |
| Uniform Delay ( $d_1$ ), s/veh | | 28.6 | 15.2 | | 29.7 | | 15.6 | 9.5 | | | | |
| Incremental Delay ( $d_2$ ), s/veh | | 0.1 | 0.2 | | 0.2 | | 2.6 | 0.0 | | | 0.0 | |
| Initial Queue Delay ( $d_3$ ), s/veh | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Control Delay ( *d* ), s/veh | | 28.8 | 15.3 | | 29.9 | | 18.2 | 9.5 | | | | |
| Level of Service (LOS) | | C | B | | C | | B | A | | | | |
| Approach Delay, s/veh / LOS | 19.4 | B | | 29.9 | C | | 16.2 | B | | 28.0 | C | |
| Intersection Delay, s/veh / LOS | 20.1 | | | | | | C | | | | | |

| Multimodal Results | EB | | WB | | NB | | SB | |
|---|---|---|---|---|---|---|---|---|
| Pedestrian LOS Score / LOS | 1.93 | B | 1.70 | B | 1.66 | B | 1.93 | B |
| Bicycle LOS Score / LOS | 1.48 | A | 0.88 | A | 1.74 | B | 0.70 | A |

# HCS Two-Way Stop-Control Report

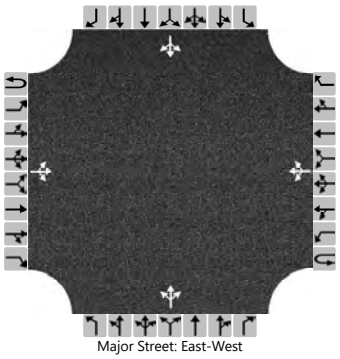
## General Information

| | |
|---|---|
| Analyst | L. Vagelatos |
| Agency/Co. | Adams County |
| Date Performed | 3/23/2026 |
| Analysis Year | 2026 |
| Time Analyzed | 6:45 to 7:30 |
| Intersection Orientation | East-West |
| Project Description | Existing Conditions AM Peak |

## Site Information

| | |
|---|---|
| Intersection | 120th and Picadilly Rd |
| Jurisdiction | Adam County |
| East/West Street | East 120th Ave. |
| North/South Street | Picadilly Rd. |
| Peak Hour Factor | 0.82 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes


Major Street: East-West

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | | LTR | | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 8 | 120 | 12 | | 3 | 140 | 10 | | 27 | 4 | 1 | | 6 | 4 | 3 |
| Percent Heavy Vehicles (%) | | 0 | | | | 0 | | | | 0 | 25 | 0 | | 0 | 0 | 0 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | 0 | | | | 0 | | | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type \| Storage | Undivided | | | | | | | | | | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 7.1 | 6.5 | 6.2 |
| Critical Headway (sec) | | 4.10 | | | | 4.10 | | | | 7.10 | 6.75 | 6.20 | | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.3 |
| Follow-Up Headway (sec) | | 2.20 | | | | 2.20 | | | | 3.50 | 4.23 | 3.30 | | 3.50 | 4.00 | 3.30 |

## Delay, Queue Length, and Level of Service

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | 10 | | | | 4 | | | | | 39 | | | | 16 | |
| Capacity, c (veh/h) | | 1404 | | | | 1430 | | | | | 582 | | | | 625 | |
| v/c Ratio | | 0.01 | | | | 0.00 | | | | | 0.07 | | | | 0.03 | |
| 95% Queue Length, $Q_{95}$ (veh) | | 0.0 | | | | 0.0 | | | | | 0.2 | | | | 0.1 | |
| 95% Queue Length, $Q_{95}$ (ft) | | 0.0 | | | | 0.0 | | | | | 5.1 | | | | 2.5 | |
| Control Delay (s/veh) | | 7.6 | 0.1 | 0.1 | | 7.5 | 0.0 | 0.0 | | | 11.6 | | | | 10.9 | |
| Level of Service (LOS) | | A | A | A | | A | A | A | | | B | | | | B | |
| Approach Delay (s/veh) | 0.5 | | | | 0.2 | | | | 11.6 | | | | 10.9 | | | |
| Approach LOS | A | | | | A | | | | B | | | | B | | | |

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# HCS Two-Way Stop-Control Report

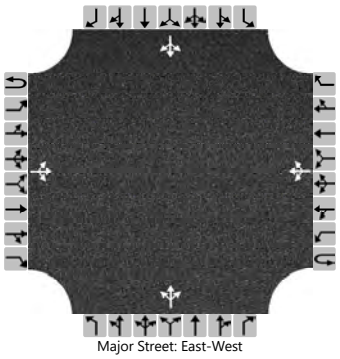
## General Information

| | |
|---|---|
| Analyst | L. Vagelatos |
| Agency/Co. | Adams Couty |
| Date Performed | 3/23/2026 |
| Analysis Year | 2026 |
| Time Analyzed | 6:45 to 7:30 |
| Intersection Orientation | East-West |
| Project Description | Proposed AM Peak |

## Site Information

| | |
|---|---|
| Intersection | 120th and Picadilly Rd. |
| Jurisdiction | Adams County |
| East/West Street | East 120th Avenue |
| North/South Street | Picadilly Road |
| Peak Hour Factor | 0.86 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes



Major Street: East-West

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 |
| Configuration | | | LTR | | | | LTR | | | | LTR | | | | LTR | |
| Volume (veh/h) | | 8 | 169 | 12 | | 3 | 189 | 10 | | 27 | 4 | 1 | | 6 | 4 | 3 |
| Percent Heavy Vehicles (%) | | 0 | | | | 0 | | | | 0 | 25 | 0 | | 0 | 0 | 0 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | 0 | | | | 0 | | | |
| Right Turn Channelized | | | | | | | | | | | | | | | | |
| Median Type \| Storage | Undivided | | | | | | | | | | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | 4.1 | | | | 4.1 | | | | 7.1 | 6.5 | 6.2 | | 7.1 | 6.5 | 6.2 |
| Critical Headway (sec) | | 4.10 | | | | 4.10 | | | | 7.10 | 6.75 | 6.20 | | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec) | | 2.2 | | | | 2.2 | | | | 3.5 | 4.0 | 3.3 | | 3.5 | 4.0 | 3.3 |
| Follow-Up Headway (sec) | | 2.20 | | | | 2.20 | | | | 3.50 | 4.23 | 3.30 | | 3.50 | 4.00 | 3.30 |

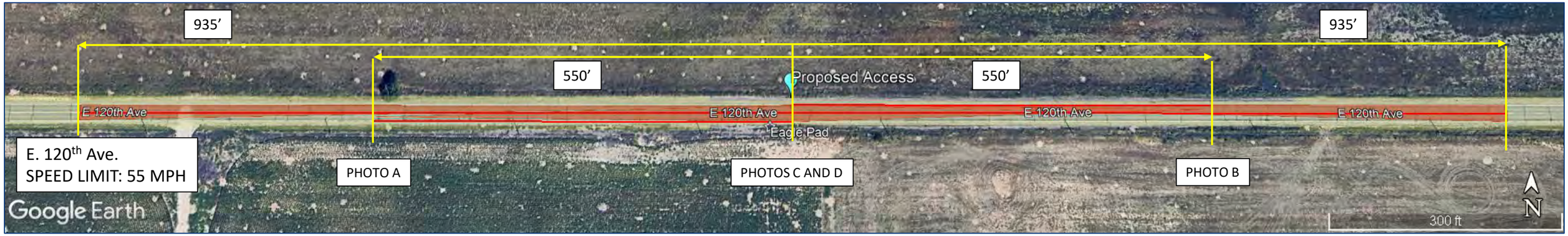
## Delay, Queue Length, and Level of Service

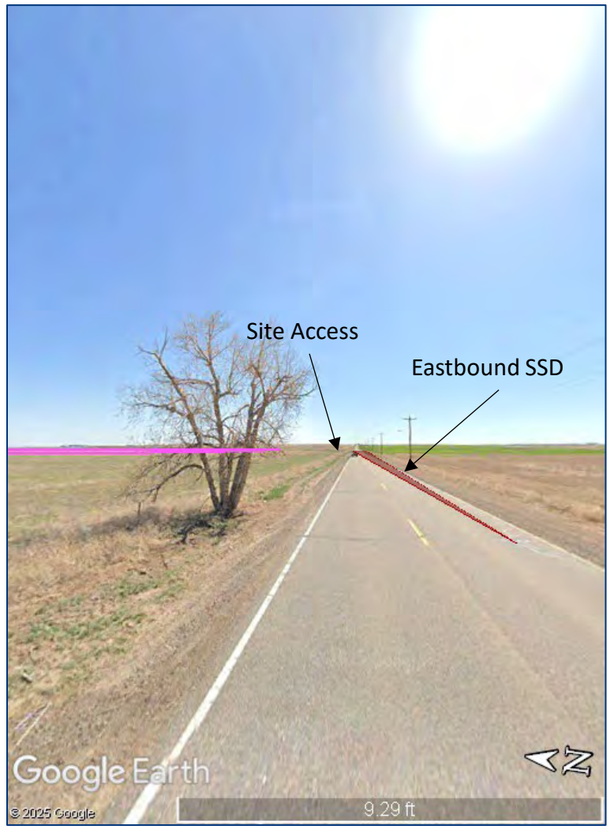
| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | 9 | | | | 3 | | | | | 37 | | | | 15 | |
| Capacity, c (veh/h) | | 1348 | | | | 1372 | | | | | 504 | | | | 550 | |
| v/c Ratio | | 0.01 | | | | 0.00 | | | | | 0.07 | | | | 0.03 | |
| 95% Queue Length, $Q_{95}$ (veh) | | 0.0 | | | | 0.0 | | | | | 0.2 | | | | 0.1 | |
| 95% Queue Length, $Q_{95}$ (ft) | | 0.0 | | | | 0.0 | | | | | 5.1 | | | | 2.5 | |
| Control Delay (s/veh) | | 7.7 | 0.1 | 0.1 | | 7.6 | 0.0 | 0.0 | | | 12.7 | | | | 11.7 | |
| Level of Service (LOS) | | A | A | A | | A | A | A | | | B | | | | B | |
| Approach Delay (s/veh) | 0.4 | | | | 0.1 | | | | 12.7 | | | | 11.7 | | | |
| Approach LOS | A | | | | A | | | | B | | | | B | | | |

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# ATTACHMENT C: SIGHT DISTANCE

# Exhibit 1: Sight Distance Evaluation – Proposed Site Access

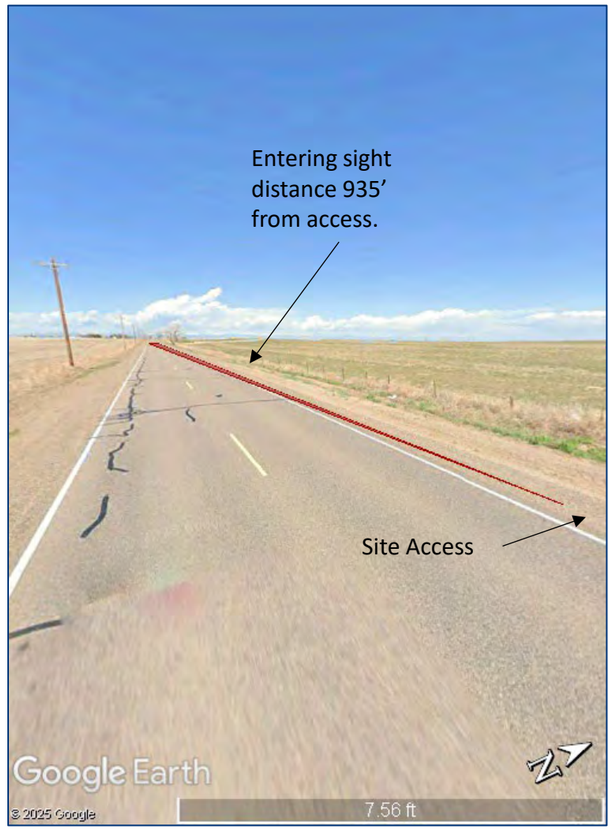


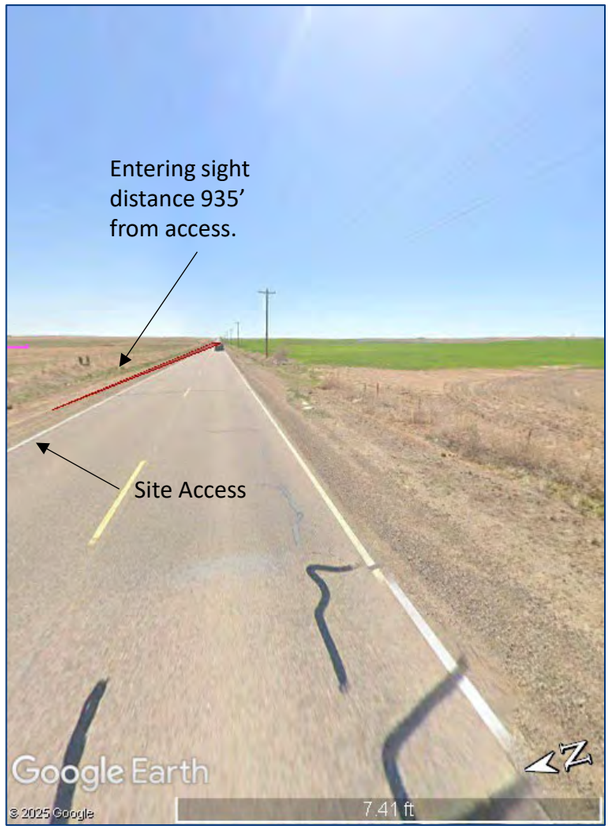

**Photograph A**: Sight stopping distance. **Eastbound** E. 120th Ave. approximately 550 ft from the Proposed Site Access.




**Photograph B**: Sight stopping distance. **Westbound** E. 120th Ave. approximately 550 ft from the Proposed Site Access.




**Photograph C**: Entering sight distance. From Proposed Site Access facing **West** 935 ft distance.




**Photograph D**: Entering sight distance. From Proposed Site Access facing **East** 935 ft distance.

All photographs and measurements from Google Earth.

STATE OF COLORADO

STATE BOARD OF LAND COMMISSIONERS

# SURFACE USE AGREEMENT
# OT 117566
# Non-State and Pooled or Communitized Minerals

THIS SURFACE USE AGREEMENT ("**Agreement**"), dated this 9th day of August, 2025, ("**Effective Date**") is made by and between the State of Colorado, acting by and through the Colorado State Board of Land Commissioners, whose address is 1127 Sherman Street, Suite 300, Denver, CO 80203, herein called the "**State Land Board**", and, Extraction Oil and Gas, Inc, whose address is 555 17th Street, Suite 3700, Denver, CO 80202, herein called the "**Operator**".

WHEREAS, the State Land Board represents that it is the surface owner and in possession of the surface estate in all or part of the following lands located in Adams County, Colorado (the "**Property**"):

Subdivision CS2, Section 36, Township 1S, Range 66W

WHEREAS, the State Land Board acknowledges that the Operator has certain rights to conduct oil and gas operations under the terms of oil and gas lease(s) underlying or adjacent to the Property;

WHEREAS, the State Land Board and the Operator, together also herein be called the "**Parties**", desire to facilitate development of the oil and gas resources based on reasonable access and use of the Property, and to reach an understanding and agreement regarding the Operator's surface access and use and to minimize disturbance associated with oil and gas operations.

NOW, THEREFORE, in consideration of the terms and conditions cited below, the State Land Board and the Operator agree as follows:

1. Surface Rights
   The State Land Board agrees to allow the Operator reasonable use of a portion of the Property to build well pad(s), tank batteries, access road(s); construct pipelines, flowlines, gathering lines and powerlines; and to drill, complete, produce and operate vertical, directional or horizontal wells (the "**Operations**"). Operations on the Property shall be confined to a limited portion of the surface of the Property exclusively reserved for Operations (the "**Operations Area**"), together with an "**Access Corridor**," as necessary, for access roads and associated lines, containing 17.21 acres which is further identified on **Exhibit A**. The Operator shall have the exclusive right to utilize the Operations Area provided the State Land Board may use the balance of the Property and the Access Corridor for State Land Board purposes that do not materially interfere with Operations. Furthermore, the Operator shall have the right to access and use the Property in "Emergency Situations". Emergency Situations is defined as situations that require immediate attention in order to protect human life or prevent further degradation of the land.

2. Subsurface Easement
   To the extent the State Land Board owns the sub-surface rights underlying the Property, the State Land Board hereby grants the Operator a sub-surface easement for passage of any portion of the directional or horizontal wellbore for a well located on the Operations Area through the State Land Board owned sub-surface. If a wellbore from a well located on the Operations Area leaves the sub-surface boundaries of one State Land Board oil and gas lease and enters lands covered under a separate oil and gas lease or leases, the State Land Board grants an easement to allow the wellbore

to travel and produce from all applicable leases, provided such easement does not conflict with the terms of any State Land Board lease now in effect.

3. Term

This Agreement shall have a primary term of three (3) years (the "**Primary Term**") and shall continue for so long thereafter as any well utilizing the Operations Area continues to produce oil or gas. If, after the expiration of the Primary Term of this Agreement, production from all wells utilizing the Operations Area should cease for any cause for a period of more than two (2) years, the State may terminate this Agreement, provided that the Operator may request annual one-year extensions to this Agreement by (i) providing evidence of compliance with ECMC Rule 417 – Mechanical Integrity Testing for Shut-in Wells, which may be in the form of ECMC Form 21 – Mechanical Integrity Test and, (ii) paying the State Land Board, in addition to the Annual Payment, $1,000 per acre of the Operations Area.

If the Operator fails to commence Operations on the Operations Area during the Primary Term by established production from wells located on the Operations Area or from off-site Wells utilizing facilities located on the Operations Area, this Agreement will terminate at the end of the Primary Term.

Upon termination of Operations, this Agreement shall remain in effect as to other terms and conditions until all wells are plugged and abandoned and the reclamation and clean-up requirements set out in the "**Reclamation**" section below have occurred consistent with the Colorado Energy and Carbon Management Commission (the "ECMC") regulations then in effect, and to the reasonable satisfaction of the State Land Board.

Agreement extensions in the absence of oil or gas production or in the event that the Operator fails to comply with 3.i and 3.ii above may be granted at the sole discretion of the State Land Board.

4. Payments to the State Land Board

A. Initial Damage Payment - On the Effective Date of the Agreement the Operator shall pay the State Land Board $127,725.00, based on the surface use rates set forth on Exhibit B for surface damage, impact and use of the Operations Area.

B. Well Payments – In addition to the Initial Damage Payment, the Operator shall pay the State Land Board a one-time payment for any and all wells located on the Operations Area based on the rates set forth on Exhibit B. Well Payments are due on the next annual anniversary date of the Effective Date following the well spud date, defined as when the drill bit contacts the ground to start the process to drill for and install surface casing.

C. Annual Payment - The Operator shall pay the State Land Board annually, on or before each anniversary of the Effective Date for so long as this Agreement remains in effect, an Annual Payment of $12,772.50, calculated based on the rates set forth on Exhibit B. The State Land Board may accept, in lieu of Annual Payments, a lump-sum one-time payment on the Effective Date of this Agreement, at the sole and absolute discretion of the State Land Board.

D. Access Corridor Payment: The operator shall pay a one-time Access Corridor Payment to the State Land Board of $900.00, based on the rates set forth on Exhibit B, for access roads, pipeline and powerline easements, and all other disturbances outside the Operations Area.

Payment shall be made on the Effective Date of the Agreement and the Operator may be subject to either the SUA or a separate Right-of-Way ("ROW") agreement. Operator shall consult with and obtain approval from the State Land Board for Access Corridors and shall cooperate with the State Land Board regarding the location and construction timing for any pipeline burial in order to minimize surface disturbance, and shall pay the State Land Board based on the compensation schedule set forth on Exhibit B. For accuracy of measurement, Operator shall provide an As-Built Survey and the Access Corridor Payment may be adjusted accordingly.

E. Production Facilities Payment – Upon written approval by the State Land Board, the Operator shall pay the State Land Board a one-time payment for each well located off the Operations Area (**"Off-Site Wells"**) that uses facilities located on the Operations Area, including without limitation, tanks and compressors, and all associated oil and gas production and operational facilities (the "Production Facilities"), calculated based on Exhibit B **("Production Facilities Payment")**. The State Land Board's written approval and the Production Facilities Payment are due prior to constructing pipelines or producing hydrocarbons from Off-Site Wells to the facilities located on the Operations Area and such use will be granted at the State Land Board's sole and absolute discretion.

F. Rental Adjustment - On the tenth anniversary of this Agreement and every fifth anniversary date thereafter the Annual Payment shall be increased based on the change in Consumer Price Index - All Urban Consumers, "CPI-U" (CUUR0000SA4) (Base Period 1982-84=100) (the "Index"), as first published by the U. S. Department of Labor, Bureau of Labor Statistics, for the five year period preceding such anniversary date.

On the tenth anniversary of this agreement and annually thereafter the Annual Payment may be reduced based on a reduction in size of the Operations Area due to interim reclamation subject to written approval by the State Land Board's District Manager or their appointee.

5. Excess Damage

If the Operations cause damage to (i) the Property located outside of the Operations Area or (ii) any other State Land Board-owned surface, or (iii) personal property located on Property outside of the Operations Area and Access Corridor, or if Operator's surface use exceeds the use contemplated herein, causing damage, including without limitation damage or destruction of land, crops, livestock, structures, buildings, fences, culverts, concrete ditches, irrigation systems, and natural water ways, Operator shall repair or replace the damaged property, or shall pay reasonable compensation to the State Land Board or the owner of such personal property for the replacement or repair of the damaged property. Failure to timely repair, replace or pay for additional damages may result in termination of this Agreement subject to notice and cure rights contained in paragraph 20.

6. Consultation

A. Surface Owner - Prior to execution of this Agreement, Operator shall meet with a State Land Board representative to define the Operations Area and Access Corridor as set forth on Exhibit A. Except for Emergency Situations, Operators shall be confined to the Operations Area and Access Corridor, and any change to Exhibit A requires prior consultation and written approval of the State Land Board. Except as indicated in paragraph 28, the State Land Board does not waive any ECMC surface owner consultation requirements, and the Operator shall not seek a variance to any required consultation without the advance written approval of the State Land Board.

B. Colorado Parks and Wildlife - Prior to executing this Agreement, Operator shall consult with Colorado Parks and Wildlife (**CPW**) representatives as required by ECMC Rules, and as required by the State Land Board, to determine if the Property contains CPW mapped High Priority Habitat (HPH) and/or occurrences of Federally-listed Endangered, Threatened, or Candidate Wildlife. The Operator shall review the Colorado Natural Heritage Program (CNHP) data to identify animal and plant species of concern. Evidence of such consultation and review and the Operator's design measures and best management practices (BMPs) to be employed to avoid and minimize adverse impacts to biological resources, species, and habitats must be attached to this Agreement as Exhibit C. The Parties mutually agree that any violation or non-compliance with the Exhibit C design measures and BMPs, in whole or in part, arising directly or indirectly from the use, occupation or control of the Property and the Operations Area, by the Operator or the Operator's Contactors is a default of this Agreement and the State Land Board may terminate this Agreement, subject to notice and cure rights contained in paragraph 20. In addition, the Parties mutually agree that Operator will pay liquidated damages of $1,000 per day for any such violation of or non-compliance with the Exhibit C design measures and BMPs.

7. As-Built Information

No later than 90 days after completion of construction of the well site, Production Facilities, access roads and pipelines, individually or together, or concurrently upon an Operator's submission of an As-Built Survey to the ECMC, whichever is earlier, the Operator shall provide the State Land Board with a certified plat showing the actual dimensions of the Operations Area and the Access Corridor and the total number of acres disturbed (**"As-Built Survey"**). Should the operator need to use lands to conduct additional operations outside of the area defined in the As-Built Survey, the Operator must obtain written approval from the State Land Board and the State Land Board can require a new As-Built Survey to include the additional acreage being used.

8. Operational Standards

At all times the Operator and its Contractors shall enter and use the Property, including the Operations Area, and shall conduct all Operations thereon, in a good, careful, safe, and workmanlike manner, in compliance with applicable state rules and regulations including those of the ECMC, the Colorado Air Quality Control Commission and any other State or Federal agency with jurisdiction over Operations, the applicable oil and gas lease(s), and this Agreement. Operator shall strive to identify and use the best management practices then available for surface management of oil and gas operations. The term "Contractors" shall include any third party and its employees, agents and affiliates that are retained, engaged or employed by the Operator to conduct Operations on the Property.

A. Limitation - The Operator shall use the Operations Area only for Operations as depicted and detailed on Exhibit A. No Operations, compressors, pipelines, powerlines, access roads, facilities, and equipment beyond those provided for on Exhibit A are allowed without the prior written consent of the State Land Board, except for Emergency Situations.

B. Compliance - Operator shall inform all Contractors of the standards contained herein. Should any Contractor fail to comply with Operator's obligations set forth herein, Operator shall be responsible and liable to the State Land Board for resulting damages.

C. Road standards - To the extent technically feasible, as agreed to by the Parties, Operator shall use existing roads to access the Operations Area and Access Corridor, except for Emergency

Situations.

I. Access roads shall be limited to approximately thirty-feet, being fifteen feet on each side of the centerline, and shall be constructed along the boundary lines of the Property, or along the section lines of the Property, to the extent technically feasible, as agreed by the Parties.

II. Culverts shall be installed at ditch and drainage crossings, and shall be sized to prevent obstruction to the free flow of the volumes of water being carried, inclusive of flood stages. If existing culverts are damaged or destroyed Operator agrees to promptly repair or replace such culverts.

III. Upon the State Land Board's written request, the Operator shall construct cattle guards at all places where Operator requires access through the State Land Board's fences. Permanent gates shall be installed at each point where an access road intersects perimeter or cross fences. If the State Land Board or Operator elects to lock any gate on the access road, keys shall be provided to the other party.

IV. All access roads shall be kept and maintained free from ruts. Access roads shall be compacted and an adequate amount of crushed aggregate and lighter gravel shall be added on top of the surface of the access road to minimize rutting and damage to the surface.

V. During dry months, Operator shall apply fresh water (or water to a standard suitable for irrigation purposes) to the surface of the access roads to reasonably limit dissemination of dust.

VI. The use and construction of any access roads shall not include a right of use by the general public. Operator shall be responsible for maintaining all access roads and any existing roads utilized by Operator, at Operator's sole cost and expense.

VII. Operator shall impose a reasonable speed limit, not to exceed twenty miles per hour on the access road, and Operator shall be responsible for all traffic on the access road occurring in connection with Operations, including without limitation any damage to livestock or growing crops.

D. Water Protection - Operator shall protect all water sources and conveyance structures, and test water quality in accordance with ECMC rules and regulations. All water sampling and testing shall be completed at Operator's expense by a reputable testing consultant selected by the Operator.

E. Fencing - To exclude livestock, upon the State Land Board's request, Operator shall fence any drill site, or if production is established, any well site, with a wildlife friendly four strand wire fence secured by posts at appropriate intervals. Pits must be separately fenced and netted according to the State Land Board's specifications to protect birds and wildlife. Final fencing materials shall be determined based on best management practices for the protection of

wildlife agreed to by the Parties.

F. Production Containment - Operator will install and maintain steel containment rings around production tanks and associated facilities, and install steel berms and an impervious synthetic liner within bermed areas and use best management practices to prevent any hydrocarbon substances from infiltrating soil or ground water.

G. Buried Pipelines - Operator shall bury all pipelines to a minimum depth of 36 inches.

H. Additional Surface Installations - At the State Land Board's request, Operator shall install additional screening, fencing, and landscaping around a wellsite to minimize noise and aesthetic impacts.

I. Prohibited Activities – The Operator and its Contractors may not hunt, fish, or possess firearms, alcoholic beverages, or illegal drugs on the Property.

J. Weed Control – The Operator shall keep the Operations Area and Access Corridor free of weeds as required by ECMC Rule 1003(f). Noxious weeds shall be sprayed within two (2) weeks of any request by the State Land Board for such spraying.

K. Trash and Debris - Operator shall keep the Operations Area free from trash and debris and shall provide for periodic removal of all trash and debris from the Operations Area.

L. Erosion Control - If the State Land Board identifies portions of the Property where Operations have caused erosion Operator agrees to take reasonable measures to control erosion, including without limitation installation of soil berms or diversions, mulching, seeding or soil binders.

M. Storage Prohibited - The Operator shall not store any oil and gas equipment, machinery, vehicles, pipe or other item on the Operations Area that is not required in connection with Operations, without the prior written consent of the State Land Board.

N. Unmanned Aerial Systems – The State Land Board maintains the right to access, inspect and monitor the Leased Land at all reasonable times, utilizing all reasonable means and methods, including but not limited to gate counters, game cameras and Unmanned Aerial Systems (UAS). The use of UAS will be in accordance with applicable Federal Aviation Administration (FAA) rules and regulations. The Operator shall cooperate with the State Land Board and will not interfere with all reasonable means and methods of access, inspection and monitoring, including the State Land Board's actions necessary to comply with FAA rules and regulations.

9. Reclamation

Prior to initiating reclamation activities, Operator agrees to consult with the State Land Board. The Operator shall reclaim the Operations Area and the Access Corridor(s) and other associated impacted State Land Board-owned land for damages resulting from the Operator's Operations, at its sole expense as nearly as practicable to its original condition. Interim and final reclamation shall be to the satisfaction of the State Land Board and shall, at a minimum, comply with all appropriate reclamation regulations, including ECMC Reclamation Regulation Series 1000 and Series 1100, and any more stringent reclamation regulations adopted by the ECMC while this Agreement is in effect.

Additional interim and final reclamation requirements and standards, if any, are attached hereto as Exhibit D.

The existence of this Agreement shall not relieve the Operator of its obligation to fully comply with all of the ECMC Rules.

10. Other Lessees

Subject to Section 1 of this Agreement, Operator acknowledges that the State Land Board may have granted rights of surface use to additional third-parties. The State Land Board will provide Operator, upon request from the Operator, with the necessary information regarding any rights granted to additional third-parties. The Operator must use reasonable efforts to minimize the impact of its Operations on the other surface lessees and their surface use(s).

11. Assignment

This Agreement is assignable, in whole or in part, by either party, subject to the following:

A. The Operator may assign this Agreement in whole or in part with written consent of the State Land Board. Such consent will not be unreasonably withheld. The Operator may assign its rights in the Agreement only following written disclosure to the assignee of the existence of this Agreement, and such assignment must be expressly subject to the assignee's assumption of all terms, conditions and obligations of this Agreement.

B. The State Land Board may assign or convey its interest in the Property or any portion thereof only following written disclosure to the assignee of the existence of this Agreement, and such assignment or conveyance must be expressly subject to all terms and conditions of this Agreement, and the assumption by such assignee or grantee of all obligations of the State Land Board under this Agreement.

12. Successors and Assigns

When the word Operator is used in this Agreement, it shall also mean the successors and assigns of the Operator, including but not limited to its employees and officers, agents, affiliates, Contractors, subcontractors and/or purchasers. This Agreement shall be binding upon and inure to the benefit of the heirs, successors and assigns of the Parties.

13. Confidentiality

The existence and terms of this Agreement may be a public record and subject to the Colorado Open Records Act ("**CORA**"), C.R.S. § 24-72-200.1, et. seq. Data, maps, surveys, and other information prepared by or furnished to the State Land Board pursuant to this Agreement are subject to the confidentiality provisions of C.R.S. § 36-1-138(2). The Operator may record a memorandum or redacted form evidencing the existence of this Agreement.

14. Governing Law/Venue

This Agreement shall be interpreted according to the laws of the State of Colorado. Venue for any dispute shall be the City and County of Denver.

15. Written Modifications

This Agreement, including its Exhibits, may only be amended in writing signed by both Parties. All notices to either party shall be in writing addressed to the Parties at the address first set forth below.

16. Notices

Any notice or other communication given by either party to the other relating to this Agreement shall be in writing, delivered by U.S. mail or sent by reputable overnight courier, to such other party at the respective addresses set forth in this Agreement (or at such other address as may be designated from time to time by written notice given in the manner provided in this Agreement). If sent by certified mail, return receipt requested, such notice shall be deemed effective on receipt.

If to the State Land Board:
Colorado State Board of Land Commissioners
Attention: Oil and Gas Leasing Manager
1127 Sherman St., #300
Denver, CO 80203

If to Operator:
Extraction Oil and Gas, Inc
555 17th Street, Suite 3700
Denver, CO 80202

17. Governmental Immunity
Liability for claims or injuries to persons or property arising from the negligence of the State of Colorado, its departments, institutions, agencies, boards, officials, and employees is controlled and limited by the provisions of the Governmental Immunity Act, C.R.S. § 24-10-101 et seq., and the risk management statues, C.R.S. § 24-30-1501 et seq., as amended. No term or condition of this Agreement will be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions, of the Governmental Immunity Act as applicable now or hereafter amended.

18. Indemnification
The Operator assumes all liability arising from the use, occupation or control of the Property by Operator under this Agreement. This assumption includes, but is not limited to, liability for all personal injuries (including death) and environmental and property damage and destruction. The Operator agrees to defend, indemnify and hold harmless the State Land Board from and against any and all liabilities, losses, damages, liens, expenses, claims, demands, debts, obligations, fines, penalties, suits or actions, judgments, and costs of any kind whatsoever arising from the use, occupation or control of the Property, caused by any act, omission or neglect of Operator, or Operator's employees, agents, guests, invitees, contractors or assigns. The Operator further agrees to indemnify the State Land Board for any costs, including costs of suit and fees for consultants, experts, and attorneys, incurred by the State Land Board in terminating or canceling, enforcing obligations or defending itself against any matter arising under this Agreement caused or permitted by Operator or Operator's employees, agents, guests, invitees, contractors or assigns. This provision shall survive termination, cancellation or relinquishment of this Agreement and any cause of action by the State Land Board to enforce it shall not be deemed to accrue until the State Land Board's actual discovery of said liability, claim, loss, damage, or exposure. This indemnity is in addition to any other indemnity provided for in this Agreement. The Operator will not be responsible for any liability caused by persons granted other uses of the Property by the State Land Board.

19. Insurance
The Operator, at its sole cost and expense, shall during the entire term of this Agreement procure, pay for and keep in full force and effect an occurrence based general liability insurance policy from an insurance carrier licensed to do business in Colorado, in an amount not less than one million dollars ($1,000,000.00) per occurrence and two million dollars ($2,000,000.00) aggregate. The Operator, at its sole cost and expense, shall during the entire term of this Agreement procure, pay for and keep in full force and effect a property insurance policy from an insurance carrier licensed to do business in Colorado covering all insurable improvements owned by the State Land Board located on the Property in an

amount not less than necessary to cover the replacement cost. All policies shall name the State Land Board as an additional insured, shall provide that the coverage is primary and noncontributory over any other insurance coverage available to the State Land Board, its agents and employees and shall include a clause waiving all rights of recovery, under subrogation or otherwise against the State Land Board, its agents and employees. Failure to buy and maintain the required insurance is a default of this Agreement. Before starting work under this Agreement, Operator shall, at the State Land Board's request, furnish a certificate of liability insurance, referencing the agreement number and reflecting the above requirements. The State Land Board may alter any requirements of this section to meet the requirements of the Colorado Governmental Immunity Act or any requirements determined by the Colorado Office of Risk Management.

20. Bond

Without impacting the requirements of the ECMC, prior to accessing the Property and commencing construction and Operations, the State Land Board will require Operator to file a good and sufficient bond in the initial minimum amount of $25,000 securing the state against loss of rents or other loss or waste, or occupation of the land for more than thirty days after the cancellation or expiration of the lease by Operator, on up to five acres of the Property. The Bond amount will increase at a rate of $5,000 per acre or fraction thereof for surface disturbance and damage in excess of five acres. The Operator may satisfy this individual lease bond obligation by maintaining a blanket bond with Lessor in an amount determined by Lessor. The State Land Board may accept cash, a surety bond, or a bank irrevocable letter of credit and will require that such bond be held in full force and effect after the termination or expiration of this Agreement until such time that the State Land Board has approved final reclamation of the Operations Area. The State Land Board agrees to take into account any additional bonding requirements imposed for the protection of the surface estate, provided there is no obligation that the State Land Board will reduce the bond amount.

21. Default and Remedies

A. In addition to any defaults specified in other sections of this Agreement, the failure of Operator to comply with or to perform any of its obligations under this Agreement in whole or in part or in a timely or satisfactory manner may constitute a default.

B. The State Land Board may also determine the Operator is in default any time the ECMC issues to the Operator a Notice of Alleged Violation relating to the Operator's Operations on or connected to the Property.

C. The State Land Board shall promptly notify the Operator in writing of any default under this Agreement. Operator shall immediately commence and diligently pursue action calculated to cure the claimed default and prosecute such action as necessary to fully remedy and cure such default to the reasonable satisfaction of the State Land Board within 60 days after service of written default notice. Operator will contact the State Land Board within 10 days after service of written notice to the Operator by the State Land Board if the cure will reasonably require more than 60 days to complete or if concurrent corrective actions required by the ECMC may require an extension to the 60 day cure period.

D. If Operator fails to cure the default as provided in this Paragraph 20.C., the State Land Board may:

I. Declare this Agreement terminated and the Operator shall surrender and peaceably deliver to the State Land Board the Property and the Operations Area, in accordance

with and subject to the terms of this Agreement, and such Property shall be in good condition.

II. Require the Operator to pay $1,000.00 per day of the Default as Liquidated Damages commencing on the date that the Default occurs and ending on date that the Operator has fully remedied and cured the default to the reasonable satisfaction of the State Land Board or when the Parties have otherwise reached an agreement to settle the default. Whenever Liquidated Damages are available in this Agreement, the Parties have agreed that the State Land Board's actual damages, in the event of the Operator's Default, would be extremely difficult or impracticable to determine. After negotiation, the Parties have agreed that, considering all the circumstances existing on the date of this Agreement, this amount is a reasonable estimate of the damages that the State Land Board would incur in such event. Each party specifically confirms the accuracy of the statements made above and each party has had the opportunity to be represented by counsel to explain, at the time this Agreement was made, the consequences of this Liquidated Damages provision. The Parties represent that they have either retained legal counsel, or have declined to do so.

III. Enforce the terms of this Agreement through specific performance.

IV. Seek damages for the failure to comply with the terms of this Agreement.

V. Require payment from the bond required in Paragraph 19.

VI. Seek all other available remedies in law and equity.

E. The State Land Board's rights and remedies, including those not specifically described, available in law or equity shall be cumulative, and the State Land Board may pursue any or all of such rights and remedies at the same time or separately. Nothing in this Paragraph 20 relieves the Operator of any responsibility for the final reclamation of the Property and the Operations Area and the Access Corridors, or the requirement to comply with all ECMC rules and regulations.

22. Title and Condition

The Operator enters into this Agreement with the Property in its "as is" condition with all faults, including the environmental condition of the Property. The State Land Board makes, and the Operator affirms that the State Land Board has made no representations or warranties, express or implied, of any kind whatsoever with regard to the title or condition of the Property or its fitness or suitability for any particular use. The Operator acknowledges that it is solely responsible for performing its own due diligence and for becoming fully familiar with the title, encumbrances and condition of the Property and any applicable restrictions, uses, or other conditions that might affect the Operator's development or use for a particular purpose.

23. Force Majeure

If performance of this Agreement or of any obligation hereunder is prevented or substantially restricted or interfered with by reason of an event of "Force Majeure" (defined below), the affected party, upon giving notice to and receiving approval from the other party, shall be excused from such performance to the extent of and for the duration of such prevention, restriction or interference for a period not to exceed ten (10) years, provided Force Majeure shall not excuse the obligation to timely pay the Annual Payment that shall continue to be due as set forth herein. The

affected party shall use its reasonable efforts and due diligence to avoid or remove such causes of nonperformance, and shall continue performance hereunder whenever such causes are removed. "**Force Majeure**" means flood, drought, earthquake, storm, fire, tornado, lightning, windstorm, unusually inclement weather or other natural catastrophe; acts of God, casualty or accident; war, sabotage, vandalism, civil strife or other violence; strikes or labor disputes; or any law, order, proclamation, regulation, ordinance, action, demand or requirement of any government agency or utility. Such determination of Force Majeure shall be at the State Land Board's reasonable sole discretion.

24. No Partnership or Joint Venture

This Agreement does not create any agent-principal or principal-agent relationship, joint venture, partnership, or other similar relationship between the State Land Board and the Operator, and neither party shall have the power to bind the other except as expressly set forth in this Agreement.

25. Partial Invalidity

If any term, covenant, condition or provision of this Agreement or the application thereof to any person or circumstance shall at any time or to any extent be invalid or unenforceable, the remainder of this Agreement or the application of such term or provision to persons or circumstances other than those to which it is held invalid or unenforceable shall not be affected and each term, covenant, condition and provision of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

26. Severability and Survival of Terms

No waiver of any right under this Agreement shall be effective for any purpose unless in writing signed by the party possessing the right, and no such waiver shall be construed to be a waiver of any subsequent provision, right, or term of this Agreement. Failure of the State Land Board or the Operator to complain of any act or omission on the part of the other party, no matter how long the same may continue, shall not be deemed to be a waiver of any of its rights under this Agreement. No waiver by the State Land Board or the Operator at any time, express or implied, of any breach of any provision of this Agreement shall be deemed a waiver of a breach of any other provisions of this Agreement or a consent to any subsequent breach of the same or any other provision.

27. Entire Agreement

This Agreement and all addenda, exhibits, and schedules attached hereto, contains the entire agreement with respect to the subject matter. No oral statement or prior written matter shall have any force or effect, with an exception being for a separate Right of Way ("ROW") agreement. The Operator agrees that it is not relying on any representations or agreements other than those contained in this Agreement.

28. Counterparts

This Agreement may be executed in any number of multiple, identical, original counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same agreement.

29. Signatures

Signatures required in this Agreement shall be either original "wet" handwritten signatures or digital signatures in accordance with the Colorado State Controller Contract, Grant and Purchase Order Policies regarding the use of digital signatures issued under the State Fiscal Rules. If any signatory

signs this Agreement using a digital signature in accordance with the Colorado State Controller Contract, Grant and Purchase Order Policies regarding the use of digital signatures issued under the State Fiscal Rules, then any agreement or consent to use digital signatures within the electronic system through which that signatory signed shall be incorporated into this Agreement by reference.

30. Rules and Laws

The terms and conditions of this Agreement shall be performed and exercised subject to all applicable federal, state, and local laws, rules, regulations, orders, local ordinances or resolutions applicable to and binding upon the administration of lands owned by the State of Colorado, and to laws, rules and regulations governing oil and gas operations in Colorado, including, but not limited to, the rules and regulations of the ECMC. The Operator must immediately forward any notice of noncompliance of violation related to Operations on the Property to the State Land Board. Should the Operator have a good faith dispute with any local government or authority, other than the State Land Board, regarding the application of a rule, regulation, ordinance, order or ruling, the State Land Board shall not consider the good faith contest or appeal of such rule, regulation, ordinance, order or ruling a violation of this Agreement while any appeal or other recognized legal or administrative process is pending to resolve the dispute.

The State Land Board shall approve all ECMC required waivers that are consistent with the terms of this Agreement and the Exhibit A Operations on the Operations Area. Waivers for operations outside of or in conflict with this Agreement may be approved at the State Land Board's absolute and sole discretion.

**IN WITNESS WHEREOF,** the State Land Board and the Operator, by their signatures below, agree to the terms of this Agreement:

EXTRACTION OIL & GAS, INC

By: _____ August 26, 2025
Signature Date

Sean Casper Surface Land Manager
Printed Name Title

STATE OF COLORADO BY THE
STATE BOARD OF LAND COMMISSIONERS

By: _____
Steve Freese, Minerals Field Specialist

Date: 8/29/25

SURFACE USE AGREEMENT
OT 117566

EXHIBIT A
OPERATIONS, OPERATIONS AREA AND ACCESS CORRIDOR(S)

EXHIBIT B
PAYMENTS

EXHIBIT C
CONSULTATION
DESIGN MEASURES AND BMPs

EXHIBIT D
RECLAMATION (None Attached)

# Table of Contents for Exhibit A, B, and C

27 Pages

**Exhibit A**


| | |
|---|---|
| Page 1-2 | Location drawing |
| Page 3-4 | Facility layout drawing |
| Page 5 | Access road map |
| Page 6-7 | Access road pictures |
| Page 8 | Reference area map |
| Page 9-10 | Reference area photos |
| Page 11-13 | Multi well plan |

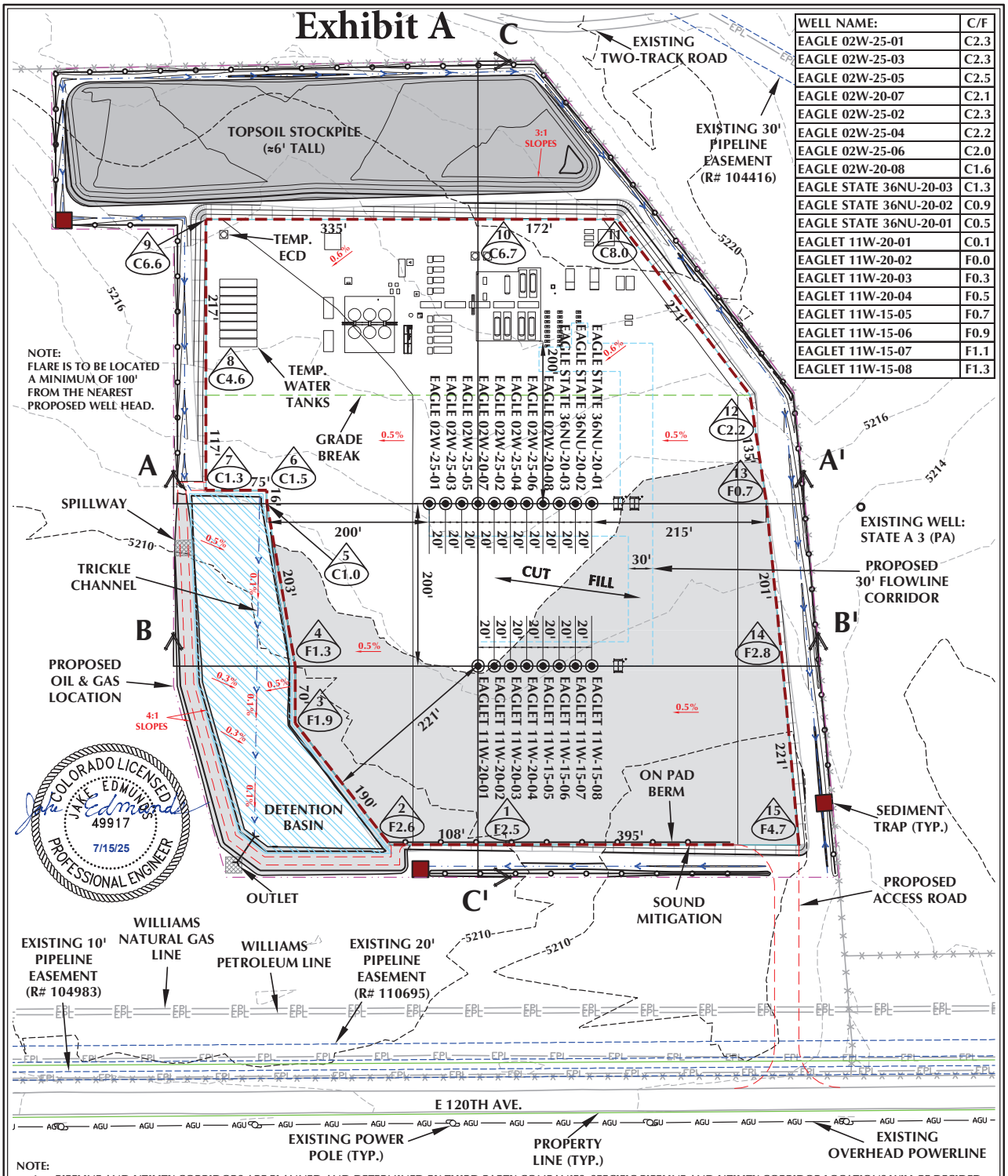

**Exhibit B**


| | |
|---|---|
| Page 14 | Surface use agreement pay table |
| Page 15-16 | Payment calculators |


**Exhibit C**


| | |
|---|---|
| Page 17 | Minimum mineral percentage acknowledgement |
| Page 18-27 | CPW review letter |

# Exhibit A




| WELL NAME: | C/F |
|---|---|
| EAGLE 02W-25-01 | C2.3 |
| EAGLE 02W-25-03 | C2.3 |
| EAGLE 02W-25-05 | C2.5 |
| EAGLE 02W-20-07 | C2.1 |
| EAGLE 02W-25-02 | C2.3 |
| EAGLE 02W-25-04 | C2.2 |
| EAGLE 02W-25-06 | C2.0 |
| EAGLE 02W-20-08 | C1.6 |
| EAGLE STATE 36NU-20-03 | C1.3 |
| EAGLE STATE 36NU-20-02 | C0.9 |
| EAGLE STATE 36NU-20-01 | C0.5 |
| EAGLET 11W-20-01 | C0.1 |
| EAGLET 11W-20-02 | F0.0 |
| EAGLET 11W-20-03 | F0.3 |
| EAGLET 11W-20-04 | F0.5 |
| EAGLET 11W-15-05 | F0.7 |
| EAGLET 11W-15-06 | F0.9 |
| EAGLET 11W-15-07 | F1.1 |
| EAGLET 11W-15-08 | F1.3 |

NOTE:
1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
2. EXISTING UTILITIES DISPLAYED ON THE GRADING PLAN ARE FOR REFERENCE PURPOSES ONLY. PRIOR TO CONSTRUCTION OR EARTHWORK, CONTRACTOR WILL BE RESPONSIBLE TO CALL FOR LOCATES: (800) 922-1987
3. DIVERSION DITCH AND/OR BERM TO BE CONSTRUCTED AROUND THE ENTIRE PAD LOCATION. BERM SECTIONS TO BE COMPACTED IN ACCORDANCE WITH STANDARD CONSTRUCTION PRACTICES.
4. CENTER OF WELL PAD REFERENCED BELOW CORRESPONDS TO THE SURFACE LOCATION OF THE EAGLE 02W-25-07 WELL.

## EAGLE PAD - CONSTRUCTION LAYOUT DRAWING - PLAN VIEW

### PAD QUANTITIES AND DESIGN PARAMETERS

EXISTING GRADE @ CENTER OF WELL PAD = 5214.5'
FINISHED GRADE @ CENTER OF WELL PAD = 5212.4'
CUT/FILL SLOPES = 3:1; EXCEPT AS NOTED
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00
OIL AND GAS LOCATION AREA = 17.03 ACRES
WORKING PAD SURFACE = 10.65 ACRES
ACCESS ROAD DISTURBANCE AREA = 0.18 ACRES
PIPELINE/UTILITY CORRIDOR AREA = SEE NOTE 1

### PAD QUANTITIES

TOTAL CUT FOR PAD = 26,990 C.Y.
TOTAL FILL FOR PAD = 26,990 C.Y.
TOPSOIL @ 10" DEPTH = 17,406 C.Y.
TOTAL IMPORT = 0 C.Y.

PLATING MATERIAL VOLUME
TO BE ADDED TO PAD = 8,590 C.Y.
TO BE ADDED TO ROAD = 196 C.Y.
(ASSUMING 6" DEPTH)

### LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- EXISTING PIPELINE
- WORKING PAD SURFACE
- EXISTING FENCE
- DIVERSION DITCH
- BERM

HORIZONTAL 0 60' 120' 1" = 120'
2' CONTOURS

EAGLE PAD

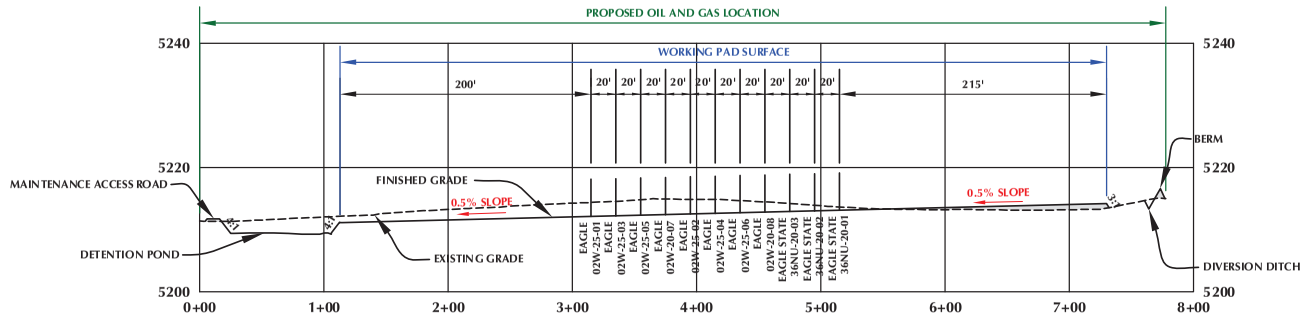
CONSTRUCTION LAYOUT DRAWING - PLAN VIEW
LOCATED IN SESW & SWSE
SECTION 36, T1S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

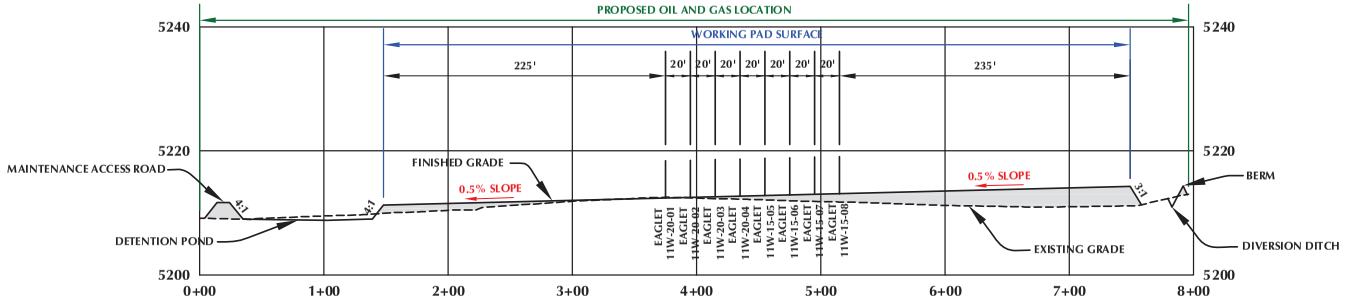

609 CONSULTING, LLC
LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331
SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609


| SCALE: 1"=120' | DATE: 6/18/25 | SHEET NO: 1 OF 1 |
|---|---|---|
| REVISED: | JFE 7/15/25 | |

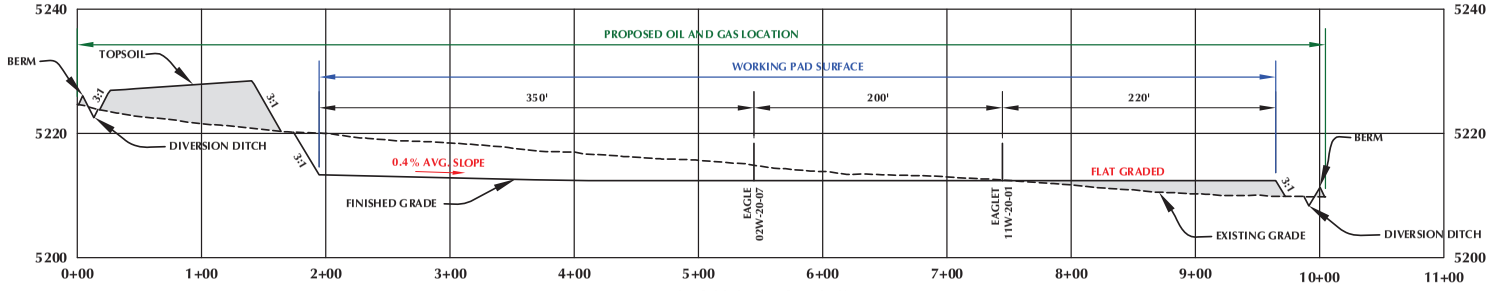
K:\CIVITAS RESOURCES\2024\2024_118_EAGLE_T1S_R66W_SEC_36\SW\EAGLE_T1S_R66W_SEC_36.dwg, 7/15/2025 2:34:03 PM, jedmunds




CROSS SECTION A-A'




CROSS SECTION B-B'




CROSS SECTION C-C'

COLORADO LICENSED
JAKE EDMUNDS
49917
7/15/25
PROFESSIONAL ENGINEER

**EAGLE PAD**

CONSTRUCTION LAYOUT DRAWING - CROSS SECTIONS
LOCATED IN SESW & SWSE
SECTION 36, T1S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

NOTES:

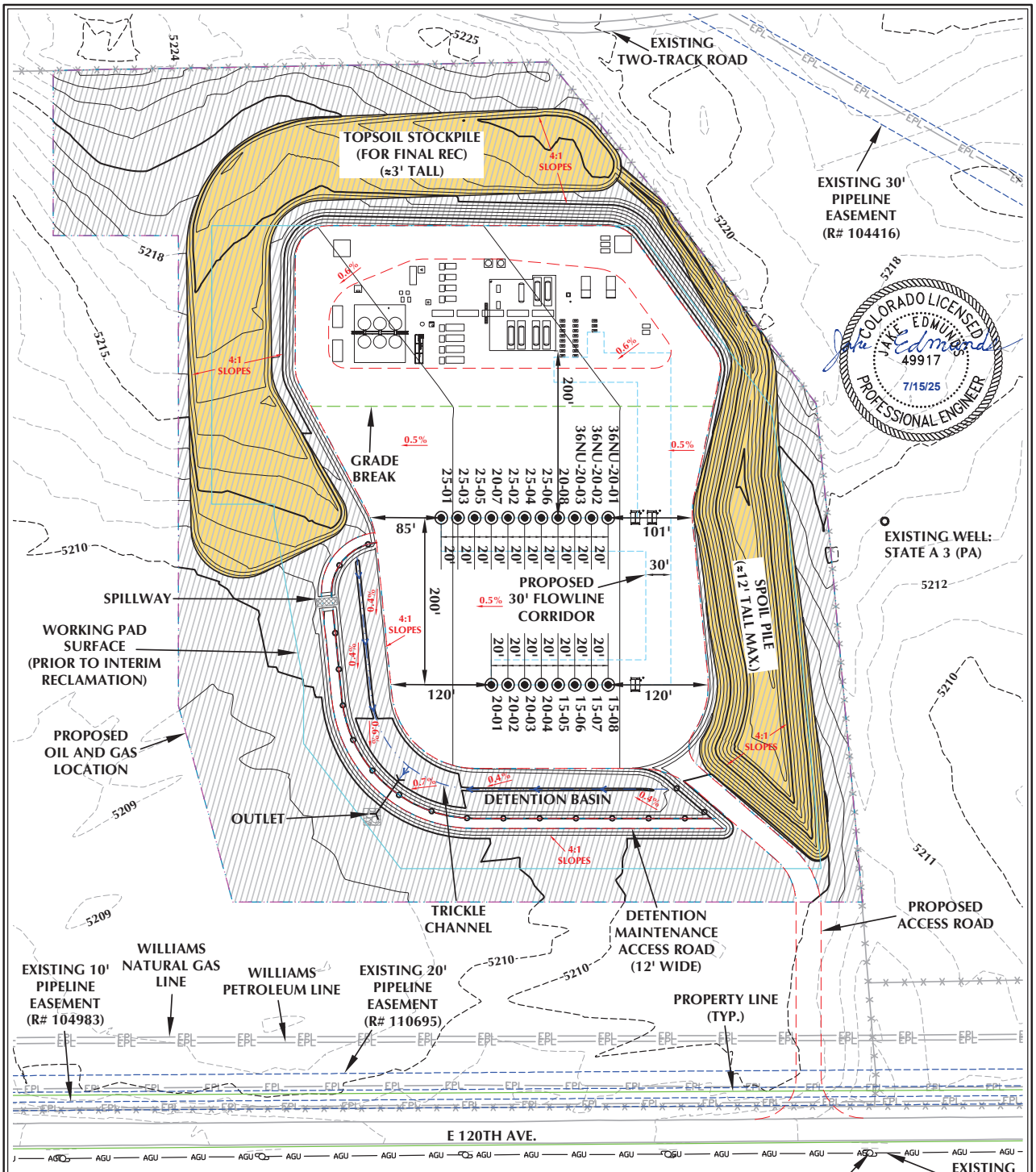
Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.


609 CONSULTING, LLC
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Phone 970-776-4331
SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609


HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

| SCALE: 1"=100' | DATE: 6/18/25 | SHEET NO: 1 |
|---|---|---|
| REVISED: | JFE 7/15/25 | 1 OF 1 |

K:\CIVITAS RESOURCES\2024\2024_118_EAGLE_T1S_R66W_SEC_36\DWG\EAGLE_T1S_R66W_SEC_36.dwg, 7/15/2025 3:33:54 PM, jessmunds




NOTES:

1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
2. EXISTING UTILITIES DISPLAYED ON THE GRADING PLAN ARE FOR REFERENCE PURPOSES ONLY. PRIOR TO CONSTRUCTION OR EARTHWORK, CONTRACTOR WILL BE RESPONSIBLE TO CALL FOR LOCATES: (800) 922-1987
3. RECLAIMED AREA WILL BE RE-SEEDED AND RE-VEGETATED DURING INTERIM RECLAMATION.

## EAGLE PAD FACILITY LAYOUT DRAWING

### QUANTITIES AND DESIGN PARAMETERS

SHRINKAGE FACTOR = 1.00
SWELL FACTOR = 1.00
OIL AND GAS LOCATION AREA = 17.03 ACRES
AREA RECLAIMED DURING
INTERIM RECLAMATION = 10.51 ACRES
TOTAL PAD AREA AFTER
INTERIM RECLAMATION = 6.52 ACRES

### PAD QUANTITIES

TOTAL CUT = 24,186 C.Y.
TOTAL FILL = 24,186 C.Y.
MATERIAL STORED FOR FINAL REC = 12,238 C.Y.

TOPSOIL @ 10" DEPTH
FROM PAD = 17,406 C.Y.
TOPSOIL USED FOR INTERIM REC = 8,552 C.Y.
TOPSOIL STORED FOR FINAL REC = 8,854 C.Y.

PLATING MATERIAL VOLUME
TO BE REMOVED FROM PAD = 3,537 C.Y.
(ASSUMING 6" DEPTH)

LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (1' INTERVAL)
- PROPOSED CONTOURS (1' INTERVAL)
- EXISTING PIPELINE
- EXISTING FENCE
- RECLAMATION AREA

HORIZONTAL 0 60' 120' 1" = 120'
1' CONTOURS

EAGLE PAD

FACILITY LAYOUT DRAWING
LOCATED IN SESW & SWSE
SECTION 36, T1S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

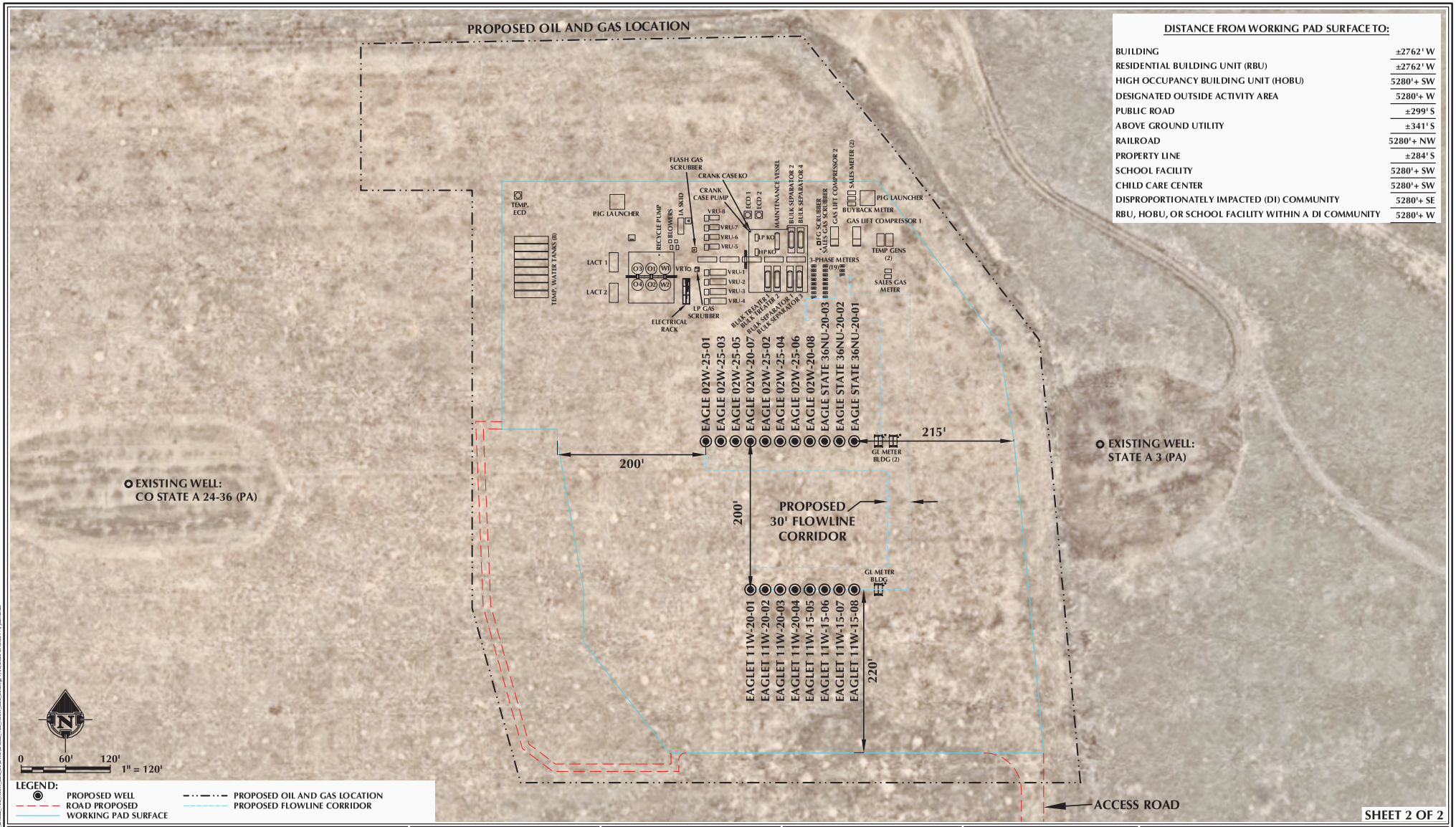
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Extraction Oil & Gas, Inc.


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| SCALE: 1"=120' | DATE: 6/18/25 | SHEET NO: 1 OF 2 |
|---|---|---|
| REVISED: | JFE 6/27/25 | |




NOTES:
1. EQUIPMENT PLACEMENT IS APPROXIMATE AND SUBJECT TO MINOR MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.
2. FLOWLINE CORRIDOR IS APPROXIMATE AND SUBJECT TO MINOR MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.
3. ALL WATER TANKS ARE 500bbls.
3. ALL OIL TANKS ARE 500bbls.

FACILITY COORDINATES:
LAT: 39.916939° LONG: -104.723452° (NAD83)

DATA SOURCES:
- AERIAL COURTESY OF NEARMAP


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|---|---|
| SCALE: | 1" = 120' |
| DATE SURVEYED: | 6/10/25 |
| DATE: | 6/18/25 |
| DRAFTER: | KMG |
| REVISED: | 7/15/25 |

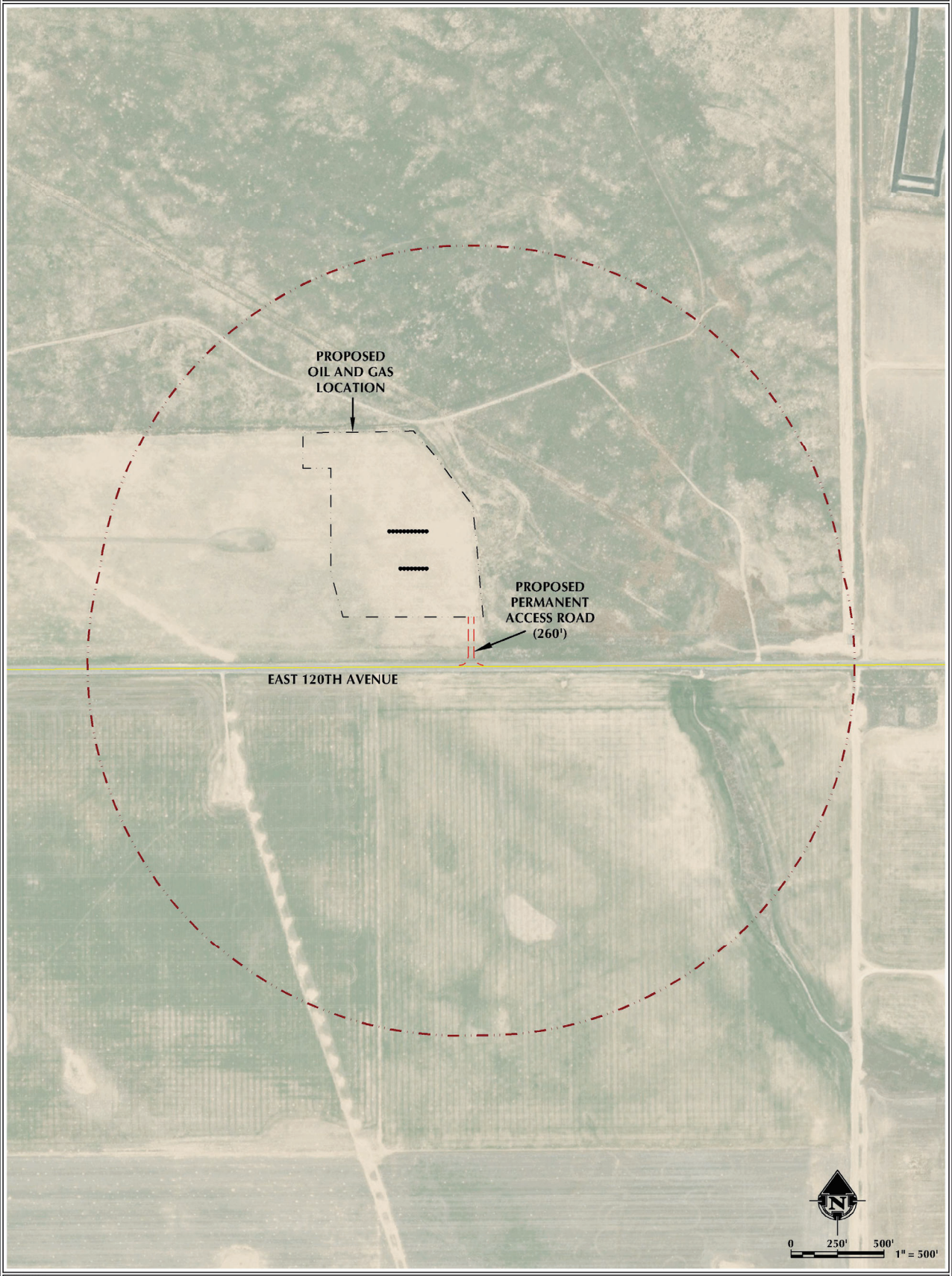
FACILITY LAYOUT DRAWING
EAGLE PAD
LOCATED IN SECTION 36, T1S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

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ACCESS ROAD MAP

# EAGLE PAD

SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




LEGEND

- PROPOSED WELL
- PROPOSED PERMANENT ACCESS ROAD
- PUBLIC ROAD
- PROPOSED OIL AND GAS LOCATION
- 2000' ACCESS BUFFER
- RESIDENTIAL BUILDING UNIT
- NON-RESIDENTIAL BUILDING UNIT

INTERSECTION OF PROPOSED PERMANENT ACCESS ROAD AND EAST 120TH AVENUE
LATITUDE: 39.914289°
LONGITUDE: -104.722112°


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|---|---|
| DATE SURVEYED: | 6/10/25 |
| DATE: | 6/17/25 |
| DRAFTER: | GLK |
| REVISED: | |

DATA SOURCES & NOTES:
- AERIAL COURTESY OF ESRI INC.

PREPARED FOR: CIVITAS Extraction Oil & Gas, Inc.




ACCESS ROAD PICTURE OF EAGLE PAD - CAMERA ANGLE NORTH (INTO PROPERTY)




ACCESS ROAD PICTURE OF EAGLE PAD - CAMERA ANGLE EAST

**EAGLE PAD**

ACCESS ROAD PICTURES
EAGLE 02W-25-01, EAGLE 02W-25-03, EAGLE 02W-25-05, EAGLE 02W-20-07, EAGLE 02W-25-02, EAGLE 02W-25-04, EAGLE 02W-25-06, EAGLE 02W-20-08, EAGLE STATE 36NU-20-03, EAGLE STATE 36NU-20-02, EAGLE STATE 36NU-20-01, EAGLET 11W-20-01, EAGLET 11W-20-02, EAGLET 11W-20-03, EAGLET 11W-20-04, EAGLET 11W-15-05, EAGLET 11W-15-06, EAGLET 11W-15-07, EAGLET 11W-15-08
LOCATED IN SECTION 36, T1S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

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Phone 970-776-4331

SCALE: NTS | DATE: 6/17/25 | SHEET NO: 1 1 OF 2
REVISED:

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ACCESS ROAD PICTURE OF EAGLE PAD - CAMERA ANGLE SOUTH




ACCESS ROAD PICTURE OF EAGLE PAD - CAMERA ANGLE WEST

**EAGLE PAD**

ACCESS ROAD PICTURES
EAGLE 02W-25-01, EAGLE 02W-25-03, EAGLE 02W-25-05, EAGLE 02W-20-07, EAGLE 02W-25-02, EAGLE 02W-25-04, EAGLE 02W-25-06, EAGLE 02W-20-08, EAGLE STATE 36NU-20-03, EAGLE STATE 36NU-20-02, EAGLE STATE 36NU-20-01, EAGLET 11W-20-01, EAGLET 11W-20-02, EAGLET 11W-20-03, EAGLET 11W-20-04, EAGLET 11W-15-05, EAGLET 11W-15-06, EAGLET 11W-15-07, EAGLET 11W-15-08
LOCATED IN SECTION 36, T1S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

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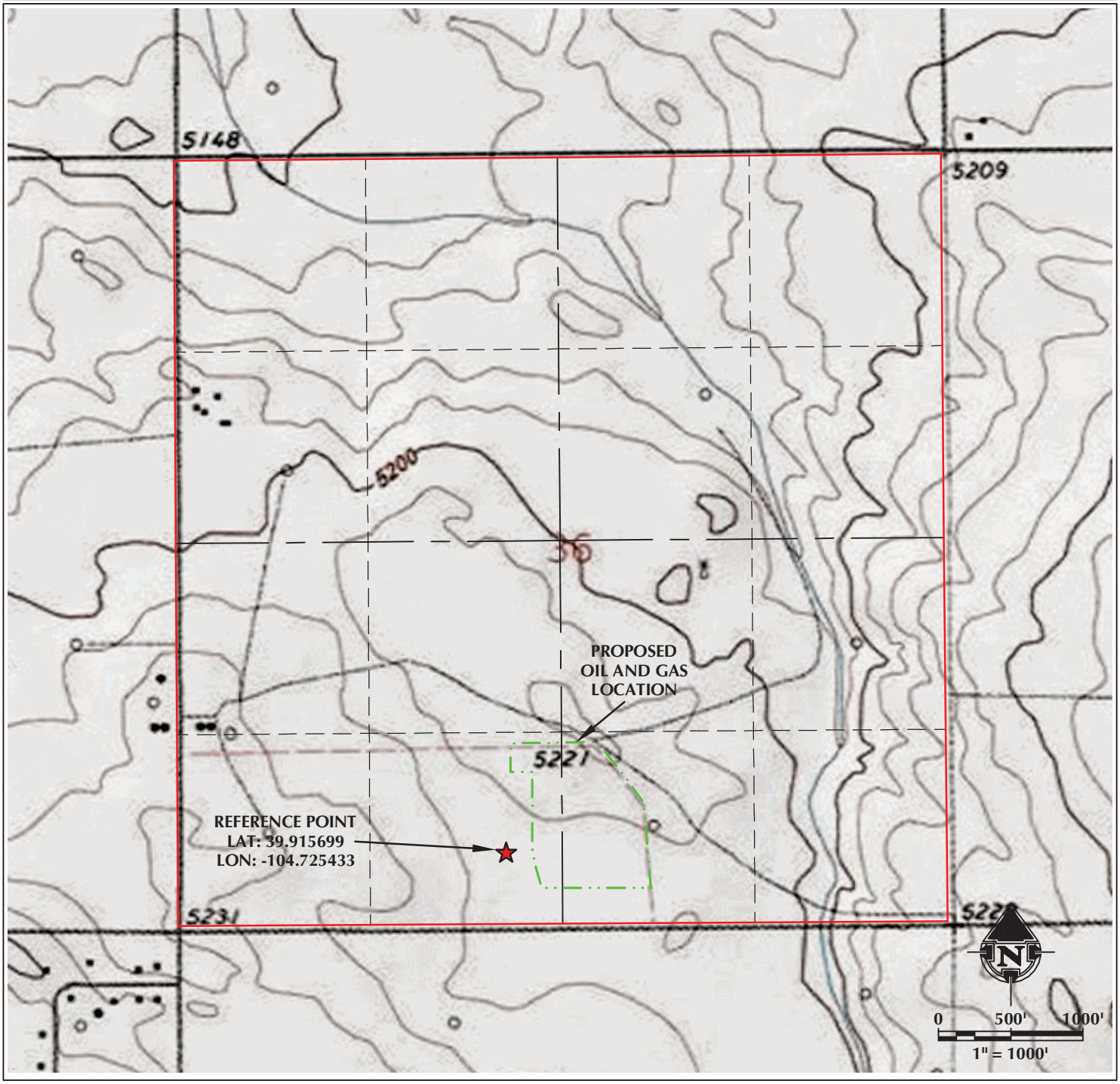
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# REFERENCE AREA MAP

# EAGLE PAD

## SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




## LEGEND

- PROPOSED OIL AND GAS LOCATION
- SECTION LINE
- SECTION 1/4 LINE
- SECTION 1/4 1/4 LINE
- REFERENCE POINT


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| REVISED: | |

**DATA SOURCES:**
- TOPOGRAPHIC MAP IS COURTESY OF USGS

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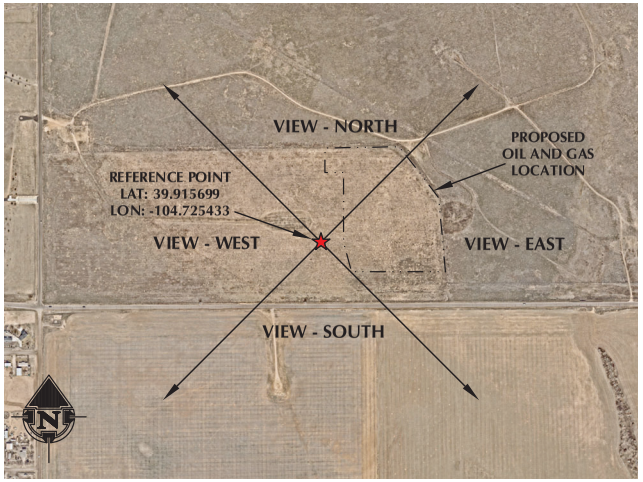
# REFERENCE AREA PICTURES

# EAGLE PAD

SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




VIEW - NORTH




VIEW - OVERHEAD
AERIAL IMAGERY COURTESY OF NEARMAP
2025-03-03




VIEW - EAST




VIEW - SOUTH




VIEW - WEST

SHEET 1 OF 2

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| DATE: | 6/17/25 |
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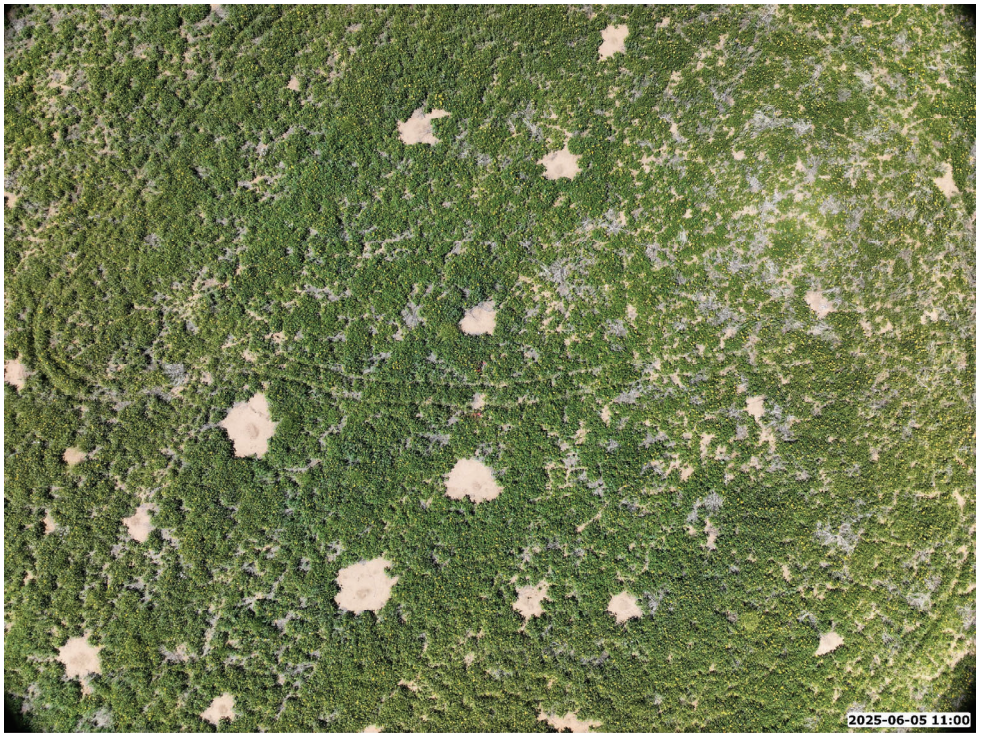
DATA SOURCES:
-AERIAL IMAGERY COURTESY OF NEARMAP.

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REFERENCE AREA PICTURES

# EAGLE PAD

SECTION 36, TOWNSHIP 1 SOUTH, RANGE 66 WEST, 6TH P.M., ADAMS COUNTY, COLORADO




VIEW - OVERHEAD (DRONE)




VIEW - CLOSE UP

SHEET 2 OF 2

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| DATE: | 6/17/25 |
| DRAFTER: | GLK |
| REVISED: | |

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**WELL PAD - EAGLE PAD**

DIRECTIONAL WELL PLAT (ECMC) /
MULTI-WELL PLAN (OGED)
EAGLE 02W-25-01, EAGLE 02W-25-03,
EAGLE 02W-25-05, EAGLE 02W-25-07,
EAGLE 02W-25-02, EAGLE 02W-25-04, EAGLE 02W-25-06,
EAGLE 02W-25-08, EAGLE STATE 36NU-20-03, EAGLE STATE 36NU-20-02,
EAGLE STATE 36NU-20-01, EAGLET 11W-20-01, EAGLET 11W-20-02,
EAGLET 11W-20-03, EAGLET 11W-20-04, EAGLET 11W-15-05,
EAGLET 11W-15-06, EAGLET 11W-15-07 & EAGLET 11W-15-08
LOCATED IN SECTIONS 35 & 36, T1S, R66W &
SECTIONS 1, 2, 3, 4, 9, 10, 11 & 12, T2S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

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|---|---|---|---|
| DRAFTED BY: | SJM | CHECKED BY: | RKF |
| DATE DRAFTED: | 6/18/25 | DATE SURVEYED: | 6/10/25 |
| REVISED: | | FILE NAME: | 24-118 |

SHEET NO: **1A** 1A OF 1

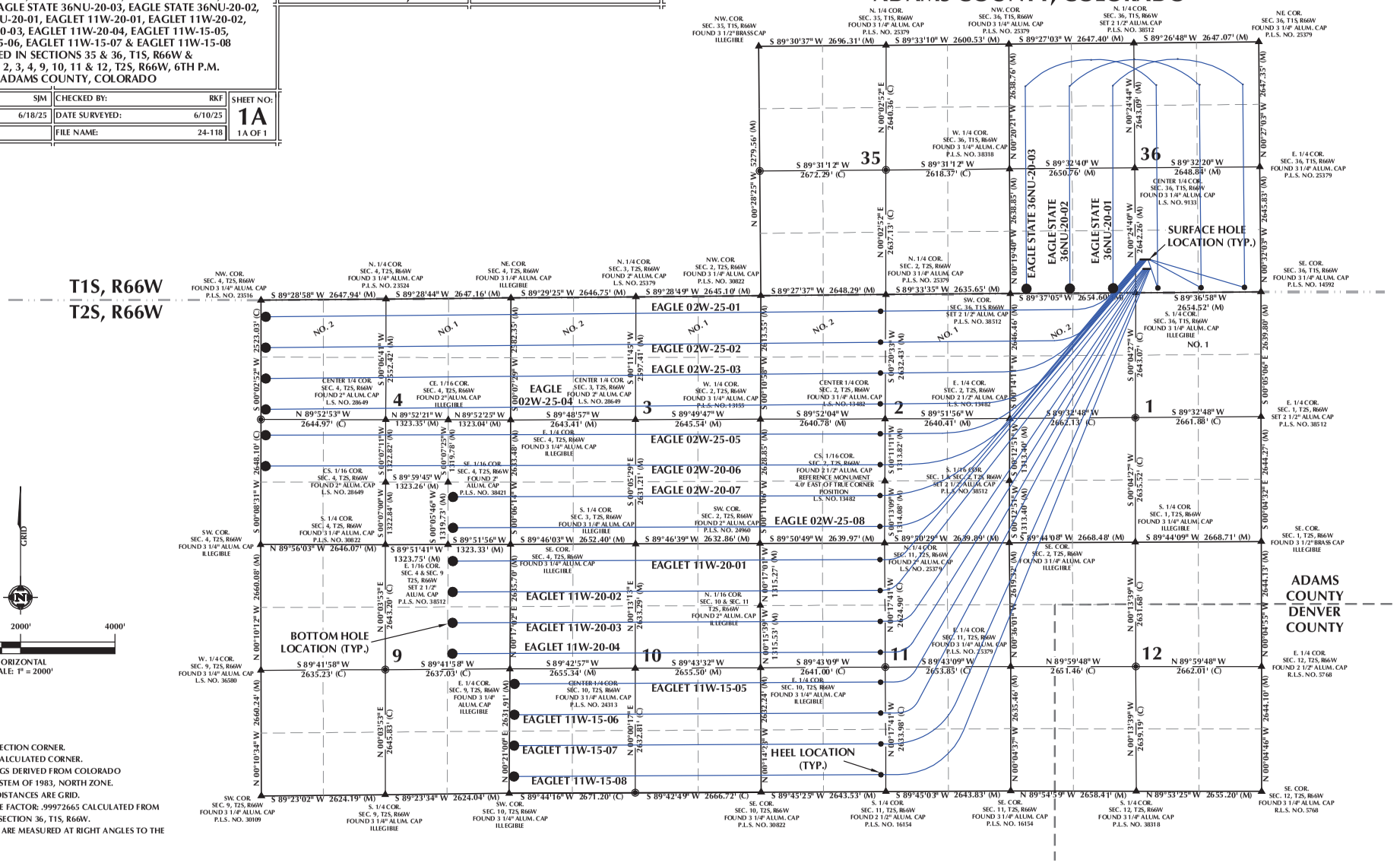

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Prepared For:
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Extraction Oil & Gas, Inc.

# DIRECTIONAL WELL PLAT (ECMC) / MULTI-WELL PLAN (OGED)
## SECTIONS 35 & 36, T1S, R66W &
## SECTIONS 1, 2, 3, 4, 9, 10, 11 & 12, T2S, R66W, 6TH P.M.
## ADAMS COUNTY, COLORADO




NOTES:

1. ▲ INDICATES SECTION CORNER.
2. ◉ INDICATES CALCULATED CORNER.
3. BASIS OF BEARINGS DERIVED FROM COLORADO COORDINATE SYSTEM OF 1983, NORTH ZONE.
4. ALL MEASURED DISTANCES ARE GRID. COMBINED SCALE FACTOR: .99972665 CALCULATED FROM SW. CORNER OF SECTION 36, T1S, R66W.
5. WELL FOOTAGES ARE MEASURED AT RIGHT ANGLES TO THE SECTION LINES.

K:\CIVITAS RESOURCES\2024\24_118_EAGLE_T1S, R66W, SEC_36\PLATS\EAGLE\EAGLE.dwg, 6/18/2025 9:59:43 AM, xmiller

# DIRECTIONAL WELL PLAT (ECMC) / MULTI-WELL PLAN (OGED)
# SECTIONS 35 & 36, T1S, R66W & SECTIONS 1, 2, 3, 4, 9, 10, 11 & 12, T2S, R66W, 6TH P.M.
# ADAMS COUNTY, COLORADO

WELL NOTES:

EAGLE 02W-25-01
- SURFACE HOLE LOCATION: 707' FSL, 2543' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 351' FNL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 351' FNL, 100' FWL (SEC. 4, T2S, R66W)

EAGLE 02W-25-03
- SURFACE HOLE LOCATION: 706' FSL, 2523' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1659' FNL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 1659' FNL, 100' FWL (SEC. 4, T2S, R66W)

EAGLE 02W-25-05
- SURFACE HOLE LOCATION: 706' FSL, 2503' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 2313' FSL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 2313' FSL, 100' FWL (SEC. 4, T2S, R66W)

EAGLE 02W-20-07
- SURFACE HOLE LOCATION: 706' FSL, 2483' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1005' FSL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 1005' FSL, 1220' FEL (SEC. 4, T2S, R66W)

EAGLE 02W-25-02
- SURFACE HOLE LOCATION: 706' FSL, 2463' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1005' FNL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 1005' FNL, 100' FWL (SEC. 4, T2S, R66W)

EAGLE 02W-25-04
- SURFACE HOLE LOCATION: 706' FSL, 2443' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 2313' FNL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 2313' FNL, 100' FWL (SEC. 4, T2S, R66W)

EAGLE 02W-25-06
- SURFACE HOLE LOCATION: 706' FSL, 2423' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1659' FSL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 1659' FSL, 100' FWL (SEC. 4, T2S, R66W)

EAGLE 02W-20-08
- SURFACE HOLE LOCATION: 706' FSL, 2403' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 351' FSL, 2540' FWL (SEC. 2, T2S, R66W)
- BOTTOM HOLE LOCATION: 351' FSL, 1220' FEL (SEC. 4, T2S, R66W)

EAGLE STATE 36NU-20-03
- SURFACE HOLE LOCATION: 705' FSL, 2383' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 100' FSL, 2181' FEL (SEC. 36, T1S, R66W)
- BOTTOM HOLE LOCATION: 100' FSL, 345' FWL (SEC. 36, T1S, R66W)

EAGLE STATE 36NU-20-02
- SURFACE HOLE LOCATION: 705' FSL, 2363' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 100' FSL, 1263' FEL (SEC. 36, T1S, R66W)
- BOTTOM HOLE LOCATION: 100' FSL, 1263' FWL (SEC. 36, T1S, R66W)

EAGLE STATE 36NU-20-01
- SURFACE HOLE LOCATION: 705' FSL, 2343' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 100' FSL, 345' FEL (SEC. 36, T1S, R66W)
- BOTTOM HOLE LOCATION: 100' FSL, 2181' FWL (SEC. 36, T1S, R66W)

EAGLET 11W-20-01
- SURFACE HOLE LOCATION: 506' FSL, 2485' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 351' FNL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 351' FNL, 1220' FEL (SEC. 9, T2S, R66W)

EAGLET 11W-20-02
- SURFACE HOLE LOCATION: 506' FSL, 2465' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1005' FNL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 1005' FNL, 1220' FEL (SEC. 9, T2S, R66W)

EAGLET 11W-20-03
- SURFACE HOLE LOCATION: 506' FSL, 2445' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1659' FNL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 1659' FNL, 1220' FEL (SEC. 9, T2S, R66W)

EAGLET 11W-20-04
- SURFACE HOLE LOCATION: 506' FSL, 2425' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 2313' FNL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 2313' FNL, 1220' FEL (SEC. 9, T2S, R66W)

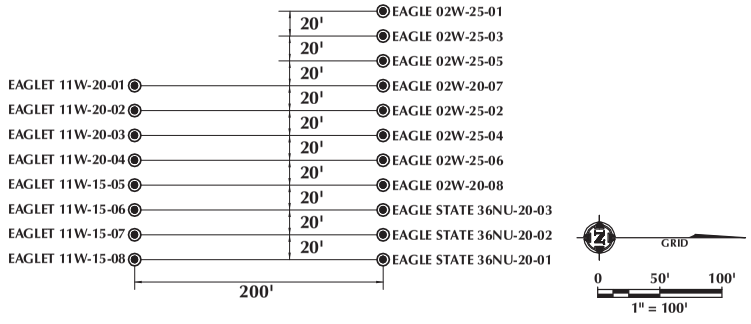
EAGLET 11W-15-05
- SURFACE HOLE LOCATION: 506' FSL, 2405' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 2313' FSL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 2313' FSL, 100' FWL (SEC. 10, T2S, R66W)

EAGLET 11W-15-06
- SURFACE HOLE LOCATION: 505' FSL, 2385' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1659' FSL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 1659' FSL, 100' FWL (SEC. 10, T2S, R66W)

EAGLET 11W-15-07
- SURFACE HOLE LOCATION: 505' FSL, 2365' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 1005' FSL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 1005' FSL, 100' FWL (SEC. 10, T2S, R66W)

EAGLET 11W-15-08
- SURFACE HOLE LOCATION: 505' FSL, 2345' FEL (SEC. 36, T1S, R66W)
- HEEL LOCATION: 351' FSL, 2540' FWL (SEC. 11, T2S, R66W)
- BOTTOM HOLE LOCATION: 351' FSL, 100' FWL (SEC. 10, T2S, R66W)

## WELL HEAD SPACING DETAIL





LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331

SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

609 CONSULTING, LLC


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

**WELL PAD - EAGLE PAD**

DIRECTIONAL WELL PLAT (ECMC) /
MULTI-WELL PLAN (OGED)
EAGLE 02W-25-01, EAGLE 02W-25-03,
EAGLE 02W-25-05, EAGLE 02W-25-07,
EAGLE 02W-25-02, EAGLE 02W-25-04, EAGLE 02W-25-06,
EAGLE 02W-25-08, EAGLE STATE 36NU-20-03, EAGLE STATE 36NU-20-02,
EAGLE STATE 36NU-20-01, EAGLET 11W-20-01, EAGLET 11W-20-02,
EAGLET 11W-20-03, EAGLET 11W-20-04, EAGLET 11W-15-05,
EAGLET 11W-15-06, EAGLET 11W-15-07 & EAGLET 11W-15-08
LOCATED IN SECTIONS 35 & 36, T1S, R66W &
SECTIONS 1, 2, 3, 4, 9, 10, 11 & 12, T2S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

| | | | | |
|---|---|---|---|---|
| DRAFTED BY: | SJM | CHECKED BY: | RKF | SHEET NO: 1B |
| DATE DRAFTED: | 6/18/25 | DATE SURVEYED: | 6/10/25 | 1B OF 1 |
| REVISED: | | FILE NAME: | 24-118 | |

K:\CIVITAS RESOURCES\2024\2024_118_EAGLE_T1S, R66W, SEC_36\PLATS\EAG_EAGLE.dwg, 6/16/2025 5:15:05 PM, jsalmeida

WELL PAD - EAGLE PAD

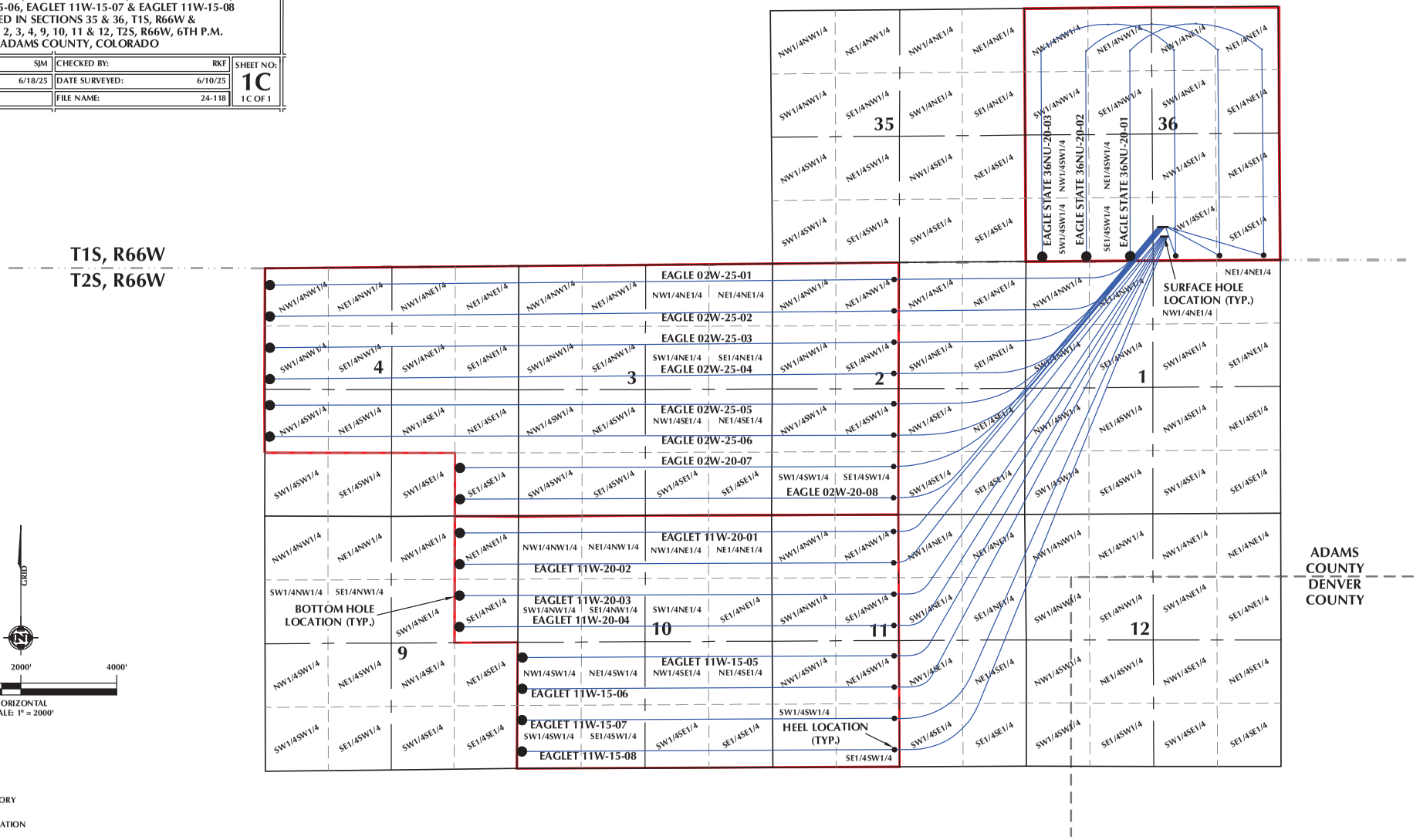
DIRECTIONAL WELL PLAT (ECMC) /
MULTI-WELL PLAN (OGED)
EAGLE 02W-25-01, EAGLE 02W-25-03,
EAGLE 02W-25-05, EAGLE 02W-25-07,
EAGLE 02W-25-02, EAGLE 02W-25-04, EAGLE 02W-25-06,
EAGLE 02W-25-08, EAGLE STATE 36NU-20-03, EAGLE STATE 36NU-20-02,
EAGLE STATE 36NU-20-01, EAGLET 11W-20-01, EAGLET 11W-20-02,
EAGLET 11W-20-03, EAGLET 11W-20-04, EAGLET 11W-15-05,
EAGLET 11W-15-06, EAGLET 11W-15-07 & EAGLET 11W-15-08
LOCATED IN SECTIONS 35 & 36, T1S, R66W &
SECTIONS 1, 2, 3, 4, 9, 10, 11 & 12, T2S, R66W, 6TH P.M.
ADAMS COUNTY, COLORADO

| | | |
|---|---|---|
| DRAFTED BY: SJM | CHECKED BY: RKF | SHEET NO: 1C |
| DATE DRAFTED: 6/18/25 | DATE SURVEYED: 6/10/25 | 1C OF 1 |
| REVISED: | FILE NAME: 24-118 | |


609 CONSULTING, LLC
LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331
SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609


Prepared For:
CIVITAS
Extraction Oil & Gas, Inc.

# DIRECTIONAL WELL PLAT (ECMC) / MULTI-WELL PLAN (OGED)
## SECTIONS 35 & 36, T1S, R66W &
## SECTIONS 1, 2, 3, 4, 9, 10, 11 & 12, T2S, R66W, 6TH P.M.
## ADAMS COUNTY, COLORADO




LEGEND:
- DSU BOUNDARY
- WELLBORE TRAJECTORY
- HEEL LOCATION
- BOTTOM HOLE LOCATION

K:\CIVITAS RESOURCES\2024\2024_118_EAGLE_T1S_R66W_SEC_36\PLATS\EAGLE\EAGLE.dwg, 6/18/2025 4:17:57 PM, smiller

# Exhibit B

**SURFACE USE AGREEMENT**
**PAYMENT TABLE**

| Fee Category | Tier 1 | Tier 2 | Tier 3 |
|---|---|---|---|
| | **State has a mineral interest of greater than or equal to 50% but less than 100%[5]** | **State has a mineral interest of greater than 10% but less than 50%** | **State has a mineral interest of less than or equal to 10%[4]** |
| **Initial Damage Payment:** Initial well pad or facility payment per acre | $5,000 | $7,500 | TBD |
| **Well Payments:** Well payment per well[1] | $5,000 one-time | $7,500 one-time | TBD |
| **Annual Payment:** Rental due per year | 10% of initial well pad or facility payment | 10% of initial well pad or facility payment | TBD |
| **Access Corridor Payment:** Access roads, pipeline and powerline easements, and other off-pad disturbances | $5,000 per acre or ROW pricing[2], one-time payment | $5,000 per acre or ROW pricing[2], one-time payment | TBD |
| **Production Facilities Payment:** Off-property wells producing through an onsite Production Facility[3] | $5,000 per well, one-time payment | $7,500 per well, one-time payment | TBD |

(1) Payment is due on or before the next annual anniversary date after the spud of a well.

(2) $5,000 per acre or the Standard State ROW rates, whichever is greater; may be subject to either the SUA or a separate ROW agreement.

(3) Requires prior written approval by the State Land Board and payment before any construction may begin. Please refer to the COGCC Rules and Regulations for the definition of Production Facility.

(4) All applications that fall into the Tier 3 category require that the proposed fee structure be submitted to the Board for approval.

(5) SUAs are not required when the state has 100% mineral ownership or when wellbores are contained entirely within state minerals.

# Exhibit B

## Acreage and Annual Payment Calculator

**Instructions**: Please fill out all of the sections that are highlighted in yellow. In the well column input the well name and the percentage of State Land Board Minerals that will be produced. If there are more spaces then wells please leave them blank and do not enter "0". Please enter all numbers to the third decimal point to insure accuracy. The total initial payment and the annual rental payment will then be automatically calculated. Please note that if the total State percentage of minerals is 10% or less then board approval will be required and this chart should not be used.

| Input each wells State Mineral Percentage that runs into this facility Please only enter one well per row. Example 0%=0, 49%=49, 100%=100, Leave unused rows blank. | | Fee Schedule | |
|---|---|---|---|
| Well Name | % | Percentage of State Minerals | Charge per Acre |
| EAGLE STATE 36NU-20-01 | 100.000 | 10% to 0% State minerals | Board Approval |
| EAGLE STATE 36NU-20-02 | 100.000 | Greater then 10% but less then 50% State Minerals | $7,500.00 |
| EAGLE STATE 36NU-20-03 | 100.000 | 50% or greater but less then 100% State Minerals | $5,000.00 |
| EAGLE 02W-25-01 | 0.000 | 100% State Minerals | $0.00 |
| EAGLE 02W-25-03 | 0.000 | Input the proposed total disturbance to the third decimal point below. | |
| EAGLE 02W-25-05 | 0.000 | | |
| EAGLE 02W-20-07 | 0.000 | Input the total acreage of the pad | |
| EAGLE 02W-25-02 | 0.000 | | 17.030 |
| EAGLE 02W-25-04 | 0.000 | Input the total acreage of all pipeline easements, access | |
| EAGLE 02W-25-06 | 0.000 | roads, and other disturbances NOT on the pad | 0.180 |
| EAGLE 02W-20-08 | 0.000 | Calculated Total State Percentage from previous column | |
| EAGLET 11W-20-01 | 0.000 | | 15.789 |
| EAGLET 11W-20-02 | 0.000 | Well pad cost per acre based to State Percentage | |
| EAGLET 11W-20-03 | 0.000 | | $7,500.00 |
| EAGLET 11W-20-04 | 0.000 | Off well pad cost per acre for off well pad disturbances | |
| EAGLET 11W-15-05 | 0.000 | | $5,000.00 |
| EAGLET 11W-15-06 | 0.000 | Initial payment due for well pad disturbance | |
| EAGLET 11W-15-07 | 0.000 | | $127,725.00 |
| EAGLET 11W-15-08 | 0.000 | One time payment due for off well pad disturbance | |
| | | | $900.00 |
| | | Final Calculated Payments | |
| | | | |
| | | | |
| | | Total initial payment due for all planned construction | |
| | | | $128,625.00 |
| The calculated State percentage will automatically be carried over and input. | | Annual Rental Payment due on anniversary date | |
| | | | $12,772.50 |

# Exhibit B

| Total Well Payment Calculator | | | |
|---|---|---|---|
| Percentage of State Minerals | Enter the number of wells running into the State Facility for each category | Charge per well | Total Payments |
| 10% to 0% State minerals | 16 | $10,000 | $160,000.00 |
| Greater then 10% but less then 50% State Minerals | | $7,500 | $0.00 |
| 50% or greater but less then 100% State Minerals | | $5,000 | $0.00 |
| 100% State Minerals | 3 | $0 | $0.00 |
| | | Total Well Payment* | $160,000.00 |

*Well Payments are due on the next annual anniversary date of the Effective date following spud. This number assumes full development.

# Exhibit C

July 24, 2025

State Board of Land Commissioners
Attn: Steve Freese
1127 Sherman Street, Suite 300
Denver, Colorado 80203

Dear Mr. Freese,

This letter is to confirm that Extraction Oil & Gas, Inc. and the Colorado State Land Board (SLB) agree that the total percentage of wellbore drilled from the Eagle pad located in SESW & SWSE Section 36, Township 1 South, Range 66 West must at all times contain a share of SLB minerals greater than ten percent. The share of SLB minerals will be calculated by inputting the percentages of the drilled wells into the Exhibit B acreage and annual payment calculator. Extraction Oil & Gas, Inc. understands that if the total percentage of wellbore drilled is ever equal to or below ten percent then all associated leases will be considered in default and may be terminated by the SLB.

In addition, Extraction Oil & Gas, Inc. understands that the surface disturbance payment consideration for this SUA was determined based on the SLB percentage of all of the planned wells as calculated on Exhibit B. Partial development of this SUA has the potential to change the percentage of SLB minerals drilled and therefore the charge per acre as outlined on Exhibit B and referenced below. Any additional payment will be due on the next anniversary date of this lease. Extraction Oil & Gas, Inc. understands that at no time will the State Land Board issue a refund in the event that the SLB percentage lowers the per acre cost.

## Fee Schedule

| Percentage of State Minerals | Charge per Acre |
|---|---|
| 10% to 0% State minerals | Board Approval |
| Greater then 10% but less then 50% State Minerals | $7,500.00 |
| 50% or greater but less then 100% State Minerals | $5,000.00 |
| 100% State Minerals | $0.00 |

Thank you,

Jeremy Sonnier, Surface Land Advisor
Extraction Oil & Gas, Inc., a wholly owned subsidiary of
Civitas Resources, Inc.

**From:** Marette - DNR, Brandon <brandon.marette@state.co.us>
**Sent:** Thursday, June 20, 2024 3:29 PM
**To:** Lilah Hubbard
**Cc:** Lexi Hamous-Miller - DNR; Nathan Bennett; Jeremy Sonnier; Claude Boiteau; Jeff Annable; Hannah Posey - DNR
**Subject:** Re: Burrowing Owl HPH Exemption Request

Good afternoon Lilah,

Thanks for your email. I would agree BOwls probably aren't using that location this year.

Therefore, CPW is willing to waive the BOwl nesting season if this fall, Civitas fills in the PD holes within the development area. If not, CPW would ask for Civitas to do another round of surveys next spring. Either way, please do a final BOwl check within 2 weeks prior to construction.

Regards,

**Brandon B. Marette, CWB®**
**Northeast Region Energy Liaison**
LIVE LIFE OUTSIDE
Direct (720) 880-0819
6060 Broadway, Denver, CO 80216
brandon.marette@state.co.us
CPW's Energy Webpage
CPW's Wildlife Movements Webpage
THINK SAFETY FIRST!

On Thu, Jun 13, 2024 at 12:34 PM Lilah Hubbard <lhubbard@civiresources.com> wrote:

> Good afternoon Brandon,
>
> RPG completed the additional burrowing owl survey on 6/11/24: no burrowing owls nor prairie dogs were observed during the survey. To summarize, RPG has conducted four (4) burrowing owl surveys between 5/20/24 - 6/11/24, and all have been negative for burrowing owl activity (and prairie dog activity).
>
> Please let us know if you have any other questions or if CPW approves this request to waive the HPH requirements for this project.
>
> Thank you for your time,
>
> **Lilah Hubbard**
> Natural Resource Specialist

Cell 510-734-4733
555 17th Street |Suite 3700 | Denver, CO | 80202
**www.civitasresources.com** | NYSE: CIVI

---

**From:** Lilah Hubbard <lhubbard@civiresources.com>
**Sent:** Thursday, June 6, 2024 12:05 PM
**To:** Marette - DNR, Brandon <brandon.marette@state.co.us>
**Cc:** Lexi Hamous-Miller - DNR <lexi.hamous-miller@state.co.us>; Nathan Bennett <nbennett@civiresources.com>; Jeremy Sonnier <jsonnier@civiresources.com>; Claude Boiteau <cboiteau@civiresources.com>; Jeff Annable <jannable@civiresources.com>
**Subject:** Re: Burrowing Owl HPH Exemption Request

Hi Brandon,

RPG has scheduled an additional survey for 6/11/24.

This project is still in the early planning stage: we do not yet have a surface use agreement with SLB, but we wanted to be proactive and request input from CPW early on regarding the HPH to ensure we have a path forward for this project. We also hope that this early consultation with CPW will help answer any questions that SLB may have regarding the HPH.

We hope to begin the OGDP process later this year or early next year, but the timeline will depend on the agreements and other preliminary steps.

Other Civitas team members have been copied on this email in case you have additional project-related questions.

Thank you,

**Lilah Hubbard**
Natural Resource Specialist
Cell 510-734-4733
555 17th Street |Suite 3700 | Denver, CO | 80202
**www.civitasresources.com** | NYSE: CIVI

---

**From:** Marette - DNR, Brandon <brandon.marette@state.co.us>
**Sent:** Wednesday, June 5, 2024 2:28 PM
**To:** Lilah Hubbard <lhubbard@civiresources.com>
**Cc:** Lexi Hamous-Miller - DNR <lexi.hamous-miller@state.co.us>; Nathan Bennett <nbennett@civiresources.com>; Jeremy Sonnier <jsonnier@civiresources.com>; Claude Boiteau <cboiteau@civiresources.com>; Jeff Annable <jannable@civiresources.com>
**Subject:** Re: Burrowing Owl HPH Exemption Request

Yes, please, could you have RPG do one more survey next week?

What's the proposed development and time frame?

Regards,

**Brandon B. Marette, CWB®**
**Northeast Region Energy Liaison**
LIVE LIFE OUTSIDE
Direct (720) 880-0819
6060 Broadway, Denver, CO 80216
brandon.marette@state.co.us
CPW's Energy Webpage
CPW's Wildlife Movements Webpage
THINK SAFETY FIRST!

On Wed, Jun 5, 2024 at 1:00 PM Lilah Hubbard <lhubbard@civiresources.com> wrote:

Hi Brandon,

Thank you for the question. The surveys were conducted on 5/20/24, 6/3/24, and 6/4/24. We typically aim to have surveys conducted approximately one week apart (per CPW-recommended protocol), but the second survey was delayed in this case due to a schedule conflict. We can schedule additional surveys if that's what you would suggest.

Please let me know if you have any other questions.

Thank you,

**Lilah Hubbard**
Natural Resource Specialist
Cell 510-734-4733
555 17th Street |Suite 3700 | Denver, CO | 80202
**www.civitasresources.com** | NYSE: CIVI
CIVITAS

---

**From:** Marette - DNR, Brandon <brandon.marette@state.co.us>
**Sent:** Wednesday, June 5, 2024 12:44 PM
**To:** Lilah Hubbard <lhubbard@civiresources.com>
**Cc:** Lexi Hamous-Miller - DNR <lexi.hamous-miller@state.co.us>; Nathan Bennett <nbennett@civiresources.com>; Jeremy Sonnier <jsonnier@civiresources.com>; Claude Boiteau <cboiteau@civiresources.com>; Jeff Annable <jannable@civiresources.com>
**Subject:** Re: Burrowing Owl HPH Exemption Request

Good afternoon Lilah,

Thanks for your email.

Were the surveys separated by a week? (e.g., 3 weeks total)

Regards,

**Brandon B. Marette, CWB®**

**Northeast Region Energy Liaison**

Direct (720) 880-0819
6060 Broadway, Denver, CO 80216
brandon.marette@state.co.us
CPW's Energy Webpage
CPW's Wildlife Movements Webpage

**THINK SAFETY FIRST!**

On Wed, Jun 5, 2024 at 12:02 PM Lilah Hubbard <lhubbard@civiresources.com> wrote:

Hi Brandon and Lexi,

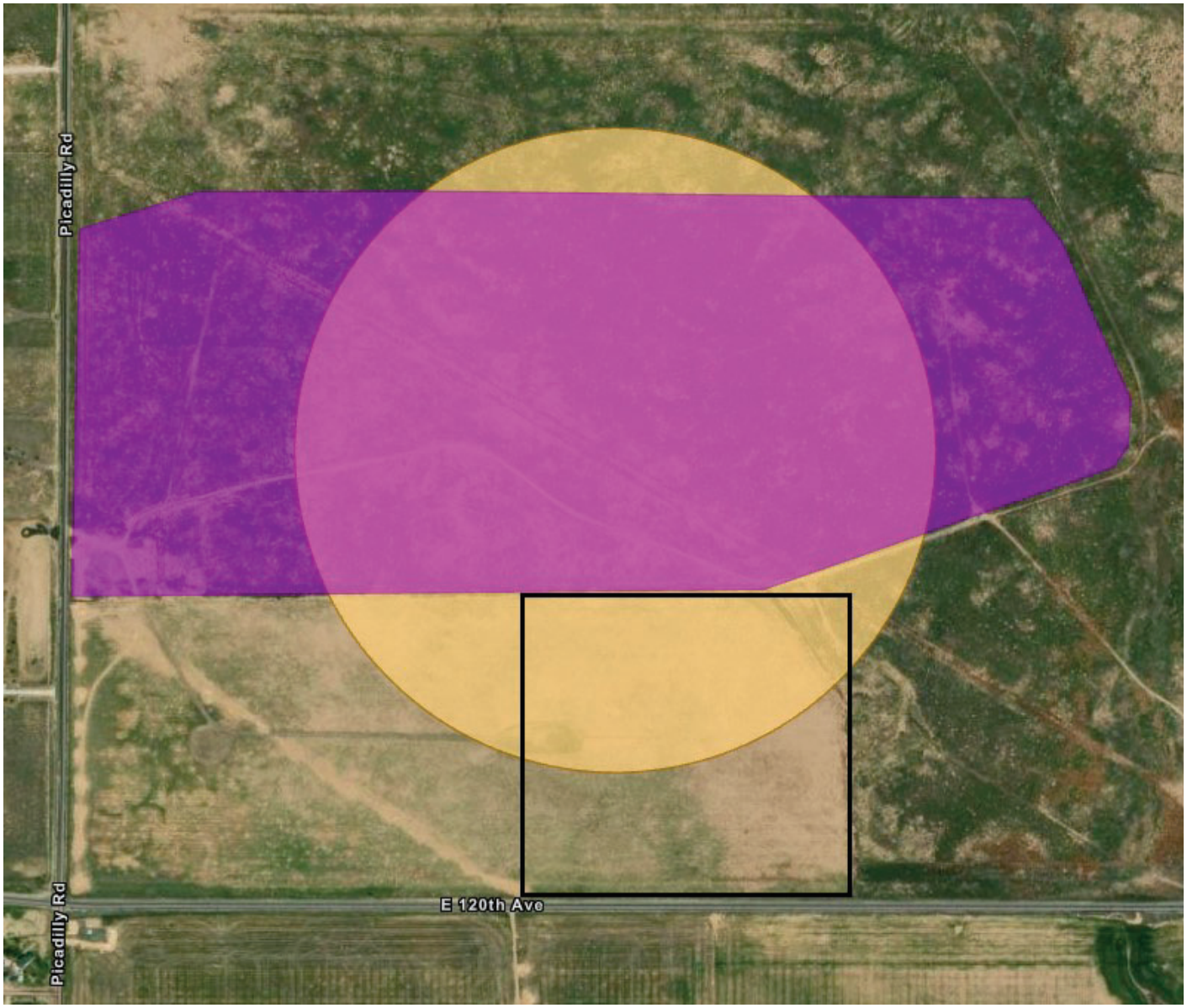
Civitas is working on potential development plans in the southern half of Sec 36 of T1S R66W in Adams County. Civitas' wildlife consultant, RPG Resources, conducted preliminary assessments to survey the mapped Burrowing Owl Active Nest Site High Priority Habitat (HPH) and to survey for other potential wildlife resources.

RPG completed three burrowing owl surveys, and all three surveys were negative for burrowing owl presence. They also noted the following: *The majority of the burrows from the historic prairie dog colony are collapsed, however there are some open burrows suitable for nesting scattered within the mapped habitat. Overall, this habitat is poor quality nesting habitat with vegetation approximately 1 foot tall throughout the entire field. There was no sign of burrowing owl (white wash, pellets, feathers) observed, nor was there sign of recent activity at the prairie dog burrows.*

The purple polygon below represents the overall boundaries of the field-verified habitat, as mapped by RPG, and the orange circle represents the HPH polygon / historic nest buffer. The black box is Civitas' current area of focus, so there is minimal chance that any open burrows would be physically impacted.

Based on the lack of activity in this HPH (and overall poor quality of this habitat), Civitas would like to request exemption from ECMC HPH requirements for this development. (Please note: prior to any dirt disturbance, additional surveys will be conducted, and we will follow up with CPW if new wildlife concerns are identified.)

Please let me know if you have any questions. Thank you for your time.




**Purple polygon** = RPG-mapped overall habitat
**Orange polygon** = HPH polygon
**Black box** = Civitas' current area of focus


6/3/24, 9:16 AM
+39.918744,-104.724809
Adams County


6/3/24, 9:16 AM
+39.918744,-104.724809
Adams County







Thank you,

**Lilah Hubbard**
Natural Resource Specialist

Cell 510-734-4733
555 17th Street |Suite 3700 | Denver, CO | 80202
**www.civitasresources.com** | NYSE: CIVI



# Re: Request for review 36 1S 66W due 7/10/24

1 message

**Marette - DNR, Brandon** <brandon.marette@state.co.us> Mon, Jul 8, 2024 at 9:04 AM
To: "Freese - DNR, Steve" <steve.freese@state.co.us>
Cc: Lilah Hubbard <lhubbard@civiresources.com>, Lexi Hamous-Miller - DNR <lexi.hamous-miller@state.co.us>, Hannah Posey - DNR <hannah.posey@state.co.us>

Good morning Steve,

While CPW appreciates the BOwl surveys Civitas performed this year, one year's worth of no activity at the burrows doesn't necessitate an exemption from the HPH layer. Therefore, should permitting timelines push into the 2025 nesting season, CPW recommends another round of BOwl surveys (three surveys separated by a week) if initial construction and mobilization occur between March 15 and August 31.

Regards,

**Brandon B. Marette, CWB®**
**Northeast Region Energy Liaison**

LIVE LIFE OUTSIDE

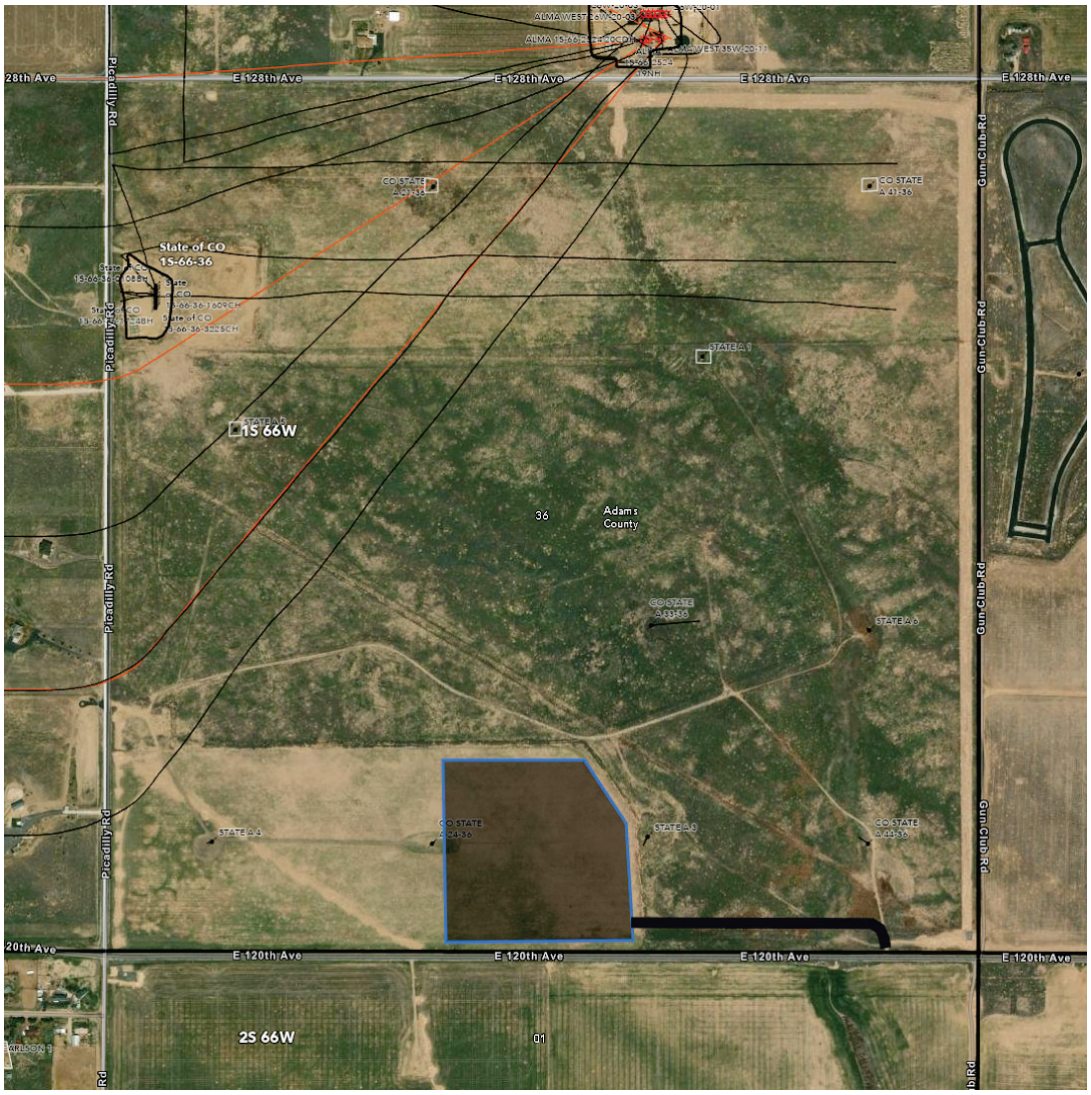
Direct (720) 880-0819
6060 Broadway, Denver, CO 80216
brandon.marette@state.co.us
CPW's Energy Webpage
CPW's Wildlife Movements Webpage

**THINK SAFETY FIRST!**

*(Upcoming days off or in the field: 7/10; 7/15-17)*

On Mon, Jun 10, 2024 at 7:28 AM Freese - DNR, Steve <steve.freese@state.co.us> wrote:

> Brandon,
>
> I have an operator interested in an oil and gas location in 36 1S 66W. The road is highlighted in black below and will follow an area that was previously disturbed for pipeline construction. The pad is outlined in blue and will be located in lands that have historically been farmed. Could you please provide any comments or concerns by 7/10/24? If you would like to meet onsite please let me know as soon as possible so we can get that scheduled.
>
> I believe Lilah Hubbard with Civitas has also reached out to you regarding this pad on 6/5/24 requesting an exemption to the HPH based on surveys that they have performed.




Thank you,

**Steve Freese**
**Minerals Field Specialist**
**Colorado State Board of Land Commissioners**
C 303.905.2808
1127 Sherman Street, Suite 300, Denver, CO 80203
Steve.Freese@state.co.us

Community & Economic Development Department
4430 S. Adams County Pkwy.
1st Floor, Suite W2000B
Brighton, CO 80601
PHONE 720.523.6800
EMAIL epermitcenter@adcogov.org
adcogov.org

# Development Review Team Comments

**Date:** 1/26/2026

**Project Number:** OGF2025-00002

**Project Name:** Eagle Pad at E.120th

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica — DISTRICT 1
Kathy Henson — DISTRICT 2
Emma Pinter — DISTRICT 3
Steve O'Dorisio — DISTRICT 4
Lynn Baca — DISTRICT 5

**Commenting Division:** ROW Review

**Name of Reviewer:** Thayeng Chang

**Date:** 01/26/2026

**Email:**

**Resubmittal Required**

ROW1: Applicant must submit a site plan showing (1) the record boundaries of where the well and drill areas (2) any existing and proposed easements, (3) location of existing public roads and intersections, and (4) existing structures, well and septic systems if applicable. Include the north arrow on site plan.

Please see "EAGLE PAD_SITE_PLAN_REV_20260311.pdf" in 3l. EGR Application & Engineering Documents folder.

1- Were on original draft

2- Easements added

3- Were on original draft

4- Structures and north arrow were on original draft. No septic.

ROW2: On the site plan, show the recorded information of the document providing right-of-way access to the site. Additionally, show all survey section corner information to help determine the location of the site boundary

Access to the site is illustrated on the plan. Nothing has been recorded to date, as this is all proposed, and access will be secured with Adams County prior to construction. Section corners have been added to the site plan.

ROW3: Applicant must submit a deed that can be found in the Office of the Clerk and Recorder OR a title commitment prepared by a professional title company.

Please refer to the file "Eagle Surface Ownership Note" in folder 3m Surface Owner Documentation folder which was included in the original submittal. A note is included which states "*State Land Board ownership originated from the federal land grant at statehood (as was nearly all Sections 16 and 36 of each township). BLM patent/serial no. COCOAA 000001 44.*"

ROW4: Pending engineer review of the haul route map and its traffic impacts to adjacent roads, a maintenance agreement may be required.

Comment acknowledged. Extraction believes the Traffic Impact Fee imposed should be sufficient as the haul route is now proposed to utilize only E 120th Ave to highway E 470.

ROW5: In any segment of the Project that is parallel to an Adams County right-of-way, the pipeline shall be constructed a minimum of five (5) feet from the edge of the maximum FUTURE right-of-way width, as designated in the Adams County Master Transportation Plan. If the location and existence of the developer's permanent easement precludes development within the maximum future right-of-way width as designated in the Adams County Master Transportation Plant, the developer's overlapping easement rights shall be subordinated (subject to the then-existing right of the parties, laws, and regulations) to accommodate Adams County's development.

Pipeline will be constructed from the edge of the OGF to the midstream tie-in to the east by a third-party.

**ADVISORY**

ROWx: E 120th Ave is classified as a Principal Arterial roadway. The right-of-way width for this classification is 140 feet.

Comment acknowledged

ROWx: Piccadilly Rd and Gun Club Rd are classified as a Rural Arterial and Section Line Arterial roadway, respectively. The right-of-way width for these classifications is 120 feet.

Extraction is proposing an alternative haul route to / from the OGF directly to highway E 470, utilizing E 120th Ave only.

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica — DISTRICT 1
Kathy Henson — DISTRICT 2
Emma Pinter — DISTRICT 3
Steve O'Dorisio — DISTRICT 4
Lynn Baca — DISTRICT 5

**Commenting Division:** Environmental Analyst Review

**Name of Reviewer:** Gregory Dean

**Date:** 01/23/2026

**Email:**

**Resubmittal Required**

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica — DISTRICT 1
Kathy Henson — DISTRICT 2
Emma Pinter — DISTRICT 3
Steve O'Dorisio — DISTRICT 4
Lynn Baca — DISTRICT 5

OGA1: Approval of layflat route to bring freshwater to OGF will be needed prior to completion operations. Additional permits may be needed for boring under County roads and no layflat can be in County ROW.

Comment acknowledged

OGA2: If applicant does recycle produced water, a condition of approval will be needed to ensure the PW plan is followed. Also, any PW trucked to location may only use authorized haul routes for the OGF. Please incorporate traffic counts and routes for this use into your traffic plan.

Potential truck counts are incorporated in the TIS. At this time there is no intention to deviate from the approved haul route. Should other routes be contemplated Extraction will notify and work with Adams County.

OGA3: Equipment counts at this OGF cannot exceed those listed in operations plan. Any increase in or swapping of equipment will require a minor amendment to the OGF and may be deemed major based on scale of change.

Comment acknowledged

Since the original submittal the equipment that may be utilized for recycling has been relocated on the southwest side of the pad to facilitate operations with completions, facility build and recycling. There will be no additional impacts to residents in the area due to the closed loop nature of the operations and distance now being a few feet further away from the closest. Change in placement on the location will be immeasurable to any resident in the area. This location is over half a mile from the nearest home.

Please note, since the original submittal there have been minor changes to the type and count of equipment. The notable changes were swapping out oil and water tanks to oil and water vessels. The main reason for the change is to reduce emissions that can be associated with each of the tanks. The narrative and EAP have both been updated with the new equipment list.

OGA4: The use of electric drilling rigs will be required, and a COA will be incorporated that will limit the applicant's ability to use diesel or NG-battery assist engines except in extreme circumstances during a grid outage only.

Comment acknowledged

OGA5: Signed Will Serve letter from BFR will be required prior to issuance of permit. Revise draft letter to denote the correct contact in the signature area.

Brighton Fire Rescue has been contacted by Extraction regarding an update to the original EAP due to equipment changes and haul route revision. A copy of a signed Will Serve letter (with updated signature block) and additional communication from BFR that the original Will Serve letter is sufficient and can be submitted to Adams County.

OGA6: If haul route changes based on EGR review, maps in ERP will need to be revised.

Comment acknowledged

OGA7: Should Picadilly Rd. remain as haul route, coordination with Adams 12 may be necessary to confirm location of school bus stops.

Haul route is anticipated to change and Picadilly north of E 120$^{th}$ Ave will not be utilized.

OGA8: Confirm the capability of OGF to incorporate automated safety systems and remote monitoring or shut-in capability. If this site includes a monitoring tower include in your permeant equipment lists.

Language has been added to the "Production Phase" section to address this comment. No tower is proposed at this location.

OGA9: Confirm berming around liquid storage will be sufficient to contain 150% or more of the largest single tank.

Language has been added to the "Production Phase" section to address this comment.

OGA10: Revise ERP to incorporate plans or likelihood of various types of incidents per ACDS&R 4-11-02-03-03-03.10.iii

In coordination with our PSM & Emergency management team, Extraction believes this is outside of the scope of standard Plans reviewed by the local Fire Districts / Rescues. Extraction discussed with Brighton Fire Rescue and they believed the content we provided in the original and subsequent EAP was sufficient for their review.

To satisfy this code requirement, Extraction has attached the parent company's (SM Energy Company) Emergency Response Plan ("Eagle pad EAP 041326 - will serve - SM ERP.pdf") to the document for Adams County's reference. Section 5 of the ERP should address these code requirements.

OGA11: Revise ERP to include evacuation routes in the case of an emergency per ACDS&R 4-11-02-03-03-03.10.v

The requested information appears to be addressed in the plan (original and recently updated versions). See Section 2- c.) and 2- f.) for site access and route should there be an evacuation. See Section 3 for impact zones (worst case scenario). See Section 4- e.) for healthcare facility information.

OGA12: Ambient noise study is dated July 9, 2025, this study is only good for 12 months, (ACDS&R 4-11-02-03-03-03.14). Should operations occur after that a new ambient background noise study will be required. Should ambient noise increase, a revised noise mitigation plan may be required.

Comment acknowledged. It is anticipated that another ambient study will be necessary.

OGA13: Confirm height of sound walls. Narrative states 32-foot and noise mitigation references 32-foot and 24-foot.

The "Noise Control" section has been updated to describe the portions of the 24' sound panels that will be necessary to allow the County access to the detention pond if needed.

OGA14: Continuous noise monitoring will be required during preproduction because there are RBUs within ½ mile of the proposed OGF, measured to the parcel line.

The Noise Mitigation Plan has been updated to address continuous monitoring.

OGA15: No zone district boundaries within 2,000-feet, the Agricultural noise allowances applicable.

Comment acknowledged

OGA16: Confirm the unmitigated and mitigated noise data in the noise mitigation plan includes the use of electric drilling rigs as presented by the applicant.

The Noise Mitigation Plan has been updated modeling a rig on grid power. Extraction often has modeling completions assuming tier IV engines acknowledging utilizing a rig on grid power will be even quieter. The original model with tier IV engines demonstrated Extraction would be in compliance with noise standards even without the use of sound walls. The use of an electrified drilling rig and sound walls will keep Extraction well within compliance.

OGA17: If you conduct preproduction operations in 2 occupations, quarterly neighborhood meetings will be required throughout the process until interim reclamation is complete. Confirm plans for occupations.

Two occupations for drilling and completions are currently anticipated. As stated in the County's regulations, "The Operator shall hold quarterly neighborhood meetings from initial permit approval by the County, through the completion of the first wellbore, or longer as determined by the Director of Community and Economic Development". Extraction is willing to conduct quarterly meetings as long as requested by the Director.

OGA18: In Cumulative Impacts plan please incorporate reference to future land use designation (Mixed Use Commercial) and limitations due to location within the Airport Noise and Height Overlays in the Reasonably Foreseeable Future Developments.

Comment acknowledged, and additional information has been added to this section in the Cumulative Impacts Analysis.

Please note additional edits to this document unrelated to this request:

-Sections 3.1.2 and 8.3 edits have been made to address the change from oil and water tanks (mentioned in the first iteration) to vessels and the benefit of doing so.

-Section 9.0 was updated in many aspects due to change in haul route.

-Lastly, section 10.2 has been updated with updated mileage and emissions.

OGA19: County approval of an air quality monitoring plan will be required as a condition precedent.

Comment acknowledged

OGA20: No RBUs or parcels lines are within 2,000-feet of proposed OGF, no residential consents required.

Comment acknowledged

OGA21: Wetland located 1700-feet to the SE of proposed OGF will require a waiver by the BoCC at a public hearing.

Comment acknowledged. This wetland is within 2000', but is upgradient and across E 120th Ave.

OGA22: Raptor nests near OGF may require a waiver from CPW. Additional limitations on timing or further surveys may also be required. Limitations in resource review will be incorporated as COA.

A waiver will not be required from CPW for this nest. Extraction will survey again prior to activity and consult with CPW as necessary.

OGA23: A TIF of $373,590 will be assessed for 19 wells that utilizes freshwater pipeline to bring water to site, crude oil and natural gas pipeline to remove product, and trucks to haul produced water. Please confirm. This fee will be required prior to the issuance of a Notice to Proceed.

Comment acknowledged. Exploring options for produced water takeaway or recycling but cannot commit at this time.

BOARD OF COUNTY COMMISSIONERS

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Emma Pinter — DISTRICT 3
Steve O'Dorisio — DISTRICT 4
Lynn Baca — DISTRICT 5

**Commenting Division:** Development Engineering Review

**Name of Reviewer:** Laurie Clark

**Date:** 01/22/2026

**Email:**

**Resubmittal Required**

ENG1: Engineering documents are currently in review under EGR2025-00044.

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Steve O'Dorisio — DISTRICT 4
Lynn Baca — DISTRICT 5

**Commenting Division:** Land Use and Built Environment Review

**Name of Reviewer:** Megan Grant

**Date:** 01/22/2026

**Email:**

**Resubmittal Required**

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Lynn Baca — DISTRICT 5

The following comments apply to natural resources:

BEIR1. A cross-section of the subject parcel (applicant preferred site) is located within the Adams County Natural Resource Conservation Overlay (NRCO). The NRCO aims to protect important wildlife areas, designated floodplains, riparian corridors, and cultural resources. Refer to Sections 3-43 and 4-14-02 of the Adams County Development Standards and Regulations (ACDSR) for more details.

Comment acknowledged. NRCO review has been conducted and included within the Water and Wildlife Plan.

BEIR2. If disturbance of land not previously developed within the NRCO is greater than one combined (1) acre, then a Resources Review must be completed by a qualified professional consultant prior to application submittal so that it may be taken into consideration. See ACDSR Section 4-14-02-03 for Resources Review methodology. A list of qualified professional consultants approved by Adams County to prepare resources review documentation is available upon request from Adams County Environmental Programs.

Comment acknowledged. NRCO review has been conducted and included within the Water and Wildlife Plan, Section 3.2.

BEIR3. All development must comply with the NRCO buffers/setbacks requirements for individual protected resources provided in ACDSR Section 4-14-02-04-02. Development shall be located out of the riparian plant community along rivers and streams, and outside of the hydric zone in relation to wetlands.

Development is proposed outside riparian plant communities, and outside of the hydric zone of wetlands as described in the Water and Wildlife Protection Plan.

BEIR4. Natural drainage and a wetland area is indicated on the subject parcel. These drainage areas and wildlife habitat should be developed in an environmentally sensitive manner in order to protect natural features and processes, protect and enhance important wildlife corridors, and generally sustain a high-quality natural environment. Adams County recommends the applicant coordinate with Colorado Parks and Wildlife (CPW) and Colorado Department of Natural Resources (DNR) for review and recommendations to protect habitat and resources.

It has been addressed in the application that the riparian wetland & associate drainage (NWI and NHD) do not exist. Therefore, no concurrence needed from CPW. CPW was a referral agency and had no comments from the reports / plan from HWA.

The following comments apply to permits and plans:

BEIR5. The applicant/operator shall follow all applicable hazardous materials management regulations, including CDPHE and ECMC, to ensure proper management of hazardous materials and wastes such that they do not present a significant actual or potential hazard to public health, safety, or environment.

Comment acknowledged

BEIR6. For projects that require an air permit, the applicant shall contact the CDPHE Air Pollution Control Division (APCD) for information and provide copies of permits for Adams County review. Additional information is available at:

https://www.colorado.gov/pacific/cdphe/categories/services-and-information/environment/air-quality/air-emissions-business-and-industry.

If the proposed project is exempt from air permitting requirements, please include this documentation as well.

All proposed projects of this type are coordinated with the APCD. Extraction will coordinate with Adams County and CDPHE for an air monitoring plan acceptable to both agencies.

BEIR7. The determination of the risks of a release of hazardous materials from the proposed project may include but is not limited to the following considerations:

a) Plans for compliance with federal and State handling, storage, disposal, and transportation requirements.
b) Use of waste minimization techniques.
c) Adequacy of spill prevention and countermeasures, and emergency response plans.

The potential risks associated with a release of hazardous materials have been evaluated through review of the project's compliance with applicable federal and state handling, storage, disposal, and transportation requirements, incorporation of waste minimization practices, and the adequacy of spill prevention, countermeasures, and emergency response planning. These measures are intended to avoid, minimize, and effectively manage any potential releases.

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BEIR8. All plans shall be reviewed and approved by the applicable fire district prior to approval.

Comment acknowledged. Brighton Fire Rescue has approved our Emergency Response Plan (ERP). Due to the proposed changes in haul route and other requested changes by Adams County, the ERP will be resubmitted to the fire district. Once approved, a copy will be sent to the Director.

BEIR9. Emergency Response Plan and Spill Response Plan, or other similar documentation, has been provided for Adams County review. Please provide a copy of the project Emergency Response Plan (and documentation that a copy has been provided) to the Adams County Office of Emergency Management as the Colorado Designated

See comment above for BEIR8. Extraction was not aware that another copy needed to be sent to Adams County OEM as this has not been filed in a previous OGF (Bennett D) and there were no comments from OEM through the referral process. Please provide further instruction whether it is acceptable to send through this application process and will be routed to OEM or if there is another filing that needs to occur.

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Emergency Response Authority (DERA).

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**Commenting Division:** Land Use and Built Environment Review

**Name of Reviewer:** Megan Grant

**Date:** 01/22/2026

**Email:**

**Comment**

The following comments apply to construction and operation:

BEIR10. Exposure to air pollution is associated with numerous health problems including asthma, lung cancer, and heart disease. Construction and traffic in unpaved areas may contribute to increased fugitive dust emissions. Adams County recommends the applicant utilize all available methods to minimize fugitive dust during all phases of construction and operation.

This is addressed in the Dust Plan in folder "3g. Dust Mitigation Plan".

BEIR11. An inert fill permit must be obtained prior to importing any volume of fill material onto the parcel as part of site development. Permit type will depend on the duration and total volume of fill to be imported to the site. The fill must meet the definition of clean, inert material.

Cut / fill will be balanced at this location.

BEIR12. Per ACDSR 4-11-02-03-03-03 General Provisions, Oil and Gas Facilities shall be at least 2,000 feet from the property line of any existing residences or platted residential lots, schools or future school facilities, state licensed daycares, high occupancy building units, environmentally sensitive areas, and designated parks and open spaces.

The boundary of the oil and gas location (OGF) is greater than 2,000' from the above-mentioned receptors.

BEIR13. Per ACDSR 4-11-02-03-03-03 General Provisions, Oil and Gas Facilities shall be at least 1,000 feet from groundwater under the direct influence of surface water (GUDI) wells and Type III Aquifer wells as defined by Colorado Water Quality Control Commission and ECMC (formerly COGCC) rules.

The applicant has indicated the nearest Public Water System well(s) utilizing Groundwater Under Direct Influence of

Surface Water or Type III Aquifer sources are over two miles from the proposed oil and gas location.

Comment acknowledged. Also, confirming the previously mentioned statement is still accurate to the best of our knowledge.

BEIR14. Setbacks will be measured from the edge of the Oil and Gas Location, as defined by the ECMC, the measurement of setbacks will not include the access road.

Comment acknowledged.

BEIR15. Administrative Waiver from setback requirements: an administrative waiver may be obtained from the setback requirements if the Operator receives a written waiver from each primary resident and property owner located within the setback. Staff will evaluate the granting of an Administrative Waiver from setback requirements based on the following criteria: (1) the number of affected residents within the setback (2) location of the facility,

(3) size of the facility, (4) compatibility of the facility with surrounding land uses; and (5) conformance with the Adams County Comprehensive Plan.

This application demonstrates the OGF is outside of the setback.

BEIR16. No Administrative Waivers will be issued from setback requirements for school facilities, future school facilities, state licensed daycares, groundwater wells, environmentally sensitive areas or designated parks and open spaces.

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A waiver will be necessary from the BoCC due to a wetland within 2,000'. Please note, this wetland is isolated, upgradient and across E 120th Ave.

BEIR17. For Oil and Gas Facilities that do not meet the above setback requirements: A waiver may be granted by the Board of County Commissioners that complies with the requirements of ACDSR Section 2-02-14-07-07.

See comment above.

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Lynn Baca
DISTRICT 5

**Commenting Division:** Land Use and Built Environment Review

**Name of Reviewer:** Megan Grant

**Date:** 01/22/2026

**Email:**

**Comment**

The following comments apply to historic oil and gas wells:

BEIR18. There are multiple vertical plugged and abandoned oil and gas wells on the subject parcel. Prior to submittal of a site-specific development plan, all wells on the subject parcel shall be located and surveyed. The wells must be shown on the site plan.

The site plan "EAGLE PAD_SITE_PLAN_REV_20260302" in folder "3l. EGR Application & Engineering Documents" shows all P&A wells. There are no flowlines in the OGF boundary or on the subject parcel.

BEIR19. All known oil and gas well flow lines and/or easements shall be graphically depicted on the site-specific development plan. In the interest of public health and safety, Adams County recommends that the applicant locate and verify the status of the flowlines. Due to the age and status of the oil and gas wells on the subject parcel, abandoned flowlines are likely still in place. Historic records review, buried utility location, and flowline identification are highly recommended to prevent encountering flowlines during the proposed project implementation.

See the above comment BEIR18.

BEIR20. Adams County has requirements for residential construction currently, and this may expand to all construction in the future. The applicant should be aware of the standards and regulations, and adherence is recommended for safety and environmental health. On every final plat or site-specific development plan which contains a plugged and abandoned well, there shall be dedicated a well maintenance and workover setback depicted on the plat, the dimensions of which shall be not less than fifty feet in width and 100 feet in length. No permanent structures shall be located within this setback. The plugged and abandoned well shall be located in the center of the setback. There shall be public access for ingress and egress to the setback of a width of not less than twenty feet. Refer to Section 4-11-02-03-03-05.2c.

The area within this OGF does not contain any P&A wells.

The following comments apply to the airport:

BEIR21. Due to the proximity of the subject parcel to the airport, it is covered by the Airport Height Overlay, which restricts certain building height and development. More information can be found in Section 3-32 of the Adams County Development Standards and Regulations.

a) Landowners may be required to install, operate, and maintain, at the owner's expense, such markers and lights which may be necessary to indicate to flyers the presence of a hazard which affects the aviation facility. This marking and lighting requirement may also extend to objects of natural growth (trees, primarily) on site.

b) An FAA aeronautical study may be required to determine if the proposed development could be a hazard to air navigation.

The applicant shall communicate with the airport and the FAA regarding the proposed project and provide this information to Adams County for review.

Extraction has proactively been in contact with DEN and FAA. DEN has requested limiting habitat, nesting structures, and food sources for avian species to reduce hazardous conditions to air traffic. Extraction has requested and subsequently granted administrative relief from certain landscaping provisions. FAA has been contacted and was determined there is no hazard to air travel with our operations. Extraction will follow the required provisions (i.e. – contacting the airport, utilizing lights on the rig derrick) from the FAA.

Toward the end of the written narrative in folder 3a-ii addresses FAA.

BEIR22. Due to the proximity of the subject parcel to the airport, it is covered by the Airport Noise Overlay (ANO). The residential noise reductions specified in this section would not apply to this proposed project. Refer to

ACDSR Section 3-39 for more information.
Comment acknowledged

BEIR23. In accordance with the ANO, a signed "Aircraft Activity Covenant with Disclosure" must be filed prior to issuance of a building permit.

It is Extraction's understanding that this "avigation easement" would be a requirement between the surface owner (Colorado State Land Board) and Adams County. Extraction cannot commit to having a Colorado State agency enter into any agreement. However, Extraction will request the Colorado State Land Board (SLB) sign the avigation agreement. Further, both DEN and SLB are aware of the existing aircraft activity and the plans for oil and gas operations.

80ARO OF COUNTY COMM!SSIONERS

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DISTRICT 1

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DISTRICT2

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DISTRICT3

Steve O'Dorisio
DISTRICT 4

Lynn Baca
01STRICT5

**Commenting Division:** Planner Review

**Name of Reviewer:** Jen Rutter

**Date:** 01/22/2026

**Email: jrutter@adcogov.org**

**Resubmittal Required**

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PLN1: The Future Land Use (FLU) category of the subject property is Mixed Use Commercial (limited), which envisions areas transitioning to industrial or heavy commercial developments where activities and operations are contained within buildings. Mixed Use Commercial areas often have environmental considerations or are adjacent to more intense industrial uses that do not support residential uses. The proposed OGF is located in proximity to DEN, so new residential development is limited. The FLU is compatible with oil and gas development provided that the external impacts are properly mitigated as to not deter future commercial and light industrial development.

Commet acknowledged.

PLN2: Understanding that the proposed facility is located on a large parcel, the visual mitigation in the form of wooden screen fencing can be limited to the west, south, and east portions of the proposed OGF. However, East 120th Avenue is well-traveled (4,710 vpd in 2024) and visual mitigation shall be implemented, specifically, Street Frontage Landscaping in accordance with Section 4-19-07-01. This is to ensure compatibility with the surrounding area and to ensure that there is adequate screening.

See the document in the folder "3h. Visual Aesthetics Plan" as it contains details regarding landscaping / fence.

Per email from Ms. Rutter, dated 2/23/2026, no further landscaping or planting is proposed as it was stated "The wooden screen fence will serve as the visual mitigation, and the proposed location of the fence appeared to be sufficient." This response was prompted from a message from DEN that suggested no tree planting be considered here to protect air travel safety relating to the potential conflict with birds and raptors.

PLN3: At a minimum, a landscaping plan shall contain the following items:

1. Scale - written and graphic;
2. North arrow;
3. Label the zoning of subject property and adjacent properties;
4. Label the current land use of subject property and all adjacent properties;
5. Existing plant material, if applicable;
6. Plants to be removed or relocated, if applicable;
7. Existing and proposed structures, overhangs, and paving, if applicable;
8. Planting details specifying mulching materials;
9. Details of berms, walls, or any other structural buffering device if required by these standards and regulations;
10. Title block with name of project, name of person preparing plan and date;
11. A written statement describing type of irrigation system proposed ? detail the proposed irrigation system or method of irrigation;
12. Plant schedule showing the following:

a. Number and location of plants of each species; and,

b. Plant name (common name, botanical name, and variety name); and,

c. Size and condition of plants ? size be expressed in terms of size of container, height of plant, or caliper of tree; condition to be expressed in terms of size of container, ball, and burlap, and/or bare root plant division (list shall be divided according to trees, shrubs and ground covers, and turf types); and,

13. Cost estimate including materials and cost of installation when installation of landscaping is deferred.

Comment acknowledged

PLN4: The application states: "Please see fence and landscaping details on the attached drawings." There aren't any detailed drawings attached. Please provide a depiction of the proposed fencing and landscaping.

See the document in the folder "3h. Visual Aesthetics Plan" as it contains details regarding landscaping / fence.

PLN5: Relief from Landscaping may be considered, but please note that relief is provided to add flexibility in the application of the landscaping regulations when a standard is inapplicable or inappropriate to a specific use or design proposal. However, the granting of relief does not always mean a requirement is reduced without mitigation. If applying for landscape relief for living material, please provide commensurate visual mitigation within the landscape plan. See Section 4-19-15-01 for complete regulations.

See response to PLN2 above.

PLN6: The applicant notes the inability to plant trees due to the proximity to DEN. Please furnish a letter from DEN or the FAA supporting this statement.

See response to PLN2 above.

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Lynn Baca — DISTRICT 5

**Commenting Division:** Parks Review

**Name of Reviewer:** Ashley Coleman

**Date:** 12/16/2025

**Email:**

**Complete**

No comment.

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica — DISTRICT 1
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Emma Pinter — DISTRICT 3
Steve O'Dorisio — DISTRICT 4
Lynn Baca — DISTRICT 5

# Adams County
# Community and Economic Development Department
# Development Review – Engineering Comments

| | |
|---|---|
| **Case Number: EGR2025-00044** | **Case Name: Eagle Pad** |
| **Applicant: John Piekara** | **Date Initiated: 12/12/2025** |
| **Document #: 6861462** | |

| No. | Reviewer Initials | Sheet No./ Page No./ Subject | County Comment | Applicant Response (date) |
|---|---|---|---|---|
| 1 | LC | General Comment | All necessary paperwork such as Commissioners Resolutions, Development Agreements, and Collateral Agreements will need to be on file with the Adams County Public Works Department / Construction Management section prior to the issuance of any building permits. | Comment acknowledged |
| 2 | LC | Condition of Approval | The developer/applicant may be required to enter into an Improvements Agreement (IA) with the County and bond for all public and drainage infrastructure to ensure the public improvements are completed. No building permits will be issued until all public improvements are completed and preliminarily accepted by the County. | Comment acknowledged |
| 3 | LC | General Comment | Upon completion of review and approval of these drawings and acceptance of the IA, the applicant will be required to obtain the necessary permits in order to construct the proposed improvements. This/these permit(s) will be obtained from the Adams County Public Works Department / Construction Management Section. An Infrastructure Permit (INF) will be required for the construction of all site improvements. | Comment acknowledged |

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| 4 | LC | General Comment | All storm sewer pipes within the public right-of-way must be RCP Class III material. In the event that the soil chemistry is not conducive to this type of material, the applicant shall propose solutions to Adams County Public Works Department staff to mitigate the situation if it should arise. | Not applicable |
| 5 | LC | General Comment | Flood Insurance Rate Map – FIRM Panel *Flood Insurance Rate Map – FIRM Panel #08001C0365H,* Federal Emergency Management Agency, January 20, 2016.<br><br>According to the above references, the "Eagle Pad" site is NOT located within a delineated 100-year flood hazard zone; A floodplain use permit will not be required. | Comment acknowledged |
| 6 | LC | General Comment | **A.** The contractor will be held responsible for the cleanliness and safety of all roadways adjacent to this site. If at any time, these roadways are found to be dangerous or not passable due to debris or mud, the Adams County Public Works Department will shut down the project, until the roadway conditions have improved and are deemed acceptable. If the contractor/applicant fails to keep the adjacent roadways clean and free from debris, the Public Works Department has the option to do the required clean up and bill the charges directly to the contractor/applicant.<br><br>**B.** Erosion and sediment control measures shall be required during construction. Adams County field inspection personnel shall be able to mandate corrective action to be taken by the developer and/or contractor if any of the following situations occur:<br><br>• construction plans lack sufficient detail for erosion protection<br>• it has been determined that the submitted erosion control measures are not applicable to actual field conditions | A - Comment acknowledged<br>B - Comment acknowledged |

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| | | | • installed erosion & sediment controls are non-functional<br><br>**C.** The contractor shall contact the Adams County Public Works Department / Construction Management section to find out if a preconstruction meeting is required.<br><br>**D.** The developer/contractor shall be responsible for repairing or replacing damaged infrastructure adjacent to the site.<br><br>**E. <u>All design and construction drawings submitted to Adams County for review and approval must be signed and stamped by a Professional Engineer. In addition, the drainage study must be signed by the developer.</u>**<br><br>**F.** Asphalt patching shall include the removal of asphalt from the furthest saw cut line to the lip of gutter. A saw cut will be made 1' south of the initial saw cut for the "T" patch.<br><br>**G.** If traffic control is necessary; all property and business owners in the area shall be notified. The applicant should contact Adams County Traffic Services at 303-853-7137 with any necessary information. After hours contact ADCOM at 303-288-1535. This notification is required for any disturbance to within street ROW.<br><br>**H.** Work hours and work schedule shall be coordinated with Adams County Public Works Department / Construction Management Section.<br><br>**I.** A Traffic Control Plan may be required to be submitted for approval prior to issuance of construction permits. | C - Comment acknowledged<br>D - Comment acknowledged<br>E - Comment acknowledged<br>F - Comment acknowledged<br>G – Not applicable<br>H – Construction of the well pad will occur during the day. Drill and completions will occur 24/7<br>I - Comment acknowledged |

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| | | | **J.** The contractor is responsible for the material testing required during the construction and installation of the approved design drawings. | J - Comment acknowledged |
| 7 | LC | General Comment | The applicant shall be responsible to ensure compliance with all Federal, State, and Local water quality construction requirements. In the event that the disturbed area of the site exceeds 1 acre and the site is within the Adams County MS4 area, then the applicant shall be responsible to prepare the SWMP plan using the Adams County ESC Template, and obtain both a County SWQ Permit and State Permit COR400000.<br><br>The Eagle Pad site is not located within the Adams County MS4 permit area. An Adams County SWQ Permit is not required for development of this site. | Comment acknowledged |
| 8 | LC | General comment | The County has the right to enter the property to conduct inspections of the installation of the facilities. | Comment acknowledged |
| 9 | LC | General Comment | Add the Adams County "General Construction Notes" to the plan set. The County's General Construction Notes can be found on the last page of this document. | Comment acknowledged |
| 10 | LC | General Notification | In compliance with Colorado Revised Statute 37-92-602(8), concerning water rights, all flood control stormwater facilities that detain stormwater must be registered with the Statewide Notification Compliance Portal (SNCP). It is the responsibility of the design engineer to register the stormwater facility on the SNCP. The facility must be registered with the SNCP when the facility becomes operational and prior to the engineer of record submitting the final pond certification to Adams County. The County is required to verify the registration of the stormwater facility within 30 days of posting.<br><br>The Statewide Notification Compliance Portal can be found at the following web address: | Comment acknowledged |

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| | | | https://maperture.digitaldataservices.com/gvh/?viewer=cswdif | |
| 11 | LC | General Comment | If applicant proposes to import greater than 10 CY of soil to this site, additional permitting is required. Per Section 4-04-02-02, of the Adams County Development Standards and Regulations, a Temporary or Special Use Permit is required to ensure that only clean, inert soil is imported into any site within un-incorporated Adams County. A Conditional Use Permit will be required if the importation exceeds 500,000 CY. | Not applicable |
| 12 | LC | General Notification | ***Colorado Revised Statutes 2018, Title 9, Article 1.5, 9-1.5-103. Plans and specifications - notice of excavation - duties of excavators - duties of owners and operators - fee – repeal, (10)*** states that "All new underground facilities, including laterals up to the structure or building being served, installed on or after August 8, 2018, must be electronically locatable when installed". Therefore, all newly installed underground utilities, including storm sewer, must be electronically locatable in compliance with State Statute and shall be depicted on applicable construction documents. See Adams County tracer wire details for locating storm sewer in the public right-of-way.<br><br>If the development includes storm sewer pipes/infrastructure that will be owned by the County upon completion the pipes must be installed using the Adams County "Storm Sewer - Tracer Wire Specification" The specifications are available for download in PDF format from the County's website. | Electric utilities will service this location, but no sewer will be installed. |
| 13 | LC | Traffic Impact Study | Additional review comments will be provided if alternate haul route(s) are proposed. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120$^{th}$ to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. |
| 14 | LC | Traffic Impact Study | The following comments are specific to the proposed haul route (E 120th Ave to Picadilly Rd to E 152nd Ave). | |

| | | | | |
|---|---|---|---|---|
| 15 | LC | Traffic Impact Study | All segments of the proposed haul route will require testing and evaluation of existing pavement conditions to determine structural adequacy for the proposed traffic loads. Pavement design will be required to bring the roads into compliance with expected truck traffic. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. |
| 16 | LC | Traffic Impact Study | The segment of Picadilly Rd between E 120th Ave and E 128th Ave is of particular concern. Existing pavement conditions are believed to be insufficient for the proposed traffic loads. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. |
| 17 | LC | Traffic Impact Study | There are two existing bridges north of E 128th Ave on Picadilly Rd. These bridges should be evaluated for structural | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. |
| 18 | LC | Traffic Impact Study | A stop sign will be required at the intersection of Picadilly Rd and E 152nd Ave. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. |
| 19 | LC | Traffic Impact Study | Turn lanes will be required at the intersection of Picadilly Rd and E 152nd Ave. Construction and development traffic should be used in the calculations and the "temporary" nature of the need for turn lanes is not a valid argument to forego construction. | An alternate haul route has been proposed with this resubmittal. Haul route will only utilize E 120th to E 470. A new Traffic Impact Study has been conducted and can be located in folder 3l. |
| 20 | LC | Site Plans and Operations Plan | Construction Plans should include, cover sheet with general notes, site plan(s), grading plan(s), drainage plan(s), erosion control plan(s), site details, grading details, drainage details, erosion control details, etc. See Engineering Checklists at https://adamscountyco.gov/our-county/community-economic-development/appendix-b-engineering-checklists-and-standard-details/.<br>Provide an explanation of the two different sets of plans, neither of which are complete Site Construction Plans sets. | Please see the document "EAGLE PAD_CONSTRUCTION_SITE_AND_OPS_PLANS_REV_20260512.pdf" in folder 3l. EGR Application & Engineering Documents. There is now one file with all construction drawings / site plans. |
| 21 | LC | Drainage Report | Show and describe where flows will be directed downstream from the emergency spillway. Where is the intended outfall location? | Please see "EAGLE PAD_CONSTRUCTION_SITE_AND_OPS_PLANS_REV_20260512.pdf" in folder 3l. EGR Application & Engineering Documents which depicts topography and direction of potential over land flow from the detention basin. |

| | | | | |
|---|---|---|---|---|
| 22 | LC | Drainage Report | Use the latest version of Mile High Flood District (MHFD) Criteria Manual, Volume 1 for design and calculations. Some design criteria, such as impervious values, were revised in 2024. The latest versions of MHFD spreadsheets and other tools shall be used. | Has been revised |
| 23 | LC | Drainage Report | Provide pipe capacity calculations for outlet pipes. | Has been revised |
| 24 | LC | Drainage Report | Provide riprap calculations. | Has been revised |
| 25 | LC | Drainage Easements | Provide easement documents for the detention pond and access from public right-of-way. | Will be provided at a later date. |
| 26 | LC | SWMP Report | The SWMP Report is approved as submitted. | Comment acknowledged. |
| 27 | LC | GESC Plans | The GESC Plans are approved as submitted. | Comment acknowledged. |
| 28 | LC | O&M Manual | The O&M Manual is approved as submitted. | Comment acknowledged. |
| | | General comment | **The listed items above may or may not represent all comments regarding the project. Adams County reserves the right to provide additional comments as the plans progress.** | Comment acknowledged. |

Current Disposition: Resubmit

**The review is for general compliance with Adams County Standards for the design and construction of public improvements. The sole responsibility for completeness and accuracy of the construction documents shall remain with the Project Principals and Registered Professional Engineer sealing the plans. Adams County does not accept liability for facilities designed by others.**

# GENERAL CONSTRUCTION NOTES

1. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. TO SCHEDULE A PRE-CONSTRUCTION MEETING CONTACT THE ADAMS COUNTY CONSTRUCTION INSPECTOR SUPERVISOR AT 720-523-6965.

2. ALL CONCRETE CURB, GUTTER AND WALK MUST BE POURED MONOLITHICALLY USING 4,500 psi CONCRETE WITH FIBER MESH.

3. ALL MATERIAL SUBMITTALS MUST BE APPROVED, STAMPED AND SIGNED, BY THE ENGINEER OF RECORD AND, SUBMITTED TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR FOR APPROVAL PRIOR TO CONSTRUCTION/INSTALLATION.

4. THE CONTRACTOR IS REQUIRED TO SUBMIT COPIES OF ALL CONCRETE AND ASPHALT TICKETS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING AND, IS REQUIRED TO SUBMIT ALL TEST RESULTS TO THE ADAMS COUNTY CONSTRUCTION INSPECTOR.

6. THE CONTRACTOR IS REQUIRED TO REMOVE A MINIMUM OF TWO (2) FEET OF EXISTING ASPHALT FOR ALL CURB AND GUTTER REPLACEMENT.

7. ALL UTILITY CUTS IN EXISTING STREETS ARE REQUIRED TO BE BACKFILLED WITH FLOWFILL AND, PATCHED WITH A MINIMUM OF 9-INCH ASPHALT PATCH.

8. A COPY OF THE GEOTECHNICAL REPORT SPECIFYING THE PAVEMENT THICKNESS DESIGN MUST BE SUBMITTED FOR REVIEW.

9. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL UTILITIES. THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE LINEAL FOOTAGES AND THE NUMBER OF SERVICE CUTS REQUIRED FOR ALL UTILITIES.

10. PERMITS WILL BE REQUIRED FOR THE INSTALLATION OF ALL CONCRETE AND ASPHALT FACILITIES. PRIOR TO THE ISSUANCE OF THESE PERMITS, THE DEVELOPER/CONTRACTOR/ENGINEER, MUST SUPPLY THE SQUARE YARDAGE/SQUARE FOOTAGES OF ALL CONCRETE AND ASPHALT BEING INSTALLED.

11. THE SIA MUST BE COMPLETED WITH APPROPRIATE COLLATERAL, ALONG WITH THE PROPOSED PLAT, PRIOR TO THE ISSUANCE OF ANY ROW ACCESS/CONSTRUCTION PERMIT.

12. NO C.O.'S WILL BE ISSUED FOR ANY BUILDING CONSTRUCTION UNTIL ALL ROW IMPROVEMENTS HAVE BEEN COMPLETED AND HAVE BEEN GRANTED PRELIMINARY ACCEPTANCE.

13. UPON COMPLETION OF ALL CONSTRUCTION, A DRAINAGE CERTIFICATION LETTER, AND APPROPRIATE AS-BUILT CONSTRUCTION DRAWINGS AND INFORMATION WILL BE REQUIRED. THIS LETTER WILL BE STAMPED AND SIGNED BY THE ORIGINAL DESIGN ENGINEER.

COLORADO
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

Greg Dean
Oil & Gas Administrator
Adams County Community & Economic Development Department
4430 S. Adams County Parkway, Suite W2000A Brighton, CO 80601

**VIA EMAIL**
RE: For Review: Eagle Pad - Oil and Gas Facility

Dear Greg Dean,

The Colorado Department of Public Health and Environment's Air Pollution Control Division (APCD or Division) received a request for an air quality administrative review concerning the proposed Eagle Pad project as described in your correspondence dated December 12, 2025. The Division has reviewed the project letter and respectfully offers the following comments. Please note that the following Air Quality Control Commission (AQCC) regulations may not be inclusive of the regulations the proposed project will be subject to. It is the responsibility of the involved parties to determine what regulations they are subject to and follow them accordingly.

**APEN and Regulation No. 3**
We note that projects similar to this proposal have included the use of engines and/or generators. In Colorado, most businesses that are or will be emitting air pollutants above certain levels are required to report those emissions to the Division by completing an Air Pollutant Emissions Notice (APEN). This is a two in one form for reporting air emissions and to obtain an air permit, if a permit will be required. While only businesses that exceed the AQCC reporting thresholds are required to report their emissions, all businesses - regardless of emission amount - must always comply with the Colorado AQCC regulations, found here https://cdphe.colorado.gov/aqcc-regulations. APEN and permit reporting thresholds are provided at https://cdphe.colorado.gov/apens-and-air-permits/apen-and-permit-threshold-table.
A permit may not be required if it meets the following criteria:[1]

- Is a stationary internal combustion engine that is an emergency power generator that operates no more than 250 hrs/year; or
- Is a stationary internal combustion engine with uncontrolled actual emissions less than 5 tons per year for each individual criteria pollutant emitted; or
- Is a stationary internal combustion engine with manufacturer's site-rated horsepower of less than 50

For additional information on exemptions and permitting requirements, please visit https://cdphe.colorado.gov/apens-and-air-permits/common-apen-or-air-permit-exemptions.

[1] APEN or Permit Exemptions, CDPHE, https://cdphe.colorado.gov/apens-and-air-permits/common-apen-or-air-permit-exemptions

**Land Development**

We also note that projects similar to this proposal often involve land development. Under Colorado air quality regulations, land development refers to all land clearing activities, including but not limited to land preparation such as excavating or grading, for residential, commercial or industrial development. Land development activities release fugitive dust, a pollutant regulation by the Division. Small land development activities are not subject to the same reporting and permitting requirements as large land activities. Specifically, land development activities that are less than 25 contiguous acres and less than 6 months in duration do not need to report air emissions to the Division. It is important to note that even if a permit is not required, fugitive dust control measures including the Land Development APEN Form APCD-223 must be followed at the site. Fugitive dust control techniques commonly included in the plan are included in the table below.

| Control Options for Unpaved Roadways | |
|---|---|
| Watering | Use of chemical stabilizer |
| Paving | Controlling vehicle speed |
| Graveling | |
| **Control Options for Mud and Dirt Carry-Out Onto Paved Surfaces** | |
| Gravel entry ways | Washing vehicle wheels |
| Covering the load | Not overfilling trucks |
| **Control Options for Disturbed Areas** | |
| Watering | Application of a chemical stabilizer |
| Revegetation | Controlling vehicle speed |
| Compaction | Furrowing the soil |
| Wind Breaks | Minimizing the areas of disturbance |
| | Synthetic or Natural Cover for Slopes |

Please refer to the website https://cdphe.colorado.gov/apens-and-air-permits for information on land use APENs and permit forms. Click on "Land Development" to access the land development specific APEN form. Please contact KC Houlden, Construction Permits Unit Supervisor, at 303-691-4092, kenneth.houlden@state.co.us if you have any specific questions about APENs and permit forms.

If you have any other questions or need additional information, please use the contact info listed above, or e-mail or call me directly. Thank you for contacting the Air Pollution Control Division about your project.

Sincerely,

Brendan Cicione
Air Quality and Transportation Planner
General SIP Unit
Air Pollution Control Division
Colorado Department of Public Health and Environment
303-691-4104 // brendan.cicione@state.co.us

COLORADO
Department of Public Health & Environment

Gregory Dean
Oil & Gas Administrator
Community & Economic Development Department
Adams County

RE: OGF2025-00002 - Eagle Pad at E.120th

The Colorado Department of Public Health and Environment (CDPHE) appreciates the opportunity to comment on this proposal. Please note that the following requirements and recommendations are not intended to be an exhaustive list and it is ultimately the responsibility of the applicant to comply with all applicable rules and regulations. Please also note that CDPHE's failure to respond to any referrals should not be construed as a favorable response.

The Eagle Pad location lies within an Ozone Nonattainment Area. This location does not lie within the boundaries of a Disproportionately Impacted Community. CDPHE encourages all operators, especially for locations within the Ozone Nonattainment Area, to pursue full facility electrification, grid power electrification of drilling rigs, and use of lower emission engines such as EPA Diesel Tier 4 Final Non-Genset or Natural Gas Spark Ignited Tier 2.

**Hazardous and Solid Waste**

The applicant must comply with all applicable solid and hazardous waste rules and regulations.

Solid waste regulations are available here:
https://cdphe.colorado.gov/all-regulations/solid-waste-regulations

Hazardous waste regulations are available here:
https://cdphe.colorado.gov/all-regulations/hazardous-waste-regulations

Applicable requirements may include, but are not limited to, testing for and properly disposing of technologically enhanced naturally occurring radioactive materials (TENORM) and other solid or hazardous waste.

If you have any questions regarding solid and hazardous waste, please contact CDPHE's Hazardous Materials and Waste Management Division (HMWMD) by emailing comments.hmwmd@state.co.us or calling 303-692-3320.

**Water Quality and Conservation**

The applicant must comply with all applicable water quality rules and regulations. Water quality regulations are available here: https://cdphe.colorado.gov/water-quality-control-commission-regulations.

Applicable requirements may include, but are not limited to obtaining a stormwater discharge permit if construction activities disturb one acre or more of land or if they are part of a larger common plan of development that will disturb one or more acres of land. In determining the area of construction disturbance, CDPHE's Water Quality Control Division (WQCD) looks at the entire plan, including disturbances associated with utilities, pipelines or roads constructed to serve the facility.

Please use the Colorado Environmental Online Services (CEOS) to apply for new construction stormwater discharge permits, modify or terminate existing permits and change permit contacts.

For CEOS support please see the division website:
https://cdphe.colorado.gov/cor400000-stormwater-discharge
or contact:
Email: cdphe_ceos_support@state.co.us or cdphe_wqcd_permits@state.co.us
Permits Phone: 303-692-3517

WQCD has compliance assistance and guidance materials on their website. There is an Oil and Gas field wide permit guidance that is specifically for construction activities associated with oil and gas. This guidance can be found at https://drive.google.com/file/d/1Ds7e9UEEJinxY9I4IjATLh6x08PMwNdz/view.

Additionally, while CDPHE acknowledges that disposal of flowback and produced water through licensed third-party wastewater injection facilities is the preferred method of disposal, in order to minimize the amount of fresh water used in oil and gas development, we encourage the applicant to develop a plan for using all available means to recycle and reuse these waters beneficially.

For proposed public water systems or domestic wastewater treatment works, the applicant must receive construction and capacity development approval from the division prior to the commencement of construction. You may learn more about these requirements at https://cdphe.colorado.gov/design. Prospective drinking water systems that will serve 25 people or more per day for more than 60 days out of the year must comply with the requirements of Regulation 11. The regulations are self-implementing and public water systems are expected to notify the Drinking Water Compliance Assurance Section when they meet the definition of a public water system. Our local referral partners can make referrals for prospective or discovered drinking water systems by using this County Unregistered Referral Request form.

If you have any questions regarding water quality, please contact CDPHE's WQCD by emailing cdphe.commentswqcd@state.co.us or calling 303-692-3500.

**Air Quality**

The applicant must comply with all relevant state and federal air quality rules and regulations. Air quality regulations are available here: https://cdphe.colorado.gov/aqcc-regulations.

Applicable requirements may include, but are not limited to, reporting emissions to the Air Pollution Control Division (APCD) by completing an Air Pollutant Emissions Notice (APEN). An APEN is a two in one form for reporting air emissions and to obtain an air permit, if a permit will be required. While only businesses that exceed the Air Quality Control Commission (AQCC) reporting thresholds are required to report their emissions, all businesses - regardless of emission amount - must always comply with applicable AQCC regulations.

Information on oil and gas APENS and permits can be found at https://cdphe.colorado.gov/apens-and-air-permits . In addition to an index of oil and gas forms, guidance, APENs and memos, this website contains an Oil and Gas Industry Emissions Calculation and Regulatory Analysis Workbook to assist operators applying for permits in following approved emissions calculation methods. If you have any questions regarding Colorado's APEN or air permitting requirements or are unsure whether your business operations emit air pollutants, please call the Small Business Assistance Program (SBAP) at 303- 692-3175 or 303-692-3148.

In addition to any applicable APEN requirements, the pre-production and early production operations emissions monitoring requirements contained AQCC Regulation Number 7, Part D, Section IV may also be applicable.

Determine if the project area is located within the Denver Metro/North Front Range (DMNFR) ozone nonattainment area by viewing the O3 8-hr NAA 2005 and 2008 NAAQS layers on the map here https://www.colorado.gov/airquality/ss_map_wm.aspx. Information on APEN and permit reporting thresholds for attainment and nonattainment areas is available at https://cdphe.colorado.gov/apens-and-air-permits/apen-and-permit-threshold-table. Many sources contribute to ozone formation including oil and gas exploration and production. In particular, the use of diesel or gas-powered equipment and devices and the flaring of natural gas produces nitrogen oxides (NOx) as well as additional volatile organic compound (VOC) emissions, which contribute to ozone formation. Emissions from outside of the DMNFR ozone nonattainment area can contribute to ozone formation within the nonattainment area and they can degrade air quality in areas that are in attainment. Combustion engines used for compression are a large source of Carbon Dioxide (CO2) emissions and leaks from storage tanks and pneumatic devices can result in fugitive methane emissions. CO2, methane, NOx and ozone are greenhouse gases, which contribute to climate change.

In order to minimize emissions from equipment and devices, CDPHE recommends that the applicant coordinate with the relevant electric utility provider to assess the feasibility of utilizing power from the electric grid to the maximum extent practicable for all drilling and completion activities. If electrically-powered alternatives are not available for a particular function, CDPHE recommends that drill rigs and hydraulic fracturing pumps be fueled by natural gas. If natural gas-powered engines are not feasible, then CDPHE recommends that diesel-powered engines perform at Tier 4 standards defined in 40 CFR Part 89, or better.

CDPHE also recommends that the applicant use non-emitting pneumatic controllers (i.e. no-bleed or instrument air driven).

Currently, natural gas pipelines in the DMNFR ozone nonattainment area are at or near capacity and some operators have requested approval to flare natural gas. In addition to wasting a resource, flaring contributes to ozone formation. CDPHE recommends that the applicant limit venting or flaring of natural gas to upset or emergency conditions, or with prior written approval from the COGCC Director for necessary maintenance operations. Emergency flaring should be controlled with an enclosed combustor with a manufacturer certification of at least 98% destruction efficiency. Additionally, CDPHE recommends that the applicant ensure that adequate pipeline takeaway capacity is available for gas, oil, fresh and produced water prior to completion. This will ensure that closed-loop green completion techniques are utilized to the maximum extent practicable and that the venting or flaring of natural gas will be minimized, thus reducing emissions from the wellsite. CDPHE also recommends that the applicant conduct LDAR inspections as frequently as possible during the drilling and completion phase and at least semi-annually during the production phase at the well site.

Because CDPHE's preference for well production facilities located in the DMNFR is that they are tankless, CDPHE recommends that applicants evaluate whether a tankless facility is possible. If an applicant is proposing a facility with storage tanks within the DMNFR, they should provide a clear explanation for why a tankless facility is not possible.

CDPHE also recommends that the applicant properly maintain all vehicles and equipment and implement some or all of the following ozone mitigation measures on forecasted high ozone days:

- Postpone flowback if emissions cannot be adequately captured with a vapor recovery unit (VRU);
- Reduce truck traffic and worker traffic;
- Minimize vehicle and engine idling;
- Postpone the refueling of vehicles;
- Suspend or delay the use of fossil fuel powered ancillary equipment;
- Postpone construction activities;
- Reschedule non-essential operational activities such as pigging, well unloading, or tank cleanings;
- Eliminate the use of paints and solvents containing VOCs.

In addition to the applicable requirements above for exploration and production activities, natural gas transmission pipelines must comply with the emission control requirements contained in Air Quality Control Commission Regulation Number 7, Section IV.

If you have more general questions about air quality, please contact CDPHE's APCD by emailing cdphe.commentsapcd@state.co.us or calling 303-692-3100.

**Odors**

CDPHE recommends that the applicant evaluate different additive formulations that have the potential to better suppress odors, including but not limited to additives that are not diesel-based. Additionally, the operator may use a chiller to cool drilling fluid as it is piped through the recirculation system before routing to the suction tanks. The applicant should also evaluate and employ one or more of the following measures where safe and feasible to further reduce the potential for odors and fugitive emissions: covering trucks transporting drill cuttings, enclosing shale shakers to contain fumes from exposed mud, wiping down drill pipes as they exit the wellbore to remove drilling fluids, and ensuring that all drilling fluid is removed from pipes before storage.

**Well pads within close proximity to people**

On October 17, 2019, CDPHE published the study "Human Health Risk Assessment for Oil and Gas Operations in Colorado."[1] This study was funded by CDPHE and conducted by ICF International, using actual emissions data collected by Colorado State University along the Front Range and Garfield County. It modeled levels of pollutants that people could be exposed to as a result of oil and gas development and found that short-term exposures to chemicals related to oil and gas development, such as benzene, may cause short-term negative health impacts (e.g. headaches; dizziness; respiratory, skin and eye irritation) during worst-case conditions. The study found that the risk of negative short-term health impacts could occur at all distances modeled, up to and including 2,000 feet, particularly during the drilling, hydraulic fracturing and flowback phases of development. While the study did not find any chronic health impacts (i.e. cancer), it did not rule out the possibility of chronic health impacts because it did not comprehensively measure exposures from multiple well pads in a single community, exposures to VOC emissions from non-oil and gas sources, or other cumulative impacts like particulate matter or noise. Due to these limitations, the study concluded that additional measurements and analysis is needed to understand how closely the models represent real-world conditions. If the proposed well pad is in close proximity to residents, the County may want to consider including a requirement that the operator notify residents in close proximity to the proposed well pad that they can report any health concerns to CDPHE's Oil and Gas Health Information and Response Program through the program's website, https://cdphe.colorado.gov/health/oil-and-gas-and-your-health, or by calling 303-389-1687.

**Polyfluoroalkyl substances in firefighting foams**

PFAS are a family of human-made substances that do not occur naturally in the environment. They have been used for decades in food packaging, carpets, personal care items, ski waxes, other household items, and firefighting foam due to their ability to resist heat, oil, stains, grease, and water. Human contact with these chemicals is widespread, and nearly all people have some measurable levels of the chemicals in their blood. Human health toxicity information is only available for about ten of the thousands of these chemicals. However, despite the limited information, this toxicity information suggests that exposure to some PFAS

[1] The full study as well as a summary of the study can be found on the following CDPHE Oil and Gas Health Information and Response Program website (under the headings "Reports" and "What the 2019 study does and doesn't do"): https://cdphe.colorado.gov/health/oil-and-gas-and-your-health

can cause a range of negative health outcomes. Health effects from these chemicals may include pregnancy complications, liver damage, high cholesterol, and others. More research is underway to better understand these health consequences. When PFAS is released into the environment, it can get into water, especially groundwater, and contaminate drinking water supplies. Pursuant to House Bill 19-1279, firefighting foam manufacturers will be prohibited from knowingly selling or distributing firefighting foam to which PFAS chemicals have been added. CDPHE has prepared an action plan summarizing how we will protect Coloradans from risks posed by PFAS.[2]

Due to the potential for contamination from the use of firefighting foams with PFAS chemicals, the applicant should coordinate with local fire departments to evaluate whether PFAS-free foam can provide the required performance for the specific hazard. If PFAS-containing foam is used at a location, then the applicant should be required to follow best management practices to: properly characterize the site to determine the level, nature and extent of contamination; perform appropriate soil and water sampling to determine whether additional characterization is necessary and inform the need for and extent of interim or permanent remedial actions; and properly capture and dispose of PFAS-contaminated soil and fire and flush water.

**Environmental Justice and Health Equity**

CDPHE is dedicated to promoting and protecting the health and environment for all Coloradans. As part of those efforts, we strive to achieve health equity and environmental justice.

Environmental justice recognizes that all people have a right to breathe clean air, drink clean water, participate freely in decisions that affect their environment, live free of dangerous levels of toxic pollution, experience equal protection of environmental policies, and share the benefits of a prosperous and vibrant pollution-free economy.

Health Equity is when everyone, regardless of who they are or where they come from has the opportunity to thrive. This requires eliminating barriers like poverty and repairing injustices in systems such as education, health, criminal justice and transportation.

The Environmental Justice Act (HB21-1266) builds upon these efforts by declaring a statewide policy to advance environmental justice, defining disproportionately impacted communities, and creating an Environmental Justice Action Task Force, Environmental Justice Ombudsperson, and Environmental Justice Advisory Board. The Environmental Justice Act also directs the Air Quality Control Commission to promulgate certain rules to reduce emissions in disproportionately impacted communities, and to revise its approach to permitting actions in disproportionately impacted communities. The Environmental Justice Act further requires the Air Quality Control Commission to conduct enhanced outreach in disproportionately impacted communities for rulemakings and contested permitting actions.

[2] https://cdphe.colorado.gov/pfas

The Environmental Justice Act's definition of disproportionately impacted communities includes low-income communities, communities of color, and housing cost-burdened communities, as well as communities that experience cumulative impacts environmental impacts and exposures. Colorado EnviroScreen is an interactive environmental justice mapping tool that can be used to identify census block groups that meet those criteria. It may be found here: https://www.cohealthmaps.dphe.state.co.us/COEnviroscreen_2/

CDPHE notes that certain projects have potential to impact communities of color and low-income communities that are already disproportionately impacted by cumulative impacts across environmental media and challenges outside the environmental context. It is our strong recommendation that your organization consider the potential for disproportionate environmental and health impacts on specific communities within the project scope and take action to avoid, mitigate, and minimize those impacts.

To ensure the meaningful involvement of disproportionately impacted communities, we recommend that you interface directly with the communities in the project area to better understand community perspectives on the project to receive feedback on how it may impact them during development and construction as well as after completion. Translated materials and interpretation services should be used to engage with populations with limited English proficiency. This feedback should be taken into account wherever possible, and reflected in changes made to the project plan to implement the feedback.

Additionally, to ensure the fair treatment of disproportionately impacted communities, we recommend that you consider substantive measures to avoid, minimize, and mitigate impacts to disproportionately impacted communities. This may include considering alternative facility siting locations, using best management practices to reduce impacts to air, water, soil, noise, light, or odor, or offsetting impacts by reducing impacts from other nearby facilities as appropriate.

We have included some general resources for your reference.

Resources:
CDPHE's Office of Environmental Justice
https://cdphe.colorado.gov/environmental-justice

CDPHE's Office of Health Equity
https://cdphe.colorado.gov/ohe

Comments from CDPHE acknowledged.

**From:** Marette - DNR, Brandon
**To:** Gregory Dean
**Cc:** Hannah Posey - DNR; Rebecca Parsons - DNR
**Subject:** Re: For Review: Eagle Pad - Oil and Gas Facility
**Date:** Friday, January 23, 2026 5:39:55 PM
**Attachments:** image003.png image.png

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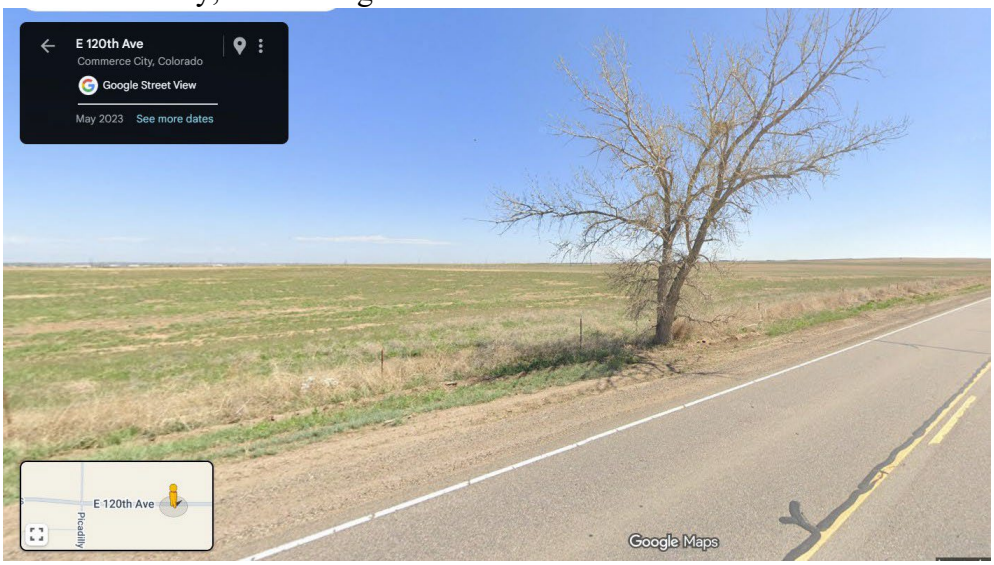
Please be cautious: This email was sent from outside Adams County

Good evening Greg,

Thanks for the opportunity to comment on this referral request. CPW offers the following comments for the county's consideration of this application:

- CPW appreciates that this location is outside of mapped High Priority Habitats.

- CPW recommends that a raptor nest survey be conducted for the trees in the vicinity, as the image below shows a nest.




- CPW recommends that the applicant complete an analysis of any prairie dog towns in the disturbance footprint, as well as complete a Burrowing Owl survey, if work is planned between March 15 to August 31.

Should you or they have any further questions, please let

me know. Regards,

**Brandon B.**
**Marette, CWB®**
**Northeast Region**
**Energy Liaison**

Direct (720) 880-0819
6060 Broadway,
Denver, CO 80216
brandon.marette@st
at[illegible]s CPW's
Energy Webpage

Comments from CPW acknowledged. Extraction will conduct surveys prior to any construction activity. If work begins between March 15 and August 31, Extraction will complete an analysis of any prairie dog towns and Burrowing Owl survey in the disturbance footprint and in the recommended buffer.

**THINK SAFETY FIRST!**
*<Upcoming days off: 2/16-President's Day, 2/25>*

On Fri, Dec 12, 2025 at 2:14 PM Gregory Dean <GDean@adamscountyco.gov> wrote:

> Good afternoon,
>
> The Adams County Community and Economic Development Department is requesting comments on the following application: **Eagle Pad at E. 120th for a new Oil and Gas Facility (OGF) to allow up to 19 wells on 17.03 acres in the Agricultural-3 zone district.** A map of the area is provided as an attachment.
>
> Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216, or call (720) 523-6891 by **January 23, 2026**, in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim, please send your response by way of e-mail to GDean@adamscountyco.gov.
>
> Once comments have been received and the staff report written, it may be forwarded to you upon request. The full application submission including impact evaluations, mitigation plans, and additional maps can be obtained by contacting this office or by accessing the Adams County web site at https://adamscountyco.gov/our-county/community-economic-development/planning-development/current-land-use-cases/ . This case information will be near the bottom of this webpage, and it may sometimes take a few business days for the full packet of material to be uploaded. Thank you for your review of this case.
>
> Respectfully,
>
> **Greg Dean**
>
> Oil & Gas Administrator, *Community & Economic Development Department*
>
> 4430 S. Adams County Parkway, Suite W2000A
>
> Brighton, CO 80601
>
> o: 720.523.6891 | gdean@adamscountyco.gov | adamscountyco.gov

DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | (303) 342-2000

# MEMO

Date: January 23, 2026

To: Adams County From: DEN Planning + Real Estate Through: Camilla Soechtig

**Subject: OGF2025-00002 – Eagle Pad at E. 120th**

Denver International Airport (DEN) received your referral letter, and we appreciate the opportunity to comment on the proposal. DEN provides the following comments:

- The proposed development is in the **"5-Mile 'Known - Wildlife Attractant Separation Area"** for the final build-out of future DEN Runways, as defined by the Federal Aviation Administration (FAA). The USDA Wildlife Biologists assigned to DEN (#dia-operations-usdawildlife@flydenver.com) assist in implementing DEN's Wildlife Hazard Management Plan and have requested coordination as this project progresses. USDA and DEN will provide assistance with the requirements outlined in the current version of FAA Advisory Circular 150/5200-33C (see link below). DEN also requests that the landscape plan include maintenance of trees and grasses to reduce attractants for wildlife such as raptor species, blackbirds/starlings, and geese. Fruit-producing trees and shrubs should be avoided. Water quality ponds/detention structures must be designed to meet a 48-hour drain time following a 100-year event.

  https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentnumber/150_5200-33

- The site is found within/under the navigable airspace associated with DEN, as promulgated, and regulated by the Federal Aviation Administration (FAA) under 14 CFR Part 77, Objects Affecting the Navigable Airspace. Based on Part 77 and the development site location, the proponent is required to file notice with the FAA, via the FAA Form 7460-1 process (Notice of Proposed Construction or Alteration), of any structure or temporary construction equipment (e.g., cranes) that penetrate Part 77 surfaces. The FAA website from which the need for the 7460 process can be determined ("Notice Criteria Tool") and/or the filing can be initiated is: https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

- Any temporary or permanent use of DEN property will require an access permit or license agreement, respectively. Avigation easement required prior to issuance of building permit.

- Please supply an exhibit with height of equipment along with planned drilling areas, especially horizontal drilling, as DEN's property is to the south and to the east of this location.

Extraction acknowledges these comments. Infiltration test at our proposed detention pond demonstrates no water will be present after 48 hours following a 100-year storm event. Additionally, Adams County has agreed to grant Extraction administrative relief from planting trees that may attract avian species that can pose a hazard to air travel to/from DEN.

The avigation easement will be between the Colorado State Land Board and Adams County. Further discussion on this easement will be between the State Land Board and Adams County and/or DEN.

Extraction has provided DEN with a detailed drawing of the drill rig and area proposed for horizontal well drilling and production. There is no request to utilize DEN surface for any temporary or permanent infrastructure / equipment.

Lastly, DEN requested limiting any wildlife attractants to this location. Please see ‘‘DEN - Project Review for Eagle Pad at E. 120th 02.18.26.pdf’’ in folder 3h and comment & response associated with PLN2 above.

COLORADO
Energy & Carbon Management Commission
Department of Natural Resources

1120 Lincoln Street, Suite 801
Denver, CO 80203

# REFERRAL

To: Greg Dean, Oil and Gas Administrator, Community & Economic Development Department

From: Rebecca Treitz, Location Assessment Supervisor, ECMC

Subject: OGF2025-00002, Extraction Oil and Gas, Inc., Eagle Pad

Date: December 31, 2025

Attention Greg Dean,

Thank you for the opportunity to comment on the Extraction Eagle Pad Review for a new Oil and Gas Facility (OGF) permit application with Adams County. The Colorado Energy and Carbon Management Commission (ECMC) has the following comments/questions/concerns related to the application.

The proposed location is for 19 wells, 4 oil tanks, 2 water tanks, 6 separators and additional production equipment on a disturbance of 17 acres. The Extraction Eagle Oil and Gas Development Plan (OGDP) was submitted to ECMC in October of 2025 for completeness review. The OGDP was returned to Extraction for corrections in December 2025. A pre-application meeting was held on July 23, 2025 satisfying ECMC Rule 301.f.(3). During that meeting, ECMC recommended expanding the Area of Evaluation to include a neighborhood to the southwest and the Sikh Temple. Noise from the airport and other commercial operations in the area should be considered for noise, odor, and emissions impacts.

The proposed location is not within a Disproportionately Impacted Community, therefore Community meetings and a Community Outreach Plan are not required by ECMC. The proposed location is within the Ozone Nonattainment Area requiring ECMC Rule 316.c.(4)

Enhanced Systems and Practices (ESPs). Any ESPs Extraction is not able to commit to will require a Practicability Assessment per ECMC Rule 316.c.(4).D.i.

When the OGDP passes completeness, ECMC will notify Colorado Parks and Wildlife (CPW), Colorado Department of Public Health and Environment (CPDHE), and Adams County for consultations.

The above comments are not intended to be a complete list of all issues ECMC Staff may identify as part of the formal OGDP review process, nor should they be construed as an indication of the Director's Recommendation or the final agency action the Commission may take on this or any associated OGDP application.

Sincerely,
Rebecca Treitz

Comments acknowledged

**From:** Clayton Woodruff
**To:** Gregory Dean
**Subject:** RE: For Review: Eagle Pad - Oil and Gas Facility
**Date:** Thursday, January 22, 2026 11:37:52 AM
**Attachments:** image004.png
image005.png

Please be cautious: This email was sent from outside Adams County

RTD Comments

**Project Name: Eagle Pad - Oil and Gas Facility - OGF2025-00002 - 1st Submittal**

| Department | Comments |
|---|---|
| Bus Operations | No exceptions |
| Bus Stop Program | No exceptions |
| Commuter Rail | No exceptions |
| Construction Management | No exceptions |
| Engineering | No exceptions |
| Light Rail | No exceptions |
| Real Property | No exceptions |
| Service Development | No exceptions |
| Transit Oriented Development | No exceptions |
| Utilities | No exceptions |

**C Scott Woodruff**
Engineer III
Capital Programs
o. 303.299.2943
m. 303-720-2025
Clayton.woodruff@rtd-denver.com
rtd-denver.com

Regional Transportation District
1560 Broadway, Suite 700, FAS-72
Denver, CO 80202

***We make lives better through connections.***

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**From:** Gregory Dean <GDean@adamscountyco.gov>
**Sent:** Friday, December 12, 2025 2:12 PM
**To:** Gregory Dean <GDean@adamscountyco.gov>
**Subject:** For Review: Eagle Pad - Oil and Gas Facility

Good afternoon,
The Adams County Community and Economic Development Department is requesting comments on the following application: **Eagle Pad at E. 120th for a new Oil and Gas Facility (OGF) to allow up to 19 wells on 17.03 acres in the Agricultural-3 zone district.** A map of the area is provided as an attachment.

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216, or call (720) 523-6891 by **January 23, 2026**, in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim, please send your response by way of e-mail to GDean@adamscountyco.gov.

Once comments have been received and the staff report written, it may be forwarded to you upon request. The full application submission including impact evaluations, mitigation plans, and additional maps can be obtained by contacting this office or by accessing the Adams County web site at https://adamscountyco.gov/our-county/community-economic-

development/planning-development/current-land-use-cases/ . This case information will be near the bottom of this webpage, and it may sometimes take a few business days for the full packet of material to be uploaded. Thank you for your review of this case.

Respectfully,

**Greg Dean**
Oil & Gas Administrator, *Community & Economic Development Department*
4430 S. Adams County Parkway, Suite W2000A
Brighton, CO 80601
o: 720.523.6891 | gdean@adamscountyco.go

Comments acknowledged

January 14, 2026

Adams County | Community & Economic Development
4430 South Adams County Parkway
Brighton, CO 80601

Re: OGF2025-00002 Eagle Pad at E 120th

Dear Greg:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Oil and Gas Facility Permit for the Eagle Pad at East 120th Ave. After review of the information, United Power has no concerns or objection to the OGF Permit. This request should not hinder our ability for future expansion, including all present and any future accommodations for electrical distribution.

Thank you,

Emily Wood

Emily Wood
United Power, Inc.
Right of Way Agent II
O: 720-685-5605 | Email: platreferral@unitedpower.com

Comments acknowledged

**From:** Linda Froemke
**To:** Gregory Dean
**Cc:** Linda Froemke; Linda Froemke
**Subject:** FW: Case Number OGF2025-00002 Eagle Pad at E.120th- RESPONSE TO REQUEST FOR COMMENTS
**Date:** Monday, January 26, 2026 3:59:18 AM
**Importance:** High

---

You don't often get email from linda@all-starenviroinc.com. Learn why this is important

Please be cautious: This email was sent from outside Adams County

Hello Mr. Dean,
I just noticed I got your email wrong.
Please accept my comments to be added to the record for this project.
Thank you.

**From:** Linda Froemke
**Sent:** Friday, January 23, 2026 4:13:08 AM
**To:** gdean@adamscounty.gov <gdean@adamscounty.gov>
**Cc:** James Delvalle <james@all-starenviroinc.com>; Linda Froemke <lafroemke@gmail.com>
**Subject:** Case Number OGF2025-00002 Eagle Pad at E.120th- RESPONSE TO REQUEST FOR COMMENTS

Mr. Dean,
My husband and I say NO to the construction of the Eagle Pad at East 120th for the following reasons:

1. **Deleterious increase in noise pollution, both subsurface and above ground immediately adjacent to our neighborhood.** Previous drilling activities by Extraction just north along Picadilly have resulted in significant disruptive vibrations to our building structures and denied us peaceful enjoyment of our property. Drilling of 19 vertical wells with one acre spacing will potentially result in ongoing extreme disruptive events to our neighborhood. No above ground sound barriers can stop the inevitable side effect of multiple wells being drilled so close to our properties. The buffer zone is not adequate.
2. **Deleterious increase in light pollution during and after the construction of the facility .** Light pollution will negatively affect our dark and quiet neighborhood as well as potentially disrupt Barr Lake wildlife including migrating birds. This area is an essential migration corridor for birdlife and has been for 100 years. The construction of this facility on a hill overlooking this essential migration corridor is NOT ACCEPTABLE!
3. **Deleterious increase in potential air pollution during and after the completion of this facility**. Weld and Adams County already have periodic and frequent high levels of ground ozone pollution and often, a low haze from O&G activities. We do not need to add more potential exposure to the residents of our communities with another O&G facility in our backyard.
4. **Extreme increase in dangerous heavy traffic along 120$^{th}$ during construction of the**

**facility and during drilling activities.** 120th is already way too busy and the intersection of Picadilly and 120th is a death trap with speeding heavy trucks killing wildlife and domestic animals almost daily. There have been fatalities as well at the corner of Picadilly and 120th.

5. **Negative impact on already scarce water supplies to power this facility.** How much water will this facility draw and where will it come from? Where is this impact discussed?
6. **Potential negative impact to our local well water.** This is an unknown but if it does happen, who will diagnose, correct and compensate us. Access to clean well water is an essential to our property values and to the future habitability of our subdivision. We strongly object to potentially being forced into using Commerce City surface water should our wells begin to be drawn down to the point of being unusable. What is the mitigation plan?
7. **Potential negative impact on nearby surface water.** The proposed Eagle pad location is adjacent to a drainage corridor that extends southeast-northwest toward Barr Lake and the South Platte River. A surface or near surface spill from drilling activities and/or during operation of the proposed new facility could negatively impact that drainage and surrounding rural properties, domestic animals and wildlife.
8. **Unknown and currently undiscussed future disruptions to our community during the installation of Eagle pad supporting infrastructure.** I see no plans revealed to our community about future pipelines or other projects to support this facility. We all know its not going to be a self-enclosed "bubble " out there.

My husband and I moved to our current home 5 years ago from Thornton to get away from the Denver Metro noise and pollution. This large industrial development would have a significant negative impact on our current peaceful enjoyment of this 45-year-old rural neighborhood. At this time, the occupants of Lake Estates all pay very high property taxes for minimum services from Adams County. And now, our peaceful neighborhood is being asked to endure the short- and long-term side effects of being on the front line of yet another industrial O&G development, this time perched on a hill overlooking our properties. There is no debating the fact that Eagle Pad will have a significant negative impact on our quality of life in both immediate and future yet to be determined ways.

And on a larger scale outlook of what is good for our environment, the Eagle Pad definitely gets a BIG THUMBS DOWN! Adams County should be courting renewable energy development, not expansion of more oil and gas extraction and all the negative impacts that come with the installation of an industrial size oil facility next to neighborhoods teaming with children, wildlife and a healthy rural way of life.

**LINDA A. FROEMKE**
**JAMES DELVALLE**

**OWNERS**
**11921 ORLEANS CIRCLE**
**COMMERCE CITY, CO 80022**
**720-636-3080 – Mobile**
**Linda@all-starenviroinc.com**
**lafroemke@gmail.com**
**james**

Thank you for taking the time to share your concerns regarding the proposed Eagle Pad project. We appreciate the opportunity to address them and to detail how the project has been designed to protect nearby residents, wildlife, and environmental resources, including, but not limited to, air and water resources.

**Noise:**
All drilling and completion activities will comply with Adams County and Colorado Energy and Carbon Management Commission (ECMC) noise standards, which are specifically established to protect nearby residences. The well design and spacing do not increase noise levels beyond regulatory limits, and subsurface operations do not generate vibrations capable of causing structural impacts to homes. Noise mitigation practices—including the use of sound walls, drilling powered by grid electricity, controlled operational schedules, and continuous real-time monitoring—will be implemented, and operations will be adjusted or halted if applicable noise limits are approached or exceeded.

**Light:**
Construction and operational lighting will follow strict downward-shielded standards to minimize offsite light spill. Lighting plans are being reviewed to ensure impacts to nearby residents are avoided. Permanent lighting will not be utilized at this site when the wells are on production.

**Air Quality:**
The project is subject to state and county air quality requirements, including emissions controls, leak detection and repair (LDAR), and continuous monitoring, as agreed upon with Adams County. Modern oil and gas facilities do not generate uncontrolled emissions described, and the project will not result in a meaningful increase in ozone exposure beyond existing regional conditions. Any deviation from permitted limits triggers immediate corrective action.

**Traffic:**
Traffic plans are being coordinated with Adams County to minimize issues with road conditions and enhance safety, including defined haul routes, limited delivery windows if necessary, and contractor speed enforcement. Heavy traffic is temporary and related only to short-term construction and pre-production phases. The project does not create permanent high-volume truck traffic once all wells are in production.

**Water Use:**
Water volumes, sourcing, and management are fully disclosed in the project application. Water used for drilling and completion will be legally sourced and tracked and will be recycled where feasible. The project does not draw from local domestic wells or community water supplies. Oil and gas operations may utilize legally available surface water that is not currently dedicated to agricultural or municipal demand and would otherwise continue downstream in accordance with Colorado water law.

**Domestic Wells:**
Multiple layers of steel casing and cement isolate operations from groundwater. There is no mechanism for properly constructed oil and gas wells to impact domestic well water.

Nonetheless, baseline and follow-up water sampling is conducted, and a remediation is established should any verified impact occur.

**Surface Water Protection:**
The facility layout includes secondary containment, berming, and spill prevention controls. Any release, regardless of size, would be subject to immediate reporting and cleanup requirements.

**Future Infrastructure:**
Any future pipelines or supporting infrastructure would require separate permitting and regulatory approval. No undisclosed infrastructure is being constructed under this application. There will be oil and gas pipelines constructed from the facility directly to the east and tied into an existing pipeline along Gun Club Road. The pipelines will eliminate hauling of produced hydrocarbons. These pipelines will be permitted, constructed and managed by an unaffiliated third party.

**Visual Mitigation:**
During drilling and completion activities, temporary sound walls will be installed around the location, which will also serve as visual mitigation during these short-term phases. Once the wells are placed into production, the site will be surrounded by a six-foot wooden fence along the sides closest to nearby residences and public roadways to further reduce visual impacts. In addition, all landscaping will be reviewed and approved by Adams County and will fully comply with the County's applicable design standards to ensure the location is appropriately screened and integrated into the surrounding area.

We understand and respect residents' desire to preserve the character of their neighborhood. The Eagle Pad has been designed under some of the most stringent oil and gas regulations in the nation, indeed, often exceeding them, with the explicit intent of avoiding, minimizing, and mitigating impacts to nearby communities and environmental resources.

We remain committed to transparency, compliance, and being a responsible neighbor throughout the life of the project.

**From:** Gale Hoeffner
**To:** Gregory Dean
**Subject:** Re: Adams County - Eagle Pad (OGF2025-00002)
**Date:** Friday, January 23, 2026 8:59:45 AM

Please be cautious: This email was sent from outside Adams County

Dear Mr. Dean,

This comment is in response to to the letter dated December 12,2025, concerning future oil well drilling, in the Agricultural-3 zone district, including the Airport Noise & Airport Height Overlay Districts.

Having possibly, up to, 19 wells, even on 17.03 acres, is a bit of overkill, in my opinion.

Considering the depth & potential for leakage of just one well, can be catastrophic!
Even if it's monitored & closed off, the damage has still has been done.

Environmentally, this is not a good plan. What must be done to make even one well possible, disrupts the soundness of the structure below, with the area filled in.

Mistakes are always an issue-nothing is a perfect job.

The project has the potential to lower property values in our area, which, obviously, isn't favorable!

I don't agree with this plan, knowing we will be sitting on or close to it!
Thank you for taking this comment info into consideration,

Gale Hoeffner
January 22, 2026
Sent from my iPhone

> On Jan 23, 2026, at 7:46 AM, Gregory Dean <GDean@adamscountyco.gov> wrote:
>
> I just received your response, there was definitely a massive Microsoft outage yesterday. I checked the email address in the letter that was sent to you and it is correct, so it should work. I recommend trying to resend your comments today or responding to this email directly.
>
> <!--[if !vml]-->
> <image002.png>
> <!--[endif]-->Greg Dean

Thank you for your thoughtful comments regarding the proposed oil and gas development within the Agricultural-3 zone district, including the Airport Noise and Airport Height Overlay Districts. We appreciate the opportunity to address your concerns.

With respect to the number of wells, it is important to clarify that multiple wells located on a single, consolidated pad is a deliberate impact-reduction strategy, not an intensification of impact. State and county regulations encourage consolidating wells to minimize surface disturbance, reduce traffic, limit noise and light impacts, and avoid the need for multiple pads across the landscape. The wells are drilled thousands of feet below groundwater resources and residential foundations, and modern directional drilling does not compromise the structural integrity of near-surface rock formations.

Concerns regarding leakage and catastrophic failure, while understandable, do not reflect how oil and gas wells are constructed or regulated in Colorado. Each well is built with multiple layers of steel casing and cement designed specifically to protect groundwater and isolate producing formations. The casing and cementing plan is reviewed and approved by an Energy & Carbon Management Commission engineer prior to construction. These construction requirements are verified through testing, inspection, and ongoing monitoring, and wells that do not meet standards cannot be placed into service. Should a well eventually be closed, it must be permanently plugged and reclaimed in accordance with state requirements to ensure long-term environmental protection.

From an environmental perspective, the project is undergoing regulatory review to ensure compliance with extensive state and local safeguards governing air quality, water protection, spill prevention, wildlife considerations, and emergency response. While no industrial activity is entirely risk-free, Colorado's oil and gas framework is designed to identify, prevent, and promptly address issues should they arise.

Regarding property values, studies and regulatory findings have not established a consistent or measurable decline in property values resulting from modern, permitted oil and gas operations that comply with setback and mitigation requirements. Nevertheless, we recognize that perceptions vary among residents, and we take community concerns seriously.

Our company's commitment is to operate responsibly, transparently, and in full compliance with Colorado's strict regulations, with the goal of minimizing impacts and protecting public health, safety, and the environment throughout the life of the project.

Thank you again for sharing your perspective and engaging in the review process.