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

DEVELOPMENT APPLICATION FORM

Application Type:

☐ Conceptual Review	☐ Preliminary PUD	☐ Temporary Use
☐ Subdivision, Preliminary	☐ Final PUD	☐ Variance
☑ Subdivision, Final	☐ Rezone	☐ Conditional Use
☐ Plat Correction/ Vacation	☐ Special Use	☐ Other: _____

PROJECT NAME: Lefor Subdivision

APPLICANT CASE# 21CW3157

Name(s): Ben Binkley Phone #: 303-845-7178

Address: 7542 S. Quay Ct

City, State, Zip: Littleton CO 80128

2nd Phone #: Email: Binkley13@gmail.com

OWNER

Name(s): Amber Lefor Phone #: 303-681-0393

Address:

City, State, Zip:

2nd Phone #: Email: Amberlefor@Gmail.com

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

Name: Felix Chavez Phone #: 303-589-4419

Address:

City, State, Zip:

2nd Phone #: Email: Felix@ChavezDSS.com

DESCRIPTION OF SITE

Address:	Of part of the 1/4 of Section 30, T1S, R64W of the 6th PM
City, State, Zip:	Brighton, CO
Area (acres or square feet):	Approx 1.5 acres
Tax Assessor Parcel Number	1565000000086
Existing Zoning:	A3
Existing Land Use:	N/A
Proposed Land Use:	WANT TO Build a Single family lot For Author As described in letter

Have you attended a Conceptual Review? YES ☐ NO ☐

If Yes, please list PRE#: ☐

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: Ben Barker Date: 6/30/23

Owner's Printed Name

Name:

Owner's Signature

Project Explanation (#3 Major Subdivision):

The goal is to subdivide a sixty-five acre parcel, owned by Christopher and Denise Lefor, into three separate parcels or lots. The three lots are to be for family members Amber, her mother and father (Christopher and Denise), and her brother Ben Lefor. Each member would ultimately like to have the opportunity to build a single family home to keep the family close. The family would like to subdivide the 65 acre parcel into one A3 lot at 35 acres for Dad/Mom, and the other two lots rezoned to A2 just 13.5 acres, all for residential single family home construction. Potentially totaling three homes.

Amber is has taken the lead on pursuing this subdivision for her family. Due to the rising cost of land and housing in Colorado, the opportunity her parents offered was one she can afford. She plans to build herself a ranch style home approximately 1800 square feet with attached two car garage. Her house will be on an approved septic system once approved for construction. The home will also have a well for water and propane to heat. The intent is to leave natural vegetation and keep her horses on the land.

Amber intends to start necessary testing for septic and well as soon as approval is met for subdividing the property. Engineering and final home plans will begin once approved for subdivision.

We have spoken with Tri-county for well and septic. Tri-County does no longer issues “will-serve” letters until property meets approval for home construction.

LEFOR SUBDIVISION

OF PART OF THE SE 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO

SHEET 1 OF 2

PRELIMINARY

DEDICATION:

KNOW ALL PEOPLE BY THESE PRESENTS THAT THE UNDERSIGNED WARRANT IT IS THE OWNER OF A PARCEL OF LAND SITUATED IN THAT PART OF THE SE 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF LAND LOCATED IN THE SOUTH 1/2 OF SECTION 30, TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 30; THENCE RUNNING SOUTH AND PARALLEL TO THE EAST LINE OF SAID SECTION 30 A DISTANCE OF 1305 FEET TO THE TRUE POINT OF BEGINNING; THENCE RUNNING SOUTH AND PARALLEL TO SAID EAST LINE OF SAID SECTION 30, 1335 FEET TO A POINT ON THE SOUTHEAST CORNER OF SAID SECTION 30; THENCE RUNNING WEST AND PARALLEL TO THE SOUTH LINE OF SAID SECTION 30, 2136.5 FEET TO A POINT ON THE SOUTH LINE OF SAID SECTION 30; THENCE RUNNING NORTH AND PARALLEL TO THE EAST LINE OF SAID SECTION 30 , 1335 FEET TO A POINT; THENCE RUNNING EAST AND PARALLEL TO THE DIVIDING LINE BETWEEN THE NORTH 1/2 AND THE SOUTH 1/2 OF SAID SECTION 30, A DISTANCE OF 2136.5 FEET TO A POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

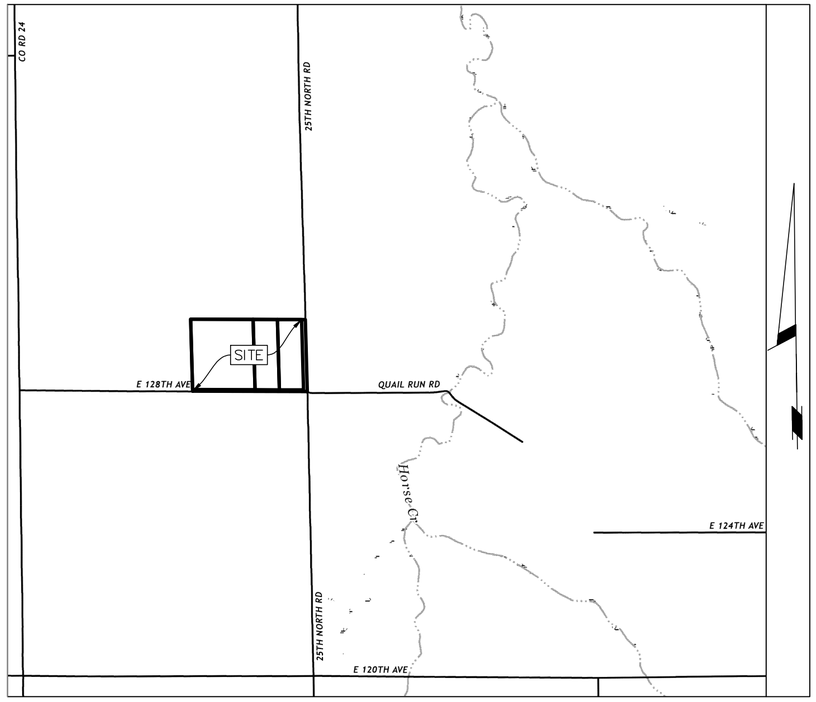
HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE SAME INTO LOTS AND A BLOCK AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF LEFOR SUBDIVISION, AND BY THESE PRESENTS DO HEREBY DEDICATE TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR THE PERPETUAL USE OF THE PUBLIC, THE STREETS AND EASEMENTS AS SHOWN HEREON AND NOT PREVIOUSLY DEDICATED TO THE PUBLIC.

THE UNDERSIGNED DOES HEREBY DEDICATE, GRANT AND CONVEY TO ADAMS COUNTY THOSE PUBLIC EASEMENTS (AND TRACTS) AS SHOWN ON THE PLAT; AND FURTHER RESTRICTS THE USE OF ALL PUBLIC EASEMENT TO ADAMS COUNTY AND/OR ITS ASSIGNS, PROVIDED HOWEVER, THAT THE SOLE RIGHT AND AUTHORITY TO RELEASE OR QUITCLAIM ALL OR ANY SUCH PUBLIC EASEMENTS SHALL REMAIN EXCLUSIVELY VESTED IN ADAMS COUNTY

SIX–FOOT (6') WIDE UTILITY EASEMENTS ARE HEREBY DEDICATED ON PRIVATE PROPERTY ADJACENT TO THE FRONT LOT LINES OF EACH LOT IN THE SUBDIVISION. IN ADDITION, EIGHT–FOOT (8') WIDE DRY UTILITY EASEMENTS ARE HEREBY DEDICATED AROUND THE PERIMETER OF TRACTS, PARCELS AND/OR OPEN SPACE AREAS. THESE EASEMENTS ARE DEDICATED TO ADAMS COUNTY FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF UTILITIES.

UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION.

THE POLICY OF THE COUNTY REQUIRES THAT MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL STORM DRAINAGE FACILITIES TO ASSURE CONTINUOUS OPERATIONAL CAPABILITY OF THE SYSTEM. THE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE FACILITIES INCLUDING INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, AND DETENTION BASINS LOCATED ON THEIR LAND UNLESS MODIFIED BY THE SUBDIVISION DEVELOPMENT AGREEMENT. SHOULD THE OWNER FAIL TO MAINTAIN SAID FACILITIES, THE COUNTY SHALL HAVE THE RIGHT TO ENTER SAID LAND FOR THE SOLE PURPOSE OF OPERATIONS AND MAINTENANCE. ALL SUCH MAINTENANCE COST WILL BE ASSESSED TO THE PROPERTY OWNERS.



VICINITY MAP
SCALE 1"=2000'

NOTES:

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18–4–508, C.R.S.

BASIS OF BEARINGS: BEARINGS ARE BASED ON GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. THE BEARING OF THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M, BETWEEN MONUMENTS AS SHOWN HEREON IS S1°35'26"E WITH ALL BEARINGS CONTAINED HEREON RELATIVE THERETO.

ALL DISTANCES ARE GROUND MEASUREMENTS IN U.S. SURVEY FEET, DEFINED AS EXACTLY 1200/3937 METERS.

OWNER:

_____
SIGNATURE – CHRISTOPHER LEFOR

_____
SIGNATURE – DENISE LEFOR

NOTORIAL:

STATE OF COLORADO)
)SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS ___ DAY OF _____, 20__ A.D.

BY _____ AS _____ OF CHRISTOPHER LEFOR AND DENISE LEFOR AS OWNER(S).

WITNESS MY HAND AND OFFICIAL SEAL:

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES : _____

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT I WAS IN RESPONSIBLE CHARGE OF THE SURVEY WORK USED IN THE PREPARATION OF THIS PLAT; THE POSITIONS OF THE PLATTED POINTS SHOWN HEREON HAVE AN ACCURACY OF NOT LESS THAN ONE (1) FOOT IN TEN THOUSAND (10,000) FEET PRIOR TO ADJUSTMENTS, AND ALL BOUNDARY MONUMENTS AND CONTROL CORNERS SHOWN HEREON WERE IN PLACE AS DESCRIBED ON _____.

DAVID L. SWANSON
PROFESSIONAL LS. NO.36070

RECORDER'S CERTIFICATE:

ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF ADAMS COUNTY, COLORADO, AT _____O' CLOCK ___ .M. THIS _____ DAY OF _____, 20___ A.D.

_____
CLERK AND RECORDER

_____
DEPUTY

INSTRUMENT NO.: _____

NO.	DATE
0	4/12/2020
REVISION	

ChavezDSS, llc
Development and Support Solutions

JOB NUMBER	DRAWN BY:
20012302	F. CHAVEZ

992 S. 4TH ST. STE 100/266, BRIGHTON , CO 80601 - 303.589.4419

LEFOR SUBDIVISION

BEING PART OF THE SE 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M.,
COUNTY OF ADAMS, STATE OF COLORADO
SHEET 2 OF 2

PRELIMINARY

0' 150' 300'
SCALE: 1" = 150'

FOUND REBAR
WITH 2" ALUM CAP
LS.24305

FOUND REBAR
WITH 2.5" ALUM. CAP
E1/4 CORNER SECTION 30
LS.24305
POINT OF COMMENCEMENT

FOUND REBAR
WITH 2" ALUM. CAP
LS.37971

S89°49'36"E(M)
2136.54'(M) 2136.5'(R)

S89°49'36"E
450.75'

S1°35'26"E(M)
1304.83'(M) 1305'(R)

T.P.O.B.

S89°49'36"E(M)
1165.00'(M)

S89°49'36"E(M)
450.75'(M)

40.01'

30.02'

IMBODEN ROAD
(R.O.W. VARIES)

N1°35'26"W(M)
1340.70'(M) 1335'(R)

N1°35'26"W(M)
1310.69'(M)

LOT 1
Area : 35.037 AC±
(1526211 SF±)

S1°36'51"E(M)
1310.06'(M)

LOT 2
Area : 13.544 AC±
(589997 SF±)

SN1°36'08"W(M)
1309.81'

LOT 3
Area : 13.542 AC±
(589885 SF±)

S1°S1°35'26"E
13' 1309.55'

S1°35'26"E(M)
1339.53'(M) 1335'(R)
BASIS OF BEARINGS

FOUND NO.5 REBAR
WITH DAMAGED RED
PLASTIC CAP
LS.37971

FOUND REBAR
WITH 2.5" ALUM. CAP
S1/4 CORNER SECTION 30
LS.13482

N1°35'26"W(M)
30.01'(M)

N89°51'29"W(M)
1165.52'(M)

N89°51'29"W(M)
450.48'(M)

N89°51'
450.

N89°51'29"W
450.48'

30.00'

70.00'

N89°51'29"W(M)
508.23'(M)

S89°51'29"E(M)
2136.51'(M) 2136.5'(R)

128TH AVENUE
(R.O.W. VARIES)

DIRT
ROAD

FOUND REBAR
WITH 2.5" ALUM. CAP
SE CORNER SECTION 30
LS.24305

LEGEND

- O = SET NO.5x18" REBAR W/PLASTIC CAP LS# 36070
- ● = FOUND MONUMENT AS NOTED
- ⊕ = FOUND PLSS MONUMENT AS NOTED
- (R) = RECORD INFORMATION
- (M) = MEASURED
- ——— = PROPERTY LINE
- ——— - - ——— - - ——— = LOT LINE
- — — — — — — — — — = PROPOSED LOT LINE
- ——— - ——— - ——— = PLSS SECTION LINE

NO.	DATE
0	4/12/2020
REVISION	

ChavezDSS, llc
Development and Support Solutions

JOB NUMBER: 20012302
DRAWN BY: F. CHAVEZ

992 S. 4TH ST. STE 100/266, BRIGHTON , CO 80601 - 303.589.4419

LEFOR SUBDIVISION

CASE NUMBER:
PLT2021-00012

BEING A PART OF THE SE 1/4 OF SECTION 30, TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO

SHEET 1 OF 2

DEDICATION AND OWNERSHIP STATEMENT:

KNOW ALL PEOPLE BY THESE PRESENTS THAT THE UNDERSIGNED WARRANT IT IS THE OWNER OF A PARCEL OF LAND AS DESCRIBED IN VESTING DEED AS RECORDED AT RECEPTION NO.2017000075854, BEING SITUATED IN THAT PART OF THE SE 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF LAND LOCATED IN THE SOUTH 1/2 OF SECTION 30, TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 30; THENCE RUNNING SOUTH AND PARALLEL TO THE EAST LINE OF SAID SECTION 30 A DISTANCE OF 1305 FEET TO THE TRUE POINT OF BEGINNING; THENCE RUNNING SOUTH AND PARALLEL TO SAID EAST LINE OF SAID SECTION 30, 1335 FEET TO A POINT ON THE SOUTHEAST CORNER OF SAID SECTION 30; THENCE RUNNING WEST AND PARALLEL TO THE SOUTH LINE OF SAID SECTION 30, 2136.5 FEET TO A POINT ON THE SOUTH LINE OF SAID SECTION 30; THENCE RUNNING NORTH AND PARALLEL TO THE EAST LINE OF SAID SECTION 30 , 1335 FEET TO A POINT; THENCE RUNNING EAST AND PARALLEL TO THE DIVIDING LINE BETWEEN THE NORTH 1/2 AND THE SOUTH 1/2 OF SAID SECTION 30, A DISTANCE OF 2136.5 FEET TO A POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE SAME INTO LOTS AND A BLOCK AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF LEFOR SUBDIVISION, AND BY THESE PRESENTS DO HEREBY DEDICATE TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR THE PERPETUAL USE OF THE PUBLIC, THE STREETS AND EASEMENTS AS SHOWN HEREON AND NOT PREVIOUSLY DEDICATED TO THE PUBLIC.

ALL PUBLIC STREETS ARE HEREBY DEDICATED TO ADAMS COUNTY FOR PUBLIC USE.

THE UNDERSIGNED DOES HEREBY DEDICATE, GRANT AND CONVEY TO ADAMS COUNTY THOSE PUBLIC EASEMENTS (AND TRACTS) AS SHOWN ON THE PLAT; AND FURTHER RESTRICTS THE USE OF ALL PUBLIC EASEMENT TO ADAMS COUNTY AND/OR ITS ASSIGNS, PROVIDED HOWEVER, THAT THE SOLE RIGHT AND AUTHORITY TO RELEASE OR QUITCLAIM ALL OR ANY SUCH PUBLIC EASEMENTS SHALL REMAIN EXCLUSIVELY VESTED IN ADAMS COUNTY

OWNER:

_____
SIGNATURE – CHRISTOPHER LEFOR

_____
SIGNATURE – DENISE LEFOR

NOTORIAL:

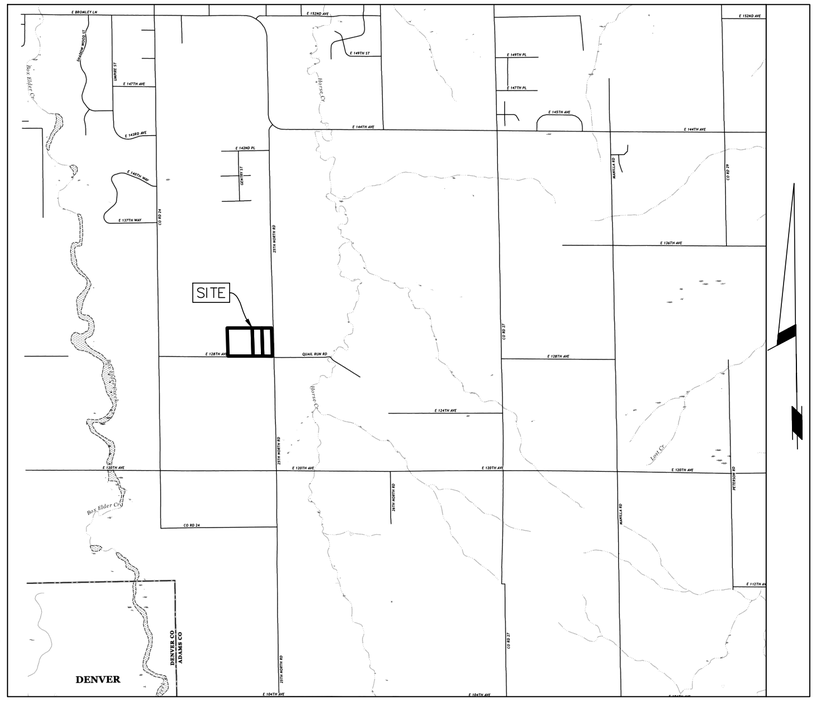
STATE OF COLORADO)
)SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS ___ DAY OF _____, BY CHRISTOPHER LEFOR AND DENISE LEFOR AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP.

WITNESS MY HAND AND OFFICIAL SEAL:

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES : _____



VICINITY MAP
SCALE 1"=5000'

NOTES:

1. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

2. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

3. BASIS OF BEARINGS: BEARINGS ARE BASED ON GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. THE BEARING OF THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M, BETWEEN MONUMENTS AS SHOWN HEREON IS S1°35'26"E WITH ALL BEARINGS CONTAINED HEREON RELATIVE THERETO.

4. ALL DISTANCES ARE GROUND MEASUREMENTS IN U.S. SURVEY FEET, DEFINED AS EXACTLY 1200/3937 METERS.

5. SIX-FOOT (6') WIDE UTILITY EASEMENTS ARE HEREBY DEDICATED ON PRIVATE PROPERTY ADJACENT TO THE FRONT LOT LINES OF EACH LOT IN THE SUBDIVISION. IN ADDITION, EIGHT-FOOT (8') WIDE DRY UTILITY EASEMENTS ARE HEREBY DEDICATED AROUND THE PERIMETER OF TRACTS, PARCELS AND/OR OPEN SPACE AREAS. THESE EASEMENTS ARE DEDICATED TO ADAMS COUNTY FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF UTILITIES.

7. UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF.
(INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION.

8. THIS SURVEY WAS PREPARED WITHOUT A TITLE COMMITMENT. A TITLE SEARCH WAS NOT PERFORMED TO DETERMINE OWNERSHIP, EASEMENTS OR OTHER MATTERS OF PUBLIC RECORD. INFORMATION CONTAINED HEREON IS BASED ON THE DEED AT RECEPTION NO.2017000075845, RECORDED AT THE ADAMS COUNTY CLERK AND RECORDER.

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT I WAS IN RESPONSIBLE CHARGE OF THE SURVEY WORK USED IN THE PREPARATION OF THIS PLAT; THE POSITIONS OF THE PLATTED POINTS SHOWN HEREON HAVE AN ACCURACY OF NOT LESS THAN ONE (1) FOOT IN TEN THOUSAND (10,000) FEET PRIOR TO ADJUSTMENTS, AND ALL BOUNDARY MONUMENTS AND CONTROL CORNERS SHOWN HEREON WERE IN PLACE AS DESCRIBED ON _____.

DAVID L. SWANSON
PROFESSIONAL LS. NO.36070

PLANNING COMMISSION APPROVAL:

APPROVED BY THE ADAMS COUNTY PLANNING COMMISSION THIS _____ DAY OF _____ A.D. 2021.

_____
CHAIR

BOARD OF COUNTY COMMISSIONERS:

APPROVED BY THE ADAMS COUNTY BOARD OF COUNTY COMMISSIONERS THIS _____ DAY OF _____ A.D. 2021.

_____
CHAIR

RECORDER'S CERTIFICATE:

ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF ADAMS COUNTY, COLORADO, AT _____O' CLOCK ___ .M. THIS _____ DAY OF _____, 20___ A.D.

_____
CLERK AND RECORDER

_____
DEPUTY

INSTRUMENT NO.: _____

NO.	DATE	REVISION
1	6/28/2021	
0	4/12/2020	

ChavezDSS, llc
Development and Support Solutions

JOB NUMBER 20012302

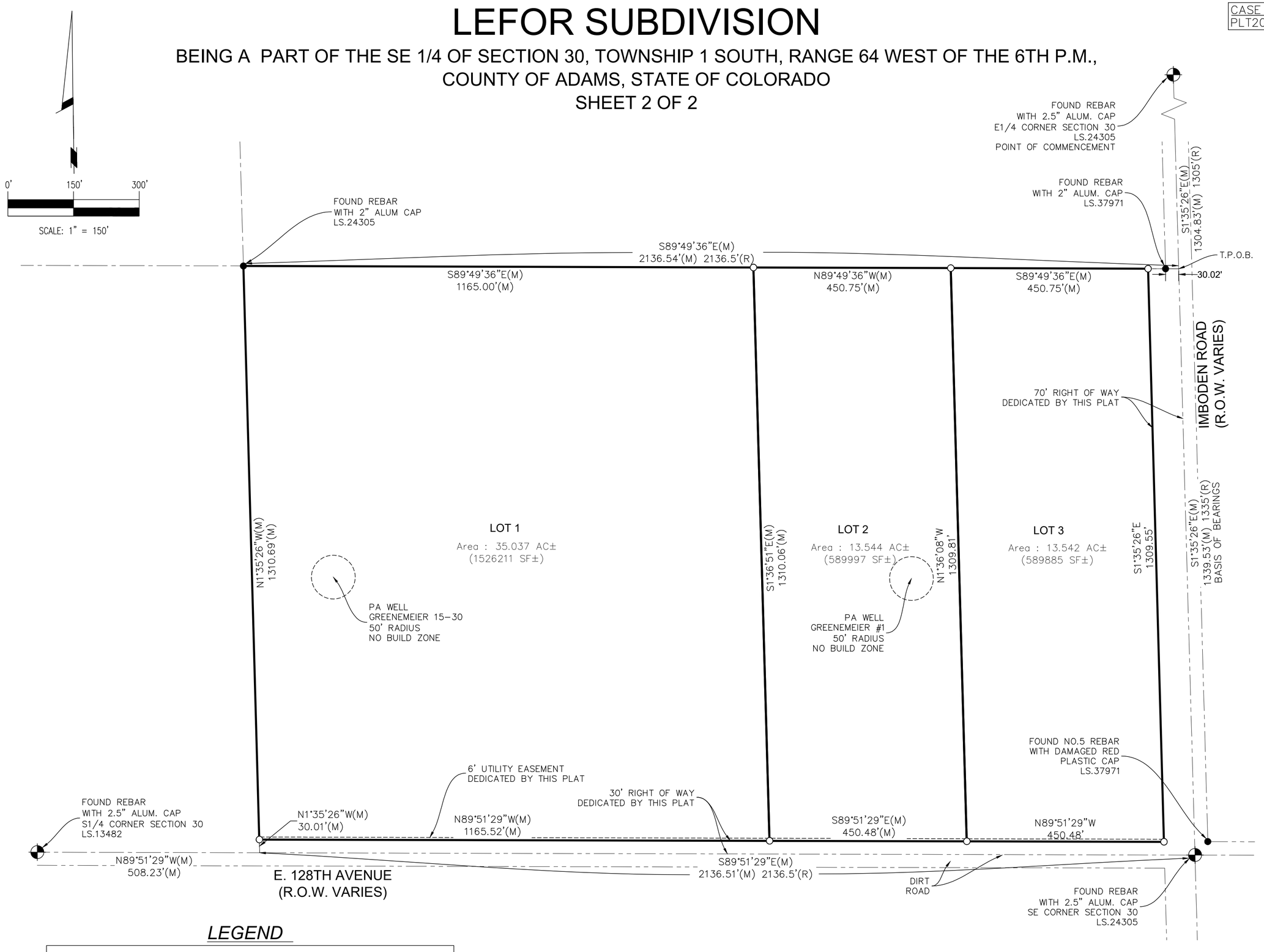
DRAWN BY: F. CHAVEZ

992 S. 4TH ST. STE 100/266, BRIGHTON , CO 80601 - 303.589.4419

LEFOR SUBDIVISION

CASE NUMBER:
PLT2021-00012

BEING A PART OF THE SE 1/4 OF SECTION 30, TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M.,
COUNTY OF ADAMS, STATE OF COLORADO
SHEET 2 OF 2



LEGEND

- ○ = SET NO.5x18" REBAR W/PLASTIC CAP LS# 36070
- ● = FOUND MONUMENT AS NOTED
- ⊕ = FOUND PLSS MONUMENT AS NOTED
- (R) = RECORD INFORMATION
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- ——— = PROPERTY LINE
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- —— - —— - —— = PLSS SECTION LINE

NO.	DATE
1	6/28/2021
0	4/12/2020
REVISION	

ChavezDSS, llc
Development and Support Solutions

JOB NUMBER
20012302
DRAWN BY: F. CHAVEZ

992 S. 4TH ST. STE 100/266, BRIGHTON , CO 80601 - 303.589.4419

27J Schools
Kerrie Monti – Planning Manager
1850 Egbert Street, Suite 140, Brighton, CO 80601
Superintendent Chris Fiedler, Ed.D.

Ben Binkley
binkley13@gmail.com

DATE: April 7, 2021

Re: NWC E. 128th Avenue and Imboden Road

Dear Ben,

A. STUDENT GENERATION (see attached Table 1 for methodology)

Dwelling Units	Total
3 SFD	2

(Any discrepancy due to rounding)

B. LAND DEDICATION/CASH-IN-LIEU REQUIREMENTS (See attached Table 1 for methodology)

The District requests cash in lieu of land dedication in the amount of $826 (based on the Adams County cash-in-lieu calculation).

C. SCHOOL BOUNDARY AREAS

Students from this proposed development would currently attend:

Henderson ES – 12301 E 124th Avenue, Henderson
Stuart MS – 15955 E. 101st Way, Commerce City
Prairie View HS – 12909 E. 120th Avenue, Henderson

D. CAPITAL FACILITY FEE FOUNDATION (see attached Table 2 for methodology)

The Capital Facility Fee Foundation is a unique public/private nonprofit organization founded in January 2001 to help fund school expansion or new school construction. This program has been developed in partnership with each of the municipalities in the District, developer and builder representatives, and 27J Schools. Funding is provided by builders and developers who have agreed to contribute per residential dwelling unit based on the current fee structure.
The current fees negotiated for this program are as follows: $865 per single family residential unit and $494 per multi-family unit.

SCHOOL DISTRICT PLANNING COMMENTS AND RECOMMENDATIONS:

1. **The District requests cash in lieu of land dedication in the amount of $826.**

2. **Given the estimated three (3) residential unit projection, the voluntary, tax-deductible capital facility fee contribution is projected to be $2,595. Fees may be paid in a lump sum or by lot as permits are pulled.**

We appreciate your continuing cooperation and the opportunity to comment upon issues of interest to both the City and the School District. We look forward to receiving updated referrals on this subdivision. Please let me know if you have questions about these comments.

Sincerely,

Kerrie Monti

Kerrie Monti
Planning Manager

Attachment

Binkley (Rural Residential)

Table 1 - Adams County Student Generation and Facilities Requirements

Dwelling Unit Type	Number of DUs	Population Rate	Population Generated	Student Generation Rate	Number of Students	Land Area Required per Student	Number of Acres	Land Value per Acre	School District Fee
SFD	3	3.278	9.834	0.775	2.325	0.026	0.06045	$13,662	$825.87
SFA		2.533	0	0.364	0	0.026	0	$13,662	$0.00
TH/C		2.216	0	0.303	0	0.026	0	$13,662	$0.00
Apartment		2.007	0	0.195	0	0.026	0	$13,662	$0.00
Mobile Home		2.803	0	0.512	0	0.026	0	$13,662	$0.00
Total	**3**		**9.834**		**2.325**		**0.0605**		**$825.87**

Land Dedication Provided	0

Table 2 - SD27J Capital Facility Fee Foundation Contributions

Dwelling Unit Type	Number of DUs	Rate per Unit	Total Contribution
SFD	3	$865.00	$2,595.00
SFA	0	$865.00	$0.00
TH/C	0	$494.00	$0.00
Apartment	0	$494.00	$0.00
Mobile Home	0	$865.00	$0.00
Total	**3**		**$2,595.00**

Brighton Fire Rescue District

500 S. 4th Ave, 3rd Floor • Brighton, Colorado 80601
Telephone: (303) 659-4101 • Fax: (303) 659-4103 • Website: www.brightonfire.org.

April 5, 2021

Ben Binkley
286 Quari Street
Aurora, Colorado 80011
303-845-2178
Binkley13@gmail.com

Subject: Will Serve Letter

Project: PARCEL# 0156500000086- Imboden Road & E 128th Ave

Mr. Binkley,

The above-named project is within the district boundaries of the Brighton Fire Rescue District and will be served by the District. Fire protection and prevention services provided by the District will be according to the applicable laws and District rules, regulations, and policies.

Please contact this office if you need further information or have any questions.

Sincerely,

Julie Sovizdraniouk

Julie Sovizdraniouk
Fire Prevention Administrative Assistant
jsovizdraniouk@brightonfire.org

ONE REPORT

Land Title GUARANTEE COMPANY
WWW.LTGC.COM

To:

Attn: DENISE LEFOR

Fax:

Date Ordered: 03-22-2021

Order Number 874605

Phone: 303-659-0393

Address: PARCEL 156500000086 BRIGHTON, CO 80603 **County:** ADAMS

LEGAL DESCRIPTION

PLEASE SEE DEED FOR LEGAL DESCRIPTION

OWNERSHIP & ENCUMBRANCES

Certification Date: 03-18-2021

OWNERSHIP: CHRISTOPHER LEFOR AND DENISE LEFOR

Doc Type	Doc Fee	Date	Reference#
WARRANTY DEED	$27.50	08-30-2017	75845

ENCUMBRANCES AND OTHER DOCUMENTS

Item	Payable To	Amount	Date	Reference#
NONE OF RECORD				

Cust Ref#

By: MONY MANNING
Land Title
Property Resource Specialist
Email: momanning@ltgc.com
Phone: 303-270-0452
Fax:

Land Title
GUARANTEE COMPANY
WWW.LTGC.COM

Prepared For:

DENISE LEFOR

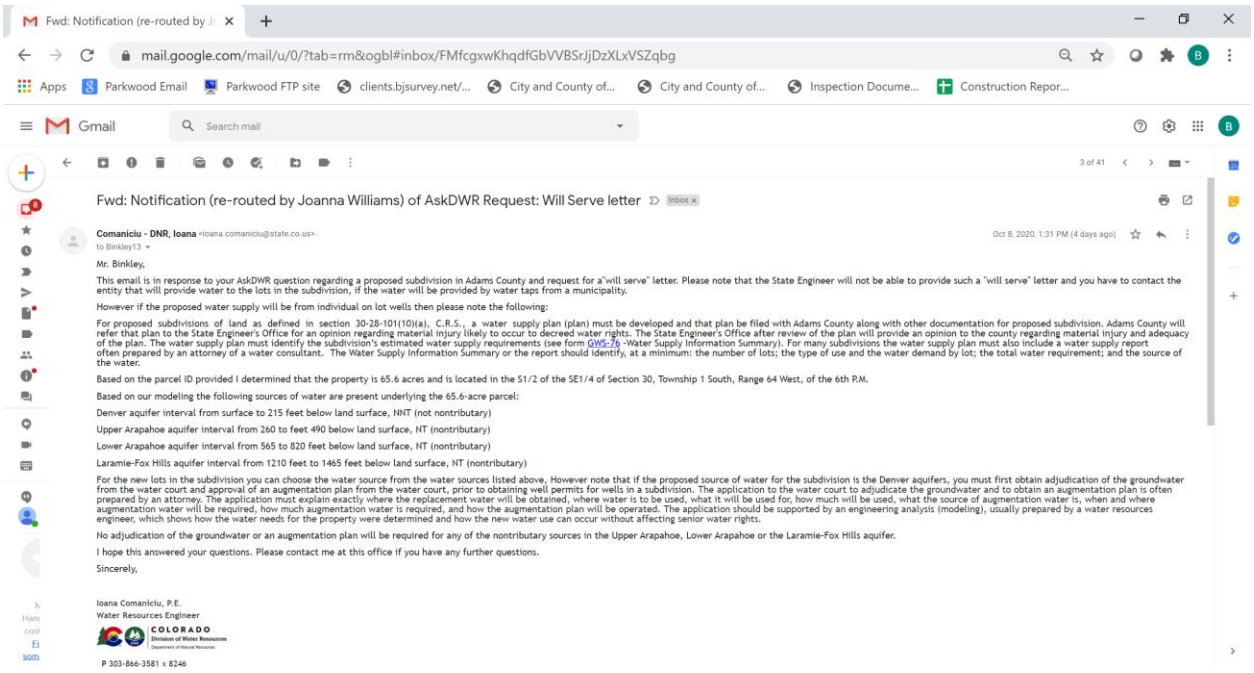
Reference: PARCEL 156500000086 BRIGHTON, CO 80603

Attached are the additional documents you requested:

Doc Type	Recorded	Reception#/BookPage

MONY MANNING
Land Title
Property Resource Specialist
Email: momanning@ltgc.com
Phone: 303-270-0452
Fax:

ADD.DOCS 874605



Fwd: Notification (re-routed by J

mail.google.com/mail/u/0/?tab=rm&ogbl#inbox/FMfcgxwKhqdfGbVVBSrJjDzXLxVSZqbg

Apps | Parkwood Email | Parkwood FTP site | clients.bjsurvey.net/... | City and County of... | City and County of... | Inspection Docume... | Construction Repor...

Gmail | Search mail

3 of 41

Fwd: Notification (re-routed by Joanna Williams) of AskDWR Request: Will Serve letter | Inbox ×

Comaniciu - DNR, Ioana <ioana.comaniciu@state.co.us> Oct 8, 2020, 1:31 PM (4 days ago)
to Binkley13

Mr. Binkley,

This email is in response to your AskDWR question regarding a proposed subdivision in Adams County and request for a"will serve" letter. Please note that the State Engineer will not be able to provide such a "will serve" letter and you have to contact the entity that will provide water to the lots in the subdivision, if the water will be provided by water taps from a municipality.

However if the proposed water supply will be from individual on lot wells then please note the following:

For proposed subdivisions of land as defined in section 30-28-101(10)(a), C.R.S., a water supply plan (plan) must be developed and that plan be filed with Adams County along with other documentation for proposed subdivision. Adams County will refer that plan to the State Engineer's Office for an opinion regarding material injury likely to occur to decreed water rights. The State Engineer's Office after review of the plan will provide an opinion to the county regarding material injury and adequacy of the plan. The water supply plan must identify the subdivision's estimated water supply requirements (see form GWS-76 -Water Supply Information Summary). For many subdivisions the water supply plan must also include a water supply report often prepared by an attorney of a water consultant. The Water Supply Information Summary or the report should identify, at a minimum: the number of lots; the type of use and the water demand by lot; the total water requirement; and the source of the water.

Based on the parcel ID provided I determined that the property is 65.6 acres and is located in the S1/2 of the SE1/4 of Section 30, Township 1 South, Range 64 West, of the 6th P.M.

Based on our modeling the following sources of water are present underlying the 65.6-acre parcel:

Denver aquifer interval from surface to 215 feet below land surface, NNT (not nontributary)

Upper Arapahoe aquifer interval from 260 to feet 490 below land surface, NT (nontributary)

Lower Arapahoe aquifer interval from 565 to 820 feet below land surface, NT (nontributary)

Laramie-Fox Hills aquifer interval from 1210 feet to 1465 feet below land surface, NT (nontributary)

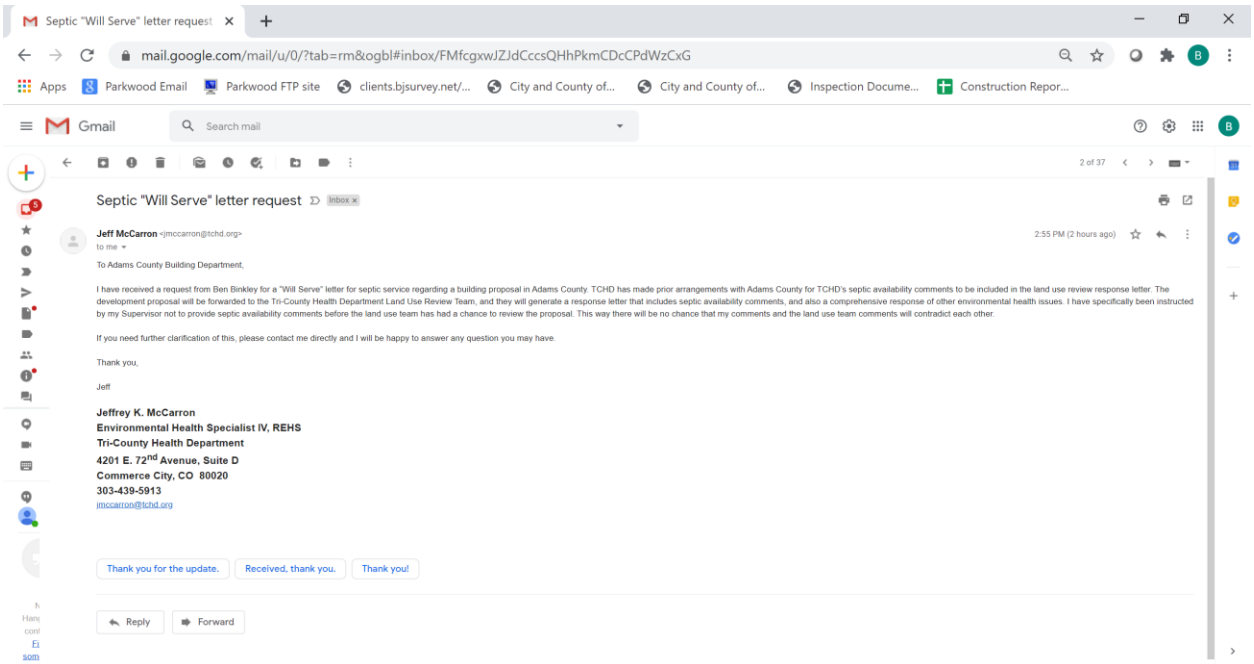
For the new lots in the subdivision you can choose the water source from the water sources listed above, However note that if the proposed source of water for the subdivision is the Denver aquifers, you must first obtain adjudication of the groundwater from the water court and approval of an augmentation plan from the water court, prior to obtaining well permits for wells in a subdivision. The application to the water court to adjudicate the groundwater and to obtain an augmentation plan is often prepared by an attorney. The application must explain exactly where the replacement water will be obtained, where water is to be used, what it will be used for, how much will be used, what the source of augmentation water is, when and where augmentation water will be required, how much augmentation water is required, and how the augmentation plan will be operated. The application should be supported by an engineering analysis (modeling), usually prepared by a water resources engineer, which shows how the water needs for the property were determined and how the new water use can occur without affecting senior water rights.

No adjudication of the groundwater or an augmentation plan will be required for any of the nontributary sources in the Upper Arapahoe, Lower Arapahoe or the Laramie-Fox Hills aquifer.

I hope this answered your questions. Please contact me at this office if you have any further questions.

Sincerely,

Ioana Comaniciu, P.E.
Water Resources Engineer
COLORADO
Division of Water Resources
Department of Natural Resources
P 303-866-3581 x 8246


Septic "Will Serve" letter request
mail.google.com/mail/u/0/?tab=rm&ogbl#inbox/FMfcgxwJZJdCccsQHhPkmCDcCPdWzCxG
Apps
Parkwood Email
Parkwood FTP site
clients.bjsurvey.net/...
City and County of...
City and County of...
Inspection Docume...
Construction Repor...
Gmail
Search mail
2 of 37
Septic "Will Serve" letter request
Inbox
Jeff McCarron <jmccarron@tchd.org>
to me
2:55 PM (2 hours ago)
To Adams County Building Department,
I have received a request from Ben Binkley for a "Will Serve" letter for septic service regarding a building proposal in Adams County. TCHD has made prior arrangements with Adams County for TCHD's septic availability comments to be included in the land use review response letter. The development proposal will be forwarded to the Tri-County Health Department Land Use Review Team, and they will generate a response letter that includes septic availability comments, and also a comprehensive response of other environmental health issues. I have specifically been instructed by my Supervisor not to provide septic availability comments before the land use team has had a chance to review the proposal. This way there will be no chance that my comments and the land use team comments will contradict each other.
If you need further clarification of this, please contact me directly and I will be happy to answer any question you may have.
Thank you,
Jeff
Jeffrey K. McCarron
Environmental Health Specialist IV, REHS
Tri-County Health Department
4201 E. 72nd Avenue, Suite D
Commerce City, CO 80020
303-439-5913
jmccarron@tchd.org
Thank you for the update.
Received, thank you.
Thank you!
Reply
Forward

WILL SERVE LETTER

March 19, 2021

Ben Binkley
Parcel #0156500000086
Brighton, CO 80603

Re: Parcel #0156500000086, Brighton, CO 80603

Dear Ben,

This letter is to confirm that Xcel Energy is your utility provider for natural gas and electrical service. In accordance with our tariffs, on file with and approved by the Colorado Public Utilities Commission, gas and electric facilities can be made available to serve the project at Parcel #0156500000086, Brighton, CO 80603.

Your utility service(s) will be provided after the following steps are completed:

- ***Application submitted to Public Service's "Builders Call Line (BCL)"*** – once your application is accepted you will be assigned a design department representative who will be your primary point of contact
- ***Utility design is completed*** – you must provide your design representative with the site plan, the one line diagrams, and panel schedules for electric and gas loads if applicable
- ***All documents provided by design representative are signed and returned***
- ***Payment is received***
- ***Required easements are granted*** - you must sign and return applicable easement documents to your Right-of-Way agent
- ***Site is ready for utility construction***

A scheduled in-service date will be provided once these requirements have been met.

It is important to keep in mind that the terms and conditions of utility service, per our tariffs, require that you provide adequate space and an easement on your property for all gas and electric facilities required to serve your project, including but not limited to gas and electrical lines and meters, transformers, and pedestals. General guidelines for these requirements can be found at Site Requirements. https://www.xcelenergy.com/staticfiles/xe-responsive/Admin/Managed Documents & PDFs/Xcel-Energy-Standard-For-Electric-Installation-and-Use.pdfEasement requirements can be found at Utility Design and Layout.

Xcel Energy looks forward to working with you on your project and if I can be of further assistance, please contact me at the phone number or email listed below.

Sincerely,

Tammera Wainwright
Pike Engineering
T: 303-628-2272
Tammera.a.wainwright@Xcelenergy.com.

Mailing address: Pike Engineering
555 Zang, Suite 250
Lakewood, CO 80228

#10-Legal Description-

SECT, TWN, RNG: 30-1-64 DESC: BEG AT NE COR OF S2 SEC 30 TH S 1305 FT TO TRUE POB TH S 1335 FT TH W 2136/5 FT TH N 1335 FT TH 2136/5 FT TO POB 65/60A

Certificate Of Taxes Due

Number R0000690
56500000086
To
HRISTOPHER AND
)R DENISE
37TH WAY
)N, CO 80603-8308

Certificate Number 2020-166258
Order Number
Vendor ID Counter

cription	Situs Address
N,RNG:30-1-64 DESC: BEG AT NE COR OF S2 SEC 30 TH S 1305 FT TO TRUE POB TH S 1335 FT TH FT TH N 1335 FT TH E 2136/5 FT TO POB 65/60A	0

	Tax	Interest	Fees	Payments	Bala
	$272.90	$0.00	$0.00	($272.90)	$(
harge					$(
Due as of 10/07/2020					$

t 2019 Rates for Tax Area 242 - 242

	Mill Levy	Amount
EW LIBRARY DISTRICT	3.6770000	$10.88
RICT 6	11.7950000	$34.91
OUNTY	26.9170000	$79.69
	48.8100000	$144.47
RAINAGE SOUTH PLATTE	0.0970000*	$0.29
RAINAGE & FLOOD CONT	0.9000000	$2.66
2019	92.1960000	$272.90
y		

Values	Actual	Assess
AG DRY FARMING LAND	$10,200	$2,9
Total	$10,200	$2,9

LE AMOUNTS ARE SUBJECT TO CHANGE DUE TO ENDORSEMENT OF CURRENT TAXES BY THE LIENHOLDER OR TO ADVERTIS
INT WARRANT FEES. CHANGES MAY OCCUR; PLEASE CONTACT THE TREASURY PRIOR TO MAKING A PAYMENT AFTER AUGU
SALE REDEMPTION AMOUNTS MUST BE PAID BY CASH OR CASHIER'S CHECK.
KING DISTRICTS AND THE BOUNDARIES OF SUCH DISTRICTS MAY BE ON FILE WITH THE BOARD OF COUNTY COMMISSIONER
CLERK, OR, THE COUNTY ASSESSOR.
e does not include land or improvements assessed under a separate account number, personal property taxes, transfer tax, or, miscellane
n behalf of other entities, special or local improvement district assessments, or mobile homes, unless specifically mentioned.
ned, do hereby certify that the entire amount of taxes due upon the above described parcels of real property and all outstanding lien sales
s shown by the records in my office from which the same may still be redeemed with the amount required for redemption are as noted he
reof, I have hereunto set my hand and seal.

& PUBLIC TRUSTEE, ADAMS COUNTY, Lisa L. Culpepper,

Treasurer, Adams County, Lisa L. Culpepper J.D.

s County Parkway
0601

CERTIFICATION OF NOTICE TO MINERAL ESTATE OWNERS

I/We, Ben Binkley
(the "Applicant") by signing below, hereby declare and certify as follows:

With respect to the property located at:
Physical Address: NA
Legal Description: 1/4 of Section 30 T1S, R64W of 6th P.M. County of Adams State of Co.
Parcel #(s): " Corner of 120th Ave + Imboden Rd

(PLEASE CHECK ONE):

_____ On the ______ day of ____________________, 20____, which is not less than thirty days before the initial public hearing, notice of application for surface development was provided to mineral estate owners pursuant to section 24-65.5-103 of the Colorado Revised Statutes;

or

X I/We have searched the records of the Adams County Tax Assessor and the Adams County Clerk and Recorder for the above identified parcel and have found that no mineral estate owner is identified therein.

Date: 9/29/2020 Applicant: [signature]

By: ____________________
Print Name: Ben Binkley
Address: 2661 Quari St
80011

JOSEPHINE MARIAH HORST
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174034540
MY COMMISSION EXPIRES 08/16/2021

STATE OF COLORADO)
)
COUNTY OF ADAMS)

Subscribed and sworn to before me this 29th day of September, 2020, by Benjamin Binkley.

Witness my hand and official seal.

My Commission expires: 8/16/2021 Josephine Horst
Notary Public

After Recording Return To:

Name and Address of Person Preparing Legal Description:

A recorded copy of this Certification shall be submitted to the Adams County Community and Economic Development Department with all applicable land use applications.

APPLICANT'S CERTIFICATION CONCERNING QUALIFYING SURFACE DEVELOPMENT, PURSUANT TO C.R.S. §24-65.5-103.3 (1)(b)

I, Ben Bly (the "Applicant") by signing below, hereby declare and certify as follows concerning the property located at:

Physical Address: N/A

Legal Description: Sec, Twn, Rng: 30-1-64 Desc; Beg at NE Cor of SE Sec 30 TH S 1305 FT of True POB TH O S 1335 FT TH W 2136/5 FT TH N 1335 FT TH E 2136/5 FT TO POB 65/100 A

Parcel # (s): 0156500000086

With respect to qualifying surface developments:

Access to existing and proposed mineral operations, surface facilities, flowlines, and pipelines in support of such existing and proposed operations for oil and gas exploration and production, including provisions for public roads sufficient to withstand trucks and drilling equipment or thirty-foot-wide access easements, were provided for in a "_____" area as recorded in Reception # _____ on _____.

Date: 10/8/2020

Applicant: Ben Bly

By: Ben Binkley

Address: 7200 Quari St Arvada Co 80011

STATE OF COLORADO)
)
COUNTY OF ADAMS)

Subscribed and sworn to before me this 8th day of October, 2020, by Ben Binkley.

Witness my hand and official seal.

MARLENE BOYNE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20034020868
MY COMMISSION EXPIRES MAY 13, 2021

My Commission expires: May 13, 2021

Marlene Boyne
Notary Public

After Recording Return To:

Name and Address of Person Preparing Legal Description:

A recorded copy of this Certification shall be submitted to the Adams County Community and Economic Development Department with all applicable land use applications.

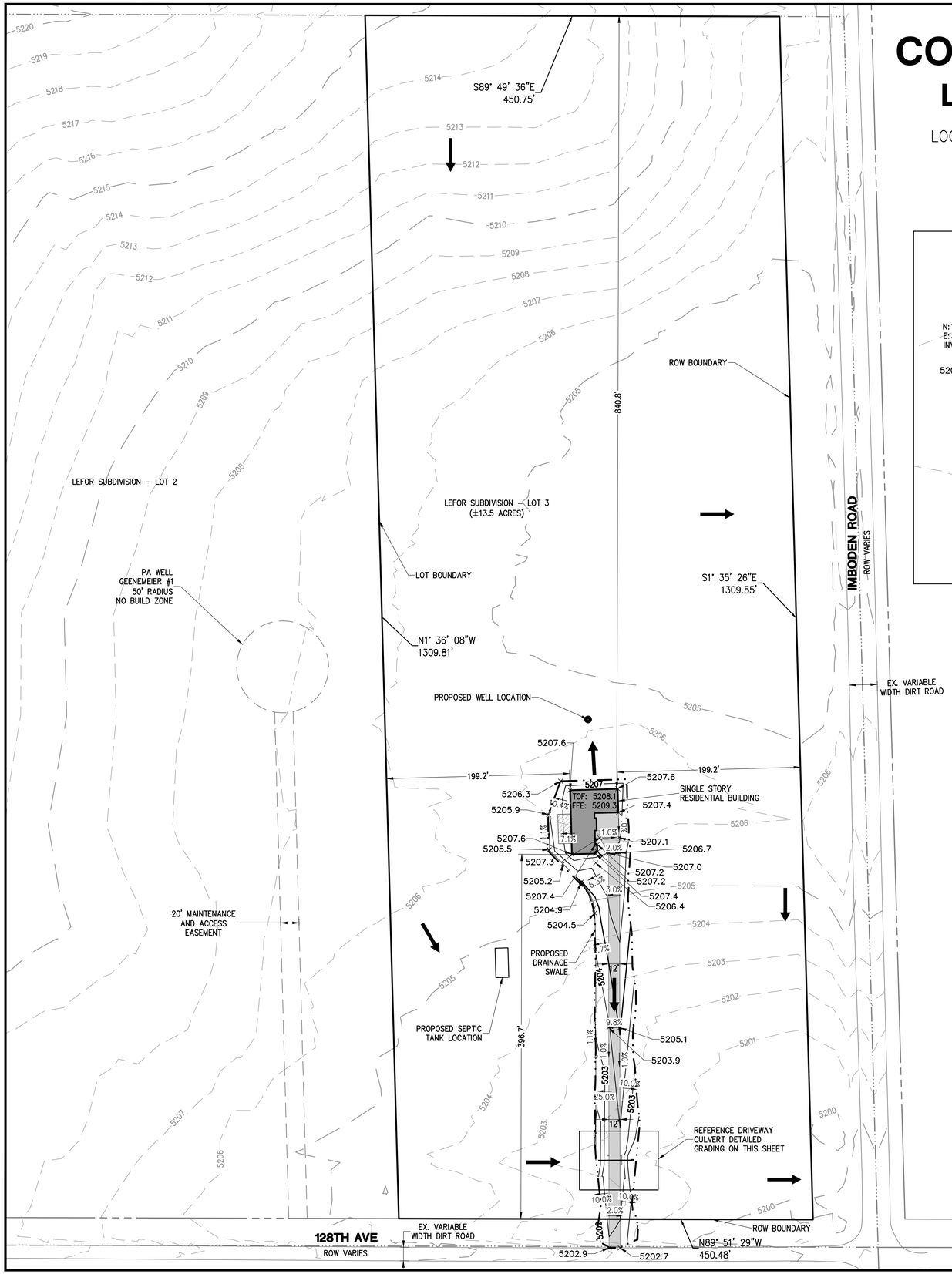
Trip Generation:

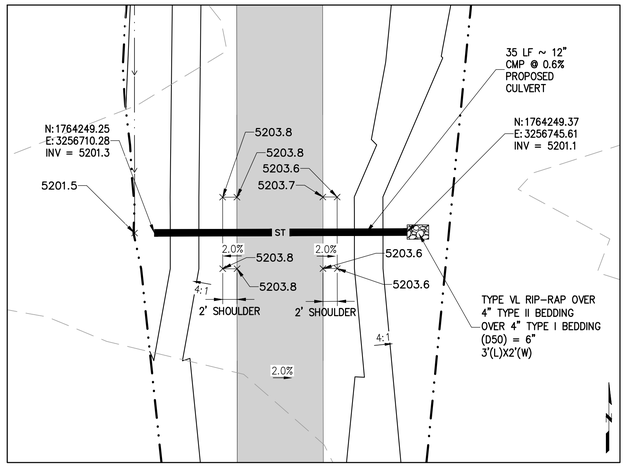
The proposal is to eventually build three separate single family homes. Timing of construction will be at the discretion that meets each family member's financial ability and or desire to construct on the lot assigned. Only one home plan has been speculated so far. There is no current time line for starting or completion of the other two homes Each home will potentially have two driving family members and are planned for two cars at each home.

I have also included the latest 24 Hour rural area traffic counts.

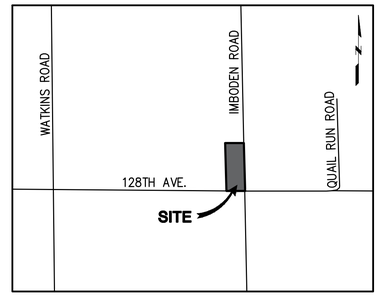
CONSTRUCTION PLAN FOR
LEFOR SUBDIVISION - LOT 3

LOCATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 30,
TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M.
COUNTY OF ADAMS, STATE OF COLORADO





DRIVEWAY CULVERT DETAILED GRADING
SCALE: 1" = 10'



VICINITY MAP
SCALE: 1" = 2000'

LEGEND

5400	EXISTING CONTOUR
	EXISTING EASEMENT
	PROPERTY LINE
	ROW BOUNDARY
	SUBDIVISION PROPERTY BOUNDARY
	OVERLAND DRAINAGE FLOW DIRECTION
	PROPOSED GRADING LIMITS
5655	PROPOSED CONTOUR
	PROPOSED DRAINAGE SWALE
ST	PROPOSED CULVERT
	PROPOSED DRIVEWAY
	PROPOSED SINGLE FAMILY RESIDENTIAL BUILDING
	PROPOSED PATIO

NOTES:

1. REFERENCE STORMWATER MANAGEMENT PLAN AND REPORT BY ELEVATION CONSULTING GROUP FOR EROSION AND SEDIMENTATION CONTROL MEASURES.
2. DRIVEWAY MATERIAL WILL BE CRUSHED ASPHALT.

CONTACTS:

CIVIL ENGINEER: ELEVATION CONSULTING GROUP LTD
PO BOX 280869
LAKEWOOD, CO 80226
PHONE: 303-204-5065

DEVELOPER: SEAN LEFOR
32651 137TH WAY
BRIGHTON, CO 80603
PHONE: 303-883-8620

ABBREVIATIONS

FFE	FINISHED FLOOR ELEVATION
TOF	TOP OF FOUNDATION

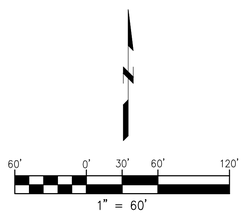
BASIS OF BEARING:

BEARINGS ARE BASED ON GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. THE BEARING OF THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., BETWEEN MONUMENTS AS SHOWN HEREON IS S1°35'26"E WITH ALL BEARINGS CONTAINED HEREON RELATIVE THERETO.

BENCHMARK:

ELEVATIONS ARE BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON 3/6/2023 AND ARE BASED ON NAVD88 VERTICAL DATUM.

811 Know what's below. Call before you dig.



DATE	NO.	REVISIONS	CHECKED BY	BY
DATE 05/27/23	JOB NO. 2023002		LJT	

INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION

P.O. BOX 280869
LAKEWOOD, CO 80226
PHONE: (303) 204-5065

Elevation Consulting

LEFOR SUBDIVISION - LOT 3

PRELIMINARY GRADING AND DRAINAGE PLAN

ADAMS COUNTY, COLORADO

SHEET
C1

PRELIMINARY STORMWATER MANAGEMENT PLAN FOR

LEFOR SUBDIVISION - LOT 3

LOCATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 30,
TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M.
COUNTY OF ADAMS, STATE OF COLORADO

GENERAL NOTES

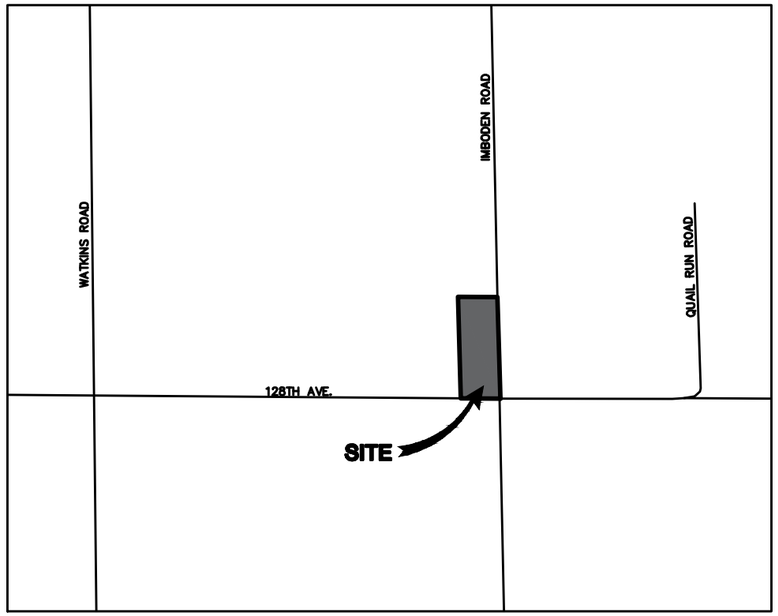
1. OWNER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING A STATE OF COLORADO, COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY COR-030000 PRIOR TO CONSTRUCTION (CDPS STORMWATER CONSTRUCTION PERMIT).
2. THE OWNER/CONTRACTOR SHALL PROVIDE ADAMS COUNTY WITH A COPY OF THIS CDPS STORMWATER CONSTRUCTION PERMIT LETTER OF APPROVAL AND CERTIFICATION FROM THE STATE PRIOR TO RECEIVING A COUNTY CONSTRUCTION/BUILDING PERMIT. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH THIS CDPS STORMWATER CONSTRUCTION PERMIT.
3. A COPY OF THE CDPS STORMWATER CONSTRUCTION PERMIT FROM CDPHE AND THE APPROVED STORMWATER MANAGEMENT PLAN (SWMP) WITH AN EROSION AND SEDIMENT PLAN SHALL BE KEPT ON SITE AND UPDATED AT ALL TIMES IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.
4. OWNER/CONTRACTOR IS RESPONSIBLE FOR FILING A CDPHE INACTIVATION NOTICE -CONSTRUCTION STORMWATER DISCHARGE GENERAL PERMIT CERTIFICATION; ONCE THE CONSTRUCTION SITE HAS BEEN FINALLY STABILIZED IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.
5. THE OWNER/CONTRACTOR SHALL PROVIDE ADAMS COUNTY WITH A COPY OF THIS INACTIVATION NOTICE. THERE WILL BE NO FEE CHARGED TO ADAMS COUNTY FOR THE INACTIVATION NOTICE OR IF THE CONTRACTOR NEGLECTS TO FILE THIS NOTICE.
6. THE SWMP ADMINISTRATOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION. THE SWMP SHALL BE MODIFIED IN COMPLIANCE TO THE CDPS STORMWATER CONSTRUCTION PERMIT.
7. STANDARD INSPECTIONS – A THOROUGH INSPECTION OF THE BEST MANAGEMENT PRACTICES (BMPS) SHALL BE PERFORMED EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION.
8. USE BIODEGRADABLE EROSION CONTROL BLANKETS ON SLOPES 3:1 OR STEEPER AND IN SWALES OR LONG CHANNELS.
9. ALL SOIL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT THE LOSS OF MATERIAL DURING TRANSPORT. HAUL ROUTES MUST BE PERMITTED BY THE COUNTY. NO MATERIAL SHALL BE TRANSPORTED TO ANOTHER SITE WITHOUT FIRST OBTAINING A HAULING PERMIT FROM ADAMS COUNTY PLANNING.
10. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE SHALL CONTAIN ALL CONCRETE WASHOUT WATER. STORMWATER SHALL NOT CARRY WASTES FROM THE DESIGNATED CONCRETE WASHOUT LOCATION AND SHALL BE LOCATED A MINIMUM OF FIFTY (50) FEET HORIZONTAL FROM WATERS OF THE STATE.
11. THE ACTUAL SCHEDULE FOR IMPLEMENTING EROSION AND SEDIMENT CONTROL MEASURES WILL BE DETERMINED BY PROJECT CONSTRUCTION PROGRESS. DOWN SLOPE PROTECTIVE MEASURES (I.E. SEDIMENT CONTROL BARRIERS) MUST ALWAYS BE IN PLACE BEFORE SOIL IS DISTURBED.
12. INSTALL SEDIMENT CONTROL BARRIERS DOWN SLOPE FROM CONSTRUCTION THAT DISTURB SITE SOIL. SEDIMENT CONTROL BARRIERS SHOULD BE INSTALLED IN THE LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL DRAWINGS, AS WELL AS OTHER LOCATIONS AS DEEMED NECESSARY BY THE CONTRACTOR, INSPECTOR OR OWNER."

PERFORMANCE STANDARD NOTES

1. TEMPORARY AND/OR PERMANENT BMPS INTENDED TO CONTROL EROSION OF AN EARTH DISTURBANCE OPERATION SHALL BE INSTALLED BEFORE ANY EARTH DISTURBANCE OPERATIONS TAKE PLACE IN SEQUENCE WITH PROPER PHASING.
2. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES, SOIL AND VEGETATION.
3. PERSONS ENGAGED IN EARTH DISTURBANCES SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS ADOPTED BY ADAMS COUNTY AND IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.
4. EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST POSSIBLE PERIOD OF TIME.
5. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH DISTURBANCE.
6. EXCAVATED MATERIAL AND OTHER CONSTRUCTION DEBRIS SHALL NOT BE STOCKPILED WITHIN THE ROADWAY SECTION. BACKFILL MATERIALS UP TO A MAXIMUM OF 130 CY MAY BE STOCKPILED, WITH APPROPRIATE EROSION CONTROL MEASURE, BUT MUST BE REMOVED OR PLACED BY THE END OF EACH WORK WEEK.
7. ANY CONSTRUCTION AREAS, NOT GRADED TO FINAL GRADE, REQUIRE TEMPORARY BMPS FOR SITE STABILIZATION.
8. AS NECESSARY, CONSTRUCT A TEMPORARY FACILITY DESIGNATED FOR CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE CONSTRUCTION SITE.
9. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING.
10. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURE'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.
11. CONCRETE WASHOUTS SHALL NOT BE PLACED IN LOW AREAS, DITCHES OR ADJACENT TO STATE WATERS.
12. THE OWNER/CONTRACTOR SHALL CHECK THE CAPACITY FOR ALL CONCRETE WASHOUT AREAS. WASTE MATERIALS MUST BE REMOVED BY THE CONTRACTOR AND LEGALLY DISPOSED OF WHEN ACCUMULATIONS AMOUNT TO TWO-THIRDS (⅔) OF THE WET STORAGE CAPACITY OF THE STRUCTURE.
13. ALL CONCRETE WASHOUT AREAS SHALL BE CLEARLY MARKED. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE WILL INCLUDE A 2'X3' SIGN POSTED WITH THE WORDS "CONCRETE WASHOUT". THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
14. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF. CONCRETE WASHOUT WASTE MUST NOT BE BURIED.
15. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE SHALL BE TEMPORARILY STABILIZED IMMEDIATELY AFTER INTERIM GRADING.
16. FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST SEVENTY PERCENT (70%) OF PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAS BEEN EMPLOYED.
17. RECORDS OF SPILLS, LEAKS, OR OVERFLOWS THAT RESULT IN THE DISCHARGE OF POLLUTANTS MUST BE DOCUMENTED AND MAINTAINED. SOME SPILLS MAY NEED TO BE REPORTED TO THE DIVISION IMMEDIATELY: SPECIFICALLY, A RELEASE OF ANY CHEMICAL, OIL, PETROLEUM PRODUCT, SEWAGE, ETC., WHICH MAY ENTER WATERS OF THE STATE, MUST BE REPORTED. MORE GUIDANCE IS AVAILABLE ON THE WEB AT WWW.CDPHE.STATE.CO.US/EMP/SPILLSANDRELEASED.HTM.THE DIVISION'S TOLL FREE 24-HOUR ENVIRONMENTAL EMERGENCY SPILL REPORTING LINE IS 1-877-518-5608. ALSO IMMEDIATELY CALL ADAMS COUNTY AT 303-.453-8787 AND THE TRI-COUNTY HEALTH DEPARTMENT AT 303-220-9200"

BMP MAINTENANCE NOTES

1. IT IS ANTICIPATED THAT THE BMPS IMPLEMENTED AT THE SITE WILL HAVE TO BE MODIFIED TO ADAPT TO CHANGING CONDITIONS OR TO ENSURE THAT POTENTIAL POLLUTANTS ARE BEING PROPERLY MANAGED AT THE SITE. WHEN BMPS ARE MODIFIED, THE SWMP MUST BE MODIFIED TO ACCURATELY REFLECT THE ACTUAL FIELD CONDITIONS.
2. THE OWNER/CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ALL SILT FENCING SO THAT IT FUNCTIONS PROPERLY DURING CONSTRUCTION AND WORK SUSPENSIONS. ALL SILT FENCING SHALL BE REMOVED BY THE CONTRACTOR UPON SUBSTANTIAL PERMANENT STABILIZATION UNLESS OTHERWISE DIRECTED BY AUTHORIZED ADAMS COUNTY PERSONNEL.
3. SILT FENCE SHALL BE INSTALLED ALONG CONTOURS AND PRIOR TO ANY GRUBBING OR GRADING ACTIVITY. IT SHALL BE LOCATED TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS IN WHICH IT SHALL BE INSTALLED AT A FAIRLY LEVEL GRADE.
4. IT IS RECOMMENDED THAT SILT FENCE SHALL BE INSTALLED FIVE (5) FEET AWAY FROM THE TOE OF THE SLOPE OR STOCKPILE, AND EVERY SEVENTY FIVE (75) TO ONE HUNDRED TWENTY FIVE (125) FEET APART ON LONG SLOPES.
5. DO NOT PLACE SILT FENCE IN OR ADJACENT TO EXISTING WETLANDS WHERE TRENCHING IMPACTS WETLANDS.
6. ALL INLET/OUTLET PROTECTION WILL BE CHECKED FOR MAINTENANCE AND FAILURE DAILY. SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF ONCE IT HAS ACCUMULATED TO HALF THE DESIGN OF THE TRAP OR DAILY DURING PERIODS OF CONSISTENT PRECIPITATION.
7. THE OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VEHICLE TRACKING CONTROL DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE COMPLETION OF THIS PROJECT UNLESS OTHERWISE DIRECTED BY AUTHORIZED ADAMS COUNTY PERSONNEL.
8. TEMPORARY SEDIMENT TRAPS AND BASINS SHALL BE INSTALLED BEFORE ANY LAND DISTURBANCE TAKES PLACE IN THE DRAINAGE AREA. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT. SEDIMENT SHALL BE REMOVED WHEN NO LONGER FUNCTIONAL AND DISPOSED OF AT AN APPROVED LOCATION.
9. ALL SEDIMENT FROM STORMWATER INFRASTRUCTURE (I.E. DETENTION PONDS, STORM SEWER PIPES, OUTLETS, INLETS, ROADSIDE DITCHES, ETC.) SHALL BE REMOVED PRIOR TO INITIAL ACCEPTANCE. THIS SEDIMENT SHALL NOT BE FLUSHED OFF-SITE,BUT SHALL BE CAPTURED ON-SITE AND DISPOSED OF AT AN APPROVED LOCATION.
10. TEMPORARY ROCK CHECK DAM –THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHOULD NOT EXCEED ONE HALF THE DEPTH OF THE DITCH OR SWALE. THE MAXIMUM SPACING BETWEEN DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
11. CONSTRUCTION SAFETY BARRIER FENCING (ORANGE CONSTRUCTION FENCE) MUST BE USED TO PROTECT WETLANDS AND OTHER SENSITIVE AREAS AND TO PREVENT ACCESS.
12. WATER FROM DEWATERING OPERATIONS SHALL NOT BE DIRECTLY DISCHARGED INTO ANY WATERS CONVEYANCE SYSTEMS INCLUDING WETLANDS, IRRIGATION DITCHES, CANALS, RIVERS, STREAMS OR STORM SEWER SYSTEMS, UNLESS ALLOWED BY A STATE CONSTRUCTION DEWATERING PERMIT.



VICINITY MAP

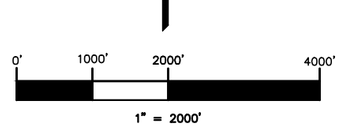
SHEET INDEX

C1	COVER SHEET
C2	EROSION CONTROL PLAN – INITIAL
C3	EROSION CONTROL PLAN – INTERIM
C4	EROSION CONTROL PLAN – FINAL
C5	EROSION CONTROL DETAILS
C6	EROSION CONTROL DETAILS
C7	EROSION CONTROL DETAILS

811 Know what's below. Call before you dig.

CONTACTS:

OWNER:	SEAN LEFOR 32651 137TH WAY BRIGHTON, CO 80603 PHONE: 303-883-8620
CIVIL ENGINEER:	ELEVATION CONSULTING GROUP LTD PO BOX 280869 LAKEWOOD, CO 80226 PHONE: 303-204-5065
SURVEYOR:	CHAVEZDSS, LLC. 11479 S. PINE DRIVE PARKER, CO 80134 PHONE: 303-589-4419



BASIS OF BEARING:

BEARINGS ARE BASED ON GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. THE BEARING OF THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., BETWEEN MONUMENTS AS SHOWN HEREON IS S1°35'26"E WITH ALL BEARINGS CONTAINED HEREON RELATIVE THERETO.

BENCHMARK:

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ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS EROSION CONTROL DRAWING FOR LEFOR SUBDIVISION – LOT 3 WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE PROVISIONS OF ADAMS COUNTY STORM DRAINAGE DESIGN AND STORMWATER QUALITY REGULATIONS FOR THE OWNERS THEREOF.

LINCOLN J. THOMAS, P.E. DATE
COLORADO NO. 42350

NO.	DATE	REVISIONS	BY

DATE 06/27/22 CHECKED BY LJT
JOB NO. 2023002

INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION

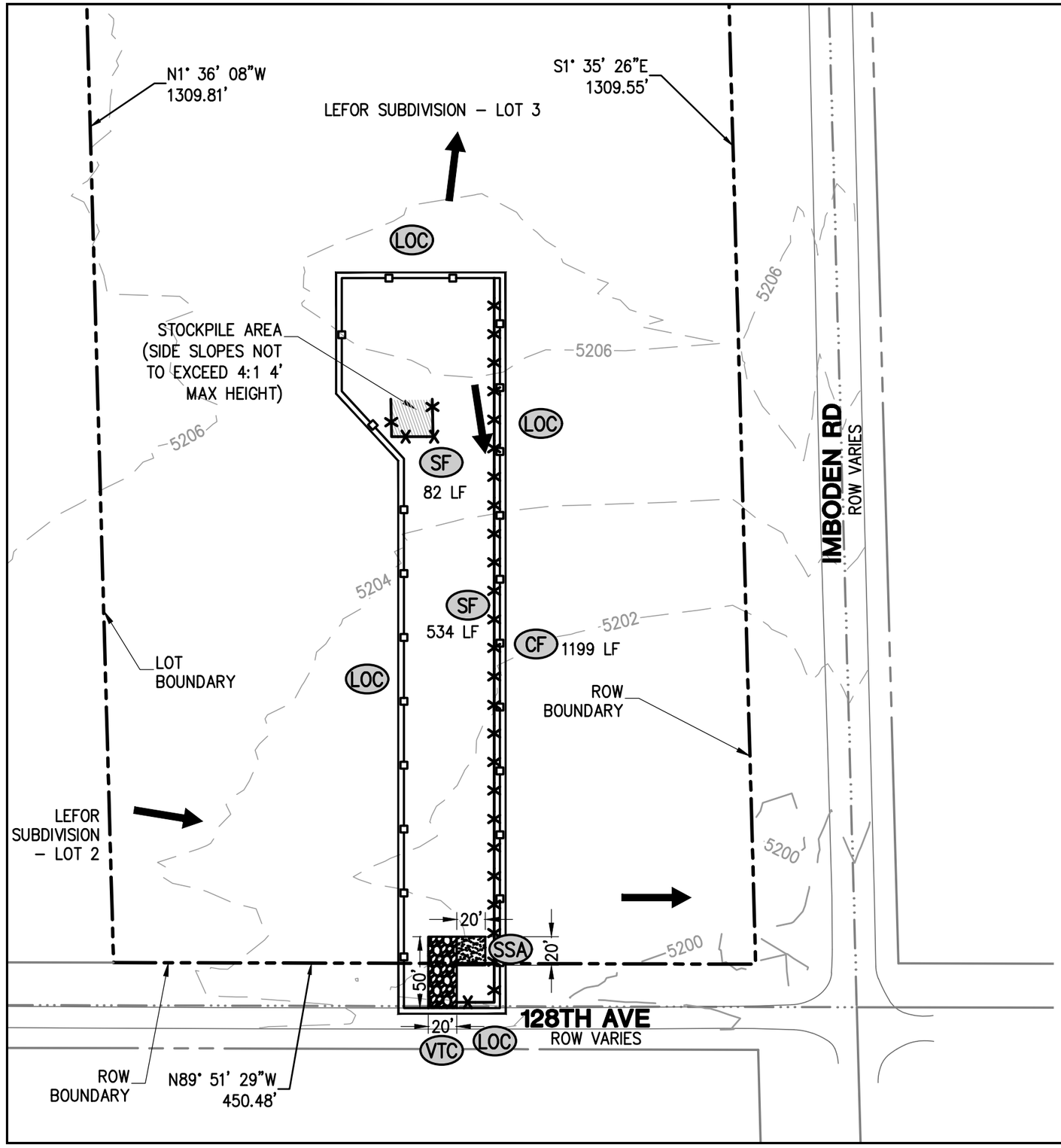
P.O. BOX 280869
LAKEWOOD, CO 80226
PHONE: (303) 204-5065

LEFOR SUBDIVISION - LOT 3

COVER SHEET

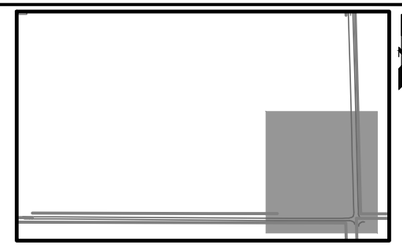
ADAMS COUNTY, COLORADO

SHEET C1



0' 40' 80' 160'

1" = 80'



KEY MAP
SCALE: 1" = 1000'

LEGEND

6175	EXISTING GROUND MAJOR CONTOUR
6175	EXISTING GROUND MINOR CONTOUR
6175	PROPOSED GRADE MAJOR CONTOUR
6175	PROPOSED GRADE MINOR CONTOUR
	SUBDIVISION BOUNDARY
	PROPERTY LINE
	OVERLAND DRAINAGE FLOW DIRECTION
LOC	PERMITTED AREA BOUNDARY
SF	SILT FENCE
CF	CONSTRUCTION FENCE
SSA	STABILIZED STAGING AREA
VTC	VEHICLE TRACKING CONTROL
SM	SEEDING AND MULCHING
SR	SURFACE ROUGHING
CWA	LINED CONCRETE WASHOUT AREA
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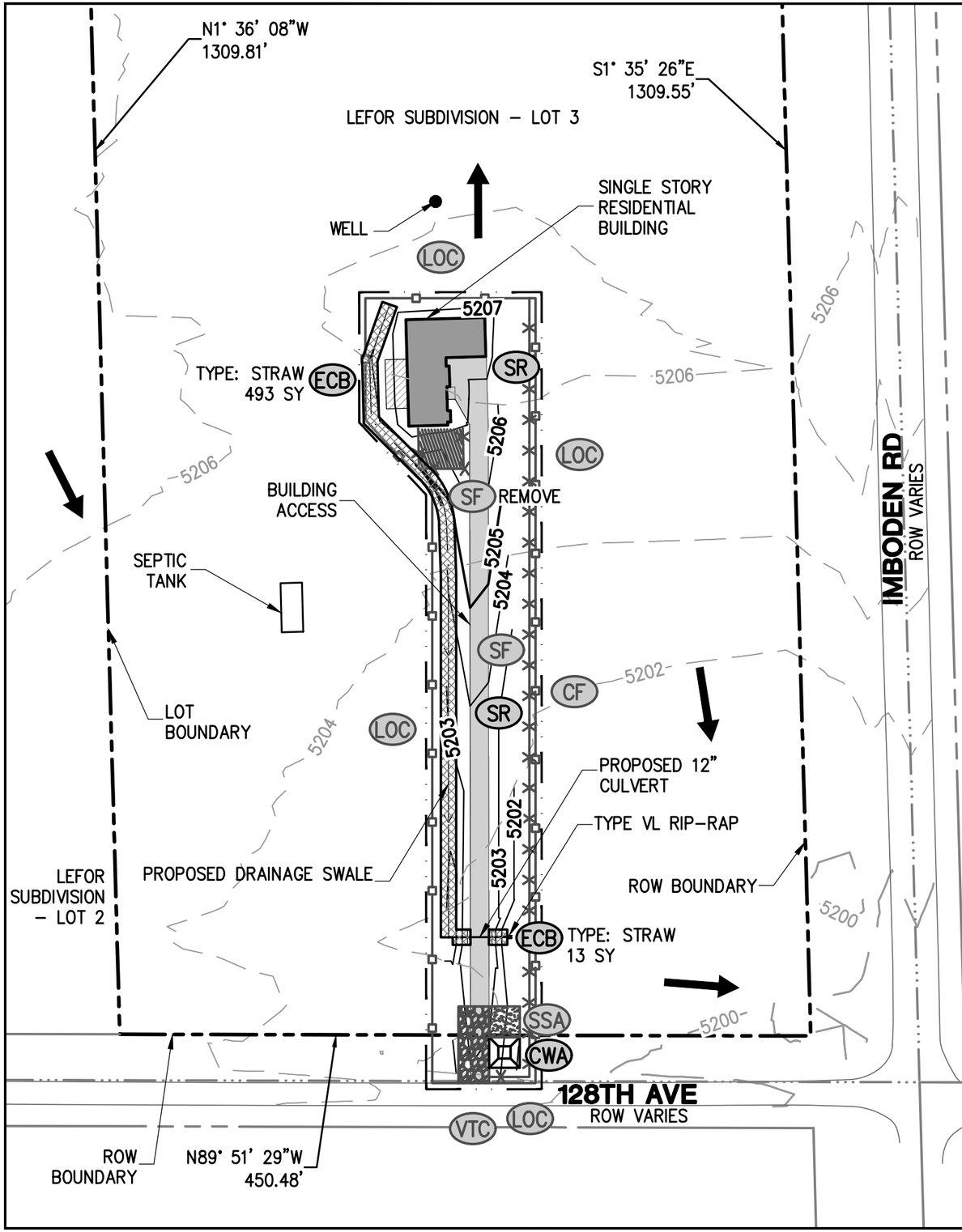
LAKEWOOD, CO 80226
PHONE: (303) 204-5065
Elevation Consulting

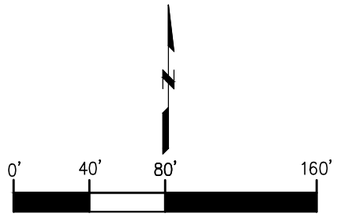
LEFOR SUBDIVISION - LOT 3

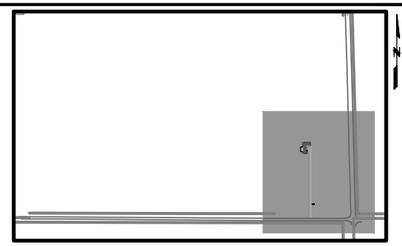
EROSION CONTROL PLAN - INITIAL

ADAMS COUNTY, COLORADO

SHEET
C2







KEY MAP
SCALE: 1" = 1000'

LEGEND

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	OVERLAND DRAINAGE FLOW DIRECTION
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SF	SILT FENCE
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SSA	STABILIZED STAGING AREA
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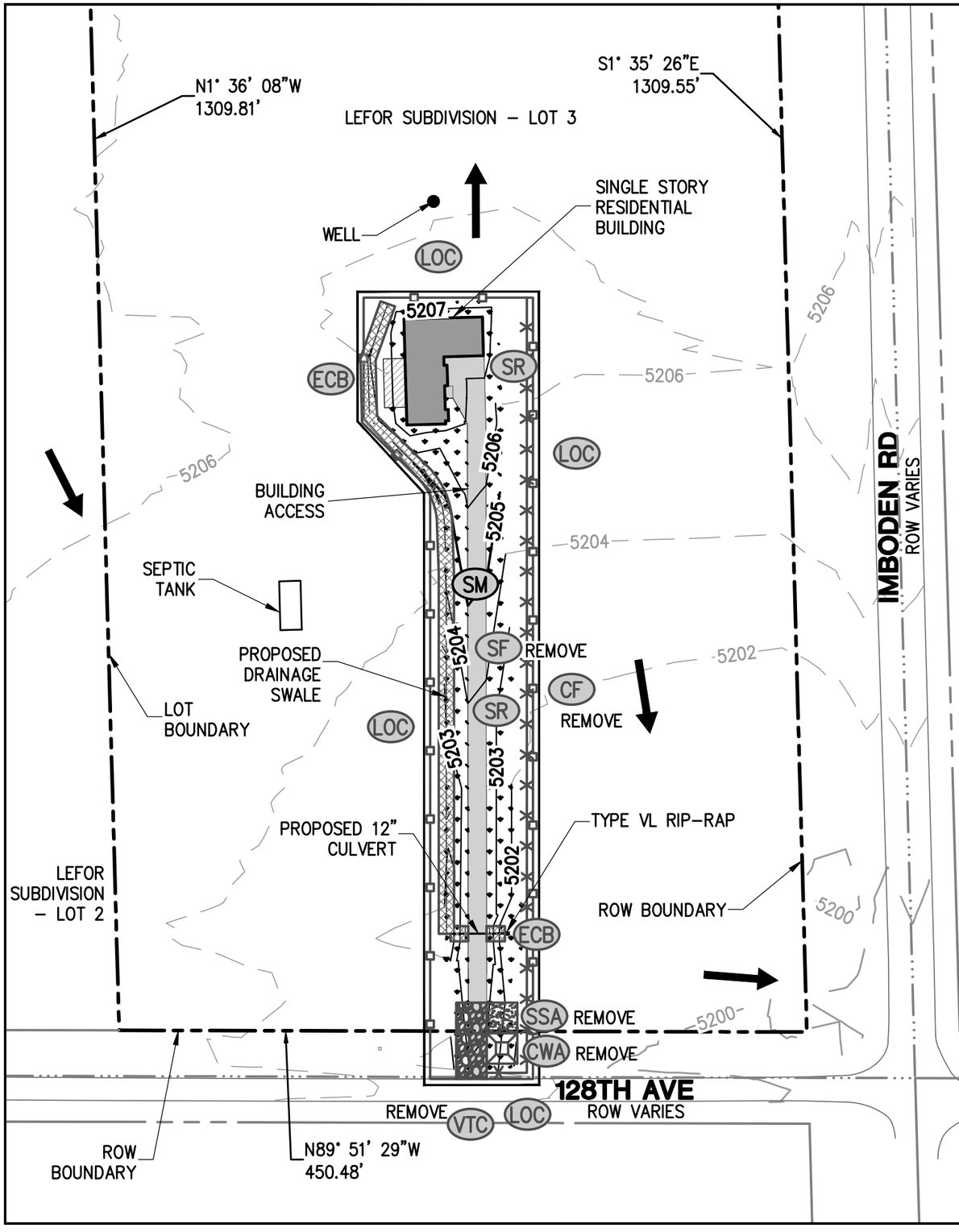
Elevation Consulting

LEFOR SUBDIVISION - LOT 3

EROSION CONTROL PLAN - INTERIM

ADAMS COUNTY, COLORADO

SHEET
C3
SHEET 3 OF 7



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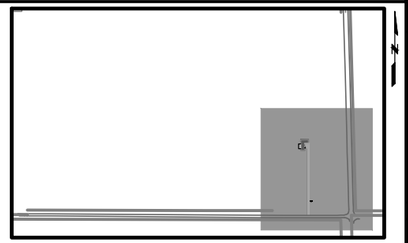

KEY MAP
SCALE: 1" = 1000'

LEGEND

- 6175 — EXISTING GROUND MAJOR CONTOUR
- 6175 — EXISTING GROUND MINOR CONTOUR
- **6175** — PROPOSED GRADE MAJOR CONTOUR
- **6175** — PROPOSED GRADE MINOR CONTOUR
- SUBDIVISION BOUNDARY
- PROPERTY LINE
- OVERLAND DRAINAGE FLOW DIRECTION
- LOC — PERMITTED AREA BOUNDARY
- SF — SILT FENCE
- CF — CONSTRUCTION FENCE
- SSA — STABILIZED STAGING AREA
- VTC — VEHICLE TRACKING CONTROL
- SM — SEEDING AND MULCHING
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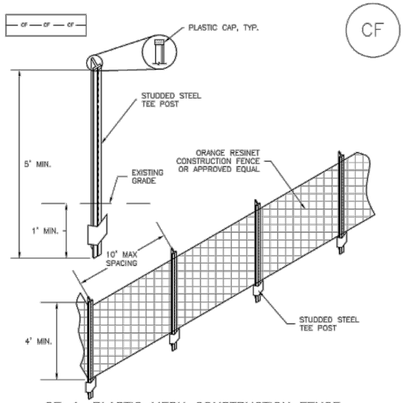
Elevation Consulting

LEFOR SUBDIVISION - LOT 3

EROSION CONTROL PLAN - FINAL

ADAMS COUNTY, COLORADO

SHEET
C4
SHEET 4 OF 7



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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.

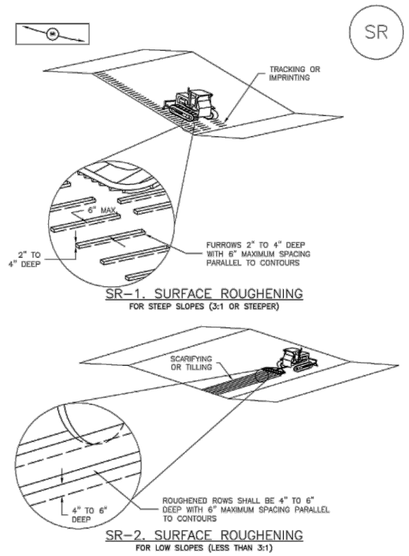
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)



SR–1. SURFACE ROUGHENING
FOR STEEP SLOPES (3:1 OR STEEPER)

SR–2. SURFACE ROUGHENING
FOR LOW SLOPES (LESS THAN 3:1)

SURFACE ROUGHENING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF SURFACE ROUGHENING.

2. SURFACE ROUGHENING SHALL BE PROVIDED PROMPTLY AFTER COMPLETION OF FINISHED GRADING (FOR AREAS NOT RECEIVING TOPSOIL) OR PRIOR TO TOPSOIL PLACEMENT OR ANY FORECASTED RAIN EVENT.

3. AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD WILL BE PLACED WITHOUT DELAY IN THE CONSTRUCTION SEQUENCE, SURFACE ROUGHENING IS NOT REQUIRED.

4. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.

5. A FARMING DISK SHALL NOT BE USED FOR SURFACE ROUGHENING.

SURFACE ROUGHENING MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACE UPON DISCOVERY OF THE FAILURE.

4. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

5. IN NON–TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.

6. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE–ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER RILL EROSION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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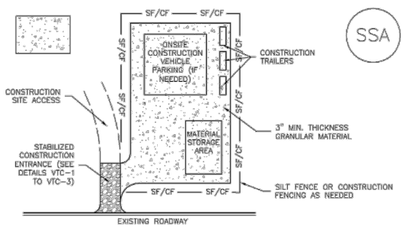


SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

STABILIZED STAGING AREA MAINTENANCE NOTES

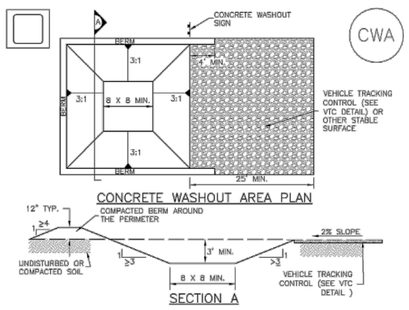
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE–ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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 DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)



CONCRETE WASHOUT AREA PLAN

SECTION A

CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

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.

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PHONE: (303) 204–5065
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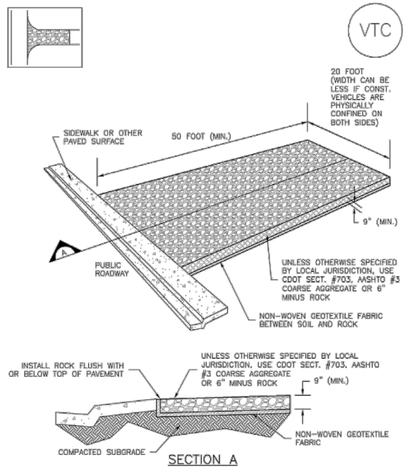
LEFOR SUBDIVISION - LOT 3

EROSION CONTROL DETAILS

ADAMS COUNTY, COLORADO

SHEET C5

SHEET 5 OF 7



VTC–1. AGGREGATE VEHICLE TRACKING CONTROL

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 EACH WORKDAY, 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. 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.

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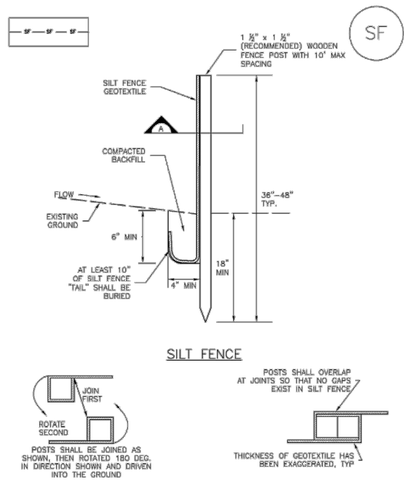
(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)



SF–1. SILT FENCE

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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 THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

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.

have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. If present, at a minimum of the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the upper 12 inches of the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placing a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth. Topsoil should not be placed when either the salvaged topsoil or receiving ground are frozen or snow covered.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Refer to MHFD's Topsoil Management Guidance for detailed information on topsoil assessment, design, and construction.

Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Temporary grain seed mixes suitable for the Denver metropolitan area are listed in Table TS/PS-1. Native temporary seed mixes are provided in USDCM Volume 2, Chapter 13, Appendix A. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in seed mix tables in the USDCM Volume 2 *Revegetation* Chapter can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment. These are to be considered only as general

recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seed mixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Salix spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

Timing of seeding is an important aspect of the revegetation process. For upland and riparian areas on the Colorado Front Range, the suitable timing for seeding is from October through May. The most favorable time to plant non-irrigated areas is during the fall, so that seed can take advantage of winter and spring moisture. Seed should not be planted if the soil is frozen, snow covered, or wet.

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-2 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species[a] (Common name)	Growth Season[b]	Pounds of Pure Live Seed (PLS)/acre[c]	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¼
6. Winter wheat	Cool	20–35	1 - 2
7. Winter barley	Cool	20–35	1 - 2
8. Winter rye	Cool	20–35	1 - 2
9. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

[b] See Table TS/PS-2 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

Table TS/PS-2. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	**Warm**	**Cool**	**Warm**	**Cool**
January 1–March 15			✓	✓
March 16–April 30		1,2,3	✓	✓
May 1–May 15			✓	
May 16–June 30	5			
July 1–July 15	5			
July 16–August 31				
September 1–September 30		6, 7, 8, 9		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the USDCM Volume 2 *Revegetation* Chapter and Volume 3 Mulching BMP Fact Sheet (EC-04) for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

If a temporary annual seed was planted, the area should be reseeded with the desired perennial mix when there will be no further work in the area. To minimize competition between annual and perennial species, the annual mix needs time to mature and die before seeding the perennial mix. To increase success of the perennial mix, it should be seeded during the appropriate seeding dates the second year after the temporary annual mix was seeded. Alternatively, if this timeline is not feasible, the annual mix seed heads should be removed and then the area seeded with the perennial mix.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

BY	DATE	NO.	REVISIONS

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LAKEWOOD, CO 80226
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EROSION CONTROL DETAILS

ADAMS COUNTY, COLORADO

SHEET

C6

SHEET 6 OF 7

Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.

Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).

On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.

Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.

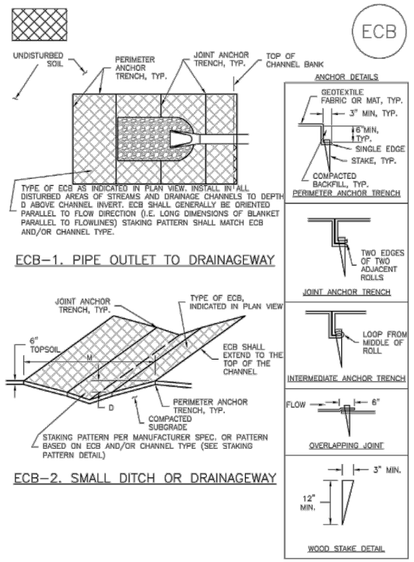
Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)

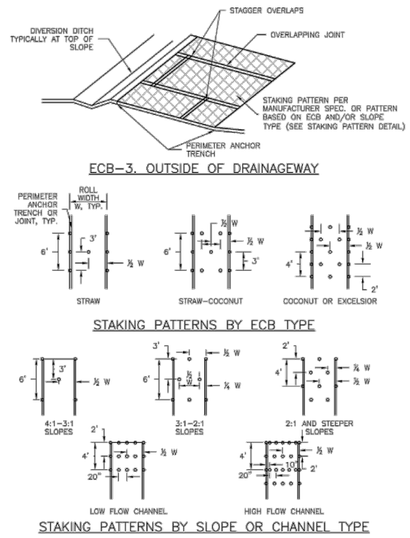
Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)

Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.





EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF ECB.
   –TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   –AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB–1. ECB MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	–	100%	–	DOUBLE/ NATURAL
STRAW–COCONUT	30% MIN	70% MAX	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNELS.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

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 DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)

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EROSION CONTROL DETAILS

ADAMS COUNTY, COLORADO

SHEET C7

SHEET 7 OF 7

Stormwater Management Plan (SWMP)

for construction activities at:

Lefor Subdivision - Lot 3
Intersection of E 128TH Ave and Imboden Rd
Hudson, CO 80642

SWMP Preparation Date: 6/27/2023
SWMP Revision Date: N/A
Docs. #3697430-v2

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Basic Acronyms:

SWMP: Stormwater Management Plan = **ESCP:** Erosion and Sediment Control Plan = **SWPPP**: Stormwater Pollution Prevention Plan
EC Plan: Erosion Control Plan (Site Map)
CM: Control Measures = **BMP**: Best Management Practices
MS4: Municipal Separate Storm Sewer System

Objectives:

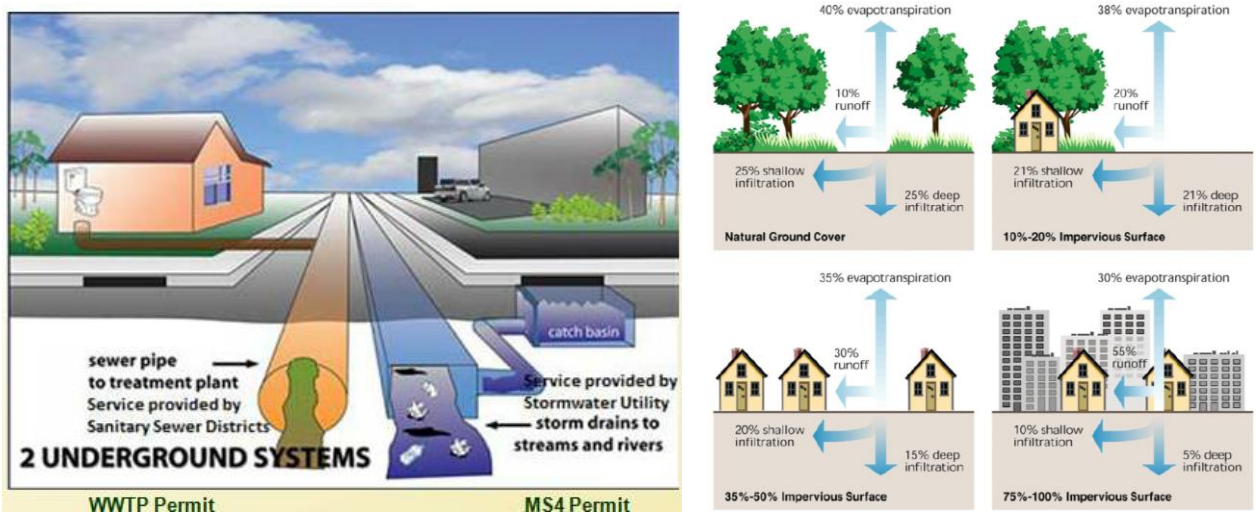
The SWMP identifies potential pollutant sources that may contribute to stormwater pollution, and identifies CMs to reduce or eliminate water quality impacts during construction activities. The goal is to keep sediments on-site. The most efficient construction site control measures are those that prevent erosion from occurring.

The SWMP must be completed and implemented prior to project breaking ground, and revised by the contractor's Qualified Stormwater Manager as construction proceeds, to accurately reflect the site conditions and practices until final stabilization is reached. The SWMP intends to meet the minimum requirements to comply with the State of Colorado CDPS General Permit for Stormwater Discharges Associated with Construction Activity, and local unincorporated Adams County regulations.

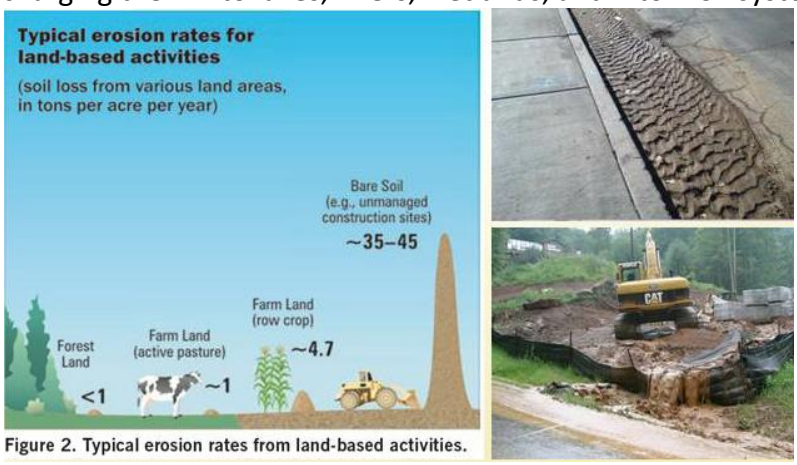
General Instructions:

To fill out the Stormwater Management Plan (SWMP) Template, select (double right click) the blue text and enter applicable information. If there is a blue box ☐, check when applicable. **Doo not leave blank sections.** If a section is "Not Applicable", select the blue text and enter "N/A".

Stormwater is runoff water from rain or snowmelt that does not infiltrate into the ground, and instead flows across the land discharging directly into the environment without treatment.

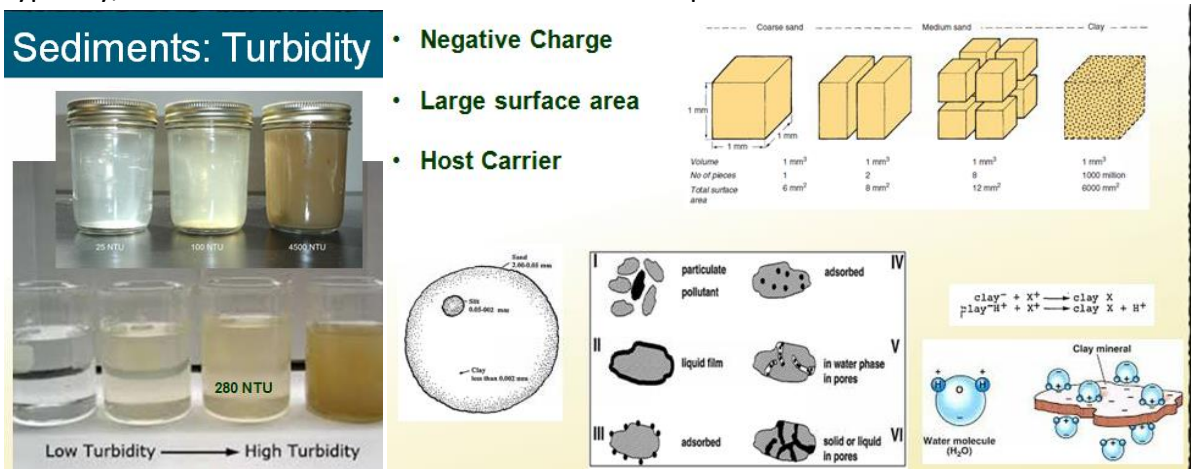


Runoff from construction sites can contain pollutants when runoff moves over and across disturbed areas discharging them into lakes, rivers, wetlands, and into MS4 systems.



Unmanaged construction soils erodes about **6 times more** than farming activities

Typically, **sediment** from disturbed areas is the main pollutant source at construction sites.



Sediments easily attach to other pollutants and acts as a carrier, as well as impacting clarity of water which is critical for aquatic life and fish species spawning areas preservation.

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Project/Site Information

Instructions:

- Include basic site information identifying general project information, permit numbers.
- Include a project vicinity map in **Appendix 1**.
- Attach the State of Colorado CDPS Stormwater Construction Permit Certification Page in **Appendix 2**.
- Attach a copy of the City/County Stormwater Permit in **Appendix 2**.

Project/Site Name: Lefor Subdivision - Lot 3

Project Location: Lefor Subdivision is on the northwest corner of the intersection of 128th Ave and Imboden Rd.

City: Hudson State: CO ZIP Code: 80642

Subdivision: Lefor Subdivision

State of Colorado - CDPS Stormwater Discharge Permit associated with Construction Activities Permit Number: COR-04 Not yet assigned.

Adams County Stormwater Quality (SWQ) Permit: Not yet assigned.

1.2 Contact Information/Responsible Parties

Instructions:

List the owner, operator, stormwater contact, and organization that prepared the SWMP. Complete by selecting the blue text, double right click, then type in the applicable information.

Owner:

Sean Lefor
32651 137th Way
Brighton, CO 80603
Office #: N/A Cell #: 303.883.8620 Email: N/A

Site Superintendent:

TBD
TBD
TBD
Office #: TBD Cell #: TBD Email: TBD

Qualified Stormwater Manager: Individual responsible for implementing, maintaining, and revising the SWMP, knowledgeable in the principles and practices of ESC and pollution prevention, with the skills to:

- Assess conditions at construction sites that could impact stormwater quality, and
- Assess the effectiveness of stormwater controls measures (CMs).

TBD
TBD
TBD
TBD
Office #: TBD Cell #: TBD Email: TBD

Qualified Stormwater Manager's area of control (if more than 1 operator at site):
N/A

SWMP prepared by:

Elevation Consulting Group, Ltd
Lincoln Thomas
P.O.Box 280869 Lakewood, CO 80228
Office #: 303.232.2265 Cell #: 303.204.5065 Email: lthomas@elevationcivil.com

1.3 Nature and Sequence of Construction Activity

Instructions:

- Describe the scope of the construction activity at the project site.
- Identify the purpose of the construction activity, include estimated dates to begin and conclude.
- Describe the sequence for major construction activities at each phase of the construction project.

Project scope of work:

The proposed construction consists of a single-family residential home and utility improvements.

Type of construction activity:

☒ Residential ☐ Commercial ☐ Industrial ☐ Road Construction ☒ Linear Utility

☐ Other (please specify): N/A

Estimated Project Start Date: TBD

Estimated Project Completion Date: TBD

Estimated Project Final Stabilization: TBD

Major phases of construction:

☒ Initial Control Measures (CM)

☐ Demolition

☒ Grading

☒ Utility Installation

☒ Interim CM

☐ Road Construction

☒ Vertical Construction

☒ Final Grade

☒ Final Stabilization CM

☐ Other (please specify such as Over-Excavation, etc.): N/A

Earth Work Summary:

Cut: 653 (CY)

Fill: 638 (CY)

If excess dirt: Excess soil will be re-distributed on Site.

If importing dirt: N/A

Is the off-site borrow/fill area within ¼ mile of the project? N/A

If yes: either incorporate off-site area to the project's SWMP/EC plan, or submit a separate SWMP/EC Plan for the off-site area.

1.4 Soils, Drainage Patterns, and Vegetation

Instructions:

- Describe the existing soil conditions at the construction site including soil type(s), drainage patterns, and other topographic features that might affect erosion and sediment control.
- Describe the pre-disturbance vegetation and include color pre-disturbance photos in **Appendix 3**.

Soil type:

Platner loam and stoneham loam are assumed to be hydrologic soils group C.

Source if this data:

NRCS Soils Map

Soil's erosion potential:

Hydrologic soils group C have a moderate erodibility potential.

Top Soil:

Describe quality of site's existing topsoil?

TBD

Depth of top soil that will be preserved?

TBD

Where will the top-soil be stored during construction?

Top-soil will be stored on Site during construction.

Where will the top soil be ultimately re-utilized?

Top-soil will be redistributed on Site.

Drainage pattern - Describe existing drainage patterns, slopes and changes due to the proposed grading:

With an average slope of 1.5%, existing drainage patterns surface flow eastward to two separate low points adjacent to Imboden Road where runoff will pond until reaching the elevation of Imboden Road crown. Once ponding exceeds the crown of Imboden Road runoff continues to surface flow east. Proposed grading will maintain existing drainage patterns.

Vegetation:

Describe type of pre-disturbance vegetation:

Bare ground with native grasses.

Estimate the percentage of pre-existing vegetation cover of the entire site (%):

50%

Describe method for determining the percentage:

Aerial photos were used to determine pre-existing vegetation cover.

1.5 Construction Site Estimates

Instructions:

- Estimate total project area.
- Estimate the area to be disturbed by excavation, grading, or other construction activities, including off-site improvements, pavement cuts, dedicated off-site borrow or fill areas within ¼ mile from the site, equipment and material storage areas, and staging areas.

Total site area:	13.5 acres
Construction area to be disturbed:	0.58 acres

Are there any control measures (CMs) located **outside** the permitted area (or limits of construction), that are utilized for compliance, but not under the direct control of the Permittee?: No

If Yes: attach "Use Agreement" signed by the off-site owner/operator under **Appendix 11** and describe CMs location, specifications, etc.

1.6 Receiving Waters

Instructions:

- List the jurisdictional storm sewer system or drainage system that stormwater from your site discharges to, such as storm system within unincorporated Adams County MS4, CDOT MS4, City of Thornton MS4, etc.
- Indicate inside which watershed the project is located.
- List the waterbody(s) that would receive stormwater from your site, including streams, rivers, lakes and wetlands. Describe each as clearly as possible, such as: *Clear Creek, a tributary to the South Platte River*. Including water courses even if they are usually dry, such as borrow ditches, arroyos, and other unnamed waterways.
- Indicate if the stream segment of the waterbody(s) is impaired and if a Total Maximum Daily Load (TMDL) has been adopted for any pollutant.

Location of the site's storm **discharge**: Horse Creek

If the site discharges to a public **Municipal Separate Storm Sewer System (MS4)**, insert the name of the MS4 owner: N/A

Name and description of the project's **watershed**: The Site is in the Horse Creek Watershed

Name and description of ultimately **receiving water**(s), including stream segment designation: Runoff from the Site surface flows east to Horse Creek Segment Number 9. Horse Creek then surface flows north outfalling at the Horse Creek Reservoir.

- Distance from the project to the closest receiving water: Horse Creek is about 2,335 feet from the Site.
- Is the receiving water stream segment impaired? ☐ Yes / ☒ No
- If yes, list TMDL's adopted for each pollutant: N/A
- Are these pollutants expected to be present at the construction site? ☐ Yes / ☒ No
- Which pollutant?: N/A
- Describe specific control measures (CMs) selected for the pollutant-specific Wasteload Allocation (WLA): N/A

Are **stream crossings** within the construction site boundary? ☐ Yes / ☒ No

- Location within the site: N/A
- Stream name: N/A
- Description of any disturbed upland areas that may contribute to the stream at the stream crossing locations: N/A
- Description of the CMs to be implemented for those contributing disturbed upland areas: N/A

Other: N/A

1.7 Protected Site Features and Sensitive Areas

Instructions:

- Describe unique site features or sensitive area including historic structures, floodplain/floodway of streams, stream buffers, wetlands, specimen trees, natural vegetation, steep slopes, or highly erodible soils that are to be preserved. Describe the measures that will be used to protect these features. Include unique features and sensitive areas on the EC Plan drawings.
- Describe any known soil or groundwater contamination. Note that additional permitting is required from the State of Colorado, Water Quality Control Division.

  Refer to http://www.cdphe.state.co.us/hm/HMSiteCover.htm and access the Hazardous Materials and Waste Management Division Site Locator Mapping Application.

Describe unique site feature or sensitive area to be preserved during construction:

Site is currently agricultural land, there are no unique site features or sensitive areas.

Describe measures to preserve unique site feature or sensitive area during construction:

N/A

Describe any known soil or groundwater contamination:

No know soil or groundwater contamination.

Describe management plan for contaminated soils and/or groundwater:

N/A

Attach applicable Permits (check if applicable):

- ☐ 404 Permit
- ☐ 401 Permit
- ☐ Dewatering Permit (off-site)
- ☐ Remediation Permit
- ☐ Other

1.8 Potential Sources of Pollution

Instructions:

- List and describe measures to control potential sources of pollution, which may reasonably be expected to affect stormwater quality discharges from the construction site.
- Below is a comprehensive list. Add rows if additional potential sources of pollution are identified.
- If a potential pollutant source is applicable to the site, then select the blue Yes/No, **then** type "**Yes**" or "**No**".

Potential Pollution Source	Potential on this site?	Control Measures (CM)	CM Implementation (as needed)
Disturbed & Stored Soils - grading - spoils - stockpiles	Yes	ESC CMs (IP, SF, SSA, TRM, RECP, TOP, SCL, SBB, RS, SB, ST) Preservation of existing vegetation (PV, VB, CF, CP) Materials management Solid waste management (SP, GH) Stockpile management (SP) Vehicle tracking control (VTC)	1. Delineate protected areas prior to construction. 2. Install CMs prior construction. 3. Manage materials effectively once they arrive on site. 4. Place trash receptacles prior to construction. 5. Implement spill response. 6. Implement stockpile mgnt controls. 7. Delineate vehicle travel areas prior to construction, adjust as needed.
Vehicle Tracking - all permitted vehicle traffic	Yes	ESC CMs (IP, SF, SSA, TRM, RECP, TOP, SCL, SBB, RS, SB, ST) Vehicle traffic controls Vehicle tracking controls (VTC) Street sweeping (SS)	1. Install CMs prior construction. 2. Delineate vehicle travel areas prior to construction, adjust as needed. 3. Install VTC prior to construction. 4. Implement SS as needed, in conjunction with start of construction.
Contaminated Soils	No	Hazardous materials management (GH, CT) Spill response & notification (GH) Stockpile management (SP)	1. Implement hazardous materials management. 2. Implement spill response procedures. 3. Implement stockpile mgnt controls.
Loading & Unloading - construction materials	Yes	Material management (GH) Vehicle traffic controls (VTC)	1. Manage materials effectively once they arrive on site. 2. Delineate vehicle travel areas prior to construction, adjust as needed.
Vehicle/equip ment maint. & fueling - gas, oil, - diesel - lubricants - hydraulic fluids	No	Spill prevention controls (GH) Designated fuel storage area (GH) Spill response & notification (GH)	1. Designate fuel storage area. 2. Implement spill prevention controls. 3. Implement spill response and notification procedures.

* Refer to Section 2, for acronyms used to identify CM details.

Potential Pollution Source	Potential on this site?	Control Measures (CM)	CM Implementation
Outdoor storage - building materials - fertilizers - chemicals	Yes	Material storage procedures (GH)	1. Designate material storage areas prior to delivery. 2. Materials left outdoors must be covered if they can pollute stormwater. 3. Secondary containment must be used for hazardous materials.
Dust - wind transport - saw cutting	Yes	Dust control (DC) Temporary soil stabilization (SF, SD, GB, SSA, TRM, RECP, TOP) Street sweeping (SS) Preservation of existing vegetation (PV, VB, CF)	1. Delineate protected areas prior to construction. 2. Implement dust control in conjunction with soil disturbing activities. 3. Implement temporary soil stabilization measures as soon as practical. 4. Implement street sweeping at the start of major construction and maintain as needed.
Routine Maintenance Activities - fertilizers - pesticides - detergents - solvents - fuels, oils, etc.	No	Material storage (GH) Hazardous waste management (GH, Chemical Treatment) ESC CMs (IP, SF, SSA, RECP, TOP, SCL, SBB, RS, SB, ST)	1. Designate materials storage areas prior to site arrival. 2. Practice hazardous waste management procedures during the storage of such materials. 3. Install ESC measures prior to landscape work.
Non-industrial Waste - worker trash - portable toilets	Yes	Sanitary waste (GH) Solid waste management (GH)	1. Place temporary sanitary facilities on site and prevent off-site discharges. 2. Place trash receptacles on site.
On-site Industrial Waste - construction debris, etc	Yes	Waste management (GH) Liquid waste management (GH) Hazardous waste management (GH, CT)	1. Place trash receptacles on site. 2. Place designated watertight receptacles or washout area(s) prior to activities that produce liquid waste. 3. Implement hazardous waste management procedures.
Concrete Truck Chute/Tool Washing	Yes	Concrete washout area (CWA)	Install designated concrete washout(s) prior to concrete work.
Drywall Mud and Paint	Yes	Liquid waste management (GH)	Place designated watertight receptacles or washout area(s) prior to activities that produce liquid waste.
Fly Ash - concrete - flow fill	Yes	Concrete washout area (CWA) Hazardous waste management (GH)	1. Install designated CWA prior to concrete activities. 2. Implement hazardous waste management procedures.

* Refer to Section 2, for acronyms used to identify CM details.

Potential Pollution Source	Potential on this site?	Control Measures (CM)	CM Implementation
Dedicated: - Asphalt Plants - Concrete Batch Plants -Mortar/Masonry Mixing Stations	No	Secondary containment Concrete washout area (CWA) Solid waste management (GH) materials management (GH)	1. Install secondary containment CMs prior to using dedicated batch plants. 2. Establish dedicated washout area before construction begins. 3. Place trash receptacles on site. 4. Manage materials effectively once they arrive on site.
Waste from: - Geo-tech Test - Potholing - Saw Cutting - Utility borings for locates	Yes	Dust control (DC) Material storage (GH) Solid waste management (GH)	1. Implement dust control in conjunction with soil disturbing activities. 2. Designate materials storage areas prior to their arrival on site. 3. Place trash receptacles on site.
Demolition of infrastructure: - concrete curb - asphalt road - steel/rebar	No	Dust control (DC) Solid waste management (GH)	1. Implement dust control in conjunction with soil disturbing activities. 2. Place trash receptacles.
Electric Generator - pump	Yes	Secondary containment Spill response & notification (GH) Hazardous waste management (GH, CT)	1. Install secondary containment CMs prior to using generators. 2. Implement hazardous waste management procedures.
Areas where potential spills can occur	Yes	Hazardous waste management (GH) Spill response & notification (GH)	1. Implement hazardous waste management. 2. Implement spill response and notification procedures.
Flushing Waterlines	No	ESC CMs Low Risk Guidance for Potable Water **See **Appendix 12**	1. Install ESC measures prior to discharge. 2. Follow CMs required by the Low Risk Guidance**See **Appendix 12**

* Refer to Section 2, for acronyms used to identify CM details.

Potential hazardous material & chemical pollutants to stormwater:

Potentially on Site?	Material/ Chemical	Physical Description	Stormwater Pollutants	Location
Yes	Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	Newly seeded areas
Yes	Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	Staging areas
No	Asphalt	Black solid	Oil, petroleum distillates	Streets
Yes	Concrete and Grout	White solid/grey liquid	Limestone, sand, pH, chromium	Curb and gutter, sidewalk, building construction
Yes	Curing compounds	Creamy white liquid	Naphtha	Curb and gutter, sidewalk, driveways, concrete slabs
No	Hydraulic oil/ fluids	Brown, oily petroleum hydrocarbon	Mineral oil	Leaks or broken hoses from equipment
Yes	Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment/staging area
Yes	Antifreeze/ coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	Leaks or broken hoses from equipment or vehicles
Yes	Sanitary toilets	Various colored liquid	Bacteria, parasites, and viruses	Staging areas

1.9 Anticipated Allowable Sources of Non-stormwater Discharge

Instructions:

- Check box for presence of any anticipated allowable sources of non-stormwater discharge at the site such as: uncontaminated springs, landscape irrigation return flows, construction dewatering, concrete washout, super-chlorinated water for pipeline testing, etc.
- Include location (if applicable).

Description and location of any anticipated allowable sources of non-stormwater discharge at the site. Check if applicable:

☐ Natural springs, only if:
- Uncontaminated, and
- Spring flows are not exposed to land disturbance

Location: N/A

☒ Landscape irrigation return flow
Location: Existing low points adjacent to Imboden Road.

☐ Construction dewatering, only if:
- Groundwater or groundwater combined with stormwater is uncontaminated, and
- Dewatering CMs are identified in the SWMP (filtration measures at pump intake and outlet), and
- The discharge does not leave the site as surface runoff or to surface waters.

Note: For **off-site** discharges a separate State of Colorado Dewatering Permit is required.
Location: N/A

☒ Concrete washout (CWA), only if:
- Liquids from washing concrete tools and concrete mixer chutes are properly contained, and
- No concrete washout water leaves the site as surface runoff or reach receiving waters

Liner under CWA is required if:
- The groundwater table level is high.
- CWA is within 400 feet of any natural drainage pathway or waterbody, or
- CWA is within 1,000 feet of any wells or drinking water sources.

☒ Check if the CWA liner is needed for this site.
Location: CWA will be located on the south of the Site, adjacent to 128th Avenue.

☐ Super-chlorinated water for line testing (**Refer to **Appendix 12** for State Low Risk Guidance).
- Discharge only after dechlorination CMs, such as industry standard dechlorination techniques or chemical treatment to "no measurable chlorine" content, and
- Control flow during discharge to allow infiltration and reduce erosion of land

Location: N/A

Description and location of any other anticipated allowable sources of non-stormwater discharge at the site: N/A

1.10 Demolition

Instructions:

- Before demolition of a structure begins, a copy of the Asbestos Certification from the State of Colorado certifying the structure is free of asbestos and other pollutants must be obtained. Attach a copy of the Demolition Permit, including the State of Colorado Asbestos Abatement Permit in Appendix 4.

Are there any building structures to be demolished at this site?

☐ Yes ☒ No

If yes:

1) Place a copy of Demolition Permit in Appendix 4.
2) Place a copy of the State of Colorado Asbestos Certification in Appendix 4.
3) Initial CMs must be installed prior beginning demolition work.
4) Describe additional steps taken to address demolition: N/A

SECTION 2: EROSION & SEDIMENT CONTROL MEASURES

Instructions:

Multiple permanent (structural) and temporary (non-structural) Control Measures (CM) are used for each phase of construction to minimize stormwater pollution. Select and categorize each CM according to their purpose:

1. Minimize disturbed area, and protect natural features and soil
2. Control stormwater flowing onto and through the project
3. Soil stabilization and slope protection
4. Storm drain inlet protection
5. Perimeter control and sediment barriers
6. Retention of sediment on-site
7. Construction entrance/exit stabilization
8. Additional CMs

Describe the CMs that will be implemented to control pollutants in stormwater discharges. A list of standard and commonly use CM is provided. The information also includes the e*xpected level of information* for each CM. The e*xpected level of information* must address the following:

- ***What*** *CMs will be installed? Select and describe CMs.*
- ***When*** *will the CMs be implemented and removed? Timing, temporary or permanent. All CMs shall be installed as a phased operation as construction progresses.*
- ***Where*** *will the CMs be implemented? Location.*
- ***How*** *will the CMs be maintained? Describe the maintenance and inspection procedures. Include protocols, thresholds, and schedules for cleaning, repairing or replacing damaged or failing CMs.*

If a construction project uses a CM that is not included below, add the CMs and ensure that the *expected level of information* is included.

Place CM detail drawings in **Appendix 5**. Use Urban Drainage Flood Control District's Detail Drawings:

https://udfcd.org/wp-content/uploads/uploads/vol3%20criteria%20manual/Chapter%207%20Construction%20BMPs.pdf

Indicate on the sections below which permanent (structural) or temporary (non-structural) control measure will be implemented to prevent stormwater pollution according to the following priorities:

1. Minimize Disturbed Area and Protect Natural Features and Soil

- Limits of Construction (LOC)
- Construction Phasing (CP)
- Protection of Existing Vegetation (PV) SM-2

2. Control Stormwater Flowing onto and through the Project

- Temporary Slope Drains (TSD) EC-7
- Earth Dikes/Drainage Swales (ED/DS) EC-10
- Sediment Trap (ST) SC-8
- Temporary Diversion Channel (TDC) SM-8
- Dewatering Operations (DW) SM-9
- Temporary Stream Crossing (TSC) SM-10

3. Soil Stabilization and Slope Protection

- Surface Roughening (SR) EC-1
- Temporary and Permanent Seeding (TS/PS) EC-2
- Soil Binders (SB) EC-3
- Mulching (MU) EC-4
- Rolled Erosion Control Product (RECP) EC-6
- Temporary Slope Drain (TSD) EC-7
- Temporary Outlet Protection (TOP) EC-8
- Earth Dikes/Drainage Swales (ED/DS) EC-10
- Terracing (TER) EC-11
- Check Dams (CD) EC-12
- Streambank Stabilization (SS) EC-13
- Wind Erosion/Dust Control (DC) EC-14

4. Storm Drain Inlet Protection

- Rock Sock (RS) SC-5
- Inlet Protection (IP) SC-6

5. Perimeter Controls and Sediment Barriers

- Construction Fence (CF) SM-3
- Vehicle Tracking Control (VTC) SM-4
- Vegetated Buffer (VB) SC-9

6. Retention of Sediment On-Site

- Silt Fence (SF) SC-1
- Sediment Control Log (SCL) SC-2
- Straw Bale Barrier (SBB) SC-3
- Sediment Basin (SB) SC-7
- Sediment Trap (ST) SC-8

7. Construction Entrance/Exit Stabilization

- Vehicle Tracking Control (VTC) SM-4
- Stabilized Construction Roadway (SCR) SM-5
- Stabilized Staging Area (SSA) SM-6
- Street Sweeping (SS) SM-7

8. Additional CMs

- Concrete Washout Areas (CWA) MM-1
- Stockpile Management (SP) MM-2
- Paving and Grinding Operations (PGO) SM-12
- Temporary Cement Mixing Station MM-3

2.1 Minimize Disturbed Area & Protect Natural Features and Soil

Instructions:

- Select methods (signs, construction fence) to protect unique site feature or sensitive area that shall not be disturbed. Describe how each unique site feature or sensitive area identified earlier will be protected during construction activity. Include these areas and associated measures on the EC Plan (site map).
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Limits of Construction (LOC)	Used: Yes	Phase(s): 1,2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	LOC is use to designate the area of land that will be disturbed by construction activities.	
When: Installation	The permitted LOC shall be designated prior to land disturbing activities. If land is disturbed outside of the limits, then the State and Local stormwater construction discharge permits and SWMP/EC Plan must be amended.	
Where: Location	The permitted LOC shall be identified on the EC Plan.	
How: Maintenance & Inspection	LOC are typically delineated by silt fence or construction fence. Inspect LOC continuously and maintain the permitted LOC in an effort to not disturb land outside of the boundaries.	

Construction Phasing (CP)	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	CP is scheduling and sequencing of land disturbing activities to limit erosion on dormant parts of the site.	
When: Installation	At planning	
Where: Location	The permitted CP shall be identified on the SWMP/EC Plan.	
How: Maintenance & Inspection	At least establish CMs for initial, interim and final phase.	

Protection of Existing Vegetation (PV) SM-2	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	A construction fence shall be installed around native areas that require protection. It may also be necessary to install perimeter controls to prevent sediment loading to those sensitive areas.	
When: Installation	CMs installed for protection of existing vegetation shall be installed prior to land disturbing activities or as part of the phasing of the construction project.	
Where: Location	PV shall be installed at locations identified on the SWMP as a preservation area.	
How: Maintenance & Inspection	Install and maintain PV per detail SM-2 (Appendix 5). Clearly mark the area on the EC plan to be preserved. No stockpiles, equipment, trailers or parking shall be allowed within the area. Repair or replace damaged or displaced protective barriers around the vegetated area. Inspect and maintain all areas that are designated to be protected. If damage to the vegetation occurs in a protected area, reseed the area with the same or similar species. Construction equipment must not enter a wetland area, except as permitted by the U.S. Army Corps of Engineers (USACE). In advertent placement of fill in a wetland is a 404 permit violation and requires notification to the USACE.	

For additional CMs, repeat as needed here.

2.2 Control Stormwater Flowing onto and through the Project

Instructions:

- Select practices to divert flows from exposed soils, retain or detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Temporary Slope Drains (TSD) EC-7	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	TSD is a pipe or culvert use to convey water down a slope where there is high potential for erosion. A collection system at the top of the slope directs runoff to the conveyance. The pipe outlet must be equipped with outlet protection.	
When: Installation	Install TSD prior to up-gradient land disturbing activities and maintain in place until no longer needed, but remove prior to the end of construction.	
Where: Location	TSD shall be installed at the locations identified on the SWMP. They are for long, steep slopes where there is a high potential for flow concentration.	
How: Maintenance & Inspection	TSD shall be installed and maintained per detail EC-7 (Appendix 5). Inspect and maintain all TSD throughout construction. Inspect the entrance for sediment accumulation. Inspect the downstream outlet for signs of erosion and stabilize, as needed. Remove accumulated sediment at the entrance and outfall, and inspect pipe anchors to ensure they are secure.	

Earth Dikes/Drainage Swales (ED/DS) EC-10	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	*ED/DS* are temporary storm conveyance channels used to divert runoff around slopes or to convey runoff to additional sediment control CMs prior to discharge from the site.	
When: Installation	Install ED/DS immediately upon completion of channel grading and maintain in place until the end of construction.	
Where: Location	ED/DS shall be installed at the locations identified on the SWMP. Typically installed around steep slopes or as temporary conveyance feature leading to a sediment basin or trap.	
How: Maintenance & Inspection	ED/DS shall be installed per detail EC-10 (Appendix 5). Continuously inspect and maintain all ED/DS for stability, compaction and signs of erosion and repair. Inspect side slopes for erosion and damage to erosion control fabric. Stabilize slopes and repair fabric as necessary. Accumulated sediment shall be removed when the sediment has accumulated to ½ of the depth of the ED/DS.	

Sediment Trap (ST) SC-8	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	ST is an excavated or bermed area designed to capture drainage, allowing settling of sediment from a disturbed area upstream smaller than 1 acre.	
When: Installation	ST shall be installed prior to land disturbing activities. The ST shall not be removed until the upstream area is stabilized.	
Where: Location	ST shall be installed at the locations identified on the SWMP. It shall be installed across a low area or drainage swale.	
How: Maintenance & Inspection	ST shall be installed per detail SC-8 (Appendix 5). Inspect regularly and maintain the ST embankments for stability and seepage. Inspect the ST outlet for debris and damage. Repair damage to the outlet, and remove all obstructions. Accumulated sediment shall be removed when it reaches ½ the height of the outflow embankment.	

Temporary Diversion Channel (TDC) *SM-8*	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	TDC diverts water from a stream to allow for construction activities to take place underneath or in the stream.	
When: Installation	TDC shall be installed prior to the start of any construction activities within a stream. The TDC shall be removed when the work at the down gradient or natural channel is no longer required. The TDC shall be backfilled and stabilized.	
Where: Location	TDC shall be installed at the location identified on the SWMP. TDC can be used in the following locations: construction of detention ponds, dams, in-stream grade control structures, utility installations or any activity that requires work in a waterway.	
How: Maintenance & Inspection	TDC shall be installed per detail SM-8 (Appendix 5). Inspect frequently and maintain all TDC throughout construction. Inspect flow barriers at the start and end of each workday. Inspect TDC for signs of erosion. Repair or replace the lining if necessary.	

Dewatering Operations (DW) SM-9	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	DW involves pumping water from an inundated area to a CM, then downstream to a receiving waterway, sediment basin or well-vegetated area. When pumping water outside of the permitted boundary a separate State of Colorado Dewatering Permit is required.	

When: Installation	DW is needed when an area of the construction site is inundated with water as a result of a large storm event, groundwater or existing ponding conditions. Remove DW once the work is no longer required.
Where: Location	Install DW at the locations identified on the SWMP. DW may occur in any area of the site where accumulated water needs to be removed.
How: Maintenance & Inspection	DW shall be conducted per detail SM-9 (Appendix 5). All dewatering discharges must be treated to remove sediment (and other pollutants) before discharging from the construction site. Inspect DW regularly and maintain operations throughout construction.

Temporary Stream Crossing (TSC) SM-10	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	TSC is needed where an actively flowing watercourse must be crossed. Crossing methods: culvert crossing, stream ford and temporary bridge. A 404 permit is required for placement of fill in a waterway from the U.S. Army Corps of Engineers per Section 404 of the Clean Water Act.	
When: Installation	Install a TSC only when it is necessary to cross a stream; and remove it when the crossing is no longer needed for construction.	
Where: Location	TSC shall be installed at the locations identified on the SWMP.	
How: Maintenance & Inspection	TSC shall be installed per detail SM-10 (Appendix 5). Inspect and maintain TSC throughout construction. Inspect for bank erosion and in-stream degradation.	

For additional CMs, repeat as needed here.

2.3 Soil Stabilization and Slope Protection

Instructions:

- Soil Stabilization: Select controls to stabilize exposed soils where construction activities have temporarily or permanently ceased and measures to control dust generation.
- Slope Protection: Select controls that will be implemented to protect slopes from eroding.
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Surface Roughening (SR) EC-1	Used: Yes	Phase(s): 2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	SR is tracking, scarifying, imprinting or tilling a disturbed area to provide temporary stabilization. Variations in the soil are created to help minimize wind and water erosion.	
When: Installation	SR shall be performed either after final grading or to temporarily stabilize an area during active construction.	
Where: Location	SR shall be used in the locations identified on the SWMP. It can be used on mild and steep slopes.	
How: Maintenance & Inspection	SR shall be installed per detail EC-1 (Appendix 5). SR shall always be perpendicular to the slope. Continuously inspect and maintain all surfaces that are roughened throughout construction. SR shall be inspected for erosion as it is only a temporary control. Vehicles and equipment shall not be driven over areas that have been surface roughening. Refresh SR as needed.	

Temporary and Permanent Seeding (TS/PS) EC-2	Used: Yes	Phase(s): 2,3
☒ ***Permanent***	☒ ***Temporary***	
What: Description	Seed is applied to disturbed areas in an effort to establish vegetation. TS is used to stabilize disturbed areas that will be inactive for an extended period. PM is used to stabilize areas at final grade that will not be otherwise stabilized. Effective seeding includes preparation of a seedbed, selection of an appropriate seed mixture, proper planting techniques, and protection of the seeded area with mulch, geotextile, or other appropriate measures. Mulching helps to protect the bare soil and must be secured by crimping, tackifiers, netting or other measures. Site specific soil amendment and seed mix specifications must be included in the SWMP**.**	
When: Installation	TS/PS shall be performed on temporary inactive surfaces and following the completion of final grading.	
Where: Location	TS/PS shall be completed in the locations identified on the SWMP to stabilize areas at final grade that will not otherwise be stabilized.	

How: Maintenance & Inspection	TS/PS and secured mulching shall be installed per seed mix specifications and detail EC-2 (Appendix 5). Continuously inspect and maintain TS/PS and secured mulch throughout construction. Prepare the seedbed, select an appropriate seed mixture, use proper planting techniques and protect the seeded area with secured mulch.

Soil Binders (SB) EC-3	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SB involves a broad range of treatments that can be applied to exposed soils for temporary stabilization to reduce wind and water erosion.	
When: Installation	Use SB for short term temporary stabilization. Soil binders can break down fast due to natural weathering.	
Where: Location	SB can be used on mild and steep slopes including stockpiles. They are often used in areas where work has temporarily stopped, but is expected to resume before revegetation can be established.	
How: Maintenance & Inspection	SB shall be used per detail EC-3 (Appendix 5). Continuously inspect and maintain all areas where SB have been applied throughout construction. SB can fail after heavy rainfall events and may require re-application. In particular, SB will generally experience spot failures during heavy rainfall events.	

Mulching (MU) EC-4	Used: Yes	Phase(s): 2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	MU consists of evenly applying straw, hay, shredded wood mulch, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers or netting.	
When: Installation	MU is used in conjunction with TS/PS to help protect the seed bed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed area where there are growing season constraints. After MU application, there shall not be bare ground surface exposed. Reapply mulch, as needed, to cover bare areas.	
Where: Location	Temporary and/or permanent MU shall be completed in the locations identified on the SWMP.	
How: Maintenance & Inspection	MU shall be installed per detail EC-4 (Appendix 5). After MU, the bare ground surface shall not be more than 10% exposed. Re-apply mulch, as needed, to cover bare areas.	

Rolled Erosion Control Product (RECP) EC-6	Used: Yes	Phase(s): 2,3
☐ ***Permanent***	☒ ***Temporary***	

What: Description	RECP consist of a variety of temporary or permanently installed manufactured products designed to control erosion and enhance vegetation establishment and survivability, especially on slopes and in channels. Categories of RECP: mulch control netting, open weave textile, erosion control blanket, and turf reinforcement mat.
When: Installation	RECP shall be installed upon completion of slope grading and when revegetation measures are completed. RECP are biodegradable typically and do not need to be removed after construction.
Where: Location	RECP shall be installed at the locations identified on the SWMP. Install RECP according to manufacturer's specifications.
How: Maintenance & Inspection	RECP shall be installed per EC-6 (Appendix 5). Continuously inspect and maintain all RECP throughout construction. Check for signs of erosion, including voids under the mat. Also check for damaged or loose stakes and secure loose sections of the blanket.

Temporary Slope Drain (TSD) EC-7	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	

What: Description	Refer to Section 2.2
When: Installation	Refer to Section 2.2
Where: Location	Refer to Section 2.2
How: Maintenance & Inspection	Refer to Section 2.2

Temporary Outlet Protection (TOP) EC-8	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	

What: Description	TOP consist of riprap rock placed at the outlet to help reduce erosion immediately downstream of a pipe, culvert, slope drain rundown or other conveyance with concentrated flow. TOP is intended for less than 2 years.
When: Installation	TOP shall be installed immediately upon the completion of grading and removed once the pipe is no longer draining upstream area or once the downstream area has been sufficiently stabilized.
Where: Location	TOP shall be installed at the locations identified on the SWMP, where there is a potential for accelerated erosion due to concentrated flow.

How: Maintenance & Inspection	TOP shall be installed and maintain per EC-8 detail (Appendix 5). The Inspect regularly and maintain TOP as the rocks may be displaced. Accumulated sediment shall be removed before the TOP becomes buried and ineffective.

Earth Dikes/Drainage Swales (ED/DS) EC-10	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	Refer to Section 2.2	
When: Installation	Refer to Section 2.2	
Where: Location	Refer to Section 2.2	
How: Maintenance & Inspection	Refer to Section 2.2	

Terracing (TER) EC-11	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	TER consists of grading steep slopes into a series of relatively flat sections separated at intervals by steep slope segments. They shorten the uninterrupted flow lengths on steep slopes, reducing the development of rills and gullies.	
When: Installation	TER shall be completed during grading activities; when slope is at final grade, and vegetation shall be established as soon as possible.	
Where: Location	TER shall be installed at the locations identified on the SWMP. It is usually used to control erosion on slopes that are steeper than 4:1.	
How: Maintenance & Inspection	TER shall be installed per detail EC-11 (Appendix 5). TER shall be used in combination with other stabilization measures that provide cover for exposed soils. Inspect regularly and maintain all TER throughout construction. Remove accumulated sediment and repair rill erosion as necessary.	

Check Dams (CD) EC-12	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	CDs are temporary or permanent grade control structures use in drainage channels to reduce the velocity of runoff and concentrated flows. They can be constructed from rock, gravel bags, sand bags or proprietary devices.	
When: Installation	CD shall be installed prior to earth disturbing activities or immediately upon	

	completion of channel grading. Temporary CDs shall be removed and area shall be stabilized. Permanent CDs shall be cleaned and remain in place.
Where: Location	CD shall be installed at the locations identified on the SWMP. Typically they are placed in drainage channels, swales or on mild to moderate steep slopes.
How: Maintenance & Inspection	CDs shall be installed per detail EC-12 (Appendix 5). They shall be placed at regularly spaced intervals along the drainage swale or ditch. The height of the CD shall allow for pooling of the runoff. Inspect regularly and maintain CD as rocks can be displaced and gravel bags or sandbags can be torn. Accumulated sediment shall be removed before it reaches ½ the height of the CD.

Streambank Stabilization (SS) *EC-13*	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SS is a combination of erosion and sediment control measures to protect streams, banks, and in-stream habitat from accelerated erosion. Some of the measures include PV, CD, TS/PS and RECP.	
When: Installation	SS shall be installed prior to earth disturbing activities to protect existing vegetation, preserve exposed streambank, or mitigate erosion rates from disturbed area. SS measures that will not remain in place as a part of final stabilization, such as silt fence, shall be removed when all land disturbing activities have ceased and the area has been permanently stabilized.	
Where: Location	SS shall be installed at the locations identified on the SWMP. They shall be installed along the banks of streams or waterways.	
How: Maintenance & Inspection	SS shall be installed per detail EC-13 (Appendix 5). Inspect regularly and maintain SS throughout construction.	

Wind Erosion/Dust Control (DC) EC-14	Used: Yes	Phase(s): 1,2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	DC helps keep sediments (from soils and stockpiles) from entering the air as a result of land disturbing construction activities. A variety of practices that focus on grading disturbed areas may be used.	
When: Installation	Implement DC during conditions which result in dust from either construction activities or from naturally occurring winds. Do not overwater.	
Where: Location	Dust abatement shall be completed throughout the project area where any material exists that has the potential to become airborne.	
How: Maintenance & Inspection	DC measures shall be performed per detail EC-14 (Appendix 5). Apply water or magnesium chloride, seed and mulch or use spray-on soil binders on disturbed areas. Water and magnesium chloride shall be applied such that concentrated flows do not form.	

For additional CMs, repeat as needed here.

2.4 Storm Drain Inlet Protection

Instructions:

- Select controls, including design specifications and details, that will be implemented to protect storm drain inlets receiving stormwater from the project.
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Rock Sock (RS) SC-5	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	RS is an elongated cylindrical filter constructed of gravel wrapped by wire mesh or woven geotextile (aka "curb socks" if placed at angles at curb line).	
When: Installation	Install RS prior to land disturbing activities; once upstream stabilization is complete. Accumulated sediment shall be removed and properly disposed of.	
Where: Location	RS shall be installed at the locations identified on the EC Plan. They are use for perimeter control of a disturbed area, or as part of IP.	
How: Maintenance & Inspection	Install RS per detail SC-5 (Appendix 5). Inspect regularly and maintain RS as they are susceptible to displacement and breakage due to vehicle traffic. Accumulated sediment shall be removed to maintain functionality.	

Inlet Protection (IP) SC-6	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	IP is a permeable barrier that is installed around an inlet drain to filter runoff and remove sediment before entering the storm system. IP can be constructed of: RS, SCL, SF, blocks and RS, or other materials.	
When: Installation	Install IP for existing catch basins prior to land disturbing activities upslope from the inlet. IP for proposed catch basins shall be installed immediately after the drain is constructed. IP and associated sediment must be removed and properly disposed of when the drainage area upstream is stabilized.	
Where: Location	Install IP at the locations identified on the EC Plan. IP is not a stand-alone measure. It shall be used in conjunction with other up gradient measures.	
How: Maintenance & Inspection	Install IP per detail SC-6 (Appendix 5). IP shall enable the drain to function without completely blocking the flow. Inspect regularly and maintain IP throughout construction as it is the final measure before runoff enters the storm drain. Accumulated sediment shall be removed when it has reached ½ of the height of the IP or looses functionality, whichever comes first. IP is not standalone measure and shall be part of redundant system.	

For additional CMs, repeat as needed here.

2.5 Perimeter Control & Sediment Barriers

Instructions:

- Select measures, including design specifications and details, to filter and trap sediment before it leaves the construction site.
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Construction Fence (CF) SM-3	Used: Yes	Phase(s): 1,2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	CF restricts site access to designated entrances and exits, delineates construction site boundaries, and keeps construction out of sensitive locations such as natural areas to be preserved as open space, wetlands and riparian areas.	
When: Installation	CF shall be installed prior to earth disturbing activities; and removed once construction is complete.	
Where: Location	Install CF along the site perimeter or any area within the site where access shall be restricted.	
How: Maintenance & Inspection	CF shall be installed, maintained and removed per detail SM-3 (Appendix 5). Inspect CF for damages and slumping. The CF shall be tight and any areas with slumping or fallen posts shall be reinstalled or replaced.	

Vehicle Tracking Control (VTC) SM-4	Used: Yes	Phase(s): 1,2
☐ ***Permanent***	☒ ***Temporary***	
What: Description	VTC is a stabilized site access point that helps remove sediment from vehicle tires and reduces tracking of sediment onto paved surfaces.	
When: Installation	Install VTC prior to any land disturbing activities; and removed when there is no longer the potential for vehicle tracking to occur.	
Where: Location	VTC shall be installed at the location identified on the SWMP. Locate VTC where frequent vehicle traffic will exit the construction site onto a paved roadway.	
How: Maintenance & Inspection	VTC shall be installed per detail SM-4 (Appendix 5). All VTC must have non-woven geotextile fabric between the soil and rock pad. Recycled concrete aggregate is not allowed because concrete dust elevates pH in stormwater. Inspect regularly and maintain VTCs throughout construction. If the area becomes clogged with sediment, remove and dispose of excess sediment or replace material with a fresh layer of rock. Any sediment that is tracked onto adjacent roadways shall be cleaned with brooms, shovels (no water washing), or mechanically cleaned with a street vacuum sweeper.	

Vegetated Buffer (VB) SC-9	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	

What: Description	VB is the preservation of natural vegetation to protect waterways and wetlands. A VB may be required as a type of setback from a natural waterway. It shall be used in conjunction with other perimeter measures.
When: Installation	VB shall be pre-existing of land disturbing activities.
Where: Location	VB shall be installed at the locations identified on the SWMP. VB shall be use with additional measures to separating land disturbing activities.
How: Maintenance & Inspection	VB shall be installed per detail SC-9 (Appendix 5). Inspect regularly and maintain VB throughout construction. Inspect for signs of erosion. VB shall not be used as standalone measure and shall be part of redundant system.

For additional CMs, repeat as needed here.

2.6 Retention of Sediment On-Site

Instructions:

- Select sediment control practices, including design specifications and details (volume, dimensions, outlet structure) that will be implemented at the construction site to retain sediments on-site.
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Silt Fence (SF) SC-1	Used: Yes	Phase(s): 1,2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	SF is a woven geotextile fabric attached to wooden posts and trenched into the ground. It is use to intercept sheet flow runoff from disturbed areas.	
When: Installation	SF shall be installed prior to land disturbing activities. SF shall be removed when the upstream area is stabilized.	
Where: Location	SF shall be installed at the locations identified on the SWMP. SF is typically installed along the contour of slopes, which is down slope of a disturbed area to accept sheet flow, and placed along the perimeter of a construction site. ***SF is not designed to receive concentrated flow, or to be used a filter fabric.***	
How: Maintenance & Inspection	SF shall be installed per detail SC-1 (Appendix 5). Inspect regularly and maintain SF throughout construction. Any section of SF that has a tear, hole, slumping, undercutting or has been bypassed shall be replaced. Accumulated sediment shall be removed before it reaches a depth of 6 inches.	

Sediment Control Log (SCL) SC-2	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SCL, aka "Straw Wattle", is a linear roll made of natural materials (straw, coconut fiber or other fibrous material), trenched into the ground and held with wooden stakes, used to intercept sheet flows from disturbed areas.	
When: Installation	SCL shall be installed during land disturbing activities and it may also be installed after formation of a stockpile. Once the upstream area is stabilized, remove and properly dispose of the SCL. If disturbed areas exist after removal, the area shall be covered with top soil, seeded and mulched.	
Where: Location	SCL shall be installed at the locations identified on the ECSP. SCL are typically used for stockpile control, IP, and CD in small drainage ditches, on disturbed slopes to shorten flow lengths and/or as part of multi-layered perimeter control along receiving water such as a stream, pond or wetland. SCL work well in combination with other layers of erosion and sediment controls. Stockpiles stored on impervious surfaces shall not be placed in a flowline and SCL shall be weighted. Stockpiles stored on pervious surfaces may be	

	protected by pervious SCL, SF or adequate vegetative cover.
How: Maintenance & Inspection	SCL shall be installed per detail SC-2 (Appendix 5), along (parallel) the slope contour to avoid concentrating flows. Inspect regularly and maintain SCL throughout construction as they will eventually degrade. Accumulated sediment shall be removed before the depth is ½ the height of the SCL.

Straw Bale Barrier (SBB) SC-3	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SBB is a linear barrier of straw bales used to intercept and capture sheet flow and to trap sediment before runoff exits a disturbed area. Typically used as CD, or as IP.	
When: Installation	Install SBB prior to land disturbing activities. Remove and properly dispose of the SBB once the upstream area has been stabilized. Areas of disturbance beneath the SBB shall be seeded and mulched when bales are removed.	
Where: Location	Straw bale barriers shall be installed at the locations identified on the ECSP.	
How: Maintenance & Inspection	SBB shall be installed per detail SC-3 (Appendix 5). Inspect regularly and maintain SBB throughout construction as they may be bypassed or undercut by flows and will degrade and rot. Accumulated sediment shall be removed when the depth reaches ¼ the height of the bale.	

Sediment Basin (SB) SC-7	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SB is a temporary structure designed to capture sediment transported in runoff and slowly release flows to allow time for settling of the sediment prior to discharge from the site	
When: Installation	Install SB prior to land disturbing activities. SBs are typically converted to permanent detention basins. For conversion, remove accumulated sediment and re-configure the basin and outlet to meet the requirements of the final design. For SB that are temporary, remove when is no longer needed by filling in the excavated area with soil and stabilizing accordingly.	
Where: Location	SB shall be installed at the locations identified on the SWMP. Where feasible, the SB shall be installed in the same location where a permanent post-construction detention basin will be located.	
How: Maintenance & Inspection	The SB shall be installed per detail SC-7 (Appendix 5). Inspect regularly and maintain SB to be effective. Accumulated sediment shall be dredged from the basin when it reaches no more than ⅓ of the design storage volume.	

Sediment Trap (ST) SC-8	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	ST is an excavated or bermed area designed to capture drainage, allowing settling of sediment from upstream disturbed area smaller than 1 acre.	
When: Installation	Install ST prior to land disturbing activities. The ST shall not be removed until the upstream area is sufficiently stabilized.	
Where: Location	Install ST in the locations identified on the SWMP. It shall be installed across a low area or drainage swale.	
How: Maintenance & Inspection	ST shall be installed per detail SC-8 (Appendix 5). Inspect regularly and maintain the ST throughout construction. Inspect the embankments for stability and seepage, and the outlet for sediment, debris and damage. Repair damage to the outlet, and remove all obstructions. Accumulated sediment shall be removed when it reaches ½ the height of the outflow embankment.	

For additional CMs, repeat as needed here.

2.7 Construction Entrance/Exit Stabilization

Instructions:

- Select CM to stabilize vehicle entrance(s) and exit(s) to minimize off-site vehicle tracking of sediments and discharges to stormwater.
- Indicate applicable measure by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Vehicle Tracking Control (VTC) SM-4	Used: Yes	Phase(s): 1,2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	Refer to Section 2.5	
When: Installation	Refer to Section 2.5	
Where: Location	Refer to Section 2.5	
How: Maintenance & Inspection	Refer to Section 2.5	

Stabilized Construction Roadway (SCR) SM-5	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SCR is a temporary method to control sediment runoff, vehicle tracking, and dust from roads during construction activities consisting of aggregate base course of 3-inch diameter granular material (recycled concrete aggregate is not allowed because concrete dust elevates pH in stormwater).	
When: Installation	SCR is installed on high traffic construction roads to minimize dust and erosion, and use in place of rough cut street controls on roadways with frequent construction and vehicle traffic. Gravel shall be removed once the road is ready to be paved. Prior to paving, the road should be inspected for grade changes and damage. Re-grade and repair as necessary.	
Where: Location	SCR shall be installed at the locations identified on the SWMP. Apply gravel to disturbed areas that are used as a route for vehicles.	
How: Maintenance & Inspection	SCR shall be installed per detail SM-5 (Appendix 5). Inspect regularly and maintain SCR throughout construction. A stable surface cover of rigid gravel shall be maintained as well as repairing any perimeter controls. Inspect drainage ditches along the roadway for erosion and stabilize as needed.	

Stabilized Staging Area (SSA) SM-6	Used: Yes	Phase(s): 1,2,3
☐ ***Permanent***	☒ ***Temporary***	
What: Description	SSA is a clearly designated area where construction equipment and vehicles, stockpiles, waste bins and other construction-related materials are stored. If the construction site is big, more than one SSA may be necessary.	
When: Installation	SSA shall be installed prior to any land disturbing activities.	
Where: Location	SSA shall be installed at the location identified on the SWMP.	
How: Maintenance & Inspection	SSA shall be installed per detail SM-6 (Appendix 5). Inspect regularly and maintain SSA throughout construction. A stable surface cover of rigid gravel shall be maintained as well as repairing any perimeter controls and following good housekeeping practices.	

Street Sweeping (SS) SM-7	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	SS is used where vehicles track sediment onto paved roadways to reduce the transport of it into storm drain systems or surface waterways.	
When: Installation	Manual SS or mechanical vacuuming SS shall be conducted when there is noticeable sediment accumulation on roadways adjacent to the construction site. SS shall be completed prior to any precipitation events, at the end of the workday as needed, and at the end of construction.	
Where: Location	SS shall be utilized throughout the site and also on adjacent areas to construction.	
How: Maintenance & Inspection	SS shall be performed per detail SM-7 (Appendix 5). Use standard SS equipment to adequately remove sediment from roadways adjacent to the construction site.	

For additional CMs, repeat as needed here.

2.8 Additional Control Measures (CMs)

Instructions:

Indicate applicable CMs by selecting the blue Yes/No then type "**Yes**" or "**No**". Identify the phase of construction during which the CM will be implemented: 1, 2, or 3, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.

Concrete Washout Areas (CWA) *MM-1*	Used: Yes	Phase(s): 2
☐ ***Permanent***	☒ ***Temporary***	

What: Description	CWA is a specific area for concrete washing activities. It can be an excavation of a pit in the ground, above ground storage area or prefabricated haul-away container.
When: Installation	CWA shall be installed prior to any concrete delivery to the construction site; and remove upon termination of use of the washout. Accumulated solid waste, including concrete waste and any contamination soils, must be removed from the site to a designated disposal location.
Where: Location	CWA shall be installed at the locations identified on the SWMP. Lined CWA if the groundwater table is high; or if the CWA will be placed within 400 ft of a natural drainage pathway/waterbody; or within 1,000 ft of a wells or drinking water source.
How: Maintenance & Inspection	CWA shall be installed per detail MM-1 (Appendix 5). Inspect regularly and maintain CWA throughout construction. Ensure adequate signage is in place identifying the location of the CWA. Remove concrete waste when filled to about ⅔ of CWA capacity to maintain functionality.

Stockpile Management (SP) *MM-2*	Used: Yes	Phase(s): 1,2
☐ ***Permanent***	☒ ***Temporary***	

What: Description	SP includes measures to minimize erosion and sediment transport from stockpiles. SP shall be used when soils or other erodible materials are stored.
When: Installation	SP locations shall be determined during construction. If temporary removal of a CM is necessary to access the SP, ensure CMs area re-installed per detail drawing. When SP is no longer needed, properly dispose of excess materials and re-vegetate or stabilize the ground surface where the SP was located.
Where: Location	SP locations shall be placed away from areas where concentrated stormwater flow is anticipated, major drainageways, gutters, and storm sewer inlets. SP locations shall be noted on the SWMP.
How: Maintenance & Inspection	SP shall be installed per detail MM-2 (Appendix 5). Inspect regularly and maintain SP throughout construction. It is recommended to place SP on a pervious surface and protected from sediment transport with measures such

	as SCL, VB and/or SF. SP are only allowed on impervious surfaces if no other practical alternative exists. Provide weighted sediment control measures around the perimeter of the SP, such as RS or sand bags.

Paving and Grinding Operations (PGO) SM-12	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	Runoff management practices shall be used during all PGO. A variety of management practices can be used such as: IP, perimeter controls, store materials away from the storm sewer system, drainages and waterways, and keep a spill kit onsite.	
When: Installation	PGO shall be scheduled during dry weather. Recycle asphalt and pavement material when feasible. Material that cannot be recycled must be disposed of properly.	
Where: Location	Use runoff management practices during all paving and grinding operations such as surfacing, resurfacing, and saw cuts.	
How: Maintenance & Inspection	PGO shall be installed per detail SM-12 (Appendix 5). Inspect regularly and maintain PGO throughout construction.	

Temporary Cement Mixing Area *MM-3*	Used: No	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	
What: Description	Contained area for concrete, cement, mortar, drywall, mud and stucco mixing activities.	
When: Installation	Install prior to any material mixing activity; and remove upon termination of use of the area.	
Where: Location	Installed at the locations identified on the SWMP.	
How: Maintenance & Inspection	Install per detail (attach to Appendix 5). Inspect regularly and maintain capacity throughout construction. Clean-up if there are spills.	

For additional CMs, repeat as needed here.

SECTION 3: CONSTRUCTION SITE PHASING & EC PLAN

3.1 Construction Site Phasing Summary

Instructions:
The SWMP and EC Plan (Site Map) shall clearly delineate the construction sequencing between the separate phases of construction, and the CM/BMP implementation of the permanent and temporary CMs.
Using the information under **Section 1.3 Nature and Sequence of Construction Activity**, describe the construction phase and the permanent or temporary CMs associated with each of the following 3 phases:

- **Initial Construction = Phase I, Initial BMP/CMs**
- **Interim Construction = Phase II, Interim BMP/CMs**
- **Final Construction = Phase III, Final BMP/CMs**

The EC Plan **must** identify location of the proposed CMs to be implemented during the 3 phases of construction. **Develop 3 separate phased detailed site maps** (one plan sheet representing one phase; do not combine). Place the EC Plan sheets in **Appendix 6.** Place CMs details in **Appendix 5**.

- **Initial Construction - Phase I**
  - Select applicable construction activities

☐ Demolition
☒ Clearing, Grubbing, Tree and Shrub Removal
☒ Top Soil Stripping and Stock Piling
☒ Grading
☒ Over-excavation/Soil conditioning
☐ Utility Installation
☐ Dewatering
☐ Other: Insert Here

☒ Initial Control Measures (CM)

☒ Stabilized Staging Area (SSA) SM-6
☒ VTC to enter/exit into public roads
☒ Perimeter Control
☐ Inlet Protection (IP) SC-6 on existing site or off-site storm drains
☐ Check Dams (CD) EC-12
☐ Rock Sock (RS) SC-5
☒ Silt Fence (SF) SC-1
☐ Sediment Control Log (SCL) SC-2
☐ Sediment Basin (SB) SC-7
☐ Sediment Trap (ST) SC-8
☐ Earth Dikes/Drainage Swales (ED/DS) EC-10
☐ Dewatering Operations (DW) SM-9
☒ Stockpile Management (SP) MM-2
☐ Surface Roughening (SR) EC-1
☐ Temporary Seeding (TS) EC-2

- ☐ Soil Binders (SB) EC-3
- ☒ Limits of Construction (LOC)
- ☐ Protection of Existing Vegetation (PV) SM-2
- ☐ Employee Training
- ☐ Street Sweeping (SS) SM-7
- ☒ Dust Control (DC) EC-14
- ☒ Good Housekeeping Practices **(required)**
- ☒ Spill Prevention, Containment and Control **(required)**
- ☒ Covering Outdoor Storage and Handling Areas **(required)**
- ☐ Other: N/A

- **Interim Construction - Phase II**
  - Select applicable construction activities

☐ Road Construction
☐ Parkinglot Construction
☒ Vertical Construction
☐ Dewatering
☒ Other: Driveway Construction, utility installation

☒ Interim Control Measures (CM) - BMPs/CMs associated with this Phase

- ☐ Inlet Protection (IP) SC-6 as new storm drains are constructed
- ☐ Outlet Protection (OP)
- ☐ Check Dams (CD) EC-12
- ☐ Rock Sock (RS) SC-5
- ☐ Installation of additional CMs at curbside, sidewalks, medians, and parking islands once pavement is laid (until landscape begins)
- ☒ VTC to enter/exit dirt lots from internal roads or parkinglot
- ☒ Concrete Washout Areas (CWA) MM-1
- ☐ Temporary Cement Mixing Area
- ☒ Stabilized Staging Area (SSA) SM-6
- ☒ Silt Fence (SF) SC-1
- ☐ Sediment Control Log (SCL) SC-2
- ☐ Sediment Basin (SB) SC-7
- ☐ Sediment Trap (ST) SC-8
- ☐ Earth Dikes/Drainage Swales (ED/DS) EC-10
- ☒ Surface Roughening (SR) EC-1
- ☒ Temporary Seeding (TS) EC-2
- ☐ Soil Binders (SB) EC-3
- ☐ Dewatering Operations (DW) SM-9
- ☒ Stockpile Management (SP) MM-2

- ☒ Limits of Construction (LOC)
- ☐ Protection of Existing Vegetation (PV) SM-2
- ☐ Employee Training
- ☐ Street Sweeping (SS) SM-7
- ☒ Dust Control (DC) EC-14
- ☒ Good Housekeeping Practices **(required)**
- ☒ Spill Prevention, Containment and Control **(required)**
- ☒ Covering Outdoor Storage and Handling Areas **(required)**
- ☒ Other: Mulching, Erosion Control Blanket

- **Final Construction - Phase III**
  - Select applicable construction activities

☒ Final Grade
☒ Top Soil Placement
☐ Landscape (per approved plan)
☒ Removal of applicable temporary BMPs/CMs
☐ Permanent pond conversion + removal of sediments on the SB
☒ Other: Permanent Seeding

☒ Final Stabilization - BMPs/CMs associated with this Phase

- ☐ Sod
- ☒ Permanent Seeding & Mulching (PS/MU)
- ☐ Erosion Control blankets (RECP)
- ☒ Limits of Construction (LOC)
- ☐ Protection of Existing Vegetation (PV) SM-2
- ☐ Employee Training
- ☐ Street Sweeping (SS) SM-7
- ☒ Dust Control
- ☒ Good Housekeeping Practices **(required)**
- ☒ Spill Prevention, Containment and Control **(required)**
- ☒ Covering Outdoor Storage and Handling Areas **(required)**
- ☐ Other: N/A

3.2 General Notes

Instructions:

Refer to **Appendix 13** for the General EC Plan Notes from Unincorporated Adams County.

SECTION 4: WASTE MANAGEMENT PLAN

Instructions:

Complete the Waste Management Plan below by describing site-specific pollution prevention CMs that will be implemented to control pollutants in stormwater from construction sites. Indicate which of the following CM categories are applicable for your construction site:

- Covering Outdoor Storage and Handling Areas **(required)**
- Spill Prevention and Response Plan **(required)**
- Good Housekeeping **(required)**
- Vehicle Maintenance, Fueling and Storage **(required, if applicable)**
- Street Sweeping and Cleaning **(required, if applicable)**
- Storm Sewer System Cleaning **(required, if applicable)**

4.1 Covering Outdoor Storage and Handling Areas

Instructions:

- Practices for outdoor storage and handling areas are required to be implemented in all 3 phases of construction (initial, interim and final).

Covering Outdoor Storage and Handling Areas Used: Yes Phase(s): 1, 2, 3

☐ ***Permanent*** ☒ ***Temporary Procedure***

Description: When raw materials, byproducts, finished products, storage tanks, and other materials are stored or handled outdoors, stormwater runoff that comes in contact with the materials can become contaminated. Proactively covering storage and handling areas can be an effective source control for such areas. Coverings can be permanent or temporary and consist of tarp, plastic sheeting, roofing, enclosed structures, or other approaches that reduce exposure of materials to precipitation and wind.

Uses: Covering is appropriate for areas where solids (e.g., gravel, compost, building materials) or liquids (e.g., oil, gas, tar) are stored, prepared, or transferred. Cover the following areas that are applicable to this construction site:

- **Loading and Unloading:** Loading and unloading operations usually take place at outside storage or staging area on the construction site. Materials may be spilled during transfer between storage facilities and trucks during pumping of liquids, pneumatic transfer of dry chemicals, and mechanical transfer of bags, boxes, drums, or other containers by material handling equipment.
- **Aboveground Tanks/Liquid Storage:** Accidental releases of chemicals from above-ground liquid storage can contaminate stormwater with a variety of pollutants. Several common causes of accidental releases from above-ground storage include: external corrosion and structural failure, problems due to improper installation, spills and overfills due to operator error, failure of piping systems, and leads or spills during pumping of liquids or gases between trucks to a storage facility.
- **Outside Manufacturing:** Common outside manufacturing activities may include parts assembly, rock grinding or crushing, metals painting or coating, grinding or sanding, degreasing, concrete manufacturing, parts cleaning or operations that use hazardous materials. These activities can result in dry deposition of dust, metal and wood shavings and liquid discharges of dripping or leaking fluids from equipment or process and other residuals being washed away in storm runoff. In addition, outside storage of materials and waste products may occur in conjunction with outside manufacturing.
- **Waste Management:** Wastes spilled, leached, or lost from outdoor waste management areas or outside manufacturing activities may accumulate in soils or on other surfaces and be carried away by storm runoff. There is also the potential for liquid wastes from surface impoundments to overflow to surface waters or soak the soil where they can be picked up by runoff. Possible stormwater contaminants include toxic compounds, oil and grease, oxygen-demanding organics, paints and solvents, heavy metals and high

levels of suspended solids. Lack of coverage of waste receptacles can result in precipitation seeping through the material and collecting contaminants or the material being blown around the site and into the storm sewer system. Containment sources include waste piles, wastewater and solid waste treatment and disposal, land application sites, dumpsters, or unlabeled drums.

- **Outside Storage of Materials:** Raw materials, intermediate products, byproducts, process residuals, finished products, containers, and materials storage areas can be sources of pollutants such as metals, oils and grease, sediment and other contaminants. Pollutant transport can occur when solid materials wash off or dissolve into water, or when spills or leaks occur.

Practice Procedures:

- Where practical, conduct operations indoors. If outdoors, then select a temporary or permanent covering to reduce exposure of materials to precipitation and runoff.
- The type of covering selected depends on a variety of factors such as the type and size of activity being conducted and materials involved. Types of cover range from relatively inexpensive tarps and plastic sheeting to overhead structures or fully enclosed buildings equipped with ventilation, lighting, etc.
- Covering practices should be combined with Good Housekeeping to be most effective.
- Tarps and plastic sheets require more frequent inspection and maintenance.

Place site-specific information here:

N/A

4.2 Spill Prevention and Response Plan

Instructions: Implement spill prevention, containment and control practices during all 3 phases of construction.

Spill Prevention & Response Plan	Used: Yes	Phase(s): 1, 2, 3
☐ ***Permanent***	☒ ***Temporary Procedure***	

Spills and leaks of solid and liquid materials processed, handled or stored outdoors can be a source of stormwater pollution. Spilled substances can reach receiving waters when runoff washes these materials from impervious surfaces or when spills directly enter the storm system during dry weather conditions. Effective controls depend on spill prevention and response measures, proper training, and may include structural spill containment or control devices. Spill containment measures include temporary or permanent curbs or berms that surround a potential spill site. Berms may be constructed of concrete, earthen material, metal, synthetic liners, or other material. Spill control devices include valves, slide gates, or other devices that can control and contain spilled material.

Spill Prevention Measures

- Train key employees in plan and provide clear, common-sense spill prevention practices and clean-up procedures to be strictly followed.
- Identify equipment that is exposed to precipitation, pollutants that may be generated and possible sources of leaks or discharges.
- Perform inspections and preventative maintenance of equipment for proper operation and to check for leaks or evidence of discharge (stains). Ensure repairs are completed or provide temporary leak containment until such repairs can be made.
- Drain used motor oil and other automotive fluids in a designated area away from storm inlets. Collect spent fluids and recycle or dispose of properly. Never dispose into storm or sanitary sewer.
- In fueling areas, clean up spills with dry methods (absorbents) and use damp cloths on gas pumps and damp mops on paved surfaces.
- Never hose down a spill or absorbent materials into the storm drain, or down into an interior floor drain which leads to the sanitary sewer system.
- Reduce stormwater contact with equipment and materials by implementing covered storage, reduce stormwater run-on and follow good housekeeping practices.
- Post signs at critical locations with Spill Prevention and Response Plan information.

Identification of Spill Areas: Spill prevention and response measures shall be implemented at construction sites in areas where materials may be spilled in quantities that can adversely impact receiving waters or the storm system. Identify potential spill areas, potential spill volumes, material types, frequency of material used, and drainage paths from spill areas with relation to storm sewer inlets, adjacent water bodies, structural CMs, and containment structures. Use this information to determine the types of spill prevention and control

measures needed specific to the site conditions. Show the potential spill areas on the EC Plan:

- Loading and unloading areas
- Outdoor storage areas
- Outdoor manufacturing or processing activities
- Waste disposal
- Areas that generate significant dust or particulates that may later deposit on the ground
- Areas prone to spills based on past experience at the site
- Locations where other routine maintenance activities occur
- Areas where smaller leaks may occur (parkinglots)

Material Handling Procedures: From a water quality perspective, the primary principle behind effective material handling practices is to minimize exposure to precipitation. Store the material indoors, otherwise implement the following outdoor materials handling procedures:

- Divert stormwater around materials storage areas.
- Keep bulk solid materials (raw materials, sand, gravel, topsoil, compost, concrete, packing materials, metal products, etc) covered and protected from stormwater.
- When practical, store materials on impermeable surfaces.
- Store hazardous materials according to federal, state, and local requirements.
- Adopt procedures to reduce spills or leaks during filling or transfer of materials.
- Substitute less toxic or nontoxic materials for toxic materials.
- Store containers that are easily punctured or damaged away from high traffic areas.
- Add waste-capture containers such as collection pans for lubricating fluids.
- Store drums and containers with liquids on impermeable surfaces and provide 2dary containment. Place drums stored outdoors on pallets to minimize contact with runoff.

Spill Response Procedures: Tailor spill response procedures to site-specific conditions and industry-specific regulatory requirements. Follow procedures:

- Contain and cleanup spills promptly after the spill is discovered.
- Sweep up small quantities of pollutants to reduce exposure to runoff.
- Place absorbents at fueling areas or areas susceptible to spills.
- Wipe up small spills with a rag, store rags in appropriate containers, dispose of rags properly or use a professional industrial cleaning service.
- Contain medium-sized spills with absorbents and use berms or absorbent "snakes" as temporary booms for the spill. Store and dispose of absorbents properly. Wet/dry vacuums may be used, but not for volatile fluids.
- Install drip pans below minor equipment leaks until a repair can be made.
- For large spills, first contain the spill and plug storm inlet where the liquid may migrate

off-site, then clean up the spill.

- Excavation of spill areas to removed contaminated material may be required where large liquid spills occur on unpaved surfaces.
- Maintain an inventory of cleanup materials onsite and strategically locate them based on the types and quantities of chemicals present.
- Records of spills, leaks, or overflows that result in the discharge of pollutants must be documented and maintained.

Two approaches are used when implementing spill containment measures: 1) Design system to contain the entire spill; or 2) Use curbing to route spilled material to a collection basin. Both containment berming and curbing should be sized to safely contain or convey to a collection basin a spill from the largest storage tank, tanker truck, or other containment device in the possible spill area. The spill containment area must have an impermeable surface (impermeable liner, asphalt or concrete) to prevent groundwater contamination. Design containment system to enable collection and removal of spilled material through a pump or vacuum trucks, sorbent or gelling material, etc. Material removed must be disposed of or recycled according to local, state, and federal standards. If the capacity of the spill containment is exceeded, supplemental measures should be available such as a portable containment device, sorbent materials, or gelling agents to solidify the material. Water that collects within containment areas due to rainfall or snowmelt must be appropriately treated before release from the spill area.

Emergency 24-Hour Site Contact (with spill response and clean-up authority):

TBD

TBD

Office #: TBD Cell #: TBD Email: TBD

Notification Procedures: Some spills may need to be reported to the State of Colorado, Water Quality Control Division and Adams County Stormwater Division immediately upon discovery. Releases of chemical, oil, petroleum product, sewage, etc., which may enter State Waters must be reported to: State of Colorado, 24-hour Emergency Spill Reporting Line: 1-877-518-5608. www.cdphe.state.co.us/emp/spillsandreleased.htm). Adams County Stormwater Hotline: 720-523-6400; Public Works: 303-453-8787. Tri-County Health Department: 303-220-9200.

N/A

N/A

N/A The relevant sections of any referenced plans must be available on-site

N/A The relevant sections of any referenced plans must be available on-site

N/A

4.3 Good Housekeeping

Instructions: Implement good housekeeping practices during all 3 phases of construction (initial, interim & final).

Good Housekeeping Practices	Used: Yes	Phase(s): 1, 2, 3

☐ ***Permanent*** ☒ ***Temporary***

Description: Good housekeeping practices are designed to maintain a clean and orderly work environment. The most effective first steps towards preventing stormwater pollution at construction sites simply involve using common sense to improve the site's basic housekeeping methods. Poor housekeeping practices result in increased waste and potential for stormwater contamination. A clean and orderly work site reduces the possibility of accidental spills caused by mishandling of chemicals and equipment and should reduce safety hazards to personnel. A well-maintained material and chemical storage area will reduce the possibility of stormwater mixing with pollutants. Some simple procedures a site can use to promote good housekeeping include improved operation and maintenance of machinery and processes, material storage practices, material inventory controls, routine and regular clean-up schedules, maintaining well organized work areas, signage, and educational program for employees and the general public.

Practice Procedures for Operation and Maintenance:

- Maintain dry and clean floors and ground surfaces by using brooms, shovels, vacuums or cleaning machines, rather than wet clean-up methods.
- Regularly collect and dispose of garbage and waste material.
- Routinely inspect equipment to ensure that it is functioning properly without leaking and conduct preventative maintenance and needed repairs.
- Train employees on proper clean up and spill response procedures.
- Designate separate areas for auto parking, vehicle refueling and routine maintenance.
- Promptly clean up leaks, drips and other spills.
- Cover and maintain dumpsters and waste receptacles. Add additional dumpsters or increase frequency of waste collection if overflowing conditions reoccur.
- For outdoor painting and sanding: Conduct activities in designated areas that provide adequate protection to prevent overspray and uncontrolled emissions. All operations should be conducted on paved surfaces to facilitate cleanup. Use portable containment as necessary for outside operations. Clean up and properly dispose of excess paint, paint chips, protective coatings, grit waste, etc.
- Maintain vegetation on facility grounds in a manner that minimizes erosion. Follow the Landscape Maintenance and Pesticide, Herbicide and Fertilizer Usage CMs to ensure that minimum amounts of chemicals needed for healthy vegetation are applied to minimize transport of these materials in runoff.

Practice Procedures for Material Storage Practices:

- Provide adequate aisle space to facilitate material transfer and access for inspection.

- Store containers, drums, and bags away from direct traffic routes to reduce container damage resulting in accidental spills.
- Stack containers according to manufacturer's instructions to avoid damaging the containers from improper weight distribution. Also store materials in accordance with directions in Material Safety Data Sheets (MSDSs).
- Store containers on pallets or similar devices to prevent corrosion of containers that results from containers coming in contact with moisture on the ground.
- Store toxic or hazardous liquids within curbed areas or secondary containers.

Practice Procedures for Material Inventory Practices: An up-to-date materials inventory can keep material costs down by preventing overstocking, track how materials are stored and handled onsite, and identify which materials and activities pose the most risk to the environment. Assign responsibility of hazardous material inventory to individuals trained to handle such materials. A material inventory should include these steps:

- Identify all chemical substances present at work site. Perform a walk-through of the site, review purchase orders, list all chemical substances used and obtain Material Safety Data Sheets (MSDS) for all chemicals.
- Label all containers with name and type of substance, stock number, expiration date, health hazards, handling suggestions, and first aid information. Find info on the MSDS.
- Clearly identify special handling, storage, use and disposal considerations for hazardous materials on the material inventory.
- Institute a shelf-life program to improve material tracking and inventory to reduce the amount of materials overstocked and ensure proper disposal of expired materials. Careful tracking of materials ordered can result in more efficient materials use. Decisions on the amounts of hazardous materials that are stored on site should include an evaluation-of any emergency control systems that are in place. All storage areas for hazardous materials should be designed to contain spills.

Practice Procedures for Training and Participation: Provide frequent and proper training in good housekeeping techniques to reduce mishandling of chemicals or equipment. Educate by:

- Discussing good housekeeping practices in training programs and meetings.
- Publicizing pollution prevention concepts through posters or signs.
- Posting bulletin boards with updated good housekeeping procedures and tips.

Place site-specific information here:

N/A

4.4 Vehicle Maintenance, Fueling and Storage

Instructions:

- Identify procedures by selecting the blue Yes/NA **then** type "**Yes**" or "**N/A**".
- If applicable, CMs is required during all 3 phases of construction (initial, interim and final).

Vehicle Maintenance, Fueling and Storage	Used: N/A	Phase(s): N/A
☐ ***Permanent***	☐ ***Temporary***	

Description: Areas where vehicles are fueled, maintained, and stored/parked can be pollutant "hot spots" that can result in hydrocarbons, trace metals, and other pollutants being transported in precipitation runoff. Proper fueling operations, storage of automotive fluids and effective spill cleanup procedures can help reduce contamination of stormwater runoff from vehicle maintenance and fueling facilities. Fuel-related spills can occur due to lack of attention during fueling or "topping off" fuel tanks. Common activities at construction sites include vehicle fluid replacement and equipment replacement and repair. Some of the wastes generated maintaining automobiles include solvents (degreasers, paint thinners, etc.), antifreeze, brake fluid, brake pad dust, battery acid, motor oil, fuel, and lubricating grease.

Uses: procedures are applicable to vehicle maintenance and fueling. Vehicle wash water is considered process wastewater that will not be discharged to the storm sewer system.

Practice Procedures for Vehicle Maintenance: The most effective way to minimize wastes generated by automotive maintenance activities is to prevent their production in the first place. The following practices will be implemented:

- Perform maintenance activities inside or under cover. When repairs cannot be performed indoors, use drip pans or absorbents.
- Keep equipment clean and free of excessive oil and grease buildup.
- Promptly cleanup spills using dry methods and properly dispose of waste. When water is required, use as little as possible to clean spills, leaks, and drips.
- Use a solvent collection service to collect spent solvent used for parts cleaning.
- When using liquids for cleaning, use a centralized station to ensure that solvents and residues stay in one area. Locate drip pans and draining boards to direct solvents back into a solvent sink or holding tank for reuse.
- Store used oil for recycling in labeled tanks. Locate used oil tanks and drums away from storm sewer, flowing streams, and preferably indoors.
- Use non-hazardous or less hazardous alternatives when practical. For example, replace chlorinated organic solvents with non-chlorinated ones like kerosene or mineral spirits.
- Properly recycle or dispose of grease, oil, antifreeze, brake fluid, cleaning solutions, hydraulic fluid, batteries, transmission fluid, worn parts, filters, and rags.
- Drain and crush oil filters before recycling or disposal.

- Drain all fluids and remove batteries from salvage vehicles and equipment.
- Closely monitor parked vehicles for leaks and place pans under leaks to collect the fluids for proper disposal or recycling.
- Install berms or other measures to contain spills and prevent work surface runoff from entering storm sewer system.
- Develop a spill prevention plan with measures such as spill kits, and information about location of storm drains and how to protect them if a large spill occurs.
- Conduct periodic employee training to reinforce proper disposal practices.
- Promptly transfer used fluids to recycling drums or hazardous waste containers.
- Store cracked batteries in leak-proof secondary containers.
- Inspect outdoor storage areas regularly for drips, spills and improperly stored materials (for example: unlabeled containers, auto parts that might contain grease or fluids, etc). This is particularly important for parking areas for vehicles awaiting repair.
- Structural CMs, such as traps, installed in vehicle hotspot areas require routine cleanout of oil and grease. During heavy rainfall, cleanout is required more often to ensure that pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the CM working efficiently.

Practice Procedures for Vehicle Fueling:

- Fueling areas should be designed to prevent stormwater runoff and spills. Fuel-dispensing areas should be paved with concrete or equivalent impervious surface, with an adequate slope to prevent ponding, and separated from the rest of the site by a grade break or berm to prevent run-on of precipitation.
- For sites using a mobile fuel truck, establish a designated fueling area. Place temporary "caps" over nearby catch basins or manhole covers so that if a spill occurs, it is prevented from entering the storm sewer. 2dary containment should be used when transferring fuel from the tank truck to the fuel tank. Cover storm drains in the vicinity. Install vapor recovery nozzles to help control drips, and reduce air pollution.
- Keep spill response information and spill cleanup materials onsite and readily available.
- Employ dry cleanup methods cleaning up fuel spills. Such methods include sweeping to remove litter and debris, and using rags and absorbents for leaks and spills.
- Water should not be used to wash fuel spill areas. During routine cleaning, use a damp cloth on the pumps and a damp mop on the pavement. Fuel dispensing nozzles should be fitted with automatic shutoff except where prohibited by fire department. Post signs at the fuel dispenser warning operators against "topping off' vehicle fuel tanks.
- Provide written procedures describing CMs to employees who will be fueling.

Place site-specific information here:

N/A

4.5 Street Sweeping and Cleaning

Instructions:

- Identify CMs for the construction site by selecting the blue Yes/NA **then** type "**Yes**" or "**N/A**".
- If applicable, street sweeping shall be implemented for all 3 phases of construction (initial, interim and final).

Street Sweeping (SS)	Used: N/A	Phase(s): 1, 2, 3
☐ ***Permanent***	☐ ***Temporary***	

Description: SS uses either manual or mechanical pavement cleaning practices to collect or vacuum sediment, litter and other debris from the streets before being washed into storm sewers by runoff. This practice can reduce pollutant loading to receiving waters, reduce clogging of storm sewer pipes, prolong the life of infiltration CMs and reduce clogging of outlet structures in detention ponds. Mechanical designs include: broom and conveyor belt sweeper, wet or dry vacuum-assisted sweepers, and regenerative-air sweepers. The effectiveness depends upon particle loadings being swept, street texture, moisture conditions, parked cars, equipment conditions and frequency of cleaning.

Uses: SS is a technique in urban areas where sediment and litter accumulated on streets is of concern for aesthetic, sanitary, water and air quality reasons. SS is required at constructions sites per SWMP to reduce off-site tracking.

Procedures:

1. SS may be performed manually (broom and shovel) or with a vacuum sweeper (no kick-broom). Choose the most effective approach for site conditions.
2. SS shall be completed when there is sediment tracking from the construction site exits into the public road or right-of-way.
3. SS frequency depends on presence of sediment tracking. If tracking is occurring, either a VTC shall be installed, the VTC needs maintenance, or the VTC is inadequate; all require SWMP updates.
4. Off-site sediment tracking from the construction site shall be swept immediately.
5. Conduct SS prior to precipitation events.
6. Operate sweepers at manufacturer recommended optimal speed levels.
7. Regularly inspect vehicles and equipment for leaks and repair promptly.
8. Keep accurate logs of number of curb-miles swept and amount of waste collected.
9. Dispose of SS debris and dirt at a landfill.
10. Do not store swept material along the side of the street or near a storm drain inlet.

Place site-specific information here:

N/A

4.6 Storm Sewer Cleaning

Instructions:

- Select CMs to remove accumulated sediment, trash, and other pollutants from the storm system for the applicable construction site wastes identified in **Section 1.8 Potential Sources of Pollution** to maintain a clean and orderly construction site.
- Identify CMs by selecting the blue Yes/NA **then** type "**Yes**" or "**N/A**". If applicable, the following practices shall be implemented for all 3 phases of construction (initial, interim and final).

Storm Sewer System Cleaning	Used: N/A	Phase(s): 1, 2,3
☐ ***Permanent***	☐ ***Temporary***	

Description: Periodic storm sewer cleaning can help remove accumulated sediment, trash, and other pollutants from the storm system including inlets, pipes and also construction CMs. Routine cleaning reduces the amount of pollutants in the storm system and in receiving waters. Clogged drains can cause overflow, leading to increase erosion. Cleaning increases dissolved oxygen, reduces levels of bacteria, and supports in-stream habitat. Areas with flat grades or low flows should be given special attention because they rarely achieve high enough flows to flush themselves. Water used in storm drain cleaning must be collected and properly disposed of, typically at a sanitary wastewater treatment facility. Simpler methods in localized areas can also include manual trash collection and shoveling sediment and debris from inlets and outlets. Frequency and prioritization of storm sewer cleaning is affected by the activity and intensity of construction and the proper installation and maintenance for construction CMs.

Uses: Inspection of the existing storm system is recommended prior construction to document condition. The storm sewer shall be cleaned at minimum at completion of construction.

Practice Guidelines: Inspect the storm system as part of the required stormwater inspection.

- **Technology available**: manual cleaning (shovel), vacuum cleaning and vacuum combination jet cleaning. Choose the most effective approach for site conditions.
- **Staff training**: train about maintenance, waste collection and disposal methods.
- **Waste disposal**: Most catch basin waste is acceptable for landfills. If hazardous material is suspected, it should be tested and disposed of accordingly.

Place site specific information here:

N/A

SECTION 5: STORMWATER INSPECTIONS

5.1 Inspections

Instructions:

Identify the individual responsible for conducting inspections and describe qualifications. Certifications, such as "Certified Inspector of Sediment and Erosion Control" (CISEC), or equivalent, are recommended.

Select the frequency of inspections and procedures to inspect CMs that will occur at your site.

Identify procedures to document the repairs and maintenance of CMs as a result of the inspections.

Use the Stormwater Inspection Form in **Appendix 7**. Place completed stormwater inspections in **Appendix 9**.

1. Inspection Personnel:

Identify the person(s) who will be responsible for conducting stormwater inspections and describe their qualifications:

TBD

2. Inspection Frequency:

Inspections shall start within 7 calendar days of commencement of construction activities.

Minimum Stormwater Inspection Schedule: A thorough inspection of the site inspection shall be performed in accordance with one of the following minimum frequencies:

- At least one inspection every 7 calendar days, **or**
- At least one inspection every 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.

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 re-commencing 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.

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; and

iii. The SWMP has been amended to locate those areas to be inspected in accordance with the reduced schedule allowed for in this paragraph.

The minimum inspection frequency required does not affect the permittee's responsibility to implement and maintain effective control measures as prescribed in the SWMP. Proper maintenance may require more frequent inspections.

3. Inspection Procedures:

- At minimum, inspect the construction site perimeter, all disturbed area, designated haul routes, material and/or waste storage areas that are exposed to precipitation, discharge location, and locations where vehicles exit the site shall be inspected for evidence of, or the potential for, pollutants leaving the Permitted boundaries, entering the storm sewer system, or discharging to the MS4.
- Refer to **Section 5.3 Inspection Sequence**.
- Visually verify whether all implemented CMs are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.
- Determine if there are new potential sources of pollutants.
- Assess the adequacy of CMs at the site to identify areas requiring new or modified CMs to minimize pollutant discharges.
- Identify all areas of non-compliance and implement corrective action.

4. Correcting Problems:

Take steps to minimize the discharge of pollutants until a CM is implemented and operational, or an inadequate CM is replaced or corrected, and returned to effective operating condition. If it is infeasible to install or repair the CM immediately after discovering the deficiency, the following must be documented:
(a) Describe why it is infeasible to initiate the installation or repair immediately; and
(b) Provide a schedule for installing or repairing the CM and returning it to an effective operating condition asap.
Remove and properly dispose of any unauthorized release or discharge. Clean up any contaminated surfaces to minimize discharges of the material in subsequent storm events.
N/A

Responsible staff or company for making corrections: TBD

5. Inspection Form:

Use the form (or equivalent) in **Appendix 7**.Place completed inspections in **Appendix 9**. Document: Inspection date, name & title of inspector; weather conditions; phase of construction; estimated acreage of disturbance at the time of inspection; location(s) of discharges of sediment or other pollutants from the site; location(s) of CMs needing maintenance; location(s) and identification of inadequate CMs; location(s) and identification of additional CMs needed that were not in place at the time of inspection; description of the minimum inspection frequency; deviations from the minimum inspection schedule; certification statement for corrective action(s) or inspection (if no actions).

5.2 Delegation of Authority

Instructions:

- Delegation of Authority is **optional**. Attach a copy of the signed delegation of authority form in **Appendix 8**.
- Identify the individual(s) or specifically describe the position where the construction site operator has delegated authority for the purposes of signing inspection reports, certifications, or other information.

Duly Authorized Representative(s) or Position(s):

N/A

5.3 Inspection Sequence

Instructions:

When conducting stormwater inspections of your construction site it is recommended that one always follows this recommended inspection sequence to ensure that all procedures and measures are being followed.

Place all completed inspections in **Appendix 9.**

1. **Plan the stormwater inspection**
   - Use the inspection form (or equivalent) under **Appendix 7**.
   - Obtain a copy of the EC Plan (Site Map) with CMs locations marked.
   - Plan to walk the entire site, including discharge points from the site and any off-site support activities.
   - Follow a consistent pattern each time to ensure you inspect all areas.
2. **Determine Inspection frequency**
   - Site inspections must be conducted at least once every 7; **or** 14 calendar days.
   - If 14-day inspections, then post-storm inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion.
   - 30-day inspections are conducted once construction is complete, temporary stabilizations has been installed and the site is waiting to reach final stabilization.
3. **Inspect discharge points and downstream, off-site areas**
   - Inspect discharge locations to determine whether erosion and sediment control measures are effective.
   - Inspect nearby downstream locations.
   - Walk down the street to inspect off-site areas for signs of discharges.
   - Inspect down slope existing catch basins to ensure they are free of sediment and other pollutants and to ensure that they are adequately protected.
4. **Inspect perimeter controls and slopes**
   - Inspect perimeter controls to determine if sediment should be removed.
   - Check the structural integrity of the CM. Determine if CM replacement is needed.
   - Inspect slopes and temporary stockpiles to determine if erosion controls are effective.
5. **Compare CMs in the EC Plan with the construction site conditions**
   - Determine whether CMs are in place as required by the EC plan.
   - Evaluate whether CMs have been adequately installed and maintained.
   - Look for areas where CMs are needed but are missing on the field, or are not documented on the SWMP.
6. **Inspect construction site entrances**

- Inspect the construction exits to determine if there is tracking of sediment from the site onto the street.
- Refresh or replace the rock in designated entrances and concrete washout areas.
- Look for evidence of additional construction exits being used that are not in the SWMP or are not stabilized.
- Sweep the street if there is evidence of sediment accumulation.

7. Inspect sediment controls

- Inspect any sediment basins for sediment accumulation.
- Remove sediment when it reduces the capacity of the basin by ⅓ of the design storage volume.

8. Inspect pollution prevention and good housekeeping practices

- Inspect trash areas to ensure that waste is properly contained.
- Inspect material storage and staging areas to verify that potential pollutant sources are not exposed to stormwater runoff.
- Verify that concrete, paint, and stucco washouts are being used properly and are correctly sized for the volume of wash water.
- Inspect vehicle/equipment fueling and maintenance areas for signs of stormwater pollutant exposure.

9. Inspect for final stabilization

- Inspect all temporary and permanent CMs for correct application and installation with the CM details.
- Remove sediment from the private storm sewer system - do not jet pollutants down into the public storm sewer system.

5.4 Common Compliance Problems

The following are problems commonly found at construction sites:

Problem #1 - Not using phased grading or providing temporary or permanent soil stabilization

Problem #2 - No sediment controls on-site

Problem #3 - No sediment control for temporary stockpiles

Problem #4 - No inlet protection

Problem #5 - No CMs or inadequate CMs to minimize vehicle tracking onto the road

Problem #6 - Inadequate or improper solid waste or hazardous waste management

Problem #7 - Unpermitted dewatering and other pollutant discharge at the construction site

Problem #8 - Poorly managed washouts (concrete, paint, stucco)

Problem #9 - Inadequate maintenance of CMs

Problem #10 - Inadequate documentation

Required Non-Compliance Notifications

Report non-compliance orally within twenty-four (24) hours from the time of awareness, and mail to the State a written report within five (5) working days after if:

- Any non-compliance issues which may endanger health or the environment regardless of the cause of the incident (these types of circumstances would primarily result from the discharge of pollutants in violation of the Construction Stormwater Permit);
- Any un-anticipated bypass which exceeds any effluent limitations in the Construction Stormwater Permit
- Any upset which causes an exceedance of any effluent limitation in the Construction Stormwater Permit
- Any daily maximum violations for any of the pollutants limited by Part I of the Construction Stormwater Permit. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance (these types of circumstances would primarily result from an exceedance of a numeric effluent).

SECTION 6: RECORDKEEPING

6.1 Recordkeeping

Instructions:

The following section provides a list of records that shall be kept available at your construction site for review, including the length of time those records shall be preserved for.

The following records shall be kept available at the construction site, or be on-site when construction activities are occurring:

- ✓ An updated SWMP, reflecting current conditions and CMs.
- ✓ Keep record of SWMP/EC Plan changes made including the date and identification of the changes (*).
- ✓ Completed inspection reports, which shall be placed in **Appendix 9**.
- ✓ Any document or plan incorporated by reference to the SWMP.

Specify where will the SWMP be located on-site:

TBD

TBD

(*) The SWMP must be amended when the following occurs:

1) A change in design, construction, operation, or maintenance of the site requiring implementation of new or revised control measures;
2) The SWMP proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;
3) Control measures identified in the SWMP are no longer necessary and are removed; and
4) Corrective actions are taken onsite that result in a change to the SWMP.

A notation must be included in the SWMP to identify the date of the site change, the control measure removed, or modified, the location(s) of those control measures, and any changes to the control measure(s). The permittee must ensure the site changes are reflected in the SWMP. The permittee is non-compliant with the permit until the SWMP revisions have been made

SWMP documentation required under this permit are considered reports that must be available to the public under Section 308(b) of the CWA and Section 61.5(4) of the CDPS regulations. The permittee must make plans available to members of the public upon request. However, the permittee may claim any portion of a SWMP as confidential in accordance with 40 CFR Part 2.

Records will be retained for a minimum period of at least 3 years <u>after</u> the CDPHE permit is terminated.

SECTION 7: FINAL STABILIZATION

7.1 Final Stabilization Requirement

Instructions:

Final stabilization of the construction sites occurs when there is 70% uniform vegetated cover. The vegetation MUST be uniform so that there are no open patches of soil.

Final Stabilization means that all land disturbing activities are complete, and all disturbed areas have either been built on, paved over or a uniform vegetative cover has been established per SWMP. Prior to closing the State and County Stormwater Permit, all the items listed below must be completed in order for the construction site to be considered to have final stabilization.

1. The site has a uniform vegetative cover with a density of at least 70% compared to the original undisturbed site. Such cover must be capable of adequately controlling soil erosion.

2. If applicable, proper installation and maintenance of all approved, permanent, post-construction stormwater quality treatment drainage facilities.

3. Removal of all stockpiles of soil, construction material/debris, construction equipment, etc. from the construction site.

4. Streets, parking lots and other surrounding paved surfaces are clean and free of any sediment or debris.

5. Removal of sediment, debris or other pollutants within the private and adjacent public storm drainage system.

6. Restoration of any damaged public infrastructure caused by the construction activities.

7.2 Removal of Temporary CMs

Once the site has met the final stabilization conditions, the remaining temporary CMs such as perimeter controls, inlet protection, silt fence, etc. shall be removed and disposed of properly.

7.3 Stormwater Permits Close-out

Contact the County to close the local Stormwater Permit.

Submit the CDPS Stormwater Discharge Permit Inactivation Form to the State of Colorado, CDPHE.

7.4 Final Stabilization Measures

Instructions:

Describe CMs for final stabilization of all disturbed areas at the site, such as: erosion control blankets, mulch and seeding, approved landscape plan, etc. Update the EC Plan (site map) to indicate areas that have achieved final stabilization.

Permanent Seeding (PS)	Used: Yes	Phase(s): 3
☒ ***Permanent***	☐ ***Temporary***	
TBD		
TBD		
TBD		
TBD		

Soil Stabilization Method	Used: N/A	Phase(s): 3
☐ ***Permanent***	☒ ***Temporary***	
N/A		
N/A		
N/A		

Others:		
☐ ***Permanent***	☒ ***Temporary***	
Mulching Used: Yes	Phase(s): 3 ☐ ***Permanent*** - ☒ ***Temporary***	
Describe: Refer to section 2.3		

For additional CMs, repeat as needed here

7.6 Long Term Stormwater Management

Instructions:

Describe planned water quality drainage facilities to control pollutants in stormwater discharges that will be installed and remain after construction operations are completed. Including, but not limited to, water quality detention basin, rain gardens, underground hydrodynamic separators, etc.

Describe type and location of the permanent water quality drainage facilities designed to control pollutants in stormwater discharges that will remain after construction operations are completed:
N/A

Recorded Access and Drainage Easement over water quality facility: N/A
N/A

Operation and Maintenance (O&M) Plan for the water quality facility: N/A

If applicable: Submit copy to the O&M plan to the County for approval

SECTION 8: STORMWATER VIOLATIONS

8.1 Stormwater Violations

Federal, State and Local jurisdictions are able to enforce their respective Stormwater Pollution Prevention Regulations upon the Permittee or violator of these regulations. Administrative or judicial enforcement tools vary and may involve written warning, notice of violation, stop work order, permit revocation, surety withdrawal, civil or criminal penalties, which may require abatement of any violation, etc.

VIOLATIONS ARE SUBJECT TO ENFORCEMENT FROM THE TIME THE VIOLATION STARTS

8.2 Potential Stormwater Violations

The following items are considered a violation:

1. Conducting a permit covered activity without a local Stormwater Permit.
2. Conducting construction activities outside the permitted boundary of the local Stormwater Permit.
3. Failure to prepare a SWMP.
4. Failure to prepare an Erosion Control (EC) Plan, aka Site Map.
5. Conducting a permit covered activity without County/City's SWMP approval.
6. Conducting construction activity without a State CDPS Stormwater Discharge Permit.
7. Failure to renew Stormwater Permits.
8. Failure to renew financial surety.
9. Deficient SWMP.
10. Failure to update the SWMP adequately to reflect current site conditions.
11. Failure to install, maintain or properly select Control Measures (CM), aka Best Management Practices (BMP).
12. Failure to correct findings from previous City/County Regulatory Inspections
13. Failure to perform stormwater inspections of the permitted construction site.
14. Failure to submit requested documentation to the City/County.
15. Failure to adequately respond to the City/County's written directives.
16. Failure to install permanent post-construction BMPs (if applicable).
17. Lack of good housekeeping practices.
18. Pollution, contamination or degradation of stormwater quality.
19. An illicit discharge into the City/County's Municipal Separate Storm Sewer System (MS4).

SECTION 9: SWMP CERTIFICATION

9.1 SWMP Certification Statement

Instructions:

The Permittee shall certify the SWMP by signing the certification statement below. It is recommended that all subcontractors sign the Subcontractor Certifications/Agreements in **Appendix 10**.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

SWMP APPENDICES

Attach the following documentation:

Appendix 1 - Project Vicinity Map	***(Section 1.1)***
Appendix 2 - State CDPS Stormwater Construction Permit + Local Permit	***(Section 1.2)***
Appendix 3 - Pre-disturbance Photos	***(Section 1.4)***
Appendix 4 -Demolition Permit and State Asbestos Permit	***(Section 1.9)***
Appendix 5 - Erosion and Sediment BMPs/CMs Details	***(Section 1.10)***
Appendix 6 - Erosion Control Plan (EC Plan) - Site Map	***(Section 2.10)***
Appendix 7 - Stormwater Inspection Form (Template)	***(Section 5.1)***
Appendix 8 - Delegation of Authority (optional)	***(Section 5.2)***
Appendix 9 - Completed Stormwater Inspection Logs	***(Sections 5.3 & 5.5)***
Appendix 10 - Subcontractor Certifications/Agreements (optional)	***(Section 9.1)***
Appendix 11 - Agreement for off-site Control Measures (if applicable)	***(Section 1.5)***
Appendix 12 - Low Risk Guidance for Discharges of Potable Water	***(Section 1.8 & 1.9)***
Appendix 13 – Erosion and Sediment Control General Notes	***(Section 3.2)***

APPENDIX 1: Project Vicinity Map

VICINITY MAP

APPENDIX 2: CDPHE Stormwater Construction Permit + Local Stormwater Permit

(TBD)

APPENDIX 3: Pre-Disturbance Photos

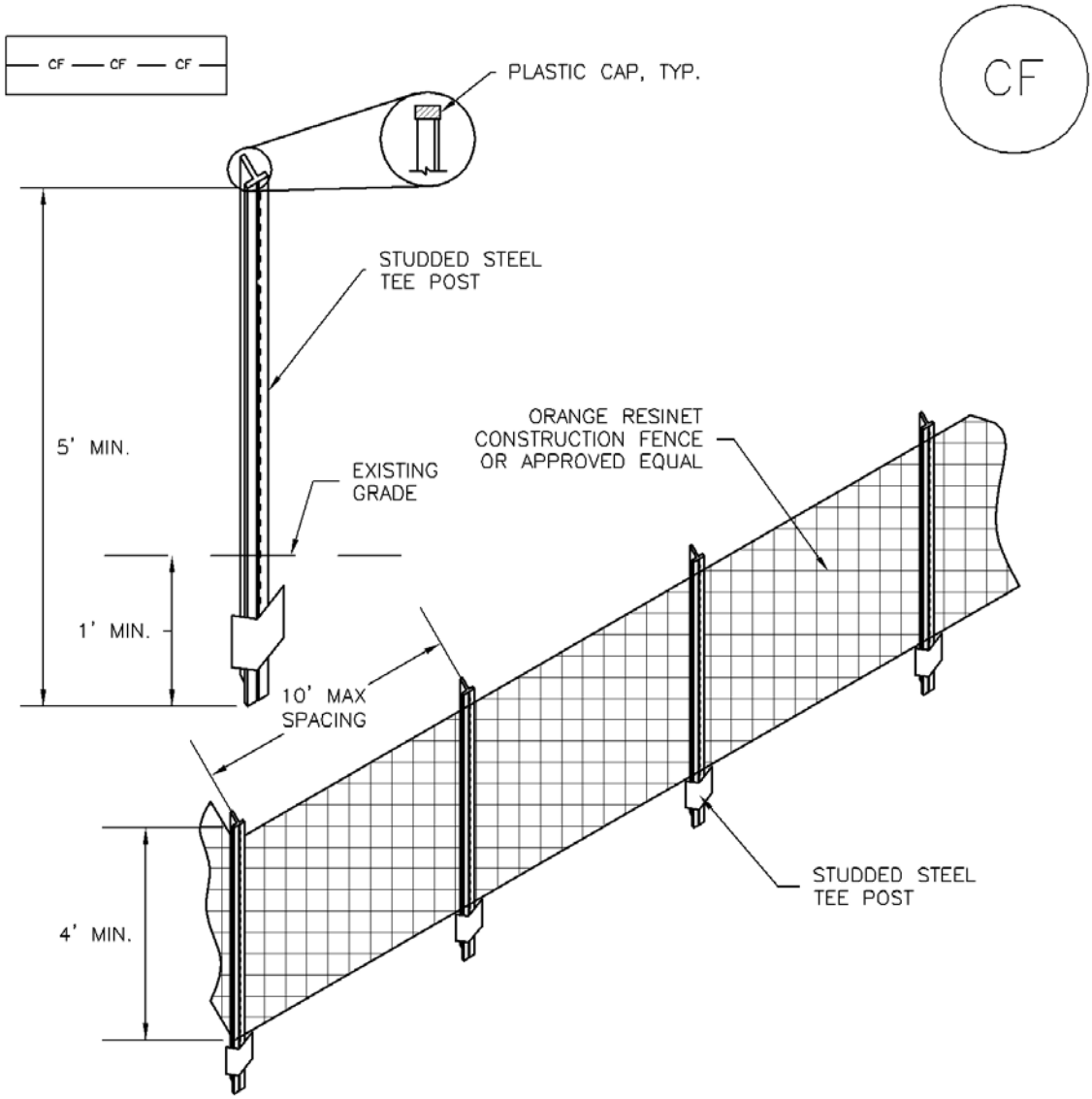
(ADD COLOR PICTURES)


Imboden Rd

APPENDIX 4: Local Demolition Permit + State Asbestos Permit

(N/A)

APPENDIX 5: Erosion & Sediment CMs/BMPs Details



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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.

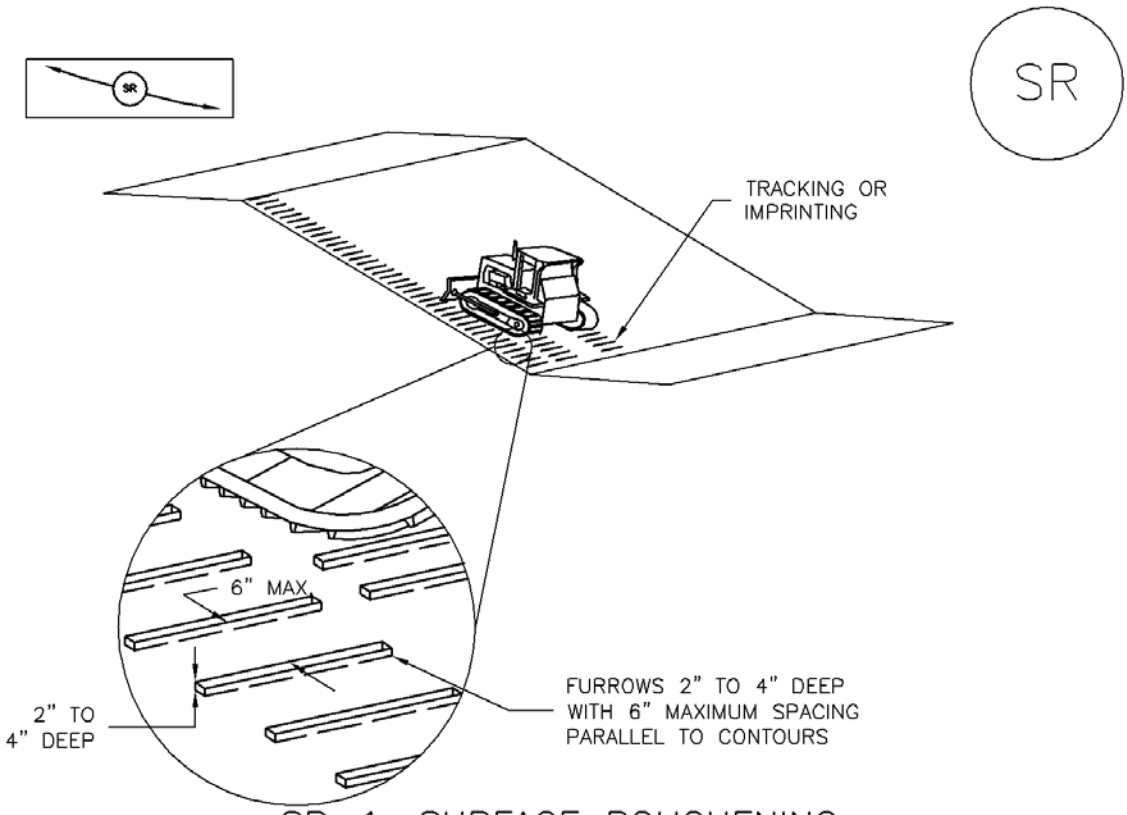
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

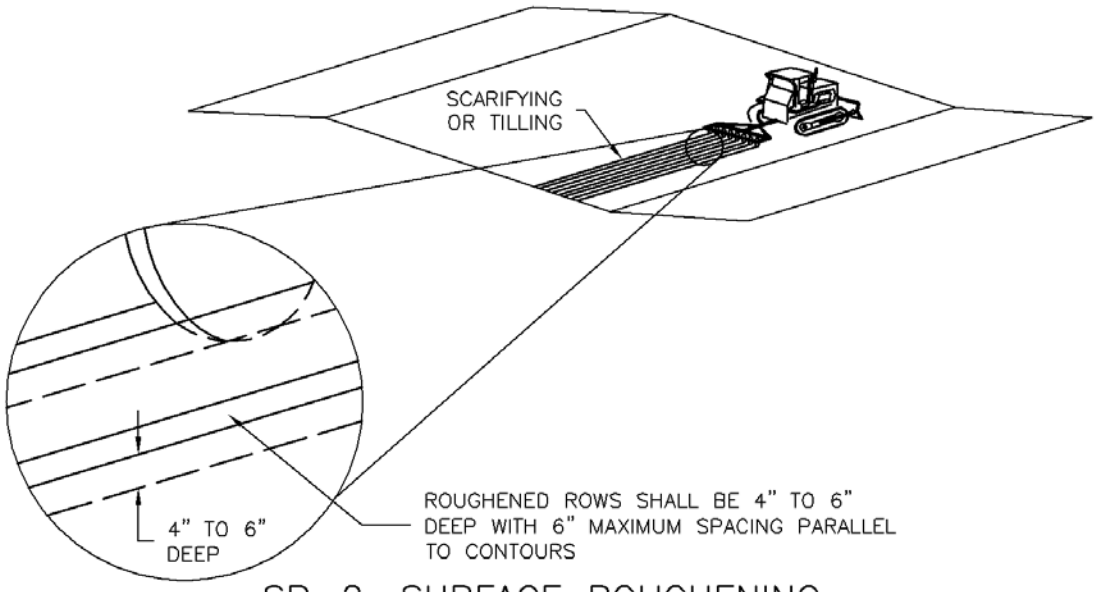
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)



SR–1. SURFACE ROUGHENING
FOR STEEP SLOPES (3:1 OR STEEPER)



SR–2. SURFACE ROUGHENING
FOR LOW SLOPES (LESS THAN 3:1)

SURFACE ROUGHENING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF SURFACE ROUGHENING.

2. SURFACE ROUGHENING SHALL BE PROVIDED PROMPTLY AFTER COMPLETION OF FINISHED GRADING (FOR AREAS NOT RECEIVING TOPSOIL) OR PRIOR TO TOPSOIL PLACEMENT OR ANY FORECASTED RAIN EVENT.

3. AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD WILL BE PLACED WITHOUT DELAY IN THE CONSTRUCTION SEQUENCE, SURFACE ROUGHENING IS NOT REQUIRED.

4. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.

5. A FARMING DISK SHALL NOT BE USED FOR SURFACE ROUGHENING.

SURFACE ROUGHENING MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACE UPON DISCOVERY OF THE FAILURE.

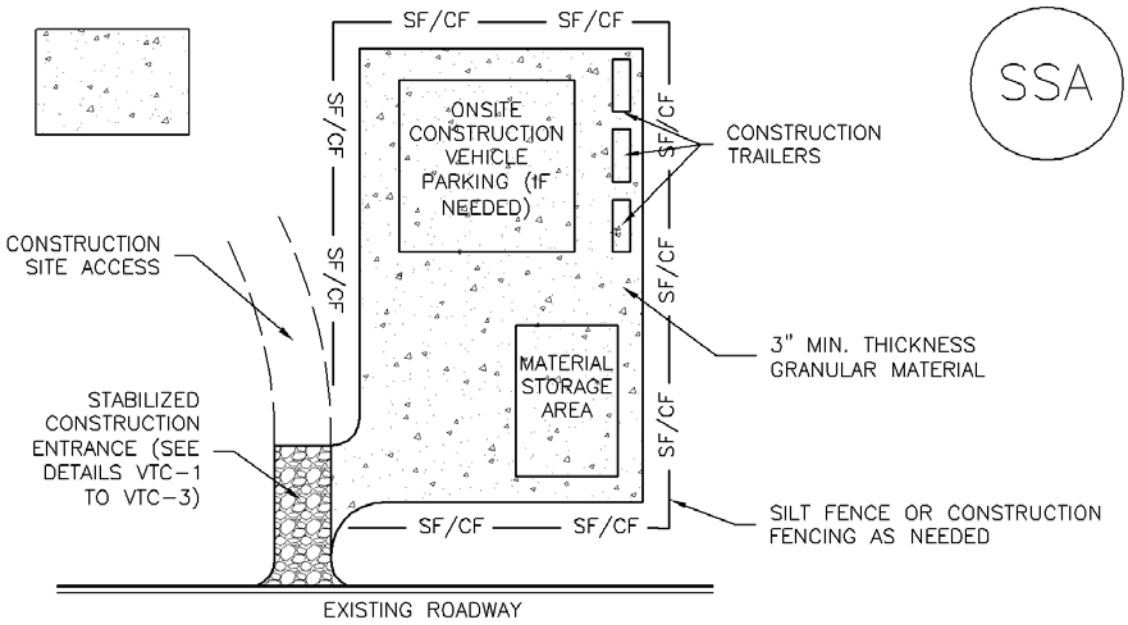
4. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

5. IN NON–TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.

6. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE–ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER RILL EROSION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.



SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

STABILIZED STAGING AREA MAINTENANCE NOTES

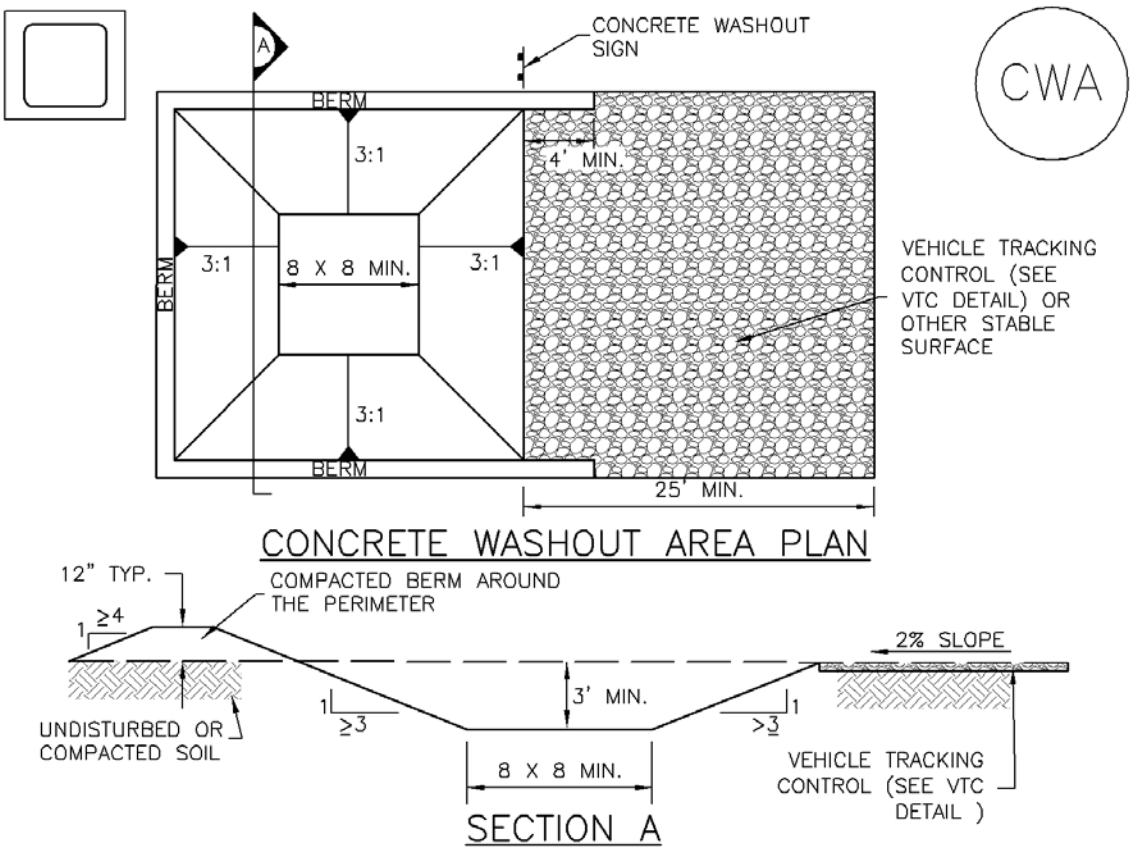
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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 DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)



CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

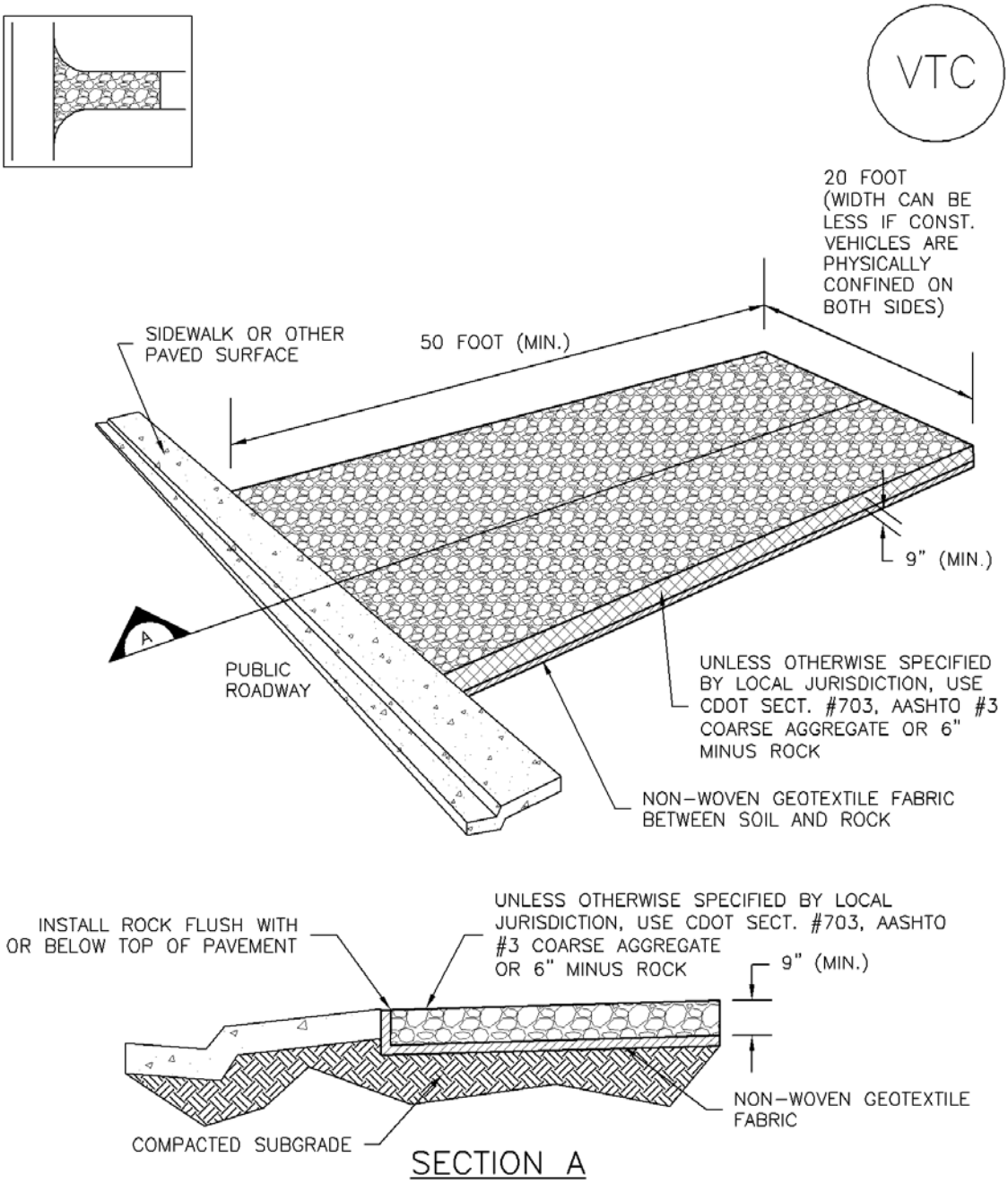
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

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.



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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 EACH WORKDAY, 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.

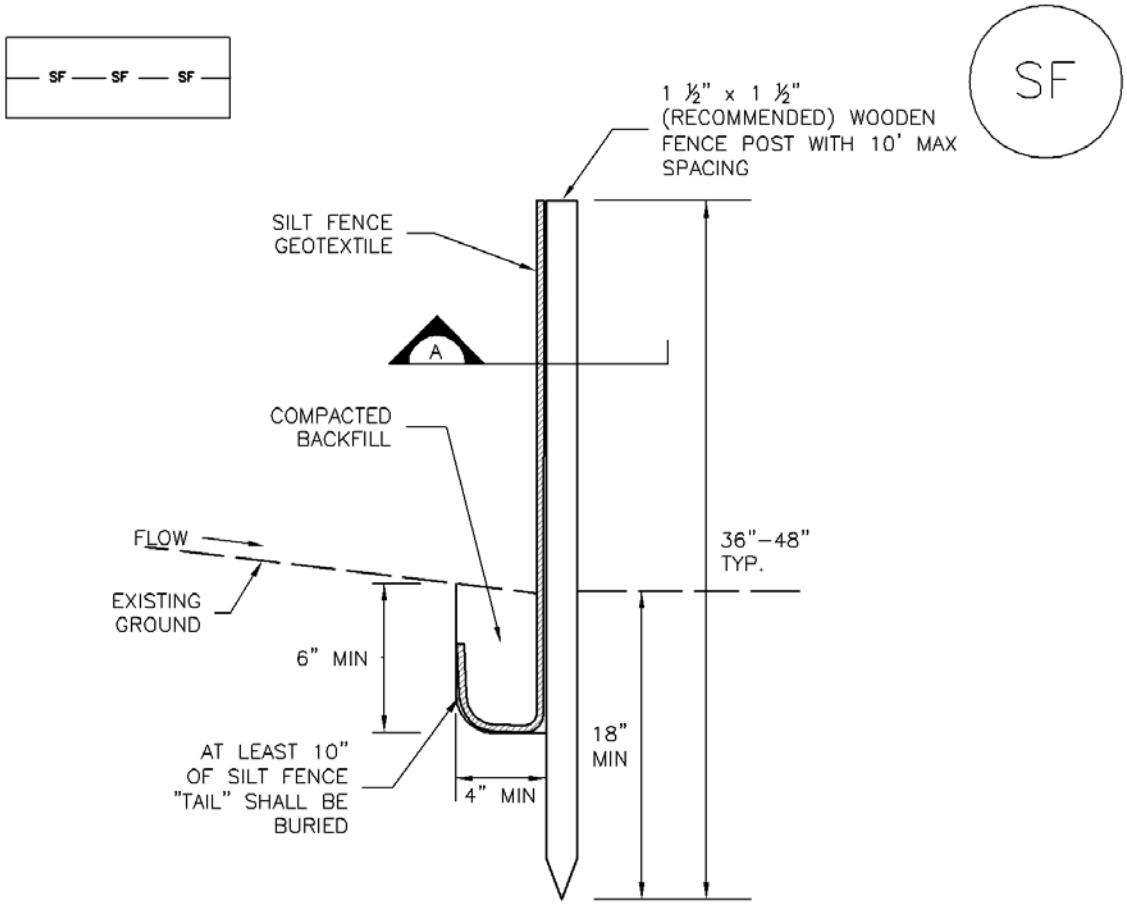
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

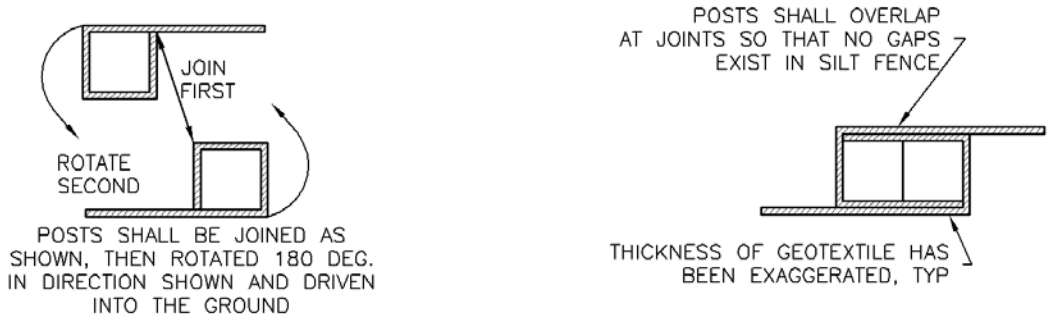
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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)



SILT FENCE



SECTION A

SF–1. SILT FENCE

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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 THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

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.

have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. If present, at a minimum of the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the upper 12 inches of the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placing a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth. Topsoil should not be placed when either the salvaged topsoil or receiving ground are frozen or snow covered.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Refer to MHFD's Topsoil Management Guidance for detailed information on topsoil assessment, design, and construction.

Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Temporary grain seed mixes suitable for the Denver metropolitan area are listed in Table TS/PS-1. Native temporary seed mixes are provided in USDCM Volume 2, Chapter 13, Appendix A. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in seed mix tables in the USDCM Volume 2 *Revegetation* Chapter can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment. These are to be considered only as general

recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seed mixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Salix spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

Timing of seeding is an important aspect of the revegetation process. For upland and riparian areas on the Colorado Front Range, the suitable timing for seeding is from October through May. The most favorable time to plant non-irrigated areas is during the fall, so that seed can take advantage of winter and spring moisture. Seed should not be planted if the soil is frozen, snow covered, or wet.

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-2 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species[a] (Common name)	Growth Season[b]	Pounds of Pure Live Seed (PLS)/acre[c]	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¾
6. Winter wheat	Cool	20–35	1 - 2
7. Winter barley	Cool	20–35	1 - 2
8. Winter rye	Cool	20–35	1 - 2
9. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

[b] See Table TS/PS-2 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

Table TS/PS-2. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	**Warm**	**Cool**	**Warm**	**Cool**
January 1–March 15			✓	✓
March 16–April 30		1,2,3	✓	✓
May 1–May 15			✓	
May 16–June 30	5			
July 1–July 15	5			
July 16–August 31				
September 1–September 30		6, 7, 8, 9		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the USDCM Volume 2 *Revegetation* Chapter and Volume 3 Mulching BMP Fact Sheet (EC-04) for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

If a temporary annual seed was planted, the area should be reseeded with the desired perennial mix when there will be no further work in the area. To minimize competition between annual and perennial species, the annual mix needs time to mature and die before seeding the perennial mix. To increase success of the perennial mix, it should be seeded during the appropriate seeding dates the second year after the temporary annual mix was seeded. Alternatively, if this timeline is not feasible, the annual mix seed heads should be removed and then the area seeded with the perennial mix.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.

- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).

- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.

- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.

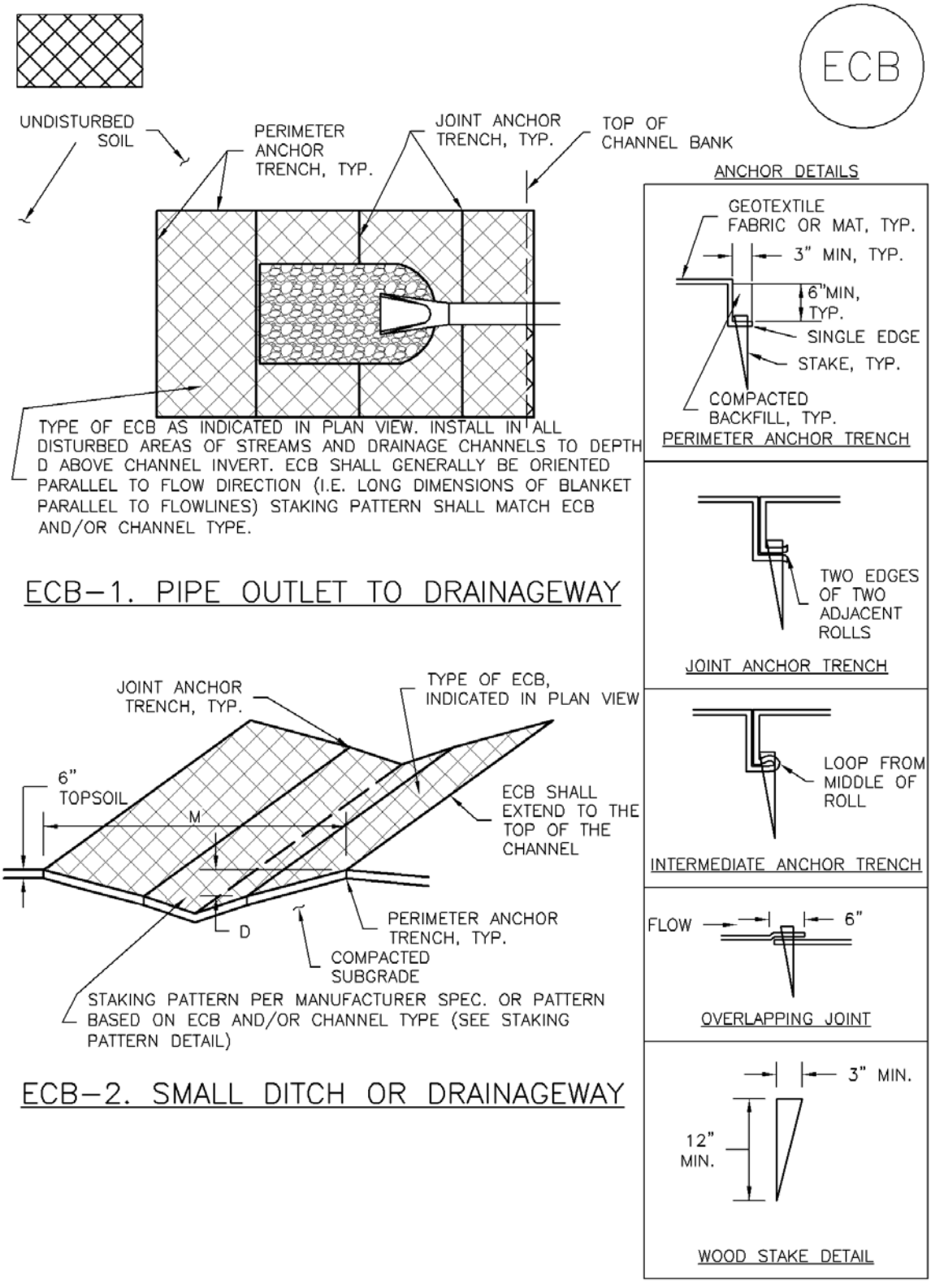
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)

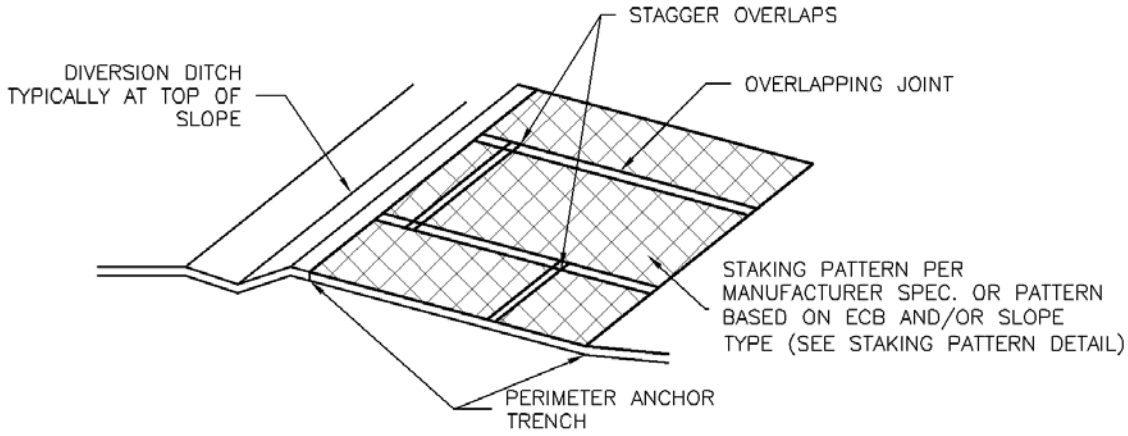
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)

- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

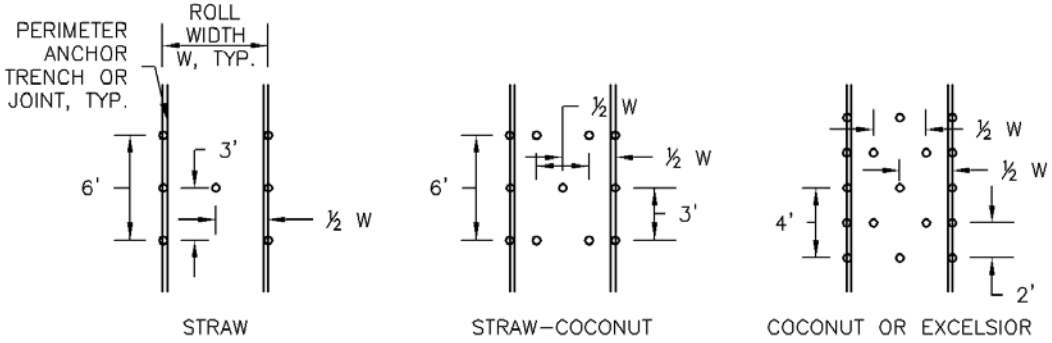
Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

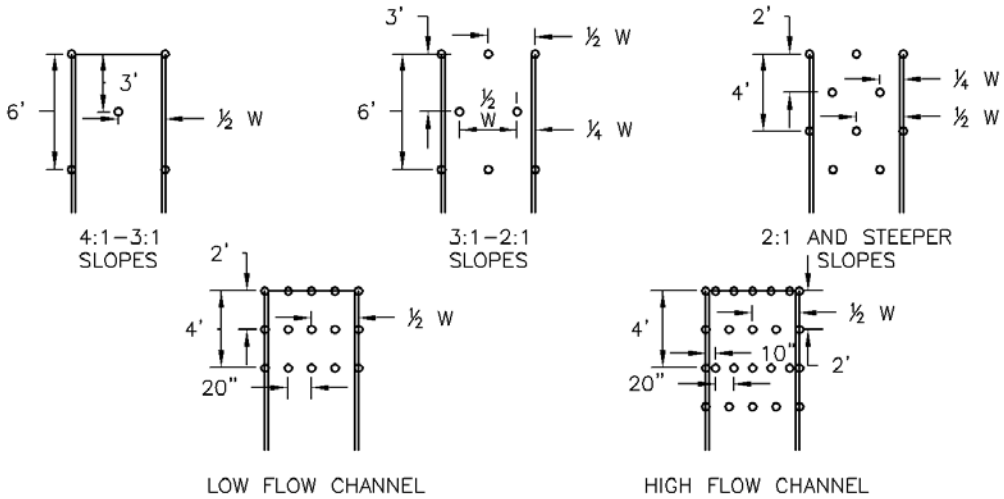

ECB
UNDISTURBED SOIL
PERIMETER ANCHOR TRENCH, TYP.
JOINT ANCHOR TRENCH, TYP.
TOP OF CHANNEL BANK
TYPE OF ECB AS INDICATED IN PLAN VIEW. INSTALL IN ALL DISTURBED AREAS OF STREAMS AND DRAINAGE CHANNELS TO DEPTH D ABOVE CHANNEL INVERT. ECB SHALL GENERALLY BE ORIENTED PARALLEL TO FLOW DIRECTION (I.E. LONG DIMENSIONS OF BLANKET PARALLEL TO FLOWLINES) STAKING PATTERN SHALL MATCH ECB AND/OR CHANNEL TYPE.
ECB–1. PIPE OUTLET TO DRAINAGEWAY
JOINT ANCHOR TRENCH, TYP.
TYPE OF ECB, INDICATED IN PLAN VIEW
6" TOPSOIL
M
ECB SHALL EXTEND TO THE TOP OF THE CHANNEL
D
PERIMETER ANCHOR TRENCH, TYP.
COMPACTED SUBGRADE
STAKING PATTERN PER MANUFACTURER SPEC. OR PATTERN BASED ON ECB AND/OR CHANNEL TYPE (SEE STAKING PATTERN DETAIL)
ECB–2. SMALL DITCH OR DRAINAGEWAY
ANCHOR DETAILS
GEOTEXTILE FABRIC OR MAT, TYP.
3" MIN, TYP.
6" MIN, TYP.
SINGLE EDGE STAKE, TYP.
COMPACTED BACKFILL, TYP.
PERIMETER ANCHOR TRENCH
TWO EDGES OF TWO ADJACENT ROLLS
JOINT ANCHOR TRENCH
LOOP FROM MIDDLE OF ROLL
INTERMEDIATE ANCHOR TRENCH
FLOW
6"
OVERLAPPING JOINT
3" MIN.
12" MIN.
WOOD STAKE DETAIL



ECB–3. OUTSIDE OF DRAINAGEWAY



STAKING PATTERNS BY ECB TYPE



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - –LOCATION OF ECB.
   - –TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   - –AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB–1. ECB MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	–	100%	–	DOUBLE/ NATURAL
STRAW–COCONUT	30% MIN	70% MAX	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, 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. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

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 DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)

APPENDIX 6: Erosion Control Plan (EC Plan) – Site Map

EC Plan includes, at a minimum, the following:

1. Construction site boundaries;
2. Flow arrows that depict stormwater flow directions on-site and runoff direction;
3. Areas of ground disturbance including areas of borrow and fill;
4. Areas used for storage of soil;
5. Location of all waste accumulation areas, including areas for liquid, concrete, masonry, and asphalt;
6. Location of dedicated asphalt, concrete batch plants and masonry mixing stations;
7. Location of all structural control measures;
8. Location of all non-structural control measures;
9. Location of springs, streams, wetlands and other state waters, including areas that require pre-existing vegetation be maintained within 50 ft of a receiving water; and
10. Location of all stream crossings located within the construction site boundary.

Urban Poster:

Rural Poster: http://www.adcogov.org/sites/default/files/Stormwater%20Rural%20-%20Small%20Builder.pdf

PRELIMINARY STORMWATER MANAGEMENT PLAN FOR

LEFOR SUBDIVISION - LOT 3

LOCATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 30,
TOWNSHIP 1 SOUTH, RANGE 64 WEST OF THE 6TH P.M.
COUNTY OF ADAMS, STATE OF COLORADO

GENERAL NOTES

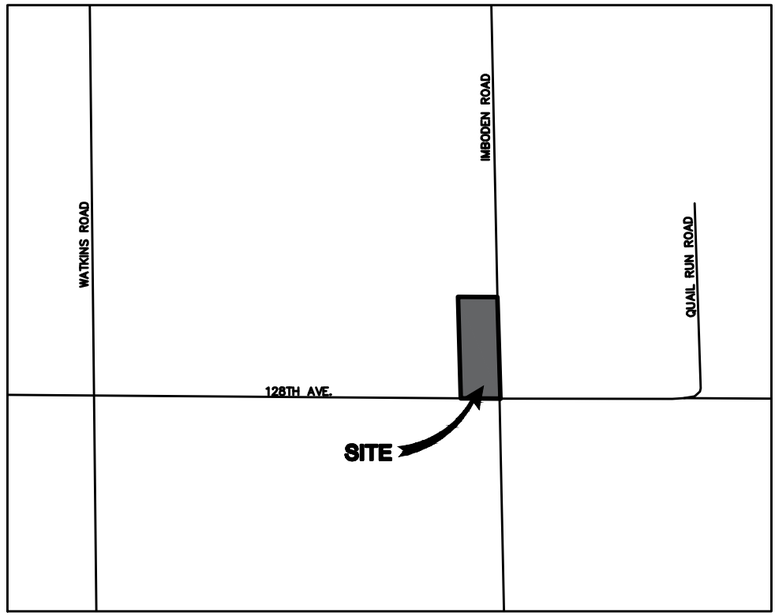
1. OWNER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING A STATE OF COLORADO, COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY COR-030000 PRIOR TO CONSTRUCTION (CDPS STORMWATER CONSTRUCTION PERMIT).
2. THE OWNER/CONTRACTOR SHALL PROVIDE ADAMS COUNTY WITH A COPY OF THIS CDPS STORMWATER CONSTRUCTION PERMIT LETTER OF APPROVAL AND CERTIFICATION FROM THE STATE PRIOR TO RECEIVING A COUNTY CONSTRUCTION/BUILDING PERMIT. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH THIS CDPS STORMWATER CONSTRUCTION PERMIT.
3. A COPY OF THE CDPS STORMWATER CONSTRUCTION PERMIT FROM CDPHE AND THE APPROVED STORMWATER MANAGEMENT PLAN (SWMP) WITH AN EROSION AND SEDIMENT PLAN SHALL BE KEPT ON SITE AND UPDATED AT ALL TIMES IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.
4. OWNER/CONTRACTOR IS RESPONSIBLE FOR FILING A CDPHE INACTIVATION NOTICE -CONSTRUCTION STORMWATER DISCHARGE GENERAL PERMIT CERTIFICATION; ONCE THE CONSTRUCTION SITE HAS BEEN FINALLY STABILIZED IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.
5. THE OWNER/CONTRACTOR SHALL PROVIDE ADAMS COUNTY WITH A COPY OF THIS INACTIVATION NOTICE. THERE WILL BE NO FEE CHARGED TO ADAMS COUNTY FOR THE INACTIVATION NOTICE OR IF THE CONTRACTOR NEGLECTS TO FILE THIS NOTICE.
6. THE SWMP ADMINISTRATOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION. THE SWMP SHALL BE MODIFIED IN COMPLIANCE TO THE CDPS STORMWATER CONSTRUCTION PERMIT.
7. STANDARD INSPECTIONS – A THOROUGH INSPECTION OF THE BEST MANAGEMENT PRACTICES (BMPS) SHALL BE PERFORMED EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION.
8. USE BIODEGRADABLE EROSION CONTROL BLANKETS ON SLOPES 3:1 OR STEEPER AND IN SWALES OR LONG CHANNELS.
9. ALL SOIL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT THE LOSS OF MATERIAL DURING TRANSPORT. HAUL ROUTES MUST BE PERMITTED BY THE COUNTY. NO MATERIAL SHALL BE TRANSPORTED TO ANOTHER SITE WITHOUT FIRST OBTAINING A HAULING PERMIT FROM ADAMS COUNTY PLANNING.
10. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE SHALL CONTAIN ALL CONCRETE WASHOUT WATER. STORMWATER SHALL NOT CARRY WASTES FROM THE DESIGNATED CONCRETE WASHOUT LOCATION AND SHALL BE LOCATED A MINIMUM OF FIFTY (50) FEET HORIZONTAL FROM WATERS OF THE STATE.
11. THE ACTUAL SCHEDULE FOR IMPLEMENTING EROSION AND SEDIMENT CONTROL MEASURES WILL BE DETERMINED BY PROJECT CONSTRUCTION PROGRESS. DOWN SLOPE PROTECTIVE MEASURES (I.E. SEDIMENT CONTROL BARRIERS) MUST ALWAYS BE IN PLACE BEFORE SOIL IS DISTURBED.
12. INSTALL SEDIMENT CONTROL BARRIERS DOWN SLOPE FROM CONSTRUCTION THAT DISTURB SITE SOIL. SEDIMENT CONTROL BARRIERS SHOULD BE INSTALLED IN THE LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL DRAWINGS, AS WELL AS OTHER LOCATIONS AS DEEMED NECESSARY BY THE CONTRACTOR, INSPECTOR OR OWNER."

PERFORMANCE STANDARD NOTES

1. TEMPORARY AND/OR PERMANENT BMPS INTENDED TO CONTROL EROSION OF AN EARTH DISTURBANCE OPERATION SHALL BE INSTALLED BEFORE ANY EARTH DISTURBANCE OPERATIONS TAKE PLACE IN SEQUENCE WITH PROPER PHASING.
2. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES, SOIL AND VEGETATION.
3. PERSONS ENGAGED IN EARTH DISTURBANCES SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS ADOPTED BY ADAMS COUNTY AND IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.
4. EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST POSSIBLE PERIOD OF TIME.
5. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH DISTURBANCE.
6. EXCAVATED MATERIAL AND OTHER CONSTRUCTION DEBRIS SHALL NOT BE STOCKPILED WITHIN THE ROADWAY SECTION. BACKFILL MATERIALS UP TO A MAXIMUM OF 130 CY MAY BE STOCKPILED, WITH APPROPRIATE EROSION CONTROL MEASURE, BUT MUST BE REMOVED OR PLACED BY THE END OF EACH WORK WEEK.
7. ANY CONSTRUCTION AREAS, NOT GRADED TO FINAL GRADE, REQUIRE TEMPORARY BMPS FOR SITE STABILIZATION.
8. AS NECESSARY, CONSTRUCT A TEMPORARY FACILITY DESIGNATED FOR CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE CONSTRUCTION SITE.
9. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING.
10. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURE'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.
11. CONCRETE WASHOUTS SHALL NOT BE PLACED IN LOW AREAS, DITCHES OR ADJACENT TO STATE WATERS.
12. THE OWNER/CONTRACTOR SHALL CHECK THE CAPACITY FOR ALL CONCRETE WASHOUT AREAS. WASTE MATERIALS MUST BE REMOVED BY THE CONTRACTOR AND LEGALLY DISPOSED OF WHEN ACCUMULATIONS AMOUNT TO TWO-THIRDS (⅔) OF THE WET STORAGE CAPACITY OF THE STRUCTURE.
13. ALL CONCRETE WASHOUT AREAS SHALL BE CLEARLY MARKED. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE WILL INCLUDE A 2'X3' SIGN POSTED WITH THE WORDS "CONCRETE WASHOUT". THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
14. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF. CONCRETE WASHOUT WASTE MUST NOT BE BURIED.
15. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE SHALL BE TEMPORARILY STABILIZED IMMEDIATELY AFTER INTERIM GRADING.
16. FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST SEVENTY PERCENT (70%) OF PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAS BEEN EMPLOYED.
17. RECORDS OF SPILLS, LEAKS, OR OVERFLOWS THAT RESULT IN THE DISCHARGE OF POLLUTANTS MUST BE DOCUMENTED AND MAINTAINED. SOME SPILLS MAY NEED TO BE REPORTED TO THE DIVISION IMMEDIATELY: SPECIFICALLY, A RELEASE OF ANY CHEMICAL, OIL, PETROLEUM PRODUCT, SEWAGE, ETC., WHICH MAY ENTER WATERS OF THE STATE, MUST BE REPORTED. MORE GUIDANCE IS AVAILABLE ON THE WEB AT WWW.CDPHE.STATE.CO.US/EMP/SPILLSANDRELEASED.HTM.THE DIVISION'S TOLL FREE 24-HOUR ENVIRONMENTAL EMERGENCY SPILL REPORTING LINE IS 1-877-518-5608. ALSO IMMEDIATELY CALL ADAMS COUNTY AT 303-.453-8787 AND THE TRI-COUNTY HEALTH DEPARTMENT AT 303-220-9200"

BMP MAINTENANCE NOTES

1. IT IS ANTICIPATED THAT THE BMPS IMPLEMENTED AT THE SITE WILL HAVE TO BE MODIFIED TO ADAPT TO CHANGING CONDITIONS OR TO ENSURE THAT POTENTIAL POLLUTANTS ARE BEING PROPERLY MANAGED AT THE SITE. WHEN BMPS ARE MODIFIED, THE SWMP MUST BE MODIFIED TO ACCURATELY REFLECT THE ACTUAL FIELD CONDITIONS.
2. THE OWNER/CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ALL SILT FENCING SO THAT IT FUNCTIONS PROPERLY DURING CONSTRUCTION AND WORK SUSPENSIONS. ALL SILT FENCING SHALL BE REMOVED BY THE CONTRACTOR UPON SUBSTANTIAL PERMANENT STABILIZATION UNLESS OTHERWISE DIRECTED BY AUTHORIZED ADAMS COUNTY PERSONNEL.
3. SILT FENCE SHALL BE INSTALLED ALONG CONTOURS AND PRIOR TO ANY GRUBBING OR GRADING ACTIVITY. IT SHALL BE LOCATED TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS IN WHICH IT SHALL BE INSTALLED AT A FAIRLY LEVEL GRADE.
4. IT IS RECOMMENDED THAT SILT FENCE SHALL BE INSTALLED FIVE (5) FEET AWAY FROM THE TOE OF THE SLOPE OR STOCKPILE, AND EVERY SEVENTY FIVE (75) TO ONE HUNDRED TWENTY FIVE (125) FEET APART ON LONG SLOPES.
5. DO NOT PLACE SILT FENCE IN OR ADJACENT TO EXISTING WETLANDS WHERE TRENCHING IMPACTS WETLANDS.
6. ALL INLET/OUTLET PROTECTION WILL BE CHECKED FOR MAINTENANCE AND FAILURE DAILY. SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF ONCE IT HAS ACCUMULATED TO HALF THE DESIGN OF THE TRAP OR DAILY DURING PERIODS OF CONSISTENT PRECIPITATION.
7. THE OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VEHICLE TRACKING CONTROL DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE COMPLETION OF THIS PROJECT UNLESS OTHERWISE DIRECTED BY AUTHORIZED ADAMS COUNTY PERSONNEL.
8. TEMPORARY SEDIMENT TRAPS AND BASINS SHALL BE INSTALLED BEFORE ANY LAND DISTURBANCE TAKES PLACE IN THE DRAINAGE AREA. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT. SEDIMENT SHALL BE REMOVED WHEN NO LONGER FUNCTIONAL AND DISPOSED OF AT AN APPROVED LOCATION.
9. ALL SEDIMENT FROM STORMWATER INFRASTRUCTURE (I.E. DETENTION PONDS, STORM SEWER PIPES, OUTLETS, INLETS, ROADSIDE DITCHES, ETC.) SHALL BE REMOVED PRIOR TO INITIAL ACCEPTANCE. THIS SEDIMENT SHALL NOT BE FLUSHED OFF-SITE,BUT SHALL BE CAPTURED ON-SITE AND DISPOSED OF AT AN APPROVED LOCATION.
10. TEMPORARY ROCK CHECK DAM –THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHOULD NOT EXCEED ONE HALF THE DEPTH OF THE DITCH OR SWALE. THE MAXIMUM SPACING BETWEEN DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
11. CONSTRUCTION SAFETY BARRIER FENCING (ORANGE CONSTRUCTION FENCE) MUST BE USED TO PROTECT WETLANDS AND OTHER SENSITIVE AREAS AND TO PREVENT ACCESS.
12. WATER FROM DEWATERING OPERATIONS SHALL NOT BE DIRECTLY DISCHARGED INTO ANY WATERS CONVEYANCE SYSTEMS INCLUDING WETLANDS, IRRIGATION DITCHES, CANALS, RIVERS, STREAMS OR STORM SEWER SYSTEMS, UNLESS ALLOWED BY A STATE CONSTRUCTION DEWATERING PERMIT.



VICINITY MAP

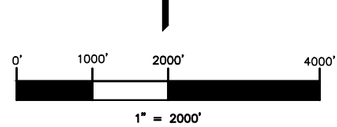
SHEET INDEX

C1	COVER SHEET
C2	EROSION CONTROL PLAN – INITIAL
C3	EROSION CONTROL PLAN – INTERIM
C4	EROSION CONTROL PLAN – FINAL
C5	EROSION CONTROL DETAILS
C6	EROSION CONTROL DETAILS
C7	EROSION CONTROL DETAILS

811 Know what's below. Call before you dig.

CONTACTS:

OWNER:	SEAN LEFOR 32651 137TH WAY BRIGHTON, CO 80603 PHONE: 303-883-8620
CIVIL ENGINEER:	ELEVATION CONSULTING GROUP LTD PO BOX 280869 LAKEWOOD, CO 80226 PHONE: 303-204-5065
SURVEYOR:	CHAVEZDSS, LLC. 11479 S. PINE DRIVE PARKER, CO 80134 PHONE: 303-589-4419



BASIS OF BEARING:

BEARINGS ARE BASED ON GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. THE BEARING OF THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., BETWEEN MONUMENTS AS SHOWN HEREON IS S1°35'26"E WITH ALL BEARINGS CONTAINED HEREON RELATIVE THERETO.

BENCHMARK:

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ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS EROSION CONTROL DRAWING FOR LEFOR SUBDIVISION – LOT 3 WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE PROVISIONS OF ADAMS COUNTY STORM DRAINAGE DESIGN AND STORMWATER QUALITY REGULATIONS FOR THE OWNERS THEREOF.

LINCOLN J. THOMAS, P.E. DATE
COLORADO NO. 42350

NO.	DATE	REVISIONS	BY

DATE 06/27/22 CHECKED BY LJT
JOB NO. 2023002

INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION

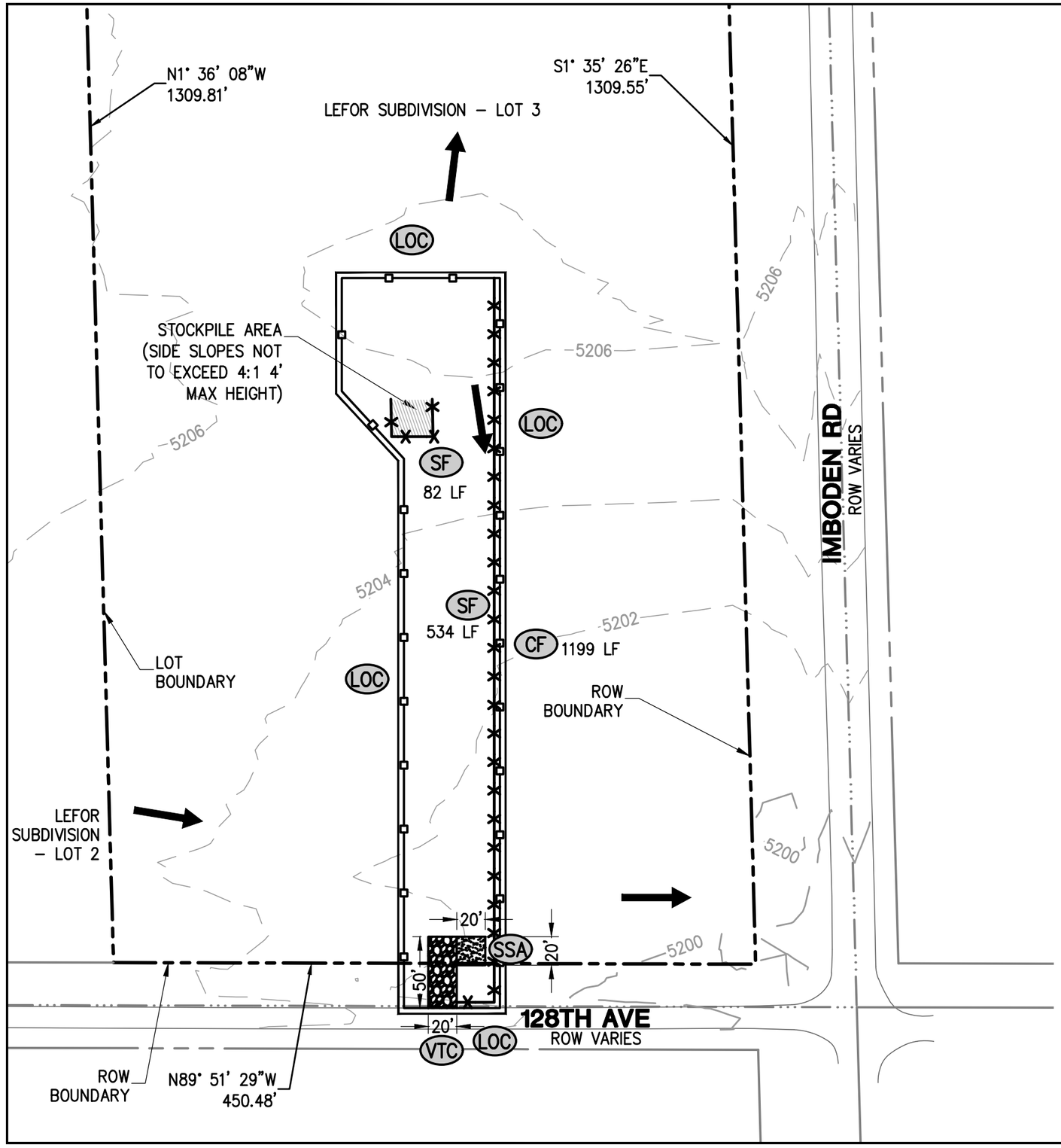
P.O. BOX 280869
LAKEWOOD, CO 80226
PHONE: (303) 204-5065

LEFOR SUBDIVISION - LOT 3

COVER SHEET

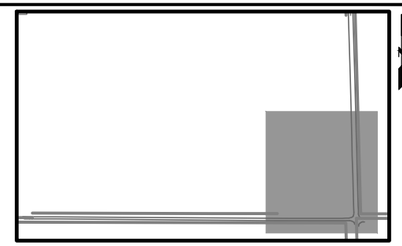
ADAMS COUNTY, COLORADO

SHEET C1



0' 40' 80' 160'

1" = 80'



KEY MAP
SCALE: 1" = 1000'

LEGEND

6175	EXISTING GROUND MAJOR CONTOUR
6175	EXISTING GROUND MINOR CONTOUR
6175	PROPOSED GRADE MAJOR CONTOUR
6175	PROPOSED GRADE MINOR CONTOUR
	SUBDIVISION BOUNDARY
	PROPERTY LINE
	OVERLAND DRAINAGE FLOW DIRECTION
LOC	PERMITTED AREA BOUNDARY
SF	SILT FENCE
CF	CONSTRUCTION FENCE
SSA	STABILIZED STAGING AREA
VTC	VEHICLE TRACKING CONTROL
SM	SEEDING AND MULCHING
SR	SURFACE ROUGHING
CWA	LINED CONCRETE WASHOUT AREA
ECB	EROSION CONTROL BLANKET

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LAKEWOOD, CO 80226
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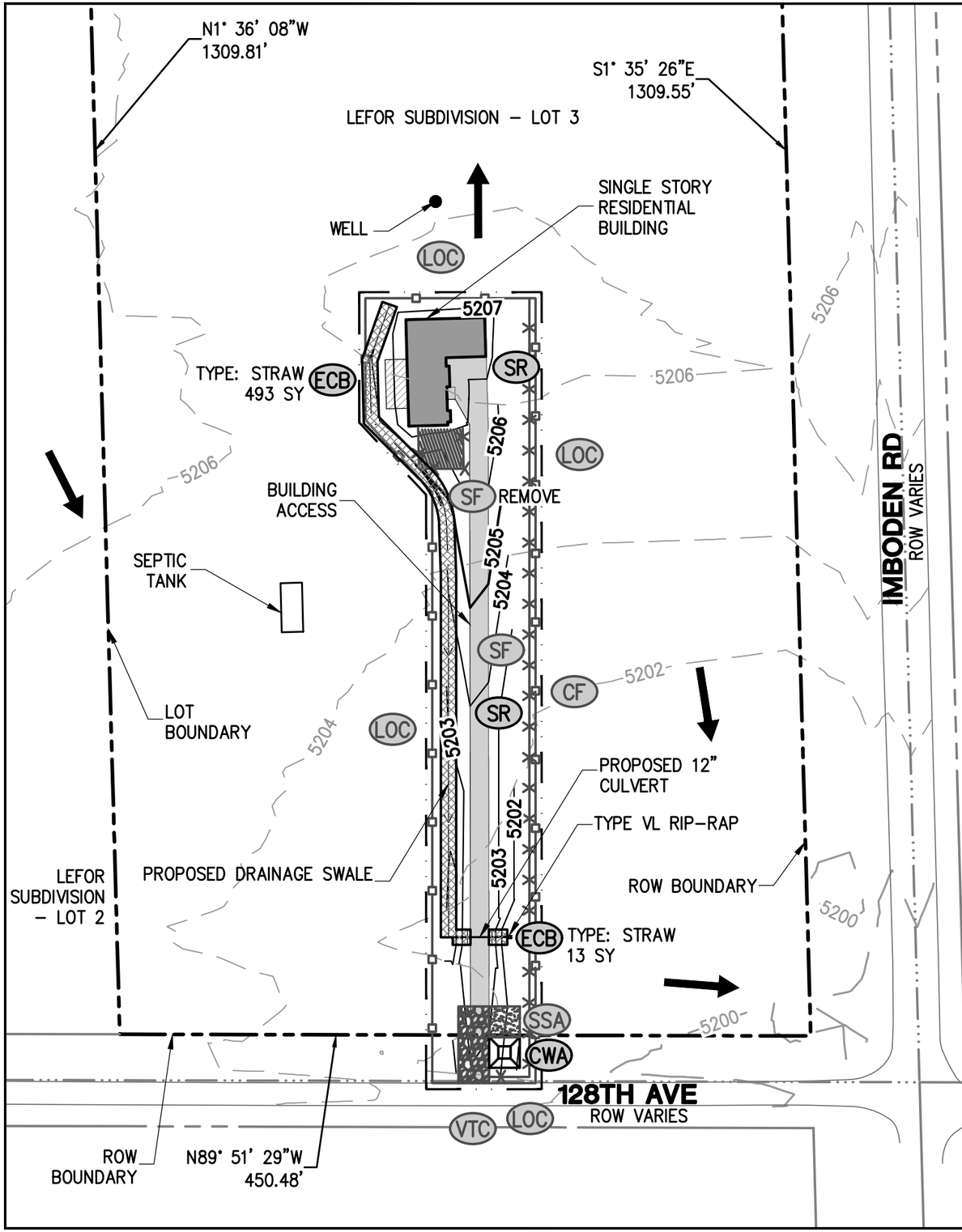
Elevation Consulting

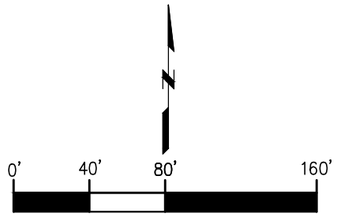
LEFOR SUBDIVISION - LOT 3

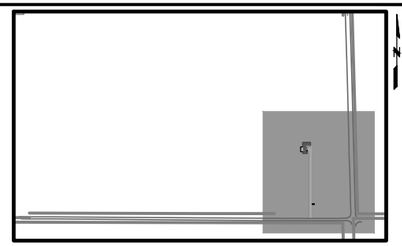
EROSION CONTROL PLAN - INITIAL

ADAMS COUNTY, COLORADO

SHEET
C2







KEY MAP
SCALE: 1" = 1000'

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	PROPERTY LINE
	OVERLAND DRAINAGE FLOW DIRECTION
LOC	PERMITTED AREA BOUNDARY
SF	SILT FENCE
CF	CONSTRUCTION FENCE
SSA	STABILIZED STAGING AREA
VTC	VEHICLE TRACKING CONTROL
SM	SEEDING AND MULCHING
SR	SURFACE ROUGHING
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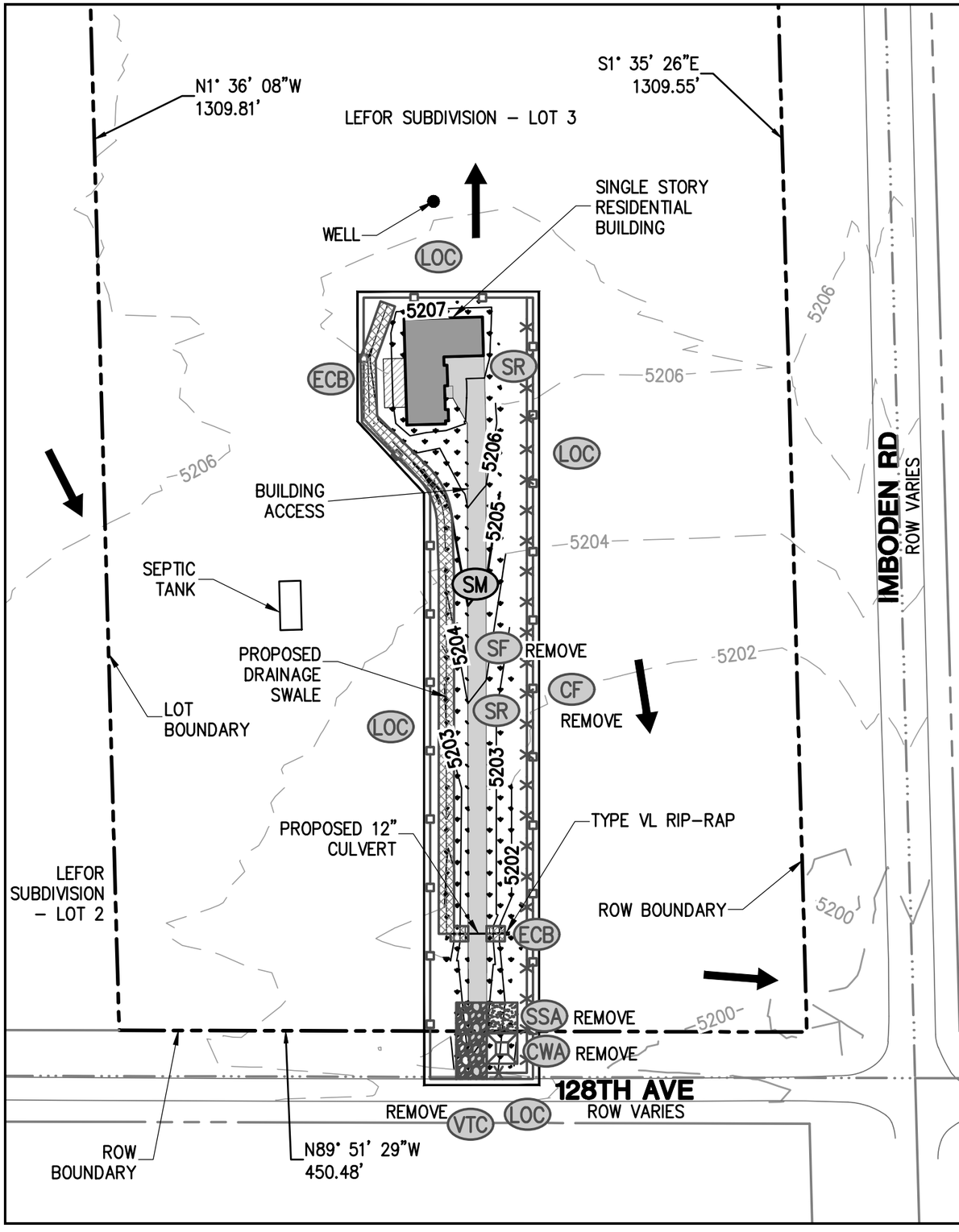
LAKEWOOD, CO 80226
PHONE: (303) 204-5065
Elevation Consulting

LEFOR SUBDIVISION - LOT 3

EROSION CONTROL PLAN - INTERIM

ADAMS COUNTY, COLORADO

SHEET
C3
SHEET 3 OF 7



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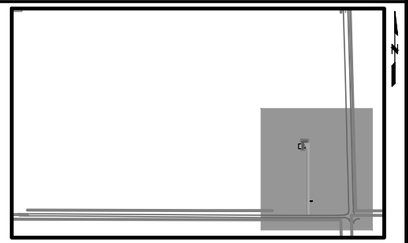

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- SM — SEEDING AND MULCHING
- SR — SURFACE ROUGHING
- CWA — LINED CONCRETE WASHOUT AREA
- ECB — EROSION CONTROL BLANKET

BASIS OF BEARING:

BEARINGS ARE BASED ON GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. THE BEARING OF THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 30, T1S, R64W OF THE 6TH P.M., BETWEEN MONUMENTS AS SHOWN HEREON IS S1°35'26"E WITH ALL BEARINGS CONTAINED HEREON RELATIVE THERETO.

BENCHMARK:

ELEVATIONS ARE BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON 3/6/2023 AND ARE BASED ON NAVD88 VERTICAL DATUM.

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS EROSION CONTROL DRAWING FOR LEFOR SUBDIVISION – LOT 3 WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE PROVISIONS OF ADAMS COUNTY STORM DRAINAGE DESIGN AND STORMWATER QUALITY REGULATIONS FOR THE OWNERS THEREOF.

LINCOLN J. THOMAS, P.E.
COLORADO NO. 42350

DATE

811 Know what's below. Call before you dig.

DATE NO.	REVISIONS	BY
DATE 06/27/22	CHECKED BY LJT	
JOB NO. 2023002		

INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION

P.O. BOX 280869
LAKEWOOD, CO 80226
PHONE: (303) 204-5065
Elevation Consulting

LEFOR SUBDIVISION - LOT 3

EROSION CONTROL PLAN - FINAL

ADAMS COUNTY, COLORADO

SHEET
C4
SHEET 4 OF 7

APPENDIX 7: Stormwater Inspection Form (Template)

Instructions:
This inspection report has been developed to complete the 7 day (**or** 14 day and storm event site inspections) and 30-day inspections at completed sites.

Using the Inspection Report:
You can complete the items in the upper section that will remain constant, such as the date, project name, and inspector. You will either need to print out multiple copies of this inspection report or save an electronic version as a master form to use during your inspections.

Ensure that all items are completed by checking "Yes", "No", or "N/A" –Not Applicable. Document any "Corrective Action Needed". Under "BMP/CMs Description", document the CMs that are required per plan and/or installed, if maintenance is needed and document any "Corrective Action Needed" as necessary.

When issues are present at a construction site, ensure you enter the date when the issue has been addressed, on the same inspection form. Document when the issue was addressed by filling in the "Date Fixed".

Stormwater Inspection Form

Project Name: Lefor Subdivision – Lot 3	Inspection Date/Time:
Project Location: Intersection of E 128th Ave and Imboden Road	Current Weather:
Company Name:	Current Disturbed Acres:
Qualified SW Manager Name & Title: Phone Number:	Current Construction Phase:

Type of Inspection

☐ 14-Day Inspection ☐ Post-Storm Event Inspection	☐ 7-Day Inspection	☐ 30-Day Reduced Frequency Inspection (Construction and Final Stabilization completed + SWMP updated)
☐ Winter Conditions Inspections Exclusion: Dates when snow cover existed Dates when construction activities ceased Dates melting conditions began		Deviation from minimum inspection frequency: Y/N If **Yes**, Explain:

Off-Site Discharge Assessment

Have pollutants been discharge off-site?		If **Yes**:

Minimum Requirements:
Are there any new potential sources of pollutants?:
Does stormwater runoff from all disturbed areas flow thru at least **one** control measure?
Is VTC installed? (If **NOT**, area must run thru at least **one** control measure)
Is pre-existing vegetation (or equivalent CM) maintained for areas within 50 ft of receiving waters?
Does all bulk storage (55+ gall) of petroleum products and liquid chemicals have secondary containment (or equivalent)
Is outlet installed to withdrawn water just below surface level at basin?
Are **inactive disturbed areas** stabilized within 14 days? (if **NOT**, then document constraints, alternative schedule and location in SWMP)
Are natural areas (streams, wetlands, trees) protected?
Has soil compaction been minimized?
Has topsoil been preserved?
Has the amount of soil exposed been minimized (including the disturbance of steep slopes)?
Is construction perimeter contained?
Are designated haul routes in compliance?
Are washout facilities identified and maintained? (Add liner if shallow groundwater or close to stream/channels/wetland)
Are potential stormwater pollutants stored properly?
Are equipment maintenance areas free of spills/leaks?
Are non-stormwater discharges properly controlled? (on-site dewatering, CWA, potable water, etc)
Has the SWMP/EC Plan (site map) been updated to reflect current field conditions?:
Notes: If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate CMs and corrective actions.

BMP/Control Measure (CM) Description	Code	In EC plan? Y/N	Installed? Y/N	Describe Corrective Action: Additional BMP Maintenance Removal	Location:	Date Fixed
Sediment Control BMPs/CMs						
Silt Fence	SF					
Sediment Control Log	SCL					
Straw Bale Barrier	SBB					
Rock Sock	RS					
Inlet Protection	IP					
Sediment Basin	SB					
Sediment Trap	ST					
Vegetated Buffer	VB					
Other:						
Erosion Control BMPs/CMs						
Surface Roughening	SR					
Temp. & Permanent Seed	TS/PS					
Soil Binders	SB					
Mulching	MU					
Rolled Erosion Control Prod.	RECP					
Temp. Slope Drain	TSD					
Temp. Outlet Protection	TOP					
Earth Dikes/Drainage Swales	ED/DS					
Terracing	TER					
Check Dams	CD					
Streambank Stabilization	SS					
Dust Control	DC					
Other:						
Materials Management						
Concrete Washout Area	CWA					
Stockpile Management	SP					
Stabilize Staging Area	SSA					
Good Housekeeping	GH					
Portable Toilets	PT					
Blowing Trash	Waste					
Spills and Leaks	Spills					
Equip. Maint. & Fueling	Equip					
Other:						
Site Management Controls						
Protection of Vegetation	PV					
Construction Fence	CF					
Vehicle Tracking Control	VTC					
Stabilized Construction Rd	SCR					
Street Sweeping	SS					
Temp. Diversion Channel	TDC					
Dewatering Ops.	DW					
Temp. Stream Crossing	TSC					
Paving & Grinding Ops.	PGO					
Other:						

Certification Statement (if all CMs are in Good Condition, or After Corrective Actions are Completed): I verify that, to the best of my knowledge and belief, all corrective action and maintenance identified in the inspection are complete, and the site is in compliance w/ permit.

Signature:	**Date:**

Reporting Requirements
Report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and mail to the State a written report containing the information requested within five (5) working days after becoming aware of the following circumstances.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit
a. Endangerment to Health or the Environment Circumstances leading to any non-compliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit) This category would primarily result from the discharge of pollutants in violation of the permit
b. Numeric Effluent Limit Violations • Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit) • Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit) • Daily maximum violations (See Part II.L.6.d of the Permit) Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.
Has there been an incident of non-compliance requiring 24-hour notification?

Date and Time of Incident	Location	Description of Noncompliance	Corrective Action	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification *

APPENDIX 8: Delegation of Authority Form

I, N/A, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the N/A construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

N/A
N/A
N/A
N/A
N/A

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in N/A, and that the designee above meets the definition of a "**duly authorized representative**"

APPENDIX: 9 Completed Stormwater Inspection Logs

(File completed inspection forms here)

APPENDIX 10: Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER MANAGEMENT PLAN (SWMP)

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the SWMP, for any work that you perform on-site. Any person or company who violates any condition of the SWMP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWMP. A copy of the SWMP is available for your review at: TBD.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWMP for the above designated project and agree to follow the CMs and practices described in the SWMP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

APPENDIX 11: Agreement for off-site Control Measures

***(if* applicable)**

Attach use agreement between the Permittee and the owner/operator of any control measures located outside of the permitted area, that are utilized by the Permittee's construction site for compliance with this permit, but not under the direct control of the Permittee.

The Permittee is responsible for ensuring that all control measures located outside of their permitted area, that are being utilized by the Permittee's construction site, are properly maintained and in compliance with all terms and conditions of the permit.

Include all information to any such off-site control measures located outside the permitted area, including location, installation specifications, design specifications and maintenance requirements

APPENDIX 12: Low Risk Discharge Guidance for Discharges of Potable Water

***If Flushing New Waterlines including fire suppression lines, irrigation lines, etc , the State of Colorado Low Risk Discharge Guidance for Discharges of Potable Water must be followed.*

Discharges of potable water are short term infrequent discharges that with proper management are not expected to contain pollutants in concentrations that are toxic or in concentrations that would cause or contribute to a violation of a water quality standard. The typical pollutant of concern is total residual chlorine, however, total suspended solids (TSS) and oil&grease may also become pollutants of concern. These pollutants can be handled using dechlorination techniques, filters, oil booms, and other control measures (CM).

The following conditions must be followed by anyone discharging potable water: The discharge of cleaning materials or chemicals, including dyes, is strictly prohibited, and shall be sent to the sanitary sewer, with permission of the local wastewater treatment facility, or otherwise collected and disposed of. Except for additional chlorine and dechlorination chemicals in accordance with manufacturer's label. The potable water shall **not** be used in any additional process. Processes include, but are not limited to, any type of washing, heat exchange, manufacturing, and hydrostatic testing of pipelines not associated with treated water distribution systems. The discharge shall be from a potable water distribution system, tank or storage that has been maintained for potable water distribution use. Discharges from a distribution system, tank or storage that is used for conveyance or storage of materials other than potable water is not authorized. The discharge shall not cause erosion of a land surface. Energy dissipation devices designed to protect downstream areas from erosion y reducing velocity of flow (such as hose attachments and erosion controls), may be necessary. The discharge shall not contain solid materials in concentrations that can settle to form bottom deposits detrimental to the beneficial uses of the state waters or form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses. All discharges must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts, ditch owners, and other local agencies regarding any discharges to storm drain systems, conveyances, ditches or other water courses under their jurisdiction. This guidance in no way reduces the existing authority of the owner of a storm sewer, ditch owner, or other local agency, from prohibiting or placing additional conditions on the discharge.

If the discharge is directly to a State surface water (any stream, creek, gully, whether dry or flowing), it must not contain any residual chlorine in excess of 0.011 mg/l. The operator is responsible for determining what is necessary for removing chlorine from the discharge. If the discharge is to a ditch, chlorine content may be limited by the owner of the ditch. However, if the ditch returns flow to classified state waters, it must not contain any residual chlorine in excess of 0.011 mg/l at the point where it discharges to the classified state water. Removal of residual chlorine in excess of 0.011 ml/l, must be done for any direct discharge to state surface waters or for any discharge to a storm sewer or conveyance where the chlorine will not dissipate below 0.011 mg/l prior to reaching state surface water. Dechlorination, if necessary, may be achieved by allowing water to stand uncovered until no chlorine is detected, or by dechlorination using a portable dechlorinator. Pay particular attention when handling super-chlorinated waters. A longer time is needed to dissipate chlorine from super-chlorinated waters.

When using chemicals in the dechlorination process, the operator must ensure that proper quantities and rates are used, based on the concentration of chlorine; that adequate mixing occurs; and that enough time is allowed prior to flow reaching a surface water for the dechlorination chemicals to react with the chlorine in the water. In cases where the discharge of water that had been super-chlorinated will occur, operators should allow additional time for the chlorine to dissipate. It is the operators' responsibility to ensure that adequate processes are followed to meet the 0.011 mg/L chlorine limitation prior to discharge to classified state surface water. It is not required that an EPA approved test method be used to make this determination. For many methods, it will be necessary to have a test result indicating no (0 mg/L) residual chlorine to ensure that this limitation is met. Discharging without Testing is possible without analysis. This may be based on a determination that the given hold time or travel time to classified state water, based on other discharge-specific variables, will adequately reduce chlorine levels to result in the chlorine limitation being met. It is the operator's responsibility to ensure they understand the variables associated with a specific discharge to ensure that the chlorine limitation has been met. CMs shall be implemented as necessary to meet the conditions above, by anyone discharging potable water.

For discharge to the ground: the water shall not cause any toxicity to vegetation. When discharging, allow the water to drain slowly so that it soaks into the ground as much as possible. Dechlorination is not required for discharges into the ground if the discharge does not reach state surface water. This option should be considered as an alternative to dechlorination.

Pollutants Picked Up After Release: The discharge should be conducted to minimize the potential to pick up additional pollutants following release from the potable water distribution systems and prior to discharge to a water of the state. The discharge should be conducted to minimize the potential to pick up additional suspended solids and to control erosion. It is

understood that minimal suspension of sediment is inherent to any water running across soils. However potential water quality impacts should be minimized through practices such as diffusing flows and avoiding flows across bare soils. The discharge should be conducted to minimize the potential that it will contact petroleum products/waste, and avoid picking up any oil and grease. When possible, an absorbent oil pad, boom or similar device should be used to eliminate oil from the discharge. A visible sheen must not be evident in the discharge. The discharge shall be conducted to minimize the potential that it will not pick up any oil and grease. When possible, an absorbent oil pad, boom or similar device shall be used to eliminate oil from the discharge.

Preparing and Installing Components: When installing new pipe, fittings and appurtenances into a potable water distribution system, the components should be prepared and maintained in a way to minimize the potential for contribution of pollutants to discharges covered under this guidance. All pipe, fittings, and other appurtenances associated with the discharge should meet industry standards for cleanliness for public water. Examples of standard operating procedures include, but are not limited to, those found in ANSI/AWWA Standard C600-10, (Installation of ductile-Iron mains and their appurtenances), or any other applicable standard operating procedures that reflect industry standards of cleanliness. When it is necessary to remove debris, foreign material or other gross contamination from components prior to installation, wastewater generated from such activities may not be covered under this guidance. Such activity should occur at a location that allows for generated wastewater to be sent to the sanitary sewer with permission of the local wastewater treatment facility. Such wastewater could also be otherwise collected and disposed of. Practices should be implemented during transport, storage, installation, and maintenance to minimize introduction of contaminants to pipe, fittings, and other appurtenances that could contribute pollutants to discharges.

Removing Pollutants: Control measures for filtering or settling suspended solids and other debris should be used to remove solids or other debris that have either been picked up after discharge or that originated from within the potable water system. Examples of suspended solid removal practices include check dams and filter bags. As a final measure downstream from additional control measures, inlet protection can be used to provide some additional removal and to allow for redundancy. Pollutant removal control measures should be used and maintained in accordance with manufacturers' specifications.

Alternative Disposal Options:
Water not meeting the criteria and conditions of this guidance may be sent to the sanitary sewer with permission of the local wastewater treatment facility or otherwise collected and disposed. If discharge is to the sanitary sewer, contact the local wastewater treatment facility prior to discharge. System owners may grant blanket authorization to discharge to their systems. This must be done to ensure that the facility is able to accept the discharge. Not all facilities are able to accept such discharges. Note that additional restrictions or local guidelines may apply. If the waste is collected for disposal, it may be hauled off site for disposal at a facility that is authorized to discharge the water through an existing CDPS permit or in accordance with disposal requirements administered through the Colorado Hazardous Materials and Waste Management Division. Alternatively the water may be land applied in a way that results in complete evapotranspiration. This will likely only be an option when the quantities of water are small.

Low Risk Guidance for Discharges of Uncontaminated Groundwater to Land

Applicable to:
• The source of the discharge must solely be uncontaminated groundwater or uncontaminated groundwater combined with stormwater. To be considered uncontaminated, the source must not contain pollutants in concentrations that exceed water quality standards for the applicable receiving groundwater.
• The discharge must be to land. Point source discharges to surface waters, storm sewers, or other drainage conveyance systems are not covered by this guidance.

Conditions:
Prohibition of pollutants in the discharge:
• No chemicals may be added.
• If the discharge is from vaults or similar structures, the discharge cannot be contaminated by process materials used, stored, or conveyed in the structures, or by introduced surface water runoff from outside environments that may contain oil, grease, and corrosives.
• A visible sheen must not be evident in the source water or discharge.

Exclusion of Process Discharges:
• The groundwater shall not be used in additional processes, such as any type of washing, heat exchange, or manufacturing.

Controlling the discharge:

• The groundwater discharge cannot leave the operational control of the entity administering the land application. The owner of the property where the discharge is occurring must have prior knowledge and grant permission for the land application.

• Land application must be conducted at a rate and location that does not allow for any runoff into state waters or other drainage conveyance systems, including but not limited to streets, curb and gutter, inlets, borrow ditches, open channels etc. If the land application is to agricultural land, it must not reach or have the potential to reach an agricultural ditch. Discharges to drainage conveyance systems as described above are a discharge to surface water that require a discharge permit and are not covered under this guidance document.

• Land application must be conducted at a rate that does not allow ponding of the groundwater on the surface, unless the ponding is a result of implementing control measures that are designed to reduce flow velocity. If the control measures used result in ponding, the land application must be done in an area with a constructed containment, such as an excavation or bermed area with no designed outfall. The containment shall prevent the discharge of the ponding water offsite as runoff.

Compliance with construction stormwater discharge permits: If the discharge is located at a facility covered by a CDPS General Permit for Stormwater Discharge Associated with Construction Activities, the requirements in that permit associated with the discharge of groundwater must be complied with, including identification in the Stormwater Management Plan.

Controlling erosion: The discharge shall not cause erosion of a land surface that could cause pollution of the receiving water. Signs of visible erosion that have the potential to cause pollution without downstream controls measures implemented include the formation of rills or gullies on the land surface. Energy dissipation devices designed to protect downstream areas from erosion by reducing velocity of flow (such as hose attachments and erosion controls) may be necessary to prevent erosion.

Controlling pollutant potential of deposited sediment: Control measures shall be implemented to prevent any sediment deposited during land application from being transported by stormwater runoff to surface waters or other conveyances.

Additional Requirements and Property Rights:

• All discharges must comply with federal agencies, municipalities, counties, drainage districts, ditch owners, and other local agencies regarding any discharges to storm drain systems, conveyances, ditches or other water courses under their jurisdiction.

• This guidance in no way reduces the existing authority of the owner of a storm sewer, ditch owner, or other local agency, from prohibiting or placing additional conditions on the discharge.

• The discharge shall not result in flooding of neighboring property, streets, gutters or storm sewers. The discharge must be diverted from building foundations or other areas that may be damaged from ground settling or swelling.

Implementation of Control Measures:

Identifying potentially contaminated groundwater: It the groundwater is located within 1 mile of a landfill, abandoned landfill, mine or mine tailing area, a Leaking Underground Storage Tank (LUST), Brownfield site, or other area of contamination, there is an increased likelihood that groundwater contamination exists. In those cases additional work is appropriate to determine if your dewatering area is in an area of contamination. The following is a list of contamination and plume resources and is helpful when determining if your dewatering area is in an area of contamination, however the list is not all inclusive and in some cases site-specific characterization of groundwater may be necessary. All control measures used to meet the provisions of this guidance document must be selected, installed, implemented and maintained according to good engineering, hydrologic and pollution control practices. Control measures must be adequately designed to provide control for all potential pollutant sources associated with the discharge of uncontaminated groundwater to land. Route discharge in such a way that it will not contact petroleum products/waste, a visible sheen must not be evident in the discharge. To minimize potential for creating stormwater pollution sources, control measures (such as a filter bag or similar filtration device) should be used to remove sediment/solids prior to land application. Water that does not meet the criteria of this guidance or that cannot be discharged in a manner that meets the conditions of this guidance must be either authorized by a Colorado Discharge Permit System (CDPS) discharge permit issued by the division or disposed of through an alternative means. The Water Quality Control Division has general permits available for discharges to surface water and/or land associated with construction dewatering, subterranean structure/foundation dewatering, and the remediation of groundwater. Obtaining coverage one of these permits will likely be the most efficient solution for discharges that do not meet the criteria and conditions of this guidance. For discharges associated with construction projects, guidance on determining the appropriate permit and Application Guidance Document for these general permits, visit: https://www.colorado.gov/pacific/cdphe/wq-construction-general-permits. Discharges from subterranean structures (basement, foundation, footer drains, etc.) are covered by the Subterranean Dewatering or Well Development general permit. Visit: https://www.colorado.gov/pacific/cdphe/clean-water-commerce-and-industry-permitting

APPENDIX 13: Erosion and Sediment Control Standard Notes

Adams County Erosion Control Plan - 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 example 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 Urban Drainage Flood Control Criteria Manual Volume 3, or the Colorado Department of Transportation (CDOT) Item Code 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.**

1) 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.
2) 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 **updated** at all times. The **Qualified Stormwater Manager** is responsible for implementing the SWMP and CMs (aka BMPs) during construction.
3) 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 also for **Stormwater Inspections at Completed Sites waiting for final stabilization.** Inspection reports must identify any incidents of non-compliance.
4) **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 thru a CM towards the private site.
5) **Truck loads** 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.

6) 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.
7) Temporary **CMs/BMPs shall be removed** after the site has reached final stabilization.
8) **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.
9) 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.
10) 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.

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 particular 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 fairly 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 use 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 be not be located 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 trailer, 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 www.cdphe.state.co.us/emp/spillsandreleased.htm. State of Colorado Spill-line: 1-877-518-5608. Adams County Stormwater Hotline: 720-523-6400; Public Works 303-453-8787 and the Tri-County Health Department at 303-220-9200.

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 ⅔ 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.

These notes are not intended to be all-inclusive, but to highlight the basic stormwater pollution prevention requirements for construction activities to **comply** with CDPS Stormwater Construction Permit and be in **conformance** with County standards.