CITY OF GREELEY

INVITATION FOR BID

POUDRE RIVER RANCH - RIVER RUN POND OUTFALL IMPROVEMENTS - BID

BID #F25-04-028

DUE MAY 22, 2025, BEFORE 12:30 P.M.

Serving Our
Community
It's A Tradition

The Office of Purchasing is a service division established to build effective partnerships through efficient and responsive procurement processes to obtain high quality goods and services for the best value.

Virtual Bid Opening Meeting

Tuesday, May 20, 2025, at 1:30 PM (MST)

F25-04-028 POUDRE RIVER RANCH - RIVER RUN POND OUTFALL IMPROVEMENTS- BID

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 295 546 908 66
Passcode: XX6Lj24Y

Dial in by phone
+1 347-966-8471,,514239727# **United States, New York City**
Find a local number
Phone conference ID: 514 239 727#
For organizers: Meeting options | Reset dial-in PIN

SECTION 00110

BID #F25-04-028

INVITATION FOR BID

The City of Greeley, Colorado is requesting **sealed** bids for **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMRPOVEMENTS -BID before May 20, 2025, 12:30 p.m. (MST)** emailed to purchasing@greeleygov.com. No late or faxed bids will be accepted. It is the responsibility of the vendor to ensure the solicitation documents are delivered to the correct address as noted in the solicitation Documents. Solicitations delivered to other City of Greeley email addresses may be deemed as late and not accepted.

The City of Greeley disseminates all bids and requests for proposals through the Rocky Mountain E-Purchasing System site. Go to https://www.bidnetdirect.com, then "Bid Opportunities" and then select "The City of Greeley". **Bids submitted to the City of Greeley must include Sections 00120, 00130, 00140 and 00160. Addenda must be acknowledged in Section 00120 of the bidding documents. Bidders failing to acknowledge any and all addenda may be considered non-responsive.**

There is no DBE Goal established for this project.

Each bid shall be accompanied, by a certified check drawn on a bank which is insured by the Federal Deposit Insurance corporation or a bidder's bond executed by a surety company authorized to do business in Colorado, made payable to the City of Greeley, Colorado, in an amount not less than five percent (5%) of the proposal sum as security that the successful bidder will enter into a contract to construct this project in accordance with the plans and specifications, and give bonds in the sum as hereafter provided. Checks accompanying bids not accepted will be returned.

The successful responsive and responsible bidder will be required to furnish a satisfactory performance bond and payment bond in the amount of the contract sum.

No bid shall be withdrawn after the opening on the bids without the consent of the City of Greeley, Colorado, for a period of sixty (60) days after the scheduled time of the receiving the bids.

Bid acceptance and bid evaluation. Bids shall be evaluated based on the requirements set forth in the invitation for bids, which may include criteria to determine acceptability such as qualifications, past experience, inspection, testing, quality, workmanship, delivery and suitability for a particular purpose. Those criteria that will affect the bid price and be considered in evaluation for award shall be objectively measurable, such as discounts, transportation costs and total or life cycle costs. The invitation for bids shall set forth the evaluation criteria to be used. No criteria may be used in bid evaluation that are not set forth in the invitation for bids.

The City of Greeley retains the right to reject any and all bids and to waive any informality as deemed in the best interest of the city.

Questions pertaining to the project may be directed to purchasing@greeleygov.com before May 1, 2025, by 1:00 PM (MST).

Schedule of Events (subject to change)	All times are given in MST
Bid Proposal Issued	4/16/2025
Pre-Bid Conference include date/time and location (optional)	4/24/2025 at 1:30 p.m. via Microsoft Teams Meeting
Inquiry Deadline	5/1/2025 – by 1:00 p.m. MST via email to purchasing@greeleygov.com
Final Addendum Issued	5/8/2025
Bid Due Date and Time	5/20/2025 – By 12:30 p.m. MST via email to purchasing@greeleygov.com
Interviews	N/A
Notice of Award (tentative)	5/27/2025
Notice to Proceed (tentative)	6/9/2025

Invitation for you to attend a Pre-Bid conference via Microsoft Teams, Thursday, April 24, 2025, at 1:30 PM (MST)

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 290 729 039 745
Passcode: JD7hq9xL

Dial in by phone
+1 347-966-8471,,28753844# United States, New York City
Find a local number
Phone conference ID: 287 538 44#
For organizers: Meeting options | Reset dial-in PIN

City of Greeley, Colorado
Purchasing Division

Section 00120

BID PROPOSAL

PROJECT: POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028

The Undersigned, having become familiar with the local conditions affecting the cost of the work, plans, drawings, and specifications attached herewith, and with advertisement for bids, the form of bid and proposal, form of bond, all of which are issued and attached and on file in the office of the Project Manager, hereby bid and propose to furnish all the labor, materials, necessary tools, and equipment and all utility and transportation service necessary to perform and complete in a workmanlike manner all of the work required in connection with the construction of the items listed on the bidding schedule in accordance with the plans and specifications as prepared by the City of Greeley, Colorado, for the sums set forth in the Bidding Schedule.

The total bid shall be the basis for establishing the amount of the Performance and Payment Bond for this project. The total bid is based on the quantities shown in the bid proposal form and the dimensions shown on the plans.

This Contract work includes a base bid and a bid alternate for concrete pavement. Contractor to complete the base bid form and the alternate bid form for concrete pavement as shown in the alternate bid plan set. Owner will determine if the contract proceeds with the base bid or bid alternate.

The undersigned has carefully checked the Bidding Schedule quantities against the plans and specifications before preparing this proposal and accepts the said quantities as substantially correct, both as to classification and the amounts, and as correctly listing the complete work to be done in accordance with the plans and specifications.

The undersigned, agrees to complete and file a Performance and Payment Bond within seven (7) calendar days of Section 00210: Notice of Award and further agrees to complete the contract within the dates as described in the Specifications Section 00620 Special Provisions. Official notice to proceed will not be issued until adequate Performance and Payment Bonds and other required documents are on file with the City of Greeley.

NOTE: Bidders should not add any conditions or qualifying statements to this bid as otherwise the bid may be declared irregular as being non responsive to the Invitation for bids. The following numbered Addenda have been received and the bid, as submitted, reflects any changes resulting from those Addenda: _____

_____ _____

ATTEST DATE

_____

COMPANY NAME

_____

BY

Poudre River Ranch River Run Pond Outfall Improvements Project

Failure to submit the following documentation will result in disqualification of the bidder's submission:

System for Award Management (SAM) Registration: Potential vendors are required to register on the SAM website (https://sam.gov/content/home). The Contractor will provide documentation that they are registered and in good standing with the SAM. Only receiving a Unique Entity ID (UEI) is not sufficient. Your Entity must be registered. Verification is required to be submitted with the bid.

Prime Contractor Participation: Perform at least 48 percent of the original contract amount with the Contractor's own organization. The Contractor's own organization is defined as workers the Contractor employs and pays directly as well as equipment the Contractor owns or rents, either with or without operators. Submit documentation accordingly to indicate what work the Contractor's own organization is performing and the dollar value of that work. Use the following calculation and this shall be submitted with the bid:

Contractor's share = P / C

P = Work the prime Contractor performs. The prime may include materials the prime purchases and installs or that the prime purchases, but others install. Do not include equipment and associated operators the prime leases to others performing work.

C = Total contract amount.

EVALUATION CRITERIA – Bidders will be evaluated by the City of Greeley (City) based on the following criteria:

Price (65 points) – **A completed pdf version of the Bid Schedule - Section 00130 is required to be submitted with the bid.**

Schedule (25 points) – **A schedule shall be provided with the bid** showing an estimated start date and completion date based on the anticipated Notice to Proceed date listed at the front of the bid package. Project schedules shall be constructed in a Gantt chart format with PDF and tabular outputs (i.e. xlsx, csv, txt, etc.). The tasks shall be linked to show the work breakdown structure and associated relationships.

Related Experience (10 points) – **All bidders shall furnish with their bid a list of 3 similar projects**. All projects shall have been completed in the last 3 years with references for each. The list shall include project title, project discipline, contractor, description, completion date, duration, location and reference phone number.

Criteria	**Point Value**
Price	65
Schedule	25
Similar experience with size and scope of work	10
Total Points	**100**

BID SCHEDULE
POUDRE RIVER RANCH, RIVER RUN POND OUTFALL
IMPROVEMENTS SECTION 00130

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	UNIT COST	QUANTITY	TOTAL COST
1	Clearing and Grubbing	LS		1	$0.00
2	Removal of Concrete Box Culvert	LF		10	$0.00
3	Removal of Sidewalk	SY		12	$0.00
4	Remove/Reset Split-rail Fence	LF		40	$0.00
5	Unclassified Excavation (CIP)	CY		261	$0.00
6	Install Slide Gate (Waterman Valve A-250 Series)	EA		2	$0.00
7	Install Debris Grate / Screen / Trash Rack	EA		2	$0.00
8	Concrete Pavement (Match Thickness of Adjacent Paving)	SY		54	$0.00
9	Void-filled Riprap (12-Inch / Type M)	CY		22	$0.00
10	24-Inch Reinforced Concrete Pipe	LF		32	$0.00
11	24-Inch Reinforced Concrete End Section w/ Toe Wall	EA		1	$0.00
12	24" Backflow Preventer (Tideflex Checkmate Inline Check Valve)	EA		1	$0.00
13	Diversion Structure (Cast-in-Place)	LS		1	$0.00
14	24" Slide Gate (Fresno Series 6400 Model 20-10C)	EA		1	$0.00
15	Grated Manway Access (Neenah R-2565-E)	EA		1	$0.00
16	Heavy Duty Hinge (Shut It Brand, Model CI3720)	EA		12	$0.00
17	Construction Fence	LF		1296	$0.00
18	Construction Surveying	LS		1	$0.00
19	Mobilization	LS		1	$0.00
20	Traffic Control / Trail Closure Signage	LS		1	$0.00
21	Erosion Control	LS		1	$0.00
	Total				**$0.00**

Section 00130

BID SCHEDULE

(Incorporated by Reference)

PRR River Run Pond Outfall Improvements Bid Schedule.xlsx

COOPERATIVE PURCHASING STATEMENT

The City of Greeley encourages and participates in cooperative purchasing endeavors undertaken by or on behalf of other governmental jurisdictions. To the extent, other governmental jurisdictions are legally able to participate in cooperative purchasing endeavors; the City of Greeley supports such cooperative activities. Further, it is a specific requirement of this proposal or Request for Proposal that pricing offered herein to the City of Greeley may be offered by the vendor to any other governmental jurisdiction purchasing the same products. The vendor(s) must deal directly with any governmental agency concerning the placement of purchase orders, contractual disputes, invoicing, and payment. The City of Greeley shall not be liable for any costs or damages incurred by any other entity.

BID ACKNOWLEDGEMENT

The offeror hereby acknowledges receipt of addenda numbers _____ through _____.

Falsifying this information is cause to deem your proposal nonresponsive and therefore ineligible for consideration. In addition, falsification of this information is cause to cancel a contract awarded based on one or both of the above preferences.

By signing below, you agree to all terms & conditions in this Invitation for Bid.

_____
Original Signature by
Authorized Officer/Agent

_____ _____
Type or printed name of person signing Company Name

_____ _____
Title Phone Number

_____ _____
Vendor Mailing Address Email Address

_____ _____
City, State, Zip Proposal Valid Until (at least for 90 days)

_____
Website Address

Project Manager:

_____ _____
Name (Printed) Phone Number

_____ _____
Vendor Mailing Address Email Address

_____
City, State, Zip

SECTION 00140

BID BOND

KNOW ALL MEN BY THESE PRESENT, that we, the undersigned _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the City of Greeley, Colorado, as Owner, in the penal sum of _____ for the Payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the City of Greeley, Colorado, the accompanying bid and hereby made a part hereof to enter into a Contract Agreement for the construction of City of Greeley Project,

POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS BID – #F25-04-028

WHEREAS, the Owner, as condition for receiving said bid, requires that the Principal to deposit with the Owner as Bid Guaranty equal to five percent (5%) of the amount of said bid.

NOW, THEREFORE,

(a) If said bid shall be rejected; or in the alternate,

(b) If said bid shall be accepted and the Principal shall execute and deliver a Contract Agreement (properly completed in accordance with said bid) and shall furnish a Performance and Payment Bond upon the forms prescribed by the Owner for the faithful performance of said Agreement; and shall in all other respects perform the agreement created by the acceptance of said bid; then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals this _____ day of _____, 20_____, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL	SURETY
Name: _____	_____
Address: _____	_____
By: _____	_____
Title: _____	Attorney-In-Fact: _____
(Seal)	(Seal)

NOTE: Surety Companies executing bonds must be authorized to transact business in the State of Colorado and be accepted to the Owner.

SECTION 00160

NOTICE OF PRE-BID CONFERENCE

PROJECT: POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028

A pre-bid conference will be held:

On 4/24/2025, at 1:30 p.m., via Microsoft Teams Meeting. All bidders are encouraged to attend.

Join Teams Meeting

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 290 729 039 745
Passcode: JD7hq9xL

Dial in by phone
+1 347-966-8471,,28753844# United States, New York City
Find a local number
Phone conference ID: 287 538 44#
For organizers: Meeting options | Reset dial-in PIN

City of Greeley staff will be present to answer questions.

Each bidder shall submit the following declaration of attendance, along with the other bid documents.

****

I have attended the pre-bid conference _____

I have not attended the pre-bid conference _____

_____
Name of Contracting Organization

_____
Authorized Signature Date

SECTION 00210

NOTICE OF AWARD

DATE:

TO:

Re: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS BID – #F25-04-028**

Dear Contractor:

The City of Greeley, Colorado (hereinafter called "the Owner") has considered the bids submitted for referenced work in response to its Invitation for Bids. You are hereby notified that your bid has been accepted for items and prices stated in the Bid Schedule in the amount of $_____. You are required to execute the Contract Agreement, provide the necessary insurance certificates, the Performance and Payment Bonds within ten (10) days from the date of this Notice. If you fail to execute said Contract Agreement and furnish the necessary insurance certificates and bonds within the time allotted from this date, the Owner will be entitled to consider your rights arising out of the Owner's acceptance of your bid as abandoned and to demand payment of bid guaranty as damages. The Owner will be entitled to such other rights as may be granted by law. You are required to return an acknowledged copy of this Notice of Award and enclosures to Purchasing.

CITY OF GREELEY, COLORADO

By: Paul Trombino III, P.E.*

Title: Managing Director, City of Greeley

ACKNOWLEDGMENT: Receipt of the foregoing Notice of Award accompanied with a Performance and Payment Bond form and a signed copy of the Contract Document is hereby acknowledged this _____ day of _____, 20_____.

Bidder: _____

By: _____

SECTION 00310
CONTRACT

THIS AGREEMENT made and entered into this _____ day of _____, 20__, by and between the City of Greeley, Colorado, and under the laws of the state of Colorado, party of the first part, termed in the Contract Documents as the "Owner" and _____ party of the second part, termed in the Contract Documents as "Contractor."

WITNESSETH: In consideration of monetary compensation to be paid by the Owner to the Contractor at the time and in the manner hereinafter provided, the said Contractor has agreed, and does hereby agree, to furnish all labor, tools, equipment and material and to pay for all such items and to construct in every detail, to wit:

PROJECT: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS BID – #F25-04-028**

at the price bid on the Proposal Form of $ _____ all to the satisfaction and under the general supervision of the Project Manager for the City of Greeley, Colorado.

The Contract Documents consist of this Agreement, the Conditions of the Contract (General, Supplementary and other Conditions), the Drawings, the Specifications, all Addenda issued prior to and all Modifications issued after execution of this Agreement. These form the Contract, and all are as fully a part of the Contract as if attached to this Agreement or repeated herein.

The Project Manager named herein shall interpret and construe the Contract Documents, reconciling any apparent or alleged conflicts and inconsistencies therein; and all of the work and all details thereof shall be subject to the approval and determination of the Project Manager as to whether or not the work is in accordance with Contract Documents. Said City Project Manager shall be the final arbiter and shall determine any and all questions that may arise concerning the Contract Documents, the performance of the work, the workmanship, quality of materials and the acceptability of the completed project. The decision of the Project Manager on all questions shall be final, conclusive and binding.

AND FOR SAID CONSIDERATION IT IS FURTHER PARTICULARLY AGREED BETWEEN THE
PARTIES TO THIS AGREEMENT.

1. That construction and installation of the above enumerated work for the Owner shall be completed and ready for use in accordance with the time of completion described in the Bid form of this Contract. That the above enumerated work shall begin within ten (10) days of the official "Notice to Proceed". (Contract shall become void if work is not started at specified time.)

2. That said work and materials for the project covered by the Contract Documents shall be completely installed and delivered to the Owner, within the time above stated, clear and free from any and all liens, claims, and demands of any kind.

3. The full compensation to be paid the Contractor by the Owner pursuant to the terms of this Contract shall be payable as provided in the Contract Documents.

4. This Contract consists of the following component parts, all of which are as fully a part of the Contract as herein set out verbatim, or if not attached, as if hereto attached:

Section 00110: Invitation for Bid
Section 00120: Bid Proposal
Section 00130: Bid Schedule
Section 00140: Bid Bond
Section 00160: Pre-bid meeting
Section 00210: Notice of Award
Section 00310: Contract
Section 00320: Performance Bond
Section 00330: Payment Bond
Section 00340: Certificate of Insurance
Section 00350: Lien Waiver Release
Section 00360: Debarment/Suspension Certification Statement
Section 00410: Notice to Proceed
Section 00420: Project Manager Notification
Section 00430: Certificate of Substantial Completion
Section 00440: Final Completion
Section 00510: General Conditions of the Contract
Section 00520: Subcontractors List
Section 00620: Special Provisions

Addenda Number _____ Inclusive

Any modifications, including change orders, duly delivered after execution of this Agreement.

IN WITNESS WHEREOF, the parties have caused this instrument to be executed as of the day and year first above written.

EXECUTED:

The City of Greeley

Approved as to Substance

Signed: _____

Name: _____

Title: _____

Date: _____

CONTRACTOR:

Signed: _____

Name: _____

Title: _____

Date: _____

ENDORSED:

The City of Greeley

Approved as to Legal Form

Signed: _____

Name: _____

Title: _____

Date: _____

ENDORSED:

The City of Greeley

Certification of Contract Funds Availability

Signed: _____

Name: _____

Title: _____

Date: _____

SECTION 00320
PERFORMANCE BOND

Bond No._____

KNOWN ALL MEN BY THESE PRESENTS: that

(Firm) _____
(Address) _____

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm) _____
(Address) _____

hereinafter referred to as "the Surety", are held and firmly bound unto the CITY OF GREELEY, 1000 10th Street, Greeley, Colorado 80631, a Municipal Corporation, hereinafter referred to as "the Owner" in the penal sum of _____ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these present.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Contract Agreement with the Owner, dated the _____ day of _____, 20_____, a copy of which is hereto attached and made a part hereof for the performance of City of Greeley Project,

POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS BID – #F25-04-028

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract Agreement during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without Notice to the Surety and during the life of the guaranty period, and if he shall satisfy all claims and demands incurred under such Contract Agreement, and shall fully indemnify and save harmless the Owner from all cost and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument is executed this _____ day of _____, 20____.

PROVIDED, FURTHER, that no final settlement between the Owner and Contractor shall abridge the right of any beneficiary hereunder, whose claims may be unsatisfied.

IN PRESENCE OF:

_____

_____

_____
(Corporate Seal)

PRINCIPAL

By: _____

_____

_____
(Address)

IN PRESENCE OF:

_____

_____

OTHER PARTNERS

By: _____

By: _____

By: _____

IN PRESENCE OF:

_____
(Attorney-in-Fact)

_____

_____
(SURETY SEAL)

SURETY

By: _____

_____

_____
(Address)

NOTE: Date of Bond must not be prior to date of Contract Agreement. If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the Owner.

SECTION 00330

PAYMENT BOND

Bond No._____

KNOWN ALL MEN BY THESE PRESENT: that
(Firm) _____
(Address)_____
(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and
(Firm) _____
(Address)_____

hereinafter referred to as "the Surety", are held and firmly bound unto the CITY OF GREELEY,
1000 10th Street, Greeley, Colorado 80631, a Municipal Corporation, hereinafter referred to as "the Owner", in the penal sum of
_____
_ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Contract Agreement with the Owner, dated the _____ day of _____, 20_____, a copy of which is hereto attached and made a part hereof for the performance of

POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS
BID – #F25-04-028

NOW, THEREFORE, if the Principal shall make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract Agreement, and any equipment and tools, consumed, rented or used in connection with the construction of such work and all insurance premiums on said work,
and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument is executed this _____ day of _____, 20____.

PROVIDED, FURTHER, that no final settlement between the Owner and Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN PRESENCE OF: PRINCIPAL

_____ By: _____

_____ _____

_____ _____

(Corporate Seal) (Address)

IN PRESENCE OF: OTHER PARTNERS

_____ By: _____

_____ By: _____

By: _____

IN PRESENCE OF: SURETY

_____ By: _____

(Attorney-in-Fact)

_____ _____

_____ _____

(SURETY SEAL) (Address)

NOTE: Date of bond must not be prior to date of Contract Agreement. If Contractor is Partnership, all partners should execute Bond.

IMPORTANT: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the Owner.

Client#: 12170 GRECI

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 05/14/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
ABC Insurance Company P. O. Box 1234 Anywhere, USA	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	PRODUCER CUSTOMER ID #:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Sample Certificate	INSURER A : Financial Rating of A	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY	Y					EACH OCCURRENCE	$1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$100,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$1,000,000
							GENERAL AGGREGATE	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$2,000,000
	POLICY PRO-JECT LOC							$
	AUTOMOBILE LIABILITY	Y					COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS						BODILY INJURY (Per accident)	$
	SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident)	$
	X HIRED AUTOS							$
	X NON-OWNED AUTOS							$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DEDUCTIBLE							$
	RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y				X WC STATU-TORY LIMITS OTH-ER	
							E.L. EACH ACCIDENT	$100,000
							E.L. DISEASE - EA EMPLOYEE	$100,000
							E.L. DISEASE - POLICY LIMIT	$500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

City of Greeley is named as Additional Insured on General Liability and Automobile Liability. Waiver of subrogation is included on Workers Compensation. This insurance is primary and noncontributory to insurance policies held by the City.

CERTIFICATE HOLDER

City of Greeley
1000 10th St
Greeley, CO 80631-3808

CANCELLATION

No material change or cancellation of this policy shall be effective without thirty (30) days prior written notice to the City of Greeley.

AUTHORIZED REPRESENTATIVE

SECTION 00350

LIEN WAIVER RELEASE

TO: City of Greeley, Colorado (hereinafter referred to as "the OWNER".)

FROM: (hereinafter referred to as "the CONTRACTOR")

PROJECT: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028**

1. The CONTRACTOR does hereby release all Mechanic's Liens Rights, Miller Act Claim (40 USCA 270), Stop Notice, Equitable Liens and Labor and Material Bond Rights resulting from labor and/or materials, subcontract work, equipment or other work, rents, services or supplies heretofore furnished in and for the construction, design, improvement, alteration, additions to or repair of the above described project.

2. This release is given for and in consideration of the sum of $ and other good and valuable consideration. If no dollar consideration is herein recited, it is acknowledged that other adequate consideration has been received by the CONTRACTOR for this release.

3. In further consideration of the payment made or to be made as above set forth, and to induce the OWNER to make said payment, the CONTRACTOR agrees to defend and hold harmless the OWNER, employees, agents and assigns from any claim or claims hereinafter made by the CONTRACTOR and/or its material suppliers, subcontractors or employees, servants, agents or assigns of such persons against the project. The CONTRACTOR agrees to indemnify or reimburse all persons so relying upon this release for any and all sums, including attorney's fees and costs, which may be incurred as the result of any such claims.

4. It is acknowledged that the designation of the above project constitutes an adequate description of the property and improvements for which the CONTRACTOR has received consideration for this release.

5. It is further warranted and represented that all such claims against the CONTRACTOR or the CONTRACTOR's subcontractors and/or material suppliers have been paid or that arrangements, satisfactory to the OWNER and CONTRACTOR, have been made for such payments.

6. It is acknowledged that this release is for the benefit of and may be relied upon by the OWNER, the CONTRACTOR, and construction lender and the principal and surety on any labor and material bond for the project.

7. In addition to the foregoing, this instrument shall constitute a *** (full, final and complete) ***(partial) release of all rights, claims and demands of the CONTRACTOR against the OWNER arising out of or pertaining to the above referenced project. If partial, all rights and claims on the project are released up to and including the day of Month, 20 .

Dated this _____ day of _____, 20____.

CONTRACTOR

By: _____

Title: _____

STATE OF_____)
)ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____day of _____,

20___ by _____.

My Commission expires:

_____
Notary Public

***Strike when not applicable

SECTION 00360

POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS
BID – #F25-04-028

Debarment/Suspension Certification Statement

The proposer certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal, State, County, Municipal or any other department or agency thereof. The proposer certifies that it will provide immediate written notice to the City if at any time the proposer learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstance.

UEI # (Optional) _____

Name of Organization_____

Address_____

Authorized Signature_____

Title_____

Date_____

SECTION 00410
NOTICE TO PROCEED

Month , 20

TO: NAME

PROJECT: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028**

To Whom It May Concern:

You are hereby notified to commence work on the above-referenced project in accordance with the Contract Agreement dated Month , 20 .

You are to complete this project by Month , 20

CITY OF GREELEY, COLORADO

By: _____

Title: _____

_____
Signature

SECTION 00420

PROJECT MANAGER NOTIFICATION

_____, 20_____

TO:

PROJECT: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028**

The Owner hereby designates Roch Labossiere as its Project Manager and authorizes this individual, under the authority of the Director of Public Works & Transportation Department to make all necessary and proper decisions with reference to the project. Contract interpretations, change orders and other requests for clarification or instruction shall be directed to the Project Manager. The Director of Public Works shall be authorized to bind the Owner with respect to any decision made in accordance with the contract document.

CITY OF GREELEY, COLORADO

By: _____

Title: _____

SECTION 00430

CERTIFICATE OF SUBSTANTIAL COMPLETION

TO: **CONTRACTOR**

PROJECT: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028**
Project or designated portion shall include:

The work performed under this contract has been reviewed and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby established as "Month, __, 2024".

The date of commencement of applicable warranties required by the Contract Documents is stipulated in Section 00440 - Certificate of Final Acceptance.

DEFINITION OF DATE OF SUBSTANTIAL COMPLETION

The Date of Substantial Completion of the Work or designated portion thereof is the date certified by the Project Manager when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

A list of items to be completed or corrected, prepared by the Contractor and verified and amended by the Project Manager is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The date of commencement of warranties for items on the attached list is as stipulated in Section 00440 – Certificate of Final Acceptance.

The Owner shall operate and maintain the Work or portion of the Work described above from the Date of Substantial Completion and be responsible for all costs associated with the completed work excluding cost related to warrantee work.

The Contractor will complete or correct the Work on the Punch List of items attached hereto within the specified scheduled completion dates.

_____
Contractor

_____
Owner
(Note--Owner's and Contractor's legal and insurance counsel should review and determine insurance requirements and coverage; Contractor shall secure consent of surety company, if any.)

SECTION 00440

CERTIFICATE OF FINAL ACCEPTANCE

TO: **CONTRACTOR**

PROJECT NAME: **POUDRE RIVER RANCH, RIVER RUN POND OUTFALL IMPROVEMENTS – BID – #F25-04-028**

The work performed under this contract has been reviewed and found to meet the definition of final acceptance. This Certificate of Final Acceptance applies to the whole of the work.

The Date of Final Acceptance of the Project designated above is hereby established as: Month , 2024 at pm. This date is also the date of commencement of applicable warranties associated with the Project described above and as required by the Contract Documents.

DEFINITION OF DATE OF FINAL ACCEPTANCE

The Date of Final Acceptance of the Work is the date certified by the City of Greeley's Project Manager when the work is 100% complete, in accordance with the Contract Documents, as amended by change order(s), or as amended below:

Amendment to the Certificate of Final Completion (if any):

The Contractor and/or the City Of Greeley shall define any claims or requests for additional
compensation above (or as attachments to this document).

Final Acceptance shall not be achieved until the Contractor provides the City Of Greeley with all contract specified Contractor and Sub-contractor close out documents including final lien waivers, releases, insurances, manuals, training, test results, warranties, and other documents
required by the Contract Documents, as amended.

Upon issuance of the Certificate of Final Acceptance the Contractor may submit an application for payment requesting final payment for the entire Work. Liquidated damages (if any) will be assessed at this time.

Contractor's acceptance of the final payment shall constitute a waiver by the Contractor of all claims arising out of or relating to the Work; except as noted under 'Amendment to the Certificate of Final Acceptance' above.

Agreed:

_____	_____2025	_____	_____2025
Contractor's Representative	DATE	Project Manager (COG)	DATE

SECTION 00510

CITY OF GREELEY
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION
(Enter Reference)

Please click the link below to access Section 00510

SECTION 00510 General Conditions.pdf

SECTION 00520

SUBCONTRACTORS/MATERIALS SUPPLIERS AND RELATED DATA

Firm Name:_____City Contractors License #_____
Primary Contractor_____
PROJECT:_____Address:_____
_____

(For each Subcontractor and/or Materials Suppliers to be utilized, please provide the following information (use additional sheets as necessary)

Phone Number:_____Fax Number:_____
Proposed work and percentage of total work be assigned_____
_____Percentage:_____%

Firm Name:_____City Contractors License #_____
Address:_____ Phone
Number:_____Fax Number:_____
Proposed work and percentage of total work be assigned_____
_____Percentage:_____%

Firm Name:_____City Contractors License #_____
Address:_____ Phone
Number:_____Fax Number:_____
Proposed work and percentage of total work be assigned_____
_____Percentage:_____%

Firm Name:_____City Contractors License #_____
Address:_____ Phone
Number:_____Fax Number:_____
Proposed work and percentage of total work be assigned_____
_____Percentage:_____%

Firm Name:_____City Contractors License #_____
Address:_____ Phone
Number:_____Fax Number:_____
Proposed work and percentage of total work be assigned_____
_____Percentage:_____%

If the Primary Contractor adds any Subcontractors or Materials Suppliers during the duration of the project, the Primary Contractor will supply the City with an updated form before the Subcontractor or Materials Supplier will be allowed to work on the project.

Substantial Completion Punchlist Items

DR 160 (9/87)
DEPARTMENT OF REVENUE
1375 SHERMAN STREET
DENVER, COLORADO 80261

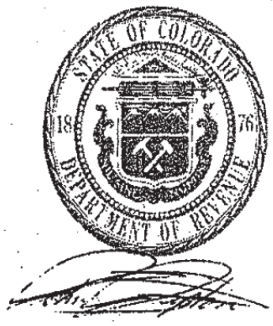
THIS LICENSE IS NOT TRANSFERABLE

State of Colorado

CERTIFICATE OF EXEMPTION FOR SALES AND USE TAX ONLY

GREELEY CITY OF
1000 10TH ST
GREELEY CO 80631-3982

ACCOUNT NUMBER	LIABILITY INFORMATION	ISSUE DATE
98-03320	03 057 8600 9 120180	SEP 02 1988
1000 10TH ST	GREELEY CO	



Executive Director
Department of Revenue

CONTRACT DOCUMENTS

POUDRE RIVER RANCH

RIVER RUN POND OUTFALL IMPROVEMENTS

FOR THE

CITY OF GREELEY, COLORADO

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS

PROJECT DESCRIPTION

The City of Greeley will construct improvements to the detention pond located north of River Run Drive and east of N 83rd Avenue (County Road 27). The pond is adjacent to the northern boundary of Outlot A as indicated on the Plat for River Run at Poudre River Ranch Filing 2. The construction will include improvements to the existing outlet structures within the pond, sidewalk widening for better maintenance access, and construction of a concrete bypass structure with gated outfall to the Poudre River. A portion of the work will be done within Outlot B as shown on the River Run at Poudre River Ranch First Filing, First Replat, which is a Drainage Easement and owned by the River Run Homeowners Association. The existing detention pond and outlet structures are located on property owned by the City of Greeley. The City will coordinate with the Homeowners Association regarding construction, schedule, and access.

Work will include, but is not limited to:

- Coordination with utilities.
- Construction surveying and required record drawing surveying.
- Clearing and grubbing.
- Removal and replacement of existing sidewalk and fencing.
- Erosion and sediment control.
- Construction traffic control measures including road, sidewalk and recreational trail closures and detours. Access to all properties along the project is required to be maintained at all times.
- Earthwork excavation and embankment, including installation of an outfall to the Poudre River that will require dewatering/cofferdam.
- Installation of concrete to widen existing sidewalk, including sub-grade preparation.
- Stormwater infrastructure installation, including piping, diversion structure, gates, grates and outfall as indicated on the project drawings and specifications.
- Connection to existing stormwater box culvert, including removal of a portion of the culvert for installation of the new diversion structure.
- Pond outlet structure modifications.
- Other miscellaneous work shown on the Drawings and specified herein.

SCHEDULE

Project is to be substantially complete 30 days from Notice to Proceed.

SITE VISIT

Each bidder shall be responsible for visiting the site/sites and fully acquaint himself/herself with the existing conditions relating to the construction of improvements and inform himself/herself as to the facilities involved, the difficulties and the restrictions attending the performance of the contract.

GOVERNING SPECIFICATIONS

This project shall be constructed in accordance with these Special Provisions and to the latest edition of the following standard specifications:

- City of Greeley General Conditions to the Construction Contract (“General Conditions”)

- City of Greeley Design Criteria and Construction Specifications Manual (DCCSM)– Volume I (Streets), Volume II (Storm Drainage), and Volume III (Potable Water Distribution, Sanitary Sewer Collection, and Non-Potable Irrigation Systems)
- MGPEC Pavement Design Standards and Construction Specifications (MGPEC)
- Manual of Uniform Traffic Control Devices (MUTCD)
- The Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction, the CDOT M & S Standards, CDOT Construction Manual and CDOT Materials Manuals, latest editions.

In case of conflict, documents shall have the following priorities: (1) Special Provisions, (2) General Conditions, (3) Plans, (4) City of Greeley Design and Construction Specifications Volumes I-III, (5) CDOT Standard Special Provisions, (6) CDOT Standard Specifications (2017).

LICENSE, FEES, AND PERMITS

Conform to GC Section 00510 Article 16. Conform to "Streets Volume I" Section 01010. A pre-construction conference shall be held prior to the issuance of any permits for construction.

The Contractor will be required to obtain dewatering and storm water discharge permits from State of Colorado, Department of Public Health & Environment, Water Quality Control Division.

City permit fees will be waived. A permit from Public Works is required for work in right-of-way. Permits from Building Inspection are required for electrical, plumbing and landscaping work.

Contractor is responsible for obtaining all necessary permits required to complete the Work in accordance with federal, state, and local regulations. Contractor is responsible for compliance with all permits. Contractor to provide copies of necessary permits to the City prior to construction. The City of Greeley has procured a Floodplain Development Permit, as well as a 404 Permit for the work in the South Platte River, and the contractor must adhere to these permit conditions.

PRE-CONSTRUCTION MEETING

After the Contract Notice of Award, the Contractor shall attend a pre-construction conference with the City prior to commencement of construction. Refer to General Conditions for Pre-construction conference requirements of the Contractor. The Contractor shall submit the following information at the preconstruction meeting:

- Storm Water Management Plan
- Traffic Control Plan
- Concrete Mix Designs
- Materials Source Submittals
- Materials Suppliers List
- List of Subcontractors
- Insurance Certificates
- Bar graph construction progress schedule in accordance with General Conditions Article 21

SUBMITTALS - CONSTRUCTION MATERIALS

Contractor shall submit manufacturers' information and materials specifications, testing results, and certifications that the materials proposed for this project meet the specification requirements outlined in the Standard Specifications and these Supplemental Specifications. Refer to individual sections within the Standard Specifications and Supplemental Specifications for specific material submittal requirements.

CONTRACTOR USE OF SITE - PROTECTION OF THE PUBLIC

The Contractor shall, at all times, conduct his or her work as to ensure the least possible inconvenience to the general public and adjacent property owners to the project site, and to ensure safety of persons and property. Fire hydrants on or adjacent to the Work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of access roads / driveways to adjacent properties. The Contractor shall be responsible for providing fencing, barricades and any necessary safety equipment to keep the site and the public safe at all times. Contractor shall keep work and equipment within the limits of disturbed area at all times.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

EQUIPMENT STAGING/PARKING

The Contractor may use the City of Greeley Right of Way for Construction Staging as shown on the Erosion Control Plan. The Contractor is responsible for obtaining permission from adjoining property owners for any other equipment staging and storage areas.

The Contractor will be responsible for the security of the sites, including tools and equipment. Clean-up and restoration of the sites will also be the responsibility of the Contractor. These areas shall be restored to the City's satisfaction.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

CONTRACT TIME, LIQUIDATED DAMAGES

The Contract Time for completing the contract work is ***30 calendar days.*** Contract time commences on the date of the Notice to Proceed. Where a number of days is specified in this Contract it shall mean "Calendar Days" unless otherwise specified according to Article 59 of the General Provisions. There shall not be any "free time". The City intends to issue the Notice to Proceed as indicated within the Schedule of Events noted of the Invitation to Bid (Section 00110).

The project, or defined project phase shall be considered substantially complete when, as determined by the Engineer, the Contractor has completed his or her work. The liquidated damages for project delays of substantial completion will be in the amount of $1,000.00 for each calendar day. Liquidated damages are based on additional costs to the City of Greeley for delay of project, or defined project phase completion and are not a "late penalty".

Listed below are the anticipated numbers of calendar days lost to normal adverse weather for each month.

Monthly Anticipated Calendar Days Lost to Adverse Weather Conditions												
Month	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Normal Days Lost	7	4	4	4	6	3	4	2	3	3	2	5

The following work must be completed for the project to be considered substantially complete.

- All concrete paving installed.
- New concrete diversion structure installed, including manway, slide gate and instrument control box.
- Outfall installed, including piping, flared end section, riprap, and backflow prevention valve.
- All modifications and/or additions to the existing outlet structures within the pond installed, including all gates, grates, racks, hinges and other items as shown on the plans.
- All signage and fencing reset or installed.

- Roadway and trail open to traffic.
- All disturbed areas at final grade and restabilization measures initiated.

PROTECTION OF EXISTING UTILITIES / UTILITY COORDINATION

The Contractor shall contact all appropriate utility companies prior to construction to notify of construction, to verify location of utilities in the construction area, and to coordinate utility company relocation, adjustment, or installation work with Contractor's work. Locations of utilities shown on plans are approximate, only based on 'field locates" by the affected utility and limited pothole information. The Contractor shall verify prior to construction.

The Contractor shall comply with Article 5 of the General Conditions ("Protection of Existing Vegetation, Structures, Utilities, and Improvements and Land Survey Monuments") when excavation or grading is planned in the area of underground utility facilities. Protection of existing utilities and coordination with utility companies for relocations / manhole lid adjustments shall be in accordance with Streets Volume 1, Section 01010. No additional payment will be made for this coordination. All new landscaping shall be installed after completion of all Utility work.

The Contractor shall notify all affected utilities at least three (3) business days prior to commencing such operations. Contact the Colorado 811 (previously Utility Notification Center of Colorado) to have locations of registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

All cost incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

The City will not be responsible for any construction down time due to failure on the Contractor's part to notify and coordinate with utility companies regarding conflicts.

Contractor is responsible for field verifying the location of utilities within the project limits and immediately notifying the City of Greeley of any potential discrepancies or conflicts between the Work and the existing utility.

RIGHT OF WAY, EASEMENTS AND RIGHTS OF ENTRY

The City will or has acquired the permanent right-of-way, permanent easements, temporary construction easements, and rights of entry for construction of the project. The Contractor shall verify with the City that acquisitions have been completed prior to scheduling work in proposed ROW and easements and that there are no other agreements related to temporary easements (facilities requiring protection, schedule items, etc.).

PROPERTY OWNER NOTIFICATION

The City will provide written notices describing project activity and Contractor's proposed schedule of work to property owners located within 500 feet of project limits and to all other homes or businesses abutting or immediately adjacent to the project.

The Contractor shall coordinate with property owners prior to initiating removal / construction activities on areas outside of public right of way and shall provide a minimum of 5 days' notice to property owners prior to these activities.

The Contractor shall also give notice 24 hours prior to start of any construction activity that will restrict access to the affected property or when construction will be within 500 feet of that business or residence. The Contractor shall re-notify all property owners if the previously noticed schedule is delayed by 3 or more days.

All damage to private property must be repaired. If the City determines that unnecessary damage to private property has occurred, it will be the Contractor's responsibility to repair said damage at no cost to the City.

SOILS INVESTIGATION

A Geotechnical Engineering Investigation for the River Run at Poudre River Ranch Pond was prepared by Kumar & Associates, Inc., dated August 5, 2021.

A copy of the investigation report is included in Appendix A. It is the Contractor's responsibility to review and become familiar with this report prior to bidding.

EXCAVATION, REMOVALS AND EMBANKMENT

Conform to "Streets Volume I" Section 02220 and these special provisions.

Material from the project not replaced onsite shall be removed from the project and legally disposed of at no additional cost to the City. If excavated usable material must be stockpiled prior to placement, the Contractor shall identify the stockpile area to the Engineer. Further moving of stockpiled materials to embankment locations will not be paid for separately but shall be included in the cost of the work.

Refer to the Bid schedule for Summary of Earthwork for unit quantities and calculations designated within the construction documents.

EROSION AND SEDIMENT CONTROL

Contractor is responsible for control and routing of storm water runoff draining onto and from the construction area to prevent erosion or other damage. Contractor shall comply with City of Greeley Environmental Municipal Construction Best Management Practices (BMP). The Contractor will obtain and continually be in compliance with the Colorado Construction Stormwater Discharge Permit. The Contractor is responsible for all implementation, removals, maintenance, inspections and documentation to keep the project in strict compliance with this permit. The Contractor will be required to appoint their own Erosion Control Supervisor and needs to display due diligence towards the maintenance of the erosion control bid item.

Initial Construction Erosion Control measures are included in the Plans. The Contractor is responsible for identifying Erosion Control Supervisor, erosion control methods and timing as well as any construction means and methods items at Preconstruction Meeting.

Not all BMP's shown on Plans are intended for initial installation. BMPs shall be requested/approved by the City prior to implementation. Additional BMPs may be required and shall be implemented at the request of the City. The Contractor shall coordinate with City representative for approval of protection of stockpiles of excavated material, particularly if located on asphalt surfaces and in channels.

Recycled concrete is specifically prohibited for use as vehicle tracking pad aggregate.

Concrete Washout Structure

No earthen pit washout areas will be allowed without approval from the City regarding their location. Washout pans should be placed to coincide with construction phasing. Washout pans must be clearly signed per City detail for washout areas. One mobile concrete washout bin will be required on-site at all times when concrete work is being performed.

Erosion Control Maintenance

Contractor shall provide periodic maintenance of the erosion control measures on the site, particularly during and after storms, to maintain barricades, provide necessary dust control and ensure general maintenance. Disregard of this provision shall be cause for suspension of the project. It will be the Contractor's responsibility to ensure that existing streets adjacent to the area under construction be kept free of all concrete or other foreign material. The cost of maintenance and replacement of BMPs is included with the cost of the initial installation of the BMPs.

CONSTRUCTION TRAFFIC CONTROL

The Contractor shall comply with the requirements of Section 01010, Paragraph 1.3 G of DCCSM. The Contractor shall not perform any construction work in the public right-of-way prior to receiving approval of the Traffic Control Plan from the City of Greeley. The Traffic Control Plan will include the City's Traffic Control Plan Review Form.

The Contractor will appoint a Traffic Control Supervisor (TCS) to this project. The TCS does not need to be on site but must be available twenty-four (24) hours a day. The name and phone number of the TCS will be provided to the City at the Pre-Construction Meeting. The Contractor will also provide the name and phone number of an alternate local traffic control company that will act on the Contractor's behalf in case the designated TCS cannot be reached. If Contractor is unresponsive or otherwise is deemed to not be performing traffic control duties in accordance with submitted plan, the City or its subcontractor may perform traffic control services, at cost to the Contractor.

The Contractor will be notified in writing when the traffic control for any work site is not acceptable. The Contractor will not be allowed to continue work at the location until the problems are corrected. Failure to correct the traffic control deficiencies prior to continuance of the work will result in non-payment for the work performed at the locations in question.

The Contractor shall coordinate driveway closures with property owners. For properties having more than one access the Contractor shall keep one access open at all times. Properties with one driveway shall have the driveway reconstructed in a manner where the drive is usable during construction.

For paving and striping operations, the Contractor shall coordinate with the City of Greeley to determine the appropriate method of handling traffic.

DUST CONTROL

The Contractor shall control dust in and around the construction site. If dusty conditions prevail, the site shall be watered at least twice daily. No separate payment will be made for dust control by watering. The Contractor shall include costs of dust control by watering into bid price of related items.

TESTING

The Contractor shall provide Quality Control Sampling and Testing. The types of tests and minimum test frequencies are described in the City "Streets Volume I" Schedule for Quality Control Sampling and Testing Table. Cost shall be included in the bid price of the applicable item.

Quality Acceptance Testing shall be done by the City of Greeley's Construction Services or their representative. The City will pay for all Quality Assurance Testing. It is important that the Contractor inform the project Inspector or assigned representative as to when they will be ready for tests. A 24-hour advanced notice will be required.

FINAL CLEANUP

The Contractor shall, at completion of construction and prior to submitting request for final payment, clean up the site, removing all related debris. The Contractor shall notify the City when final cleanup is ready for inspection. This task includes any cleanup related to Erosion and Sediment Control.

PROJECT CHANGES

The City reserves the right to alter the project. Quantities may be added or deleted, and adjustment will be made to the contract price according to the unit prices in the Bidding Schedule. However, if quantities are increased or decreased by more than 25%, changes and adjustments may be negotiated so that a mutually agreeable adjustment can be made.

CONCRETE

Conform to City of Greeley Streets Design Criteria and Construction Specifications.

PROJECT WARRANTY

The Contractor is responsible for providing a TWO-YEAR warranty to the City of Greeley for all work completed under this contract. The beginning of the TWO-YEAR warranty period will be established with the issuance of the Certificate of Final Acceptance. If the concrete fails, spalls, or deteriorates during the first and second year, the concrete shall be replaced under this warranty. There will be no additional cost to the City or the property owner for material, equipment, labor, and/or traffic control for warranty work.

Warranty work will be completed in accordance with these contract specifications and within 30 days of written notification by the City of Greeley.

NOTICE TO CONTRACTOR ON INCIDENTAL ITEMS

The Contractor shall consider Property Owner Notification and Public Outreach, Potholing, Construction Survey and all As-Built Survey required for the City and utilities as incidental to the project and include the costs associated with these incidental items into the unit prices of the associated bid items.

POUDRE RIVER RANCH RIVER RUN POND OUTFALL IMPROVEMENTS MEASUREMENT AND PAYMENT:

This contract is a unit price contract in which the Contractor will be reimbursed for the actual quantities of work performed and installed in accordance with the contract documents unless otherwise noted. No additional payment for work described in these documents will be allowed, whether a bid item exists or not. The Contractor shall include the costs of all incidentals of construction, labor, equipment, and materials in the appropriate bid item.

Measurement and payment for bid items listed in the Bid schedule shall be on the basis of the description in the applicable standard specifications or as identified in these supplemental specifications and Construction Drawings.

It is the intention of the contract documents to describe a complete project. Merge the cost of any and all miscellaneous work items (if not separately identified as bid items) shown on the Plans or implied as standard items of work necessary to achieve a complete and operational system in the unit price contained in the Bid for the nearest related bid item.

Merge all costs of labor, materials, supervision, fuel, equipment, surveying, potholing and other incidentals necessary to accomplish each work item into the unit price contained in the Bid for that item. Payment will be made at the bid unit price for completed items unless otherwise noted. The basis for payment will be the *measured* in-place quantity, or quantity documented by delivery tickets, unless the item unit is Lump Sum (LS), or *plan quantity* is specified on bid schedule.

Unit Quantities: The estimates of quantities are only approximate. Refer to the Bid schedule for unit quantities. It shall be the Contractor's responsibility to satisfy himself as to the accuracy of the estimates prior to bid. The City reserves the right to increase or decrease individual items in such amounts as may be necessary in their sole judgment to the City's best interests depending upon conditions encountered or observed during the Project.

Payment shall be made at the contract unit bid price listed in the Bid schedule. The price listed therein shall be for unit quantities and includes full compensation for required labor, tools, equipment, products, materials, haul, disposal, plant and facilities, transportation, services, erection, application or installation of items of the work; overhead and profit required to construct the respective bid items according to the Contract Documents incidental thereto.

Bid Schedule Items with Additional Explanation for the Poudre River Ranch River Run Pond Outfall Improvements Project are as follows:

Clearing and Grubbing

Conform to the City of Greeley Construction Standards and Specifications – See "Streets Volume I" Section 02220 and these special provisions. Clearing and Grubbing shall include tree and stump removal as needed for the project. Clearing and grubbing shall apply to the entire project site. Payment for clearing and grubbing will be paid as a lump sum.

Removal of Concrete and Concrete Box Culvert

All concrete sidewalk and portions of the existing concrete box culvert to be removed shall become the property of the Contractor and be disposed of properly. Saw cutting to a clean edge is incidental to the items. Engineer shall determine exact removal limits in the field. If tying into existing curb or sidewalk that is in poor condition (i.e. heaving), Contractor shall remove to the next expansion joint. Saw cutting of existing pavements / concrete shown on the project drawings shall be considered an incidental expense to removal and no separate payment will be made for this item.

Payment for removal of concrete sidewalk will be based on square yards of concrete removed.

Payment for removal of the existing box culvert will be based on linear feet of culvert removed, measured along its center line.

Remove/Reset Split-Rail Fence

Contractor shall remove and reset existing split-rail fence as necessary for the work and as indicated on the project drawings. The work under this bid item includes the removal, handling, storage (if required), and resetting of the existing split rail fence at the project location. The scope of work shall consist of carefully removing the split rail fence and all associated components, including posts, rails, and hardware, as necessary for construction activities. Any fence materials that are not damaged and can be reused shall be stored and reset in the original or revised location as directed by the project engineer or owner's representative. All work shall be performed in accordance with the manufacturer's specifications, industry standards, and as directed by the engineer.

Work Includes:

- Removal of all posts, rails, and other components of the existing split rail fence.
- Protection and storage of reusable materials during the course of the project.
- Resetting of the fence components in the approved location, including reinstallation of posts and rails, and ensuring proper alignment and stability.
- Replacement of any posts or rails that are damaged during removal.
- Reuse of all undamaged materials or procurement of new materials if needed to complete the fence.
- Final inspection and adjustment to ensure the fence is properly reset, secure, and functional.

Measurement for this item shall be based on the linear footage of the split rail fence that is removed and reset. Measurement will be taken along the centerline of the fence, excluding any gates or other special features.

Payment for this item will be made at the unit price per linear foot for the removal and resetting of the split rail fence, including all labor, materials, equipment, and incidentals necessary to complete the work. Payment will be made as follows:

- 50% upon removal of the existing fence, including storage of reusable materials and preparation of the site for reset.
- 50% upon completion of resetting the fence, including final inspection, proper alignment, and acceptance of the fence by the engineer or owner's representative.

Unclassified Excavation

Conform to the City of Greeley Construction Standards and Specifications.

The unit bid price for this item shall include the costs of all labor, supervision, material, and equipment to excavate material and place that material as embankment to finished subgrade line and grade as shown on the plans and cross sections and as staked. The unit bid price shall also include removal and disposal of excess or unsuitable earthen material. Plan quantity does not include any allowance for material removed during clearing and grubbing. Plan quantity is calculated as the difference in volume between the top of the finished grade surface and the top of the existing topography. Plan quantity does not include any allowance for shrinkage, required compaction, or swell. Water required for compaction of embankment areas is incidental to this item.

Payment for the item shall be plan quantity. Engineer will make no separate measurement of cubic yards of excavation or embankment.

Slide Gate (Waterman Valve A-250 Series)

This item includes the supply, installation, and commissioning of a Waterman Valve A-250 Series Slide Gate for use in the specified location of the project. The Waterman Valve A-250 Series Slide Gate shall meet the manufacturer's standards and specifications, including all necessary seals, actuators, and fittings required for proper installation and functionality. The unit shall be sized and installed according to the provided design and shall operate smoothly without leakage under the anticipated pressure conditions.

The Waterman Valve A-250 Series Slide Gate will be measured by the number of gates installed at the specified locations in the project. Measurement will be based on the fully installed and operational unit, including all required components such as the valve body, actuator, seals, and any other accessories necessary for proper functioning.

Payment for the Waterman Valve A-250 Series Slide Gate will be made on a lump sum basis per gate.

The lump sum payment will include:

- Supply of the Waterman Valve A-250 Series Slide Gate.
- Delivery to the job site.
- Installation, including any necessary excavation, alignment, modifications to the existing structure and connection to the existing system as indicated in the Project Plans and Specifications.
- Commissioning, including testing for proper operation and leak tightness.
- All labor, materials, and equipment required to complete the installation as per the Project Plans and Specifications.

Final payment will be made based on the number of units after successful installation and commissioning of the slide gate, and acceptance by the engineer or project representative based on proper functionality and completion of all work as described.

Debris Grate/Screen/Trash Rack

This item includes the supply, installation, and commissioning of a debris grate, screen, or trash rack to be installed on the existing outlet structure as indicated in the project drawings and specifications. The debris protection system will prevent large debris and trash from entering the outlet structure while allowing for the free flow of water. The materials and design of the debris grate/screen/trash rack shall comply with the specifications and details provided in the project drawings. The system shall be installed with all necessary mounting hardware, brackets, and supports required for secure attachment to the existing outlet structure per the specifications and details provided in the project drawings.

The debris grate/screen/trash rack will be measured by the number of units installed, with each unit representing a complete, installed grate, screen, or trash rack assembly. Measurement will be based on the fully installed and functional unit as shown in the project drawings, including all necessary components, supports, and hardware.

Payment for the debris grate/screen/trash rack will be made on a lump sum basis per each installed unit, which includes:

- Supply of the debris grate/screen/trash rack, fabricated according to the project drawings and specifications.
- Fabrication, if required, to match the specific dimensions and fitments as indicated in the plans.
- Delivery of materials to the job site.
- Installation, including securing the grate/screen/trash rack to the existing structure in accordance with the project drawings and specifications, and any necessary modifications or reinforcements.
- Final inspection and acceptance of the installed unit to ensure it meets the project requirements, as specified in the plans.

Final payment will be made after successful installation, inspection, and approval from the engineer or project representative. Payment will be based on the number of units successfully installed, as verified by the project team and in compliance with the project plans and specifications.

Concrete Pavement (Match Existing Thickness)

Conform to City of Greeley Streets Design Criteria and Construction Specifications.

This item includes the complete installation of concrete pavement, with thickness matching adjacent paving, in accordance with the Project Plans and Specifications. The pavement shall be constructed using a fiber-reinforced concrete mix, properly finished, and aligned as shown on the plans. The work shall include all necessary materials, labor, tools, and equipment for the preparation of the subgrade, forming, pouring, finishing, curing, and jointing of the concrete.

Measurement for this item will be made by the square yard of pavement installed, based on the actual dimensions constructed in the field.

Payment will be made for the total number of square yards installed and accepted, and will include all associated work and materials, including but not limited to excavation, subgrade preparation, concrete placement, reinforcement, finishing, curing, jointing and all other items necessary to complete the installation as per the project plans and specifications.

Void-Filled Riprap (12-Inch / Type M)

The measurement for this item shall be per cubic yard in accordance with the Project Plans and Specifications. The price bid shall include the cost of Type M riprap, geotextile fabric, and topsoil. Unit bid price for this item shall also include the costs of all labor, supervision, material, and equipment to conduct earthwork, grading, mixing soil, laying, and other related activities needed to complete the work, including removal and disposal of excess or unsuitable earthen material.

Payment will be per cubic yard that is completed and approved.

Storm Drainage Pipes and End Sections

Conform to Greeley Standards and Specifications for materials and installation requirements. All storm drain pipe shall be Class III reinforced concrete pipe as shown in the plans. No additional payment will be made for trenching, drainage rock, backfill material, pipe bedding material or MIRAFI fabric which shall be considered an incidental expense to the installation of the storm pipes.

All material, labor, and equipment required to construct the storm drain shall be included in the unit bid items:

Pay Item	Pay Unit
24” RCP (Complete In Place)	LF
24” RCP End Section with Toe Wall (Complete In Place)	Each

All stormwater lines shall be televised by the City prior to substantial completion. Contractor is to notify the City as early as possible following installation of storm sewer so that City staff can schedule CCTV inspection.

24” Backflow Preventer (Tideflex Checkmate Inline Check Valve)

This item includes the supply, installation, and commissioning of a 24-inch Backflow Preventer (Tideflex Checkmate Inline Check Valve), as specified in the project plans and specifications. The backflow preventer shall prevent backflow in the stormwater system, ensuring that water only flows in the intended direction.

The valve will be installed inline within the stormwater pipe as per the approved design, ensuring that it operates smoothly to protect the system and prevent the intrusion of unwanted water back into the stormwater infrastructure.

Measurement will be based on each individual backflow preventer fully installed, operational, and in accordance with the project plans and specifications.

Payment for the 24" Backflow Preventer (Tideflex Checkmate Inline Check Valve) will be made on a lump sum basis per each installed unit, which includes:

- Supply of the 24-inch Tideflex Checkmate Inline Check Valve, including all components such as the valve body, valve disc, and associated hardware.
- Delivery of the valve to the job site.
- Installation of the valve, including any necessary excavation, pipe connections, mounting, and supports as required.
- Final inspection, testing, and commissioning of the valve to ensure it is fully functional, leak-proof, and compliant with the project requirements.

Final payment will be made after successful installation and inspection of the valve, with approval from the engineer or project representative. Payment will be based on the number of complete and properly installed valves, as verified in the field and as per the project plans and specifications.

Diversion Structure (Cast-in-Place)

This item includes the supply, installation, and commissioning of a cast-in-place concrete diversion structure, constructed in accordance with the project drawings and specifications. The diversion structure will be installed to control, direct, and/or divert water flow as required.

The scope of work will include all aspects of installation, including excavation, preparation of the foundation, formwork, reinforcement, pouring and finishing of the concrete, and curing. The diversion structure will be connected to proposed and existing infrastructure as indicated in the drawings and specifications. This may include connections to inlets, outlets, weirs, and other drainage features, ensuring proper integration with the surrounding infrastructure. Upon completion, the structure will be inspected and tested to ensure it meets all specified operational requirements and is fully functional.

The concrete diversion structure will be measured by the lump sum per each unit installed. Measurement will be based on the successful completion of each diversion structure installed in accordance with the drawings and specifications.

Payment for the concrete diversion structure will be made on a lump sum per each unit installed, which includes:

- Supply and delivery of all necessary materials (concrete, reinforcement, formwork, etc.).
- Excavation and preparation of the site, including foundation and subgrade work.
- Construction of the diversion structure, including formwork, reinforcement, pouring, finishing, and curing of the concrete.
- Connection of the structure to proposed and existing infrastructure, including any necessary adjustments to inlets, outlets, or drainage components.
- Final inspection, testing, and certification that the structure is complete, functional, and in compliance with the project specifications.

Final payment will be made after successful installation, inspection, and approval by the engineer or project representative, based on the complete and verified installation of each diversion structure and its connection to the existing and proposed infrastructure.

24” Slide Gate (Fresno Series 6400 Model 20-10C)

The work to be performed under this bid item includes the furnishing, installation, testing, and commissioning of a 24-inch Fresno Series 6400 Model 20-10C slide gate at the specified location. The slide gate shall be constructed of high-quality materials, as per the manufacturer’s specifications as indicated in the project plans and shall provide efficient and reliable operation. The gate shall include an instrument control box, manual actuator assembly (handwheel), and all necessary appurtenances for smooth operation. The slide gate shall be suitable for the intended use, including ease of maintenance, and comply with all applicable codes and standards.

Gate Specifications: As indicated on the project plans and specifications

- Model: Fresno Series 6400, Model 20-10C
- Size: 24 inches
- Actuator: Manual actuator (handwheel), with the ability to upgrade to manufacturer-provided automated actuator at a later date. Instrument control box to prevent unauthorized use shall be sized to accommodate future automated actuator as indicated on the project plans and specifications.
- Testing: Functionality tests, pressure tests, or other relevant operational checks
- Appurtenances: All necessary seals, gaskets, and mounting hardware. Instrument control box.

Measurement for this item shall be based on the number of gates installed and accepted. No separate measurement will be made for individual components such as actuators, seals, or mounting hardware, as they are considered subsidiary to the overall installation of the slide gate.

Payment for this item will be made as a lump sum for the complete and satisfactory installation of the 24" Fresno Series 6400 Model 20-10C slide gate, including all appurtenances, labor, materials, and testing. Payment will be made in accordance with the following schedule:

- 50% upon delivery of materials to the project site, including the gate and all related components.
- 30% upon installation and functional testing of the gate and actuator assembly.
- 20% upon final inspection, acceptance, and commissioning of the gate.

Grated Manway Access (Neenah R-2565-E)

This item includes the supply, delivery, and installation of a Neenah R-2565-E Grated Manway Access. The manway access will be installed at designated locations as shown in the project plans to provide safe, secure, and reliable access to the diversion structure requiring maintenance or inspection. The unit includes a securely fitting grated cover, frame, and all necessary hardware for proper installation.

The manway access shall be installed in accordance with the project specifications, local codes, and safety requirements. It will be positioned and aligned as indicated in the construction drawings, ensuring a proper fit for the designated area and providing safe access while preventing unauthorized entry.

The Neenah R-2565-E Grated Manway Access will be measured by the number of units installed. Measurement will be based on the fully installed unit, including the manway frame, grate, and all related components, as specified in the project plans.

Payment for the Neenah R-2565-E Grated Manway Access will be made on a lump sum basis per each installed unit, which includes:

- The supply of the Neenah R-2565-E manway access unit, including all components (frame, grate, cover, and hardware).
- Delivery of the manway access unit to the job site.
- Installation of the manway access, including any necessary excavation, positioning, alignment, and mounting of the unit.
- Final inspection and testing to ensure the manway access is properly installed, secure, and functional.

Final payment will be made after successful installation, inspection, and approval by the engineer or project representative, based on the number of complete, installed units as verified in the field.

Heavy Duty Hinge (Shut It Brand, Model CI3720)

This item includes the supply, delivery, and installation of a Heavy Duty Hinge (Shut It Brand, Model CI3720). The model shall include all necessary components and hardware for proper installation and function, including bushings, pins, and mounting plates, as specified.

The Shut It Model CI3720 hinge will be installed in accordance with the provided project plans and specifications. The unit shall be fully operational, allowing smooth and reliable movement for the intended application.

The Heavy Duty Hinge will be measured by the number of hinges installed in the project. Measurement will be based on the complete, fully installed hinge, including any required mounting hardware and accessories, as per the project specifications.

Payment will be made on a lump sum per each installed unit, which includes:

- Removal and disposal of existing hinge, as indicated in the Project Plans and Specifications.
- The supply of the hinge (Shut It CI3720), including all necessary components (bushings, pins, etc.).
- Delivery of the hinges to the job site.
- Installation of the hinges, including any required labor, mounting, alignment, and attachment to the appropriate structure, as specified in the project plans and specifications.
- Final inspection and testing to ensure that the hinge operates smoothly and meets all project requirements.

Final payment will be made after successful installation, inspection, and approval by the engineer or project representative, based on the number of hinges installed and verified in the field.

Construction Fence

Conform to Greeley Standards and Specifications for materials and installation requirements. This item includes the supply, installation, maintenance, and removal of construction fencing around the project site to ensure safety and secure the perimeter of the construction zone. The fence will be installed in accordance with the project plans and local regulations and will be maintained throughout the duration of the construction project.

The fence will be installed to the required height, length, and placement as shown in the project drawings, and the Contractor shall ensure the fence remains in good condition throughout the project, with repairs and/or replacement made as necessary. Upon completion of the project, the fence will be removed, and the site will be left clean and free of debris.

The construction fence will be measured by the linear foot of fence installed, including gates, posts, and other necessary components, as specified in the project plans. Measurement will be based on the actual length of fence erected along the project site.

Payment for the construction fence will be made at the unit price per linear foot of fence installed, which includes:

- Supply of the construction fence materials (fencing, posts, gates, and connectors).
- Delivery of materials to the job site.
- Installation of the fence, including all labor, equipment, and necessary tools.
- Maintenance of the fence for the duration of the project, including repairs or replacement as needed.

- Removal of the fence upon project completion, including cleaning up the site and disposing of materials properly.

Final payment will be made after the successful installation, maintenance, and removal of the fence, with approval from the engineer or project representative. Payment will be based on the actual length of the installed fence, as verified in the field.

Construction Surveying

No unit measurement shall be made for this item. Work includes providing all equipment, labor, and materials required to provide Construction Surveying for construction of all work items for the project including: staking of horizontal and vertical alignments; grading; subgrade elevations; off-sets; temporary control points; stormwater infrastructure installation; and re-establishment of land monuments. Payment shall be made based on the percentage of all work completed.

Contractor shall provide field notes and/or red-lined project plans for use in creating record drawings for all appurtenant features of the work. Survey for creation of the record drawings will be done by the City.

The lump sum price bid shall include all the Contractor's costs of whatsoever nature to perform the Construction Surveying as required for the construction of the Project in accordance with the Project Plans and Specifications. Pay based on the percentage of work completed.

Mobilization

Measurement and payment for mobilization and demobilization shall be on a lump sum basis. The lump sum bid price shall include all the Contractor's costs of whatsoever nature including site management and full-time supervision, labor, material, and any incidental work and equipment necessary for mobilization and demobilization of personnel, equipment, and supplies for the Poudre River Ranch River Run Pond Outfall Improvements Project. This item includes installation of temporary fencing around project work and staging areas, and any other fencing/security items as deemed necessary by the Contractor. This item also includes obtaining necessary permits. This item may also include provision of required bonds, insurance, and preparation of the project schedule. The removal of the Contractor's equipment, supplies, excess materials, and cleanup of the site are also included in this item. 50 percent Payment will be made upon completion of Mobilization. The remaining 50 percent will be paid upon completion of Demobilization and Restoration.

Traffic Control Items (Including the Poudre River Trail Closure)

The measurement and payment for traffic control shall be on a lump sum basis and shall include all the work, materials, and equipment required for traffic control required for constructing the Poudre River Ranch River Run Pond Outfall Improvements Project.

These traffic control items shall be included in the lump sum bid:

- Construction Traffic Control Devices/Signage
- Flagging
- Traffic Control Inspection
- Traffic Control Management

Erosion Control

Erosion Control for General Erosion and Sediment Control shall be installed, maintained, and removed in accordance with the Project Plans and Specifications. The payment shall be total compensation for all labor, equipment, materials, maintenance, and all incidentals necessary for the implementation of concrete washout, inlet protection, vehicle tracking control, silt fence, rock socks, sediment control logs, cofferdam, aggregate bag, dewatering, soil retention blanket, seeding, mulching, final stabilization and any other items

deemed necessary for controlling erosion and the transport of sediment. Maintenance, replacement, and removal of BMPs during construction will be incidental to the project.

Erosion control management, including the ongoing inspection, administration, and management of field erosion control measures in accordance with the State and Federal temporary stormwater discharge permits and provisions outlined in the Plans will also be incidental to the project. All labor, materials, equipment, and other items of expense needed to inspect and manage the erosion control measures required for this project shall be included within this payment item.

Payment for erosion control will be paid as a lump sum.

POUDRE RIVER RANCH RIVER RUN POND OUTFALL IMPROVEMENTS PROJECT

CITY OF GREELEY CONSTRUCTION SPECIFICATIONS - VOLUME I (STREETS)

SECTION	TITLE
02220	Excavation, Removals and Embankment
02225	Grading, Compaction, Subgrade, and Unimproved Area Preparation
02585	Portland Cement Concrete Pavement
03310	Curbs, Gutters, Sidewalks, valley Gutters, Bikeways, Driveway and Alley Approaches

CITY OF GREELEY CONSTRUCTION SPECIFICATIONS - VOLUME III (WATER & SEWER)

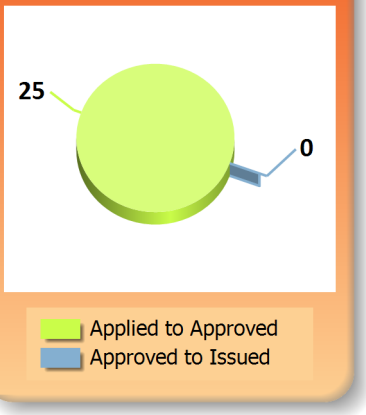
SECTION	TITLE
02240	Dewatering
02275	Riprap
02315	Excavation and Fill
03300	Cast-In-Place Concrete
03400	Precast Concrete
11285	Slide Gates

Permit Details
City of Greeley

PERMIT NUMBER
FDP2410-0816

Description: **Poudre River Ranch, River Run Pond Diversion Structure**			
Type: **FLOODPLAIN**	Subtype: **FLOODPLAIN USE**	Status: **ISSUED**	Applied: **10/31/2024 EPRS**
Parcel No: **R8940723**	Site Address: **,**		Approved: **11/25/2024 BHAT**
Subdivision: **RIVER RUN AT POUDRE RIVER RANCH 1ST FG 1ST RPLT**	Block: **NONE**	Lot: **NONE**	Issued: **11/25/2024 BHAT**
Lot Sq Ft: **0**	Building Sq Ft: **0**	Zoning:	Finaled:
Valuation: **$141,778.90**	Occupancy Type:	Construction Type:	Expired: **5/24/2025 BHAT**
No. Buildings: **0**	No. Stories: **0**	No. Unites: **0**	
Details:			

Process Summary



ADDITIONAL SITES

CHRONOLOGY

CONDITIONS

CONTACTS

NAME TYPE	NAME	ADDRESS1	CITY	STATE	ZIP	PHONE	FAX	EMAIL
APPLICANT	Mark West	1120 Lincoln St, Suite 1000	Denver	CO	80203	(303)623-6300		smarvin@hkseng.com
CITY CONTACT	Mary Mateo	2835 W 10th St	Greeley	CO	80634	(970)371-9700		Mary.Mateo@Greeleygov.com
OWNER	RIVER RUN HOMEOWNERS ASSN INC	1711 61ST AVE STE 202	GREELEY	CO	806343049			

FINANCIAL INFORMATION

INSPECTIONS

INSPECTION TYPE	INSPECTOR	SCHEDULED	COMPLETED	RESULT	REMARKS	NOTES

		DATE	DATE			
FLPLAIN PRELIMINARY	ENG					
FLPLAIN FINAL**	ENG					

PARENT PROJECTS

REVIEWS

REVIEW TYPE	REVIEWER	SENT DATE	DUE DATE	RETURNED DATE	STATUS	REMARKS	NOTES
COMPLETENESS FOR FLOODPLAIN	ENG FLOOD PLAIN BUCKET	10/31/2024	11/4/2024	11/5/2024	APPROVED		
FLOODPLAIN REVIEW	BRIAN HATHAWAY	11/5/2024	11/19/2024	11/25/2024	APPROVED		
FLOODPLAIN REVIEW	BRIAN FISCHER	11/5/2024	11/13/2024	11/6/2024	REVISIONS REQUIRED		See the document: https://trakit.greeleygov.com/eTRAKiT/custom/FLOODPLAIN.pdf This document is located on the City of Greeley Floodplain Information website under Stormwater. This project is considered a subtype 3. Review the document and ensure all requirements on the document are satisfied Updated PDF sent to Brian Hathaway via email.
FLOODPLAIN REVIEW	BRIAN FISCHER	11/19/2024	11/26/2024	11/21/2024	APPROVED		

BOND INFORMATION

Permit Details
City of Greeley

PERMIT NUMBER
FDP2410-0816

ATTACHMENTS						
Attachment Type	**CREATED**	**OWNER**	**DESCRIPTION**	**PATHNAME**	**SUBDIR**	**ETRAKIT ENABLED**
DOC	11/14/2024	BRIAN HATHAWAY	2024-11-13 - PRR FDP Letter.pdf	2024-11-13 - PRR FDP Letter.pdf		0
DOC	11/25/2024	BRIAN HATHAWAY	COG No-Rise Cert Form.pdf	COG No-Rise Cert Form.pdf		0
DOC	10/31/2024	Etrakit Public Registration	Construction Documents	PoudreRiverRunDiversionStrCDs.pdf		1
DOC	10/31/2024	Etrakit Public Registration	Floodplain Development Permit letter and supporting appendices / no-rise	PoudreRiverRunDiversionStrFDP.pdf		1

November 25, 2024

VIA ELECTRONIC MAIL

Mark West
HKS Engineering
1120 Lincoln St, Suite 1000 Denver, CO 80203

Mr. West,
The following special conditions apply to your Floodplain Development Permit for the Poudre River Ranch, River Run Pond Diversion Structure project.

1. This permit is valid for the scope of work contained with the Floodplain Development Permit Hydraulic Report submitted by HKS, dated November 13, 2024. Any scope of work beyond what is discussed in this report is subject to supplemental floodplain permitting.
2. This approved permit is valid for 180 days from today, or May 24, 2025. If the project does not commence construction by that date, this permit shall be invalidated, and a subsequent Floodplain Development Permit shall be obtained.
3. Within 30 days of construction completion, post-construction survey shall be submitted to the City Floodplain Administrator demonstrating that grades within the floodway have been constructed according to approved plans. Post-construction survey is required for permit close-out.

If you have any questions about these conditions or anything else regarding this permit, please contact Brian Hathaway at brian.hathaway@greeleygov.com or 970-381-7473.
Respectfully,

Brian Hathaway
Water Quality and Regulatory Compliance Manager
brian.hathaway@greeleygov.com
970-381-7473

General Conditions for Floodplain Development Permits

The following general conditions apply to all Floodplain Development Permits issued within the City of Greeley.

1. All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
2. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
3. All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
4. All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
5. All manufactured homes shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
6. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
7. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters; and
8. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
9. New vertical construction (buildings) within the Floodplain Overlay District shall conform to the requirements of Section 18.34.070(1-6) of City Code.
10. Development and land uses within areas of shallow flooding (AO/AH Zones) shall conform to the requirements of Section 18.34.080(1-2) of City Code.
11. Development and land uses within areas of the Floodplain Overlay District designated as Floodway shall conform to the requirements of Section 18.34.090(1-3) of City Code.
12. Alterations to watercourses within the Floodplain Overlay District shall conform to requirements of Section 18.34.100(1-7).
13. Within the Floodplain Overlay District, new structures and additions to existing structures that have been placed on fill shall have a lowest floor elevation placed no lower than the Base Flood Elevation (BFE) plus one foot. Example: The BFE at the location of a proposed building is 4675 feet. The minimum elevation of the lowest floor would then be BFE + 1 ft. = 4675 ft. + 1ft = 4676 ft.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE
9307 SOUTH WADSWORTH BLVD
LITTLETON, CO 80128-6901

November 20, 2024

SUBJECT: Nationwide Permit Verification; NWO-2024-01739-DEN, City of Greeley Poudre River Run Outfall

Paul Trombino
City of Greeley
2835 W 10th St
Greeley, Colorado 80634

Dear Mr. Trombino:

This letter is in response to your October 25, 2024, Pre-construction Notification (PCN), requesting Department of the Army (DA) Nationwide Permit (NWP) verification for the above-referenced project. The project site is located at Latitude 40.441564°, Longitude -104.806937°, within Section 32, Township 6 N, Range 66 W, in Weld County, Colorado.

For the above-referenced project you propose to discharge fill material into the Cache la Poudre River and wetlands in order to construction an outfall with riprap protection. The project will permanently impact 0.007 acre of waters of the U.S. and temporarily impact 0.07 acre of the Cache la Poudre River.

The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged and fill material into waters of the United States under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). The Corps' regulations are published in the Code of Federal Regulations at 33 CFR parts 320 through 332. NWPs are defined in the Federal Register published on December 27, 2021 (86 FR 73522) and January 13, 2021 (86 FR 2744). Based on a review of the information you furnished and available to us, we have determined the above referenced work requires DA authorization under 404 of the CWA.

Based upon the information you provided, we hereby verify that the work described above, which would be performed in accordance with the plans you provided, is authorized by NWP 7 Outfall Structures and Associated Intake Structures. Please note that deviations from the original plans and specifications of your project could require additional authorization from this office. This NWP and associated Regional and General Conditions are enclosed and can be accessed on our website at: https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Colorado. Failure to

comply with the General and Regional Conditions of this NWP, or the project-specific special conditions of this authorization, may result in the suspension or revocation of your authorization, and you may be subject to appropriate enforcement action. You shall comply with all terms and conditions associated with this NWP.

Unless this NWP is suspended, modified, or revoked, it is valid until **March 14, 2026**. It is incumbent upon you to remain informed of changes to this NWP. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization as per 33 CFR 330.6(b). Any project specific conditions listed in this letter continue to remain in effect after the NWP verification expires unless the district engineer removes those conditions.

To assist in your compliance with NWP General Condition 30, enclosed is a "Compliance Certification" form, which shall be signed and returned within 30 days of completion of the project, including any required mitigation. Your signature on this form certifies that you have completed the work in accordance with the terms and conditions of the NWP. Activities completed under the authorization of an NWP which was in effect at the time the activity was completed continue to be authorized by that NWP.

Authorizations under this NWP does not relieve permittees from obtaining permits or other authorizations from any required federal, state, or local agency. If you have any questions, please contact Celena Cui via email at Celena.H.Cui@usace.army.mil, by mail at the address above, or by phone at (720) 922-3857.

Sincerely,

Kiel Downing
Chief, Denver Regulatory Office

Enclosures

cc: Mark West, HKS Civil

Kumar & Associates, Inc.
Geotechnical and Materials Engineers
and Environmental Scientists

800 Stockton Avenue, #4
Fort Collins, CO 80524
phone: (970) 416-9045
fax: (970) 416-9040
email: kaftcollins@kumarusa.com
www.kumarusa.com

An Employee Owned Company

Office Locations: Denver (HQ), Parker, Colorado Springs, Fort Collins, Glenwood Springs, and Summit County, Colorado

August 5, 2021

City of Greeley
1000 10th Street
Greeley, Colorado 80631

Attention: Andrew T. Fisher, P.E.

Andrew.Fisher@GreeleyGov.com

Subject: Geotechnical Engineering Investigation, River Run at the Poudre River Ranch Pond, North Poudre River Road and 83rd Avenue, Greeley, Colorado

Dear Mr. Fisher:

This letter presents the results of a geotechnical engineering investigation that we performed for the River Run at the Poudre River Ranch Pond project located near the intersection of North Poudre River Road and 83rd Avenue in Greeley, Colorado. We were contacted to excavate four exploratory borings at the site to the desired depths of approximately 5 to 10 feet.

Site Conditions: At the time of drilling, the site consisted of a vacant marshy area that fell between residential homes and the Poudre River trail. The site sloped down to the west. The site is bounded to the north, east and west by the Poudre River trail and to the south by a single-family residential neighborhood. At the time of drilling the site contained standing water to the east near Boring 4.

Subsurface Conditions: Four (4) exploratory borings were performed at the site on July 22, 2021. The borings generally encountered approximately 3 inches of topsoil overlying approximately 2.5 to 5 feet of natural clayey soils consisting of lean clay with sand to silty sand. Underlying the clayey soils was granular soils which prevented the holes from being drilled any deeper by the hand augering methods.

Groundwater was encountered at the time of drilling in all of the borings from approximately 2.5 to 5 feet below the ground surface. Groundwater monitoring wells were constructed at Borings 1 and 4. Groundwater was subsequently checked 12 days after drilling in Borings 1 and 4, and found to be at 4.3 and 2.8 feet below ground surface.

Laboratory Testing: Laboratory testing was performed on selected samples obtained from the borings to determine in-situ moisture content, Atterberg limits and gradation characteristics. The results of the laboratory tests are shown to the right of the logs on Fig. 2 and summarized in Table I. The testing was conducted in general accordance with recognized test procedures, primarily those of ASTM.

Piezometer Construction: Monitoring wells were constructed in Borings 1 and 4 using 2-inch diameter factory slotted PVC pipe. Boring 1 was installed with a flush mounted well cover grouted in place. Boring 4 was installed with slotted PVC sticking above the ground surface roughly 2 feet. The annulus surrounding the pipe was backfilled with sand to ground surface.

Limitations: This study has been conducted in accordance with generally accepted geotechnical engineering practices in this area for exclusive use by the client for design purposes. The conclusions and recommendations submitted in this letter are based upon data obtained from the exploratory test pits at the locations indicated on Fig. 1, and the proposed construction. This letter may not reflect subsurface variations that occur between the explorations, and the nature and extent of variations across the site may not become evident until site grading and excavations are performed. If during construction, fill, soil, rock or groundwater conditions appear to be different from those described herein, Kumar & Associates, Inc. should be advised at once so that a re-evaluation of the recommendations presented in this letter can be made. Kumar & Associates, Inc. is not responsible for liability associated with interpretation of subsurface data by others.

If you have any questions, or if we can be of further assistance, please contact us.

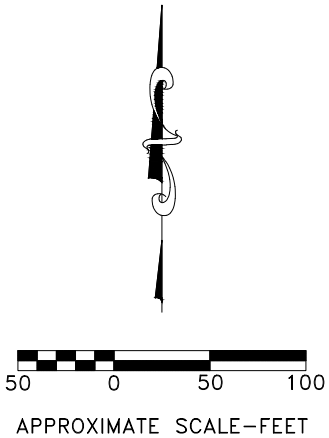
Sincerely,
Kumar & Associates, Inc.

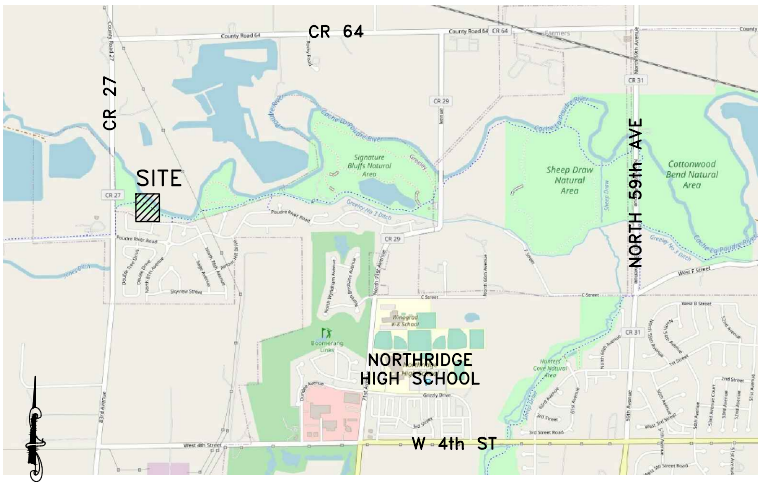
Jacob A. Gillis, E.I.

Reviewed By:

Joshua L. Barker, P.E.

Aug-5-2021

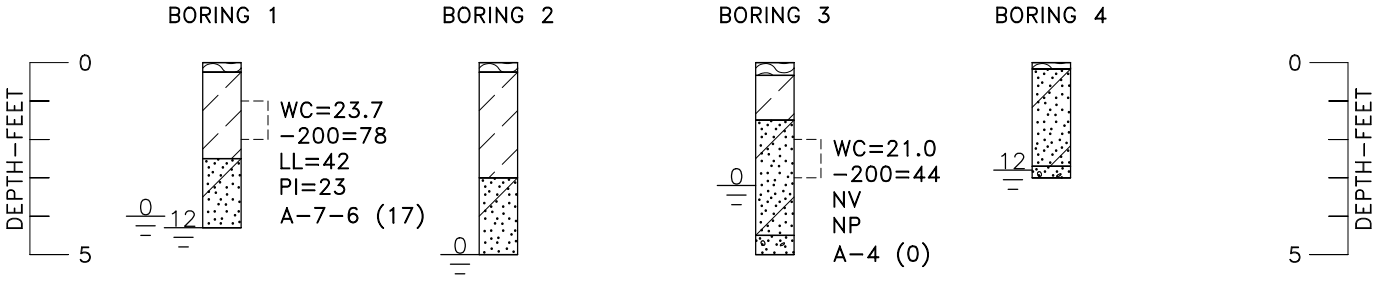




VICINITY MAP
NOT TO SCALE

21–3–168	Kumar & Associates	LOCATION OF EXPLORATORY BORINGS	Fig. 1

August 05, 2021 – 11:47am
X:\Projects\2021\21-3-168 River Run at the Poudre River Ranch Pond\Drafting\213168-01.dwg



LEGEND

TOPSOIL.

LEAN CLAY (CL) TO LEAN CLAY WITH SAND (CL), FINE TO MEDIUM GRAINED, DRY TO MOIST, BROWN.

POORLY GRADED SAND WITH SILT (SP-SM) TO SILTY SAND (SM), FINE TO COARSE GRAINED, DRY TO MOIST, BROWN.

POORLY GRADED GRAVEL WITH SAND (GP), MEDIUM TO GRAVEL GRAINED, WET, BROWN.

DISTURBED BULK SAMPLE.

12 DEPTH TO WATER LEVEL AND NUMBER OF DAYS AFTER DRILLING MEASUREMENT WAS MADE.

NOTES

1. THE EXPLORATORY BORINGS WERE DRILLED ON JULY 7, 2021 WITH A HAND AUGER.
2. THE LOCATIONS OF THE EXPLORATORY BORINGS WERE MEASURED APPROXIMATELY BY PACING FROM FEATURES SHOWN ON THE SITE PLAN PROVIDED.
3. THE ELEVATIONS OF THE EXPLORATORY BORINGS WERE NOT MEASURED AND THE LOGS OF THE EXPLORATORY BORINGS ARE PLOTTED TO DEPTH.
4. THE EXPLORATORY BORING LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. THE LINES BETWEEN MATERIALS SHOWN ON THE EXPLORATORY BORING LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE TRANSITIONS MAY BE GRADUAL.
6. GROUNDWATER LEVELS SHOWN ON THE LOGS WERE MEASURED AT THE TIME AND UNDER CONDITIONS INDICATED. FLUCTUATIONS IN THE WATER LEVEL MAY OCCUR WITH TIME.
7. LABORATORY TEST RESULTS:
   WC = WATER CONTENT (%) (ASTM D2216);
   +4 = PERCENTAGE RETAINED ON NO. 4 SIEVE (ASTM D6913);
   -200= PERCENTAGE PASSING NO. 200 SIEVE (ASTM D1140);
   LL = LIQUID LIMIT (ASTM D4318);
   PI = PLASTICITY INDEX (ASTM D4318);
   NV = NO LIQUID LIMIT VALUE (ASTM D4318);
   NP = NON-PLASTIC (ASTM D4318);
   A-7-6 (17) = AASHTO CLASSIFICATION (GROUP INDEX) (AASHTO M 145).

21-3-168	Kumar & Associates	LOGS OF EXPLORATORY BORINGS	Fig. 2

Table I
Summary of Laboratory Test Results

Project No.: 21-3-168
Project Name: River Run Wells
Date Sampled: July 7, 2021
Date Received: July 9, 2021

Sample Location		Date Tested	Natural Moisture Content (%)	Natural Dry Density (pcf)	Gradation		Percent Passing No. 200 Sieve	Atterberg Limits		Water Soluble Sulfates (%)	AASHTO Classification (Group Index)	Soil or Bedrock Type
Boring	Depth (Feet)				Gravel (%)	Sand (%)		Liquid Limit (%)	Plasticity (%)			
1	1	7/13/21	23.7				78	42	23		A-7-6 (17)	Lean Clay with Sand (CL)
3	2	7/13/21	21.0				44	NV	NP		A-4 (0)	Silty Sand (SM)

* - Optimum moisture content and maximum dry density as determined by standard Proctor (ASTM D 698)

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS

SITUATED IN THE SOUTHEAST 1/4 OF SECTION 32, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE 6TH P.M.
CITY OF GREELEY, WELD COUNTY, STATE OF COLORADO

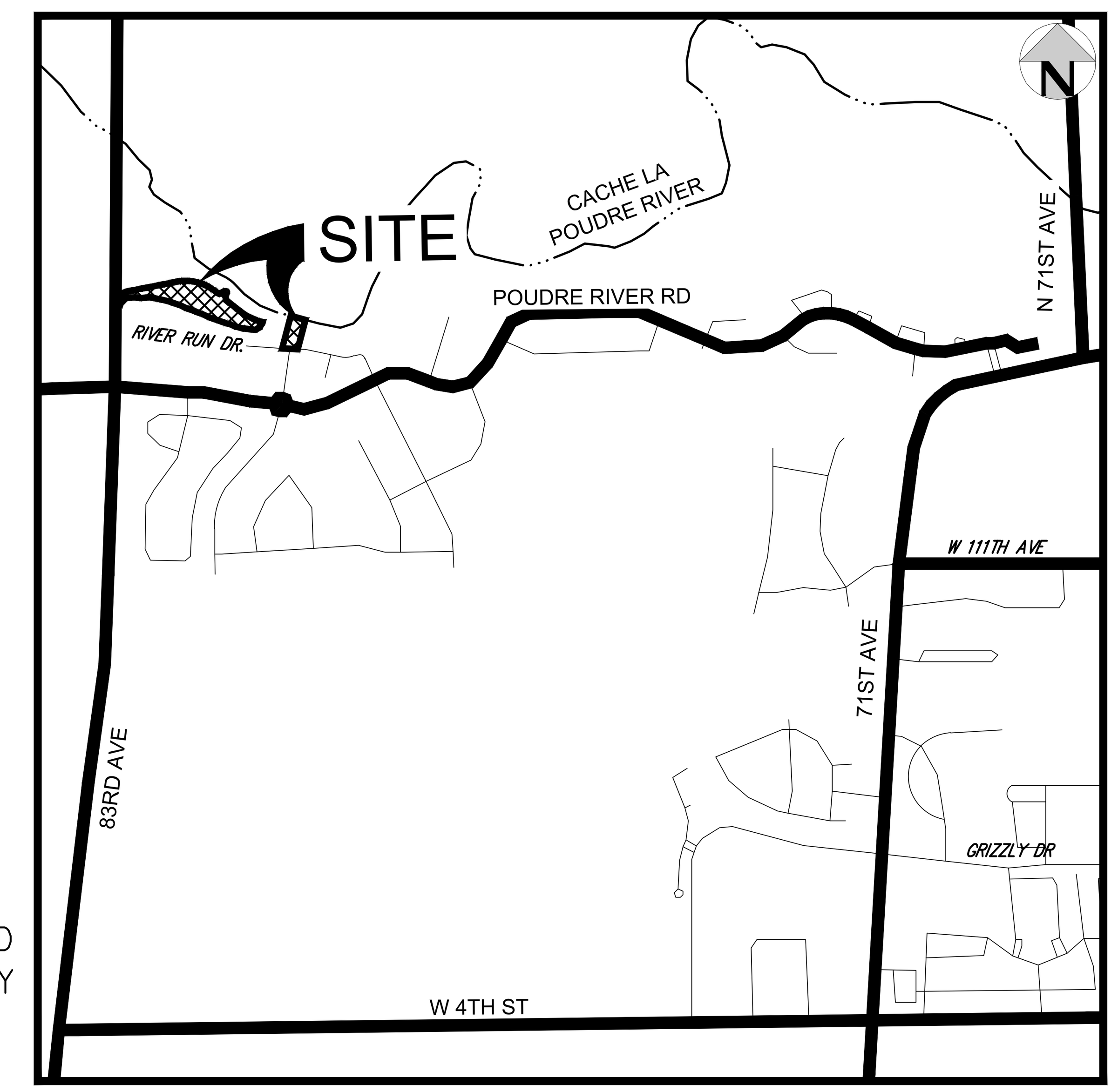
FINAL CONSTRUCTION DOCUMENTS

CITY OF GREELEY GENERAL NOTES

1) ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY, OR EASEMENT, SHALL CONFORM TO THE CITY OF GREELEY CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
2) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ONT HE PROJECT. A PERMIT FROM PUBLIC WORKS DEPARTMENT (970-350-9881) IS REQUIRED FOR ALL CONSTRUCTION IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILLL BE ISSUED. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3) THE CONTRACTOR SHALL NOTIFY CONSTRUCTION SERVICES (970-350-9358) AT LEAST 24 HOURS PRIOR TO REQUIRE INSPECTION.
4) IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/DEVELOPER, AND THE CITY, OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
5) IT IS THE RESPONSIBILITY OF THE DEVELOPER/ENGINEER DURING CONSTRUCTION ACTIVITIES TO RESOLVE CONSTRUCTION PROBLEMS DUE TO CHANGED CONDITIONS, OR DESIGN ERRORS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROJECT. IF, IN THE OPINION OF THE CITY, THE MODIFICATIONS PROPOSED BY THE DEVELOPER/ENGINEER, TO THE ACCEPTED PLANS, INVOLVE SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DEVELOPER/ENGINEER SHALL BE RESPONSIBLE FOR RE-SUBMITTING THE REVISED PLANS TO THE CITY OF GREELEY FOR ACCEPTANCE PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE PROJECT. ANY IMPROVEMENTS NOT CONSTRUCTED IN ACCORDANCE WITH THE ACCEPTED PLANS, OR THE ACCEPTED REVISED PLANS, SHALL BE REMOVED AND RECONSTRUCTED ACCORDING TO THE APPROVED PLAN.
6) THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENTS SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
7) THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE GREELEY SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8) THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL LICENSED SURVEYOR (PLS) PRIOR TO DISTURBING ANY MONUMENTS.

CITY OF GREELEY STORMWATER GENERAL NOTES

1) ALL STORMWATER FACILITY CONSTRUCTION SHALL CONFORM TO THE MOST RECENT VERSION OF CITY OF GREELEY STANDARD DETAILS. CONSTRUCTION SPECIFICATIONS FOR STORMWATER FACILITIES NOT COVERED BY THE CITY'S STANDARD DETAILS SHALL BE THOSE IN THE MOST RECENT VERSION OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR THOSE PUBLISHED BY THE MILE HIGH FLOOD DISTRICT (MHFD). DETAILS NOT COVERED BY THE CITY'S STANDARD DETAILS SHALL BE THOSE IN THE CDOT MISCELLANEOUS STANDARD PLANS (M-STANDARDS) OR THOSE PUBLISHED BY THE MHFD OR AS APPROVED BY THE CITY OF GREELEY.
2) CITY STANDARD DETAILS ARE NOT TO SCALE UNLESS A SCALE IS INDICATED.
3) REMOVE ALL DEBRIS FROM TRENCHES, INCLUDING SODA CANS, RAGS, PIPE BANDING MATERIAL, ETC. BEFORE BACKFILLING.
4) ALL REBAR USED FOR STORM DRAINAGE STRUCTURES SHALL BE EPOXY COATED.
5) THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS IN THE STATE STORMWATER PERMIT INCLUDING DAILY STREET AND WALKWAY SWEEPING AND DUST CONTROL, USING WATER AS A DUST PALLIATIVE WHERE REQUIRED. COSTS FOR THIS WORK ARE INCLUDED IN THE ACCEPTED TOTAL BID AND NO ADDITIONAL PAYMENT SHALL BE MADE.
6) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-CONSTRUCTED RECORD DRAWINGS TO THE CITY OF GREELEY'S PUBLIC WORKS DEPARTMENT IN ACCORDANCE WITH THE CITY'S STORM DRAINAGE DESIGN CRITERIA.
7) THE CONTRACTOR IS REQUIRED TO HAVE A CURRENT CITY OF GREELEY CONTRACTOR'S LICENSE TO PERFORM ANY WORK IN PUBLIC RIGHT-OF-WAY OR EASEMENTS.
8) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK.
9) THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ALL CONSTRUCTION-RELATED CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK AT ALL TIMES. ANY CITY INSPECTIONS COMPLETED DURING CONSTRUCTION ARE NOT INTENDED TO EVALUATE THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
10) WORKING HOURS SHALL BE BETWEEN 7:00 AM AND 6:00 PM ON NORMAL CITY OF GREELEY BUSINESS DAYS UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE CITY.
11) THE OWNER SHALL ENSURE THAT THE SIZE AND TYPE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK ARE LOCATED AND SHOWN ON THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INCLUDING, BUT NOT LIMITED TO, ATMOS ENERGY, CENTURYLINK, XCEL ENERGY, COMCAST, AND THE GREELEY WATER AND SEWER DEPARTMENT, PRIOR TO COMMENCING CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES FIELD LOCATED.



VICINITY MAP
SCALE: 1" = 1000'

SHEET INDEX

LEGAL DESCRIPTION

THE SITE IS LOCATED IN WELD COUNTY PARCEL NO. 080532300075. THE PARCEL AND SITE ARE OWNED BY THE CITY OF GREELEY.

BENCHMARK

BENCHMARK IS CITY OF GREELEY BENCHMARK NO. 56605B, BEING A 3.25" ALUMINUM CAP ON THE SOUTH SIDE OF 4TH STREET, 0.2 MILES WEST OF 71ST AVENUE, ELEVATION = 4804.20 NAVD88.

BASIS OF BEARINGS

BEARINGS ARE BASED ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 6 NORTH, RANGE 66 WEST AS BEARING SOUTH 00°39'39" EAST PER THE PLAT OF RIVER RUN AT POUDRE RIVER RANCH FIRST FILING, REPLAT A RECORDED AT RECEPTION NO. 4053960 OF WELD COUNTY RECORDS.

ABBREVIATIONS	
ESCP	EROSION AND SEDIMENT CONTROL PLAN
EX	EXISTING
FES	FLARED END SECTION
FL	FLOWLINE
INV	INVERT
PR	PROPOSED
RCBC	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
STR	STRUCTURE
SW	SIDEWALK

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1	CLEARING AND GRUBBING	LS	1
2	REMOVAL OF CONCRETE BOX CULVERT	LF	10
3	REMOVAL OF SIDEWALK	SY	12
4	REMOVE/RESET SPLIT-RAIL FENCE	LF	40
5	UNCLASSIFIED EXCAVATION (CIP)	CY	261
6	INSTALL SLIDE GATE (WATERMAN VALVE A-250 SERIES)	EA	2
7	INSTALL DEBRIS GRATE / SCREEN	EA	2
8	CONCRETE PAVEMENT (MATCH EX THICKNESS)	SY	54
9	VOID-FILLED RIPRAP (12-INCH / TYPE M)	CY	22
10	24-INCH REINFORCED CONCRETE PIPE	LF	32
11	24-INCH REINFORCED CONCRETE END SECTION W/ TOE WALL	EA	1
12	24" BACKFLOW PREVENTER (TIDEFLEX CHECKMATE INLINE CHECK VALVE)	EA	1
13	DIVERSION STRUCTURE (CAST-IN-PLACE)	LS	1
14	24" SLIDE GATE (FRESNO SERIES 6400 MODEL 20-10C)	EA	1
15	GRATED MANWAY ACCESS (NEENAH R-2565-E)	EA	1
16	HEAVY DUTY HINGE (SHUT IT BRAND, MODEL CI3720)	EA	12
17	CONSTRUCTION FENCE	LF	1296
18	CONSTRUCTION SURVEYING	LS	1
19	MOBILIZATION	LS	1
20	TRAFFIC CONTROL / TRAIL CLOSURE SIGNAGE	LS	1
21	EROSION CONTROL	LS	1
	EROSION LOG TYPE 1 (12-INCH)	LF	128
	SILT FENCE	LF	234
	COFFERDAM	LF	107
	AGGREGATE BAG	LF	466
	PRE-FABRICATED CONCRETE WASHOUT STRUCTURE	EA	1
	INLET PROTECTION	EA	1
	PRE-FABRICATED VEHICLE TRACKING PAD	EA	1
	DEWATERING	LS	1
	SOIL RETENTION BLANKET (STRAW-COCONUT)(BIODEGRADABLE CLASS 1)	SY	143
	MULCHING (WEED FREE STRAW)	AC	0.13
	SEEDING (RIPARIAN)	AC	0.03
	SEEDING (LAWN)	AC	0.13

ALL WORK MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

BHOOSHAN KARNIK, CHIEF ENGINEER DATE

KAREN REYNOLDS, STORMWATER MANAGER DATE

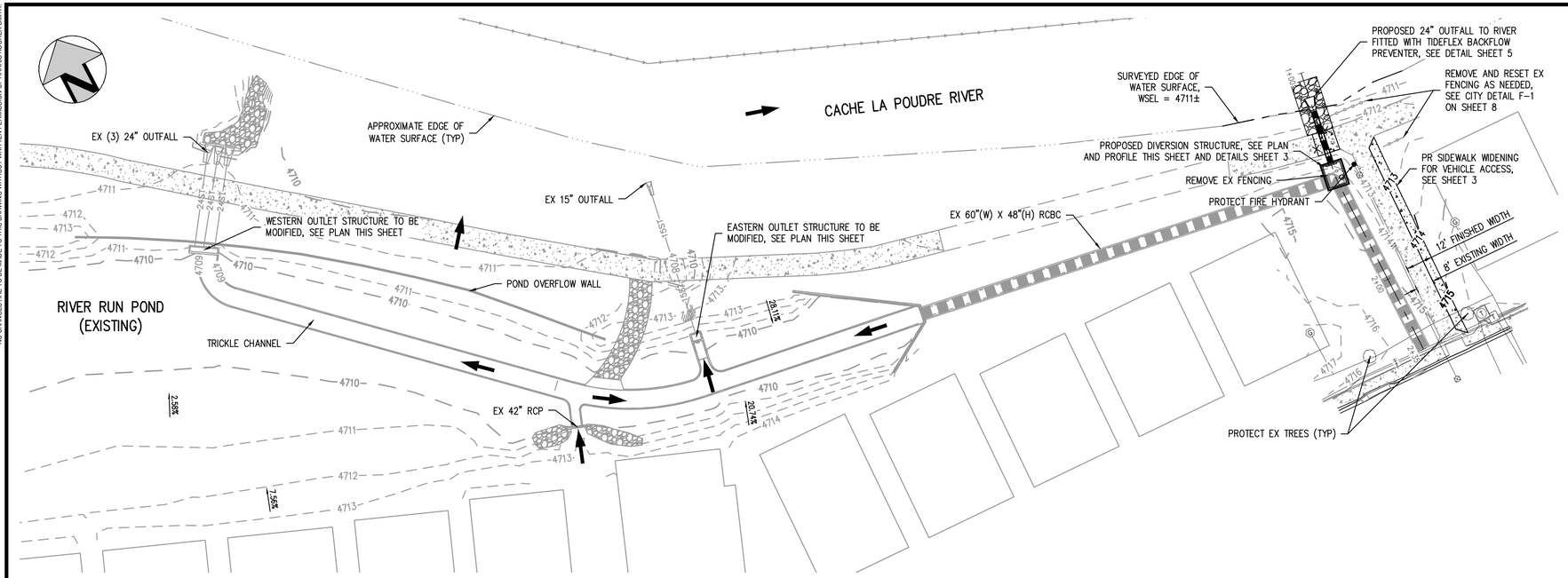
COLORADO LICENSED MARK A. WEST 38561 PROFESSIONAL ENGINEER 03/07/2025

ISSUE DATE: 10-25-2024	PROJECT #: 240339
DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
03-07-2025	BID SET

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

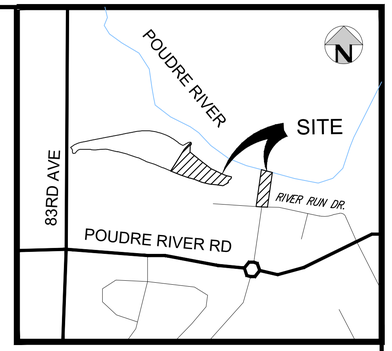
City of Greeley Colorado

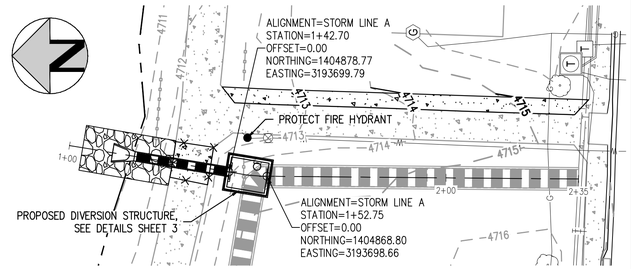
HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com



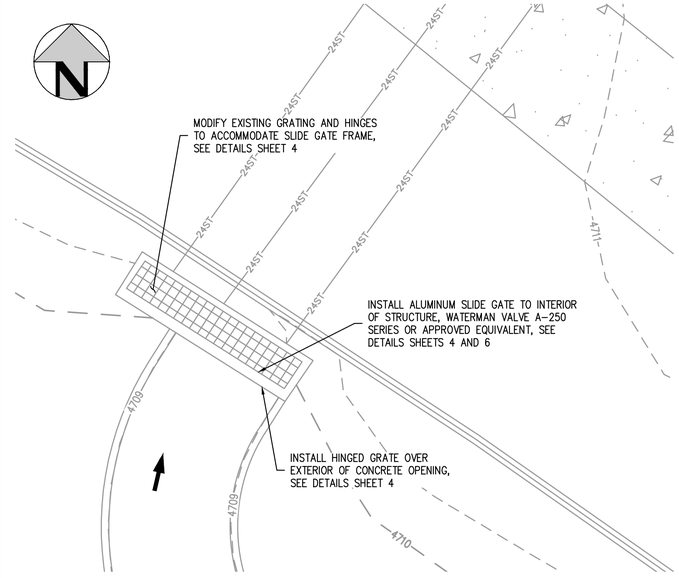
OVERALL POND PLAN
SCALE: 1" = 30'

LEGEND
- EXISTING CONTOURS
- FLOW DIRECTION
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN

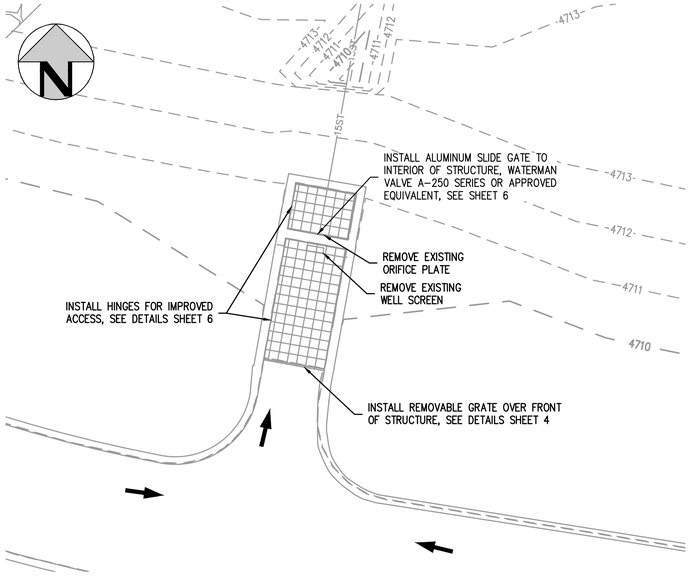




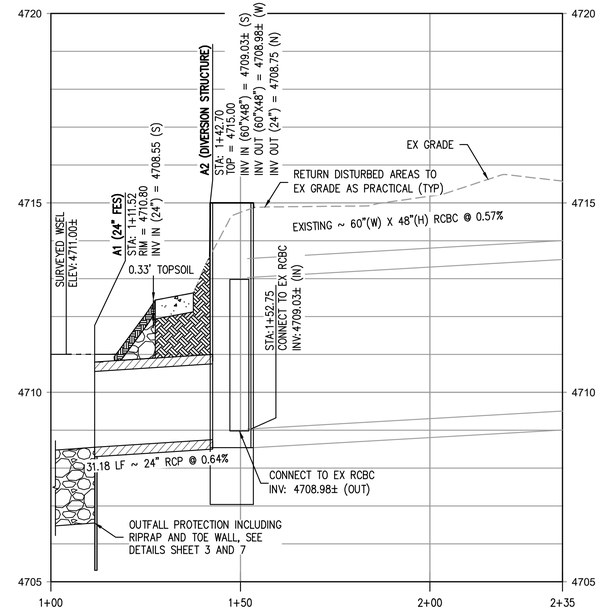
PROPOSED DIVERSION STRUCTURE PLAN
SCALE: 1" = 20'



WESTERN OUTLET STRUCTURE PLAN
SCALE: 1" = 5'



EASTERN OUTLET STRUCTURE PLAN
SCALE: 1" = 5'



PROPOSED DIVERSION STRUCTURE PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

Know what's below. Call before you dig.

SCALE: 1" = 30'

DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024	
DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
03-07-2025	BID SET

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
POND IMPROVEMENT PLAN AND PROFILE

COLORADO LICENSED MARK A. WEST 38561 PROFESSIONAL ENGINEER 03/07/2025

PROJECT #: 240339
SHEET NUMBER 2

FILEPATH: P:\2024\240339\ENGINEERING\DRAINAGE\CD - P&P DWG LAYOUT: P&P
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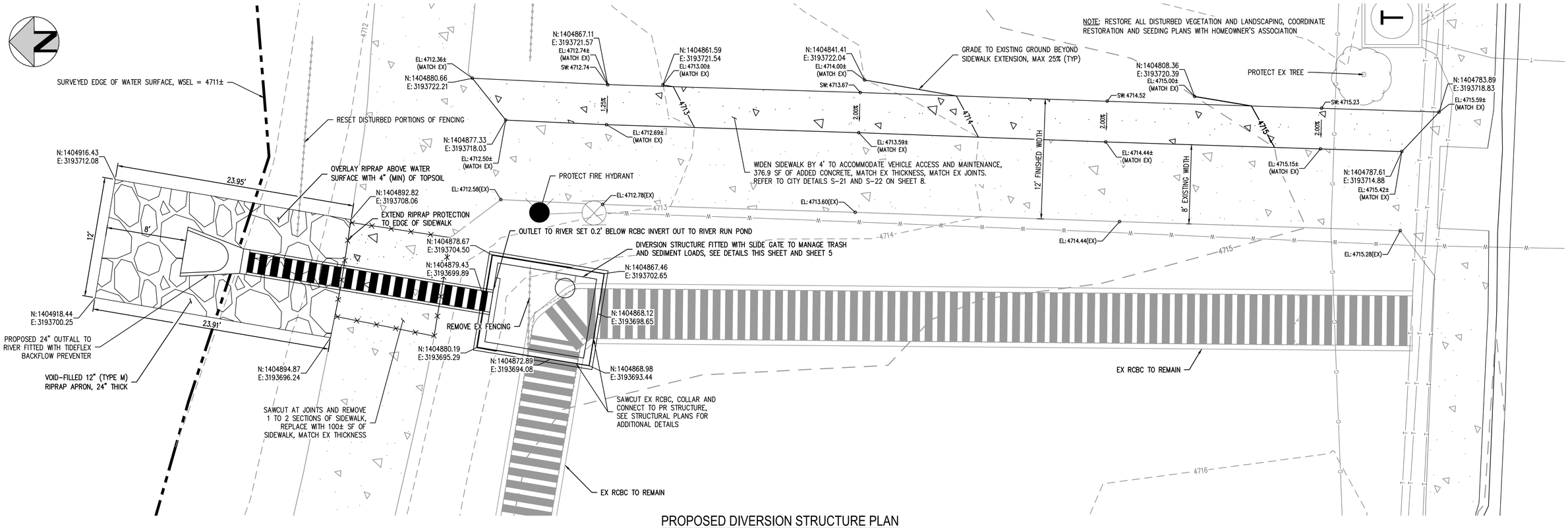
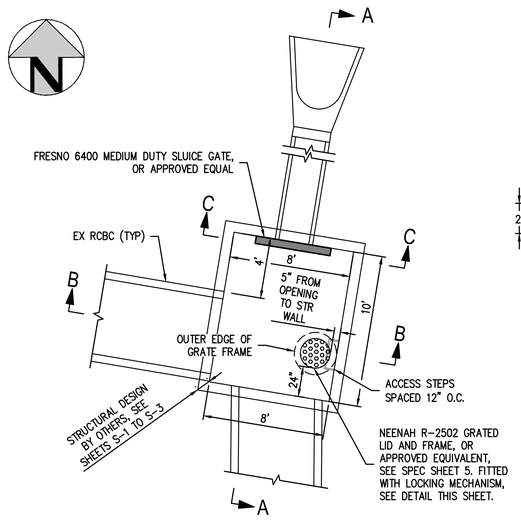
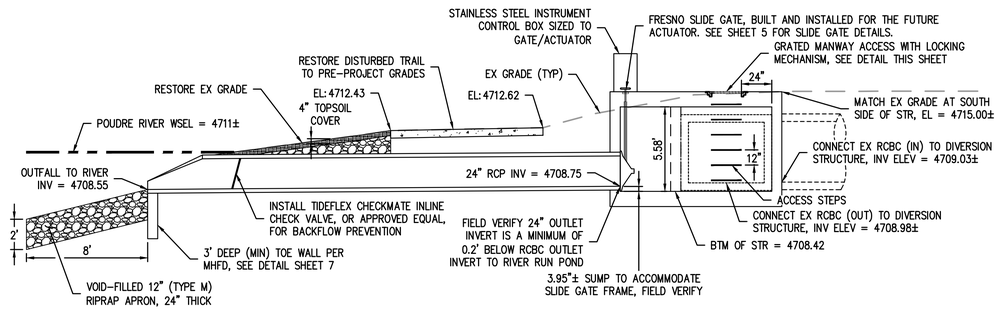


PROPOSED DIVERSION STRUCTURE PLAN
SCALE: 1" = 5'



PROPOSED DIVERSION STRUCTURE DETAIL
SCALE: 1" = 5'



DIVERSION STRUCTURE DETAIL - SECTION A
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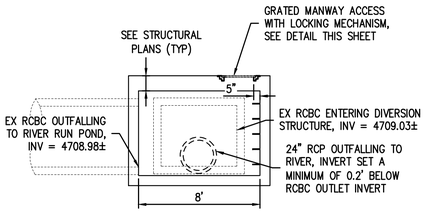

DIVERSION STRUCTURE DETAIL
SECTION B
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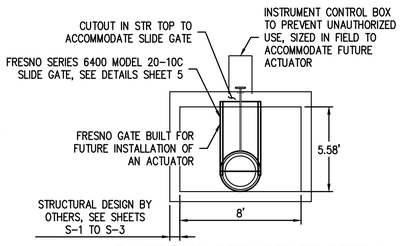
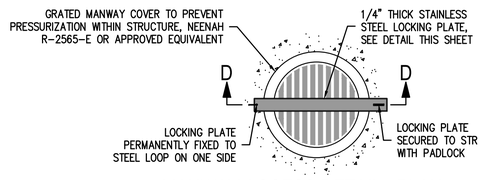


DIVERSION STRUCTURE DETAIL
SECTION C
SCALE: 1" = 5'



MANWAY ACCESS DETAIL - PLAN
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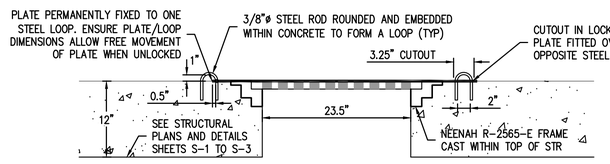
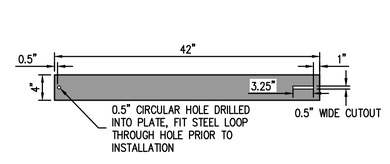


MANWAY ACCESS DETAIL - SECTION D
SCALE: 1" = 1'



LOCKING PLATE DETAIL
SCALE: 1" = 1'

Know what's below. Call before you dig.

5 0 5 10
SCALE: 1" = 5'

DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
03-07-2025	BID SET

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
DIVERSION STRUCTURE DETAILS

COLORADO LICENSED MARK A. WEST 38561 03/07/2025 PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER 3
3 OF 18

FILEPATH: P:\2024\240339\ENGINEERING\DRAINAGE\CD - P&P DWG LAYOUT: DTL1
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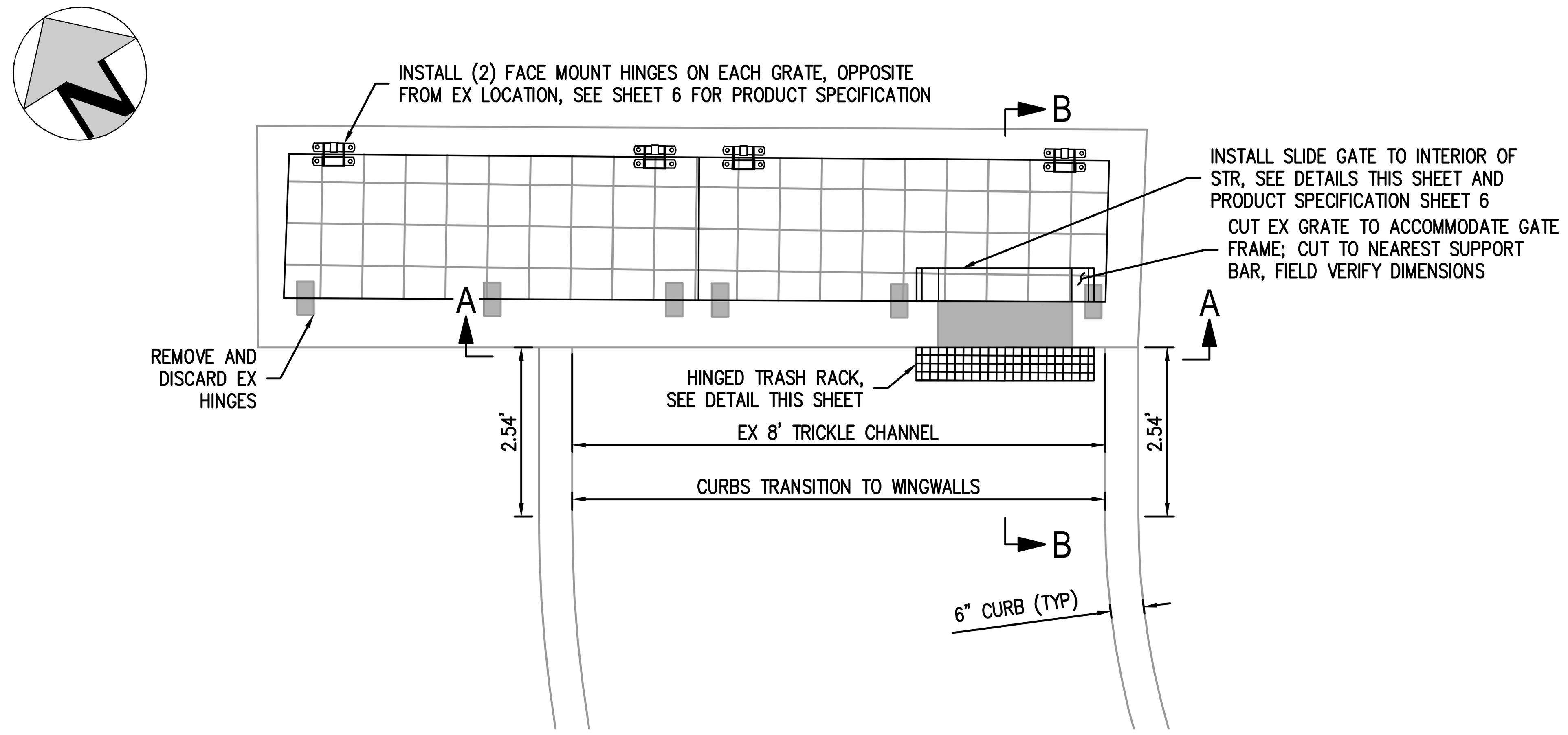
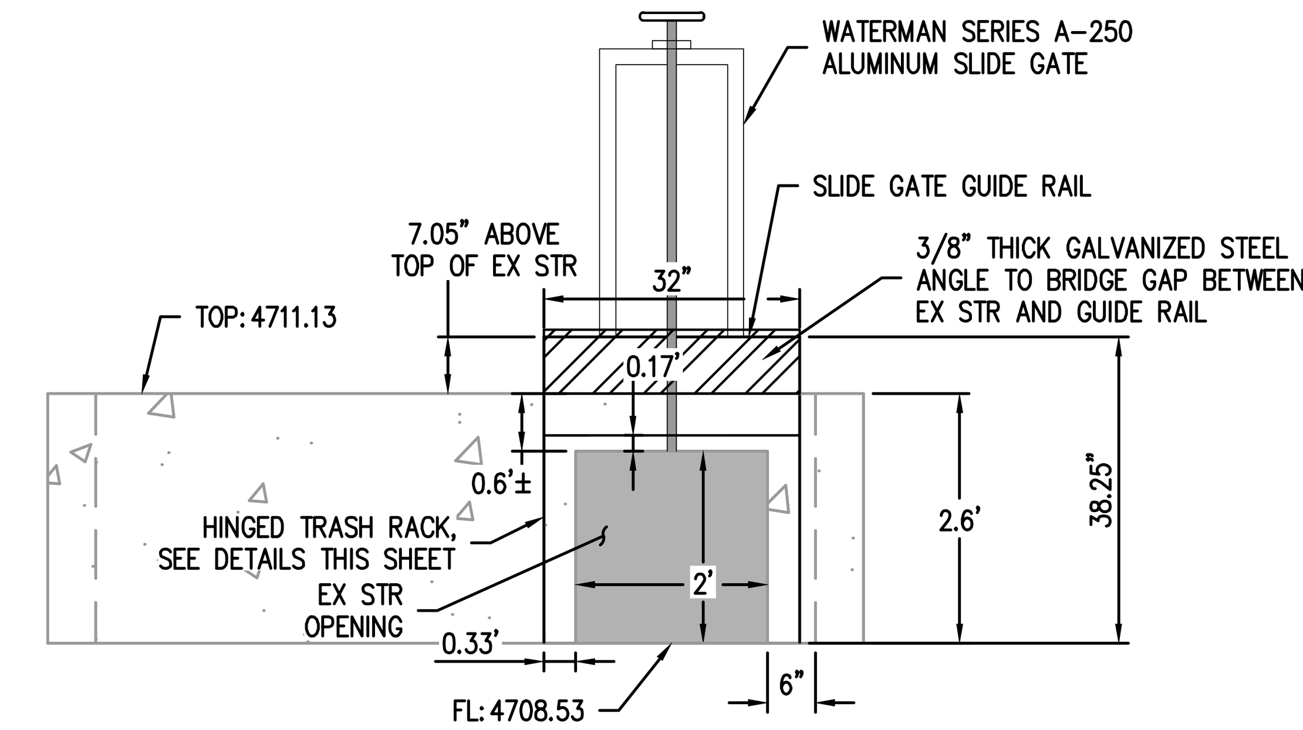
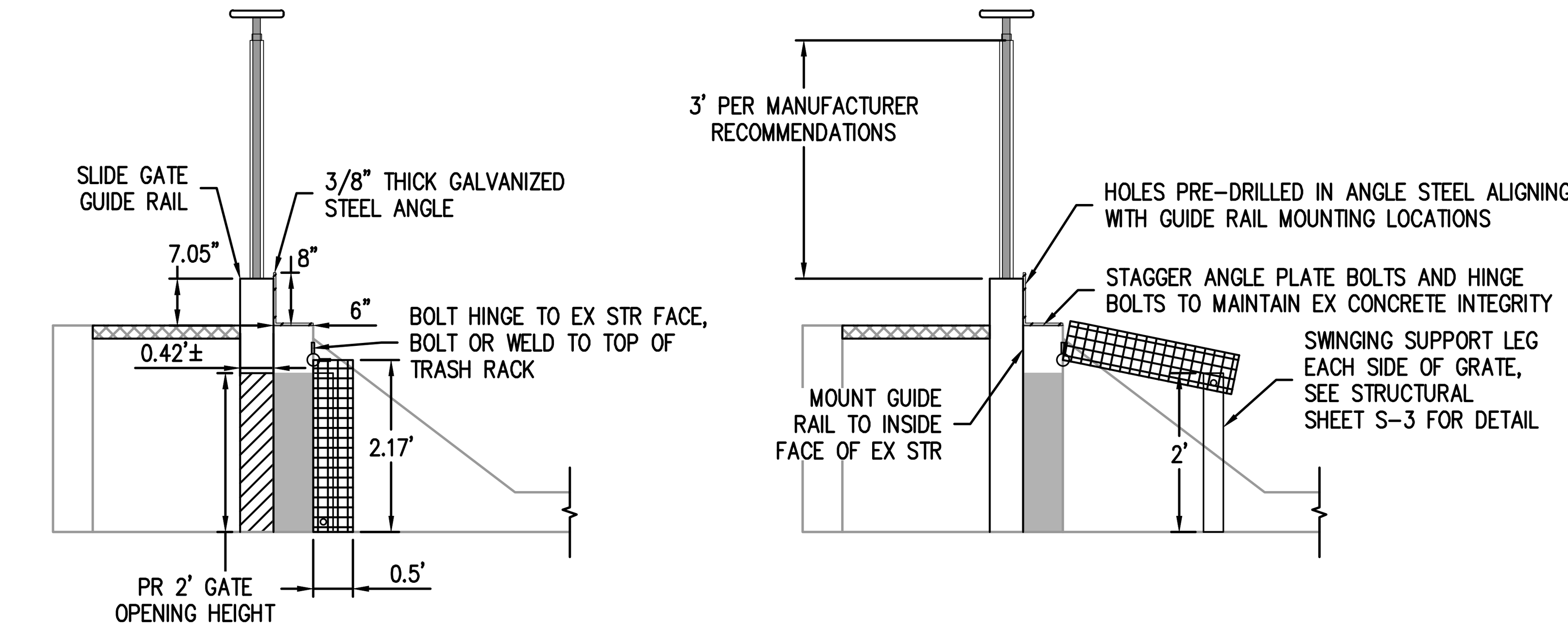


WESTERN OUTLET STRUCTURE DETAIL
SCALE: 1" = 2'



WESTERN OUTLET STRUCTURE DETAIL - SECTION A
SCALE: 1" = 2'



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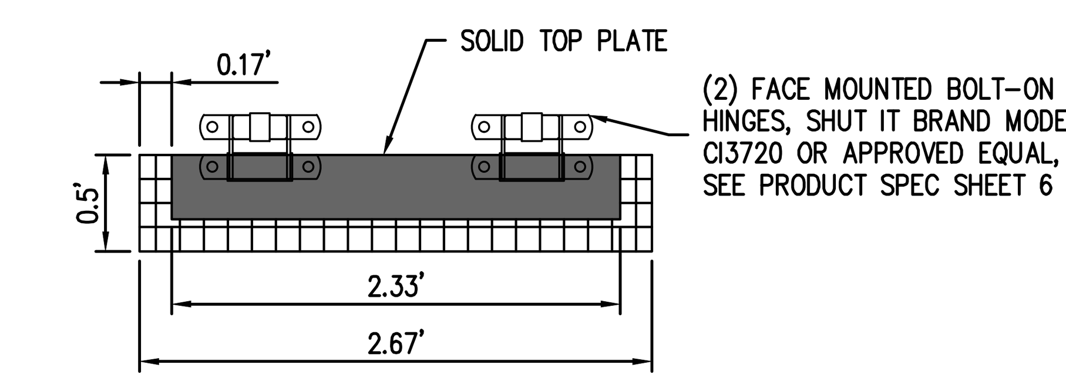
SCALE: 1" = 2'



HINGED TRASH RACK DETAIL - PLAN
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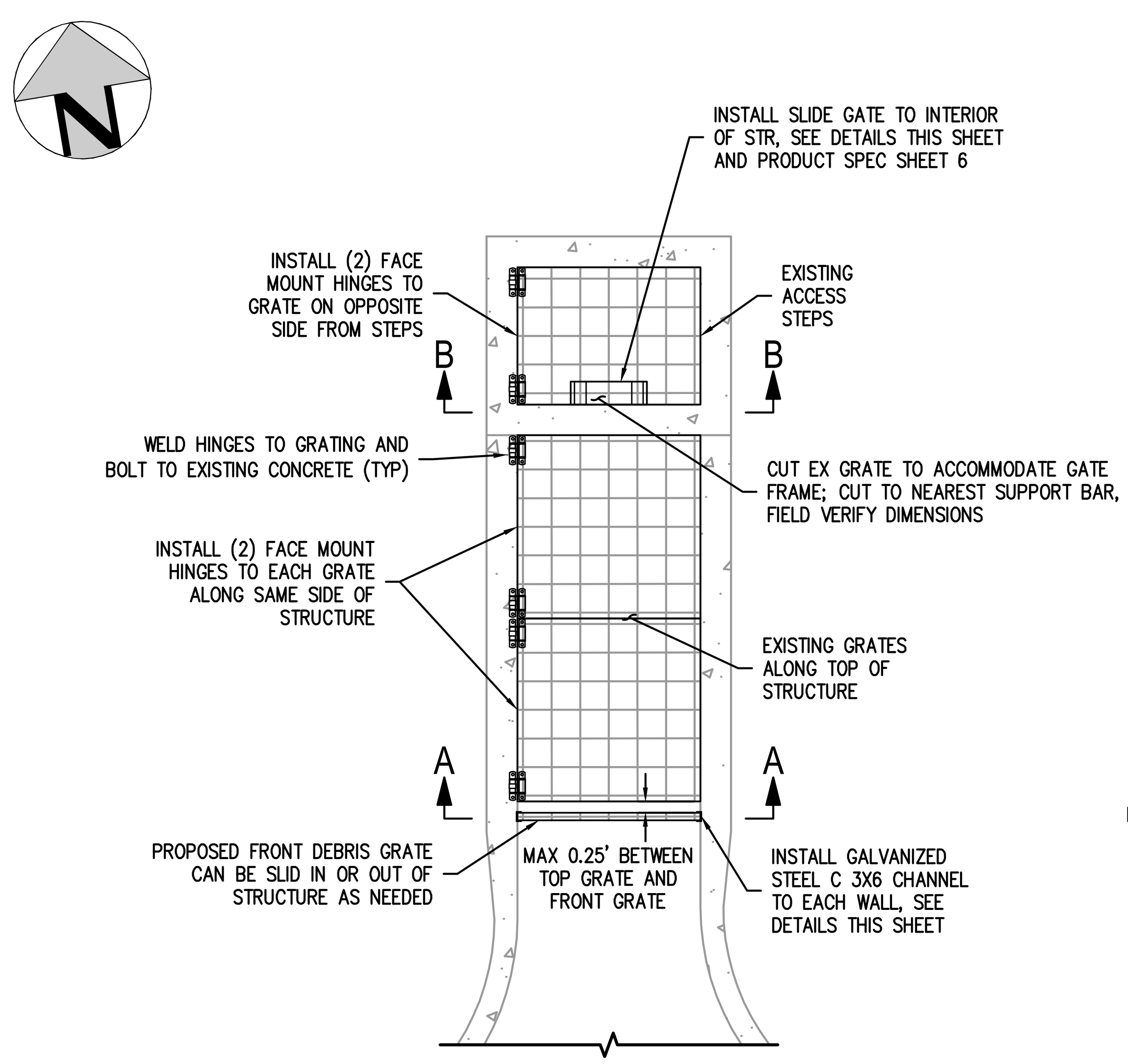
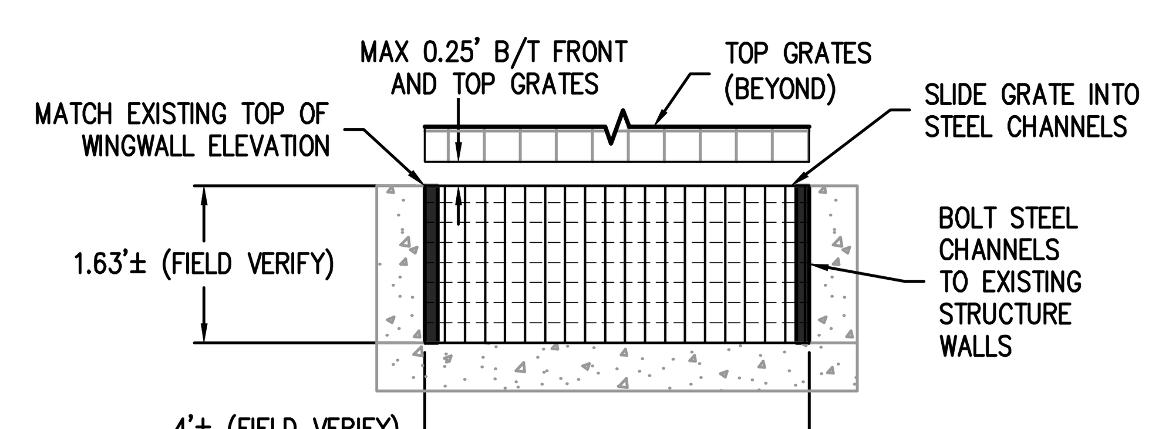
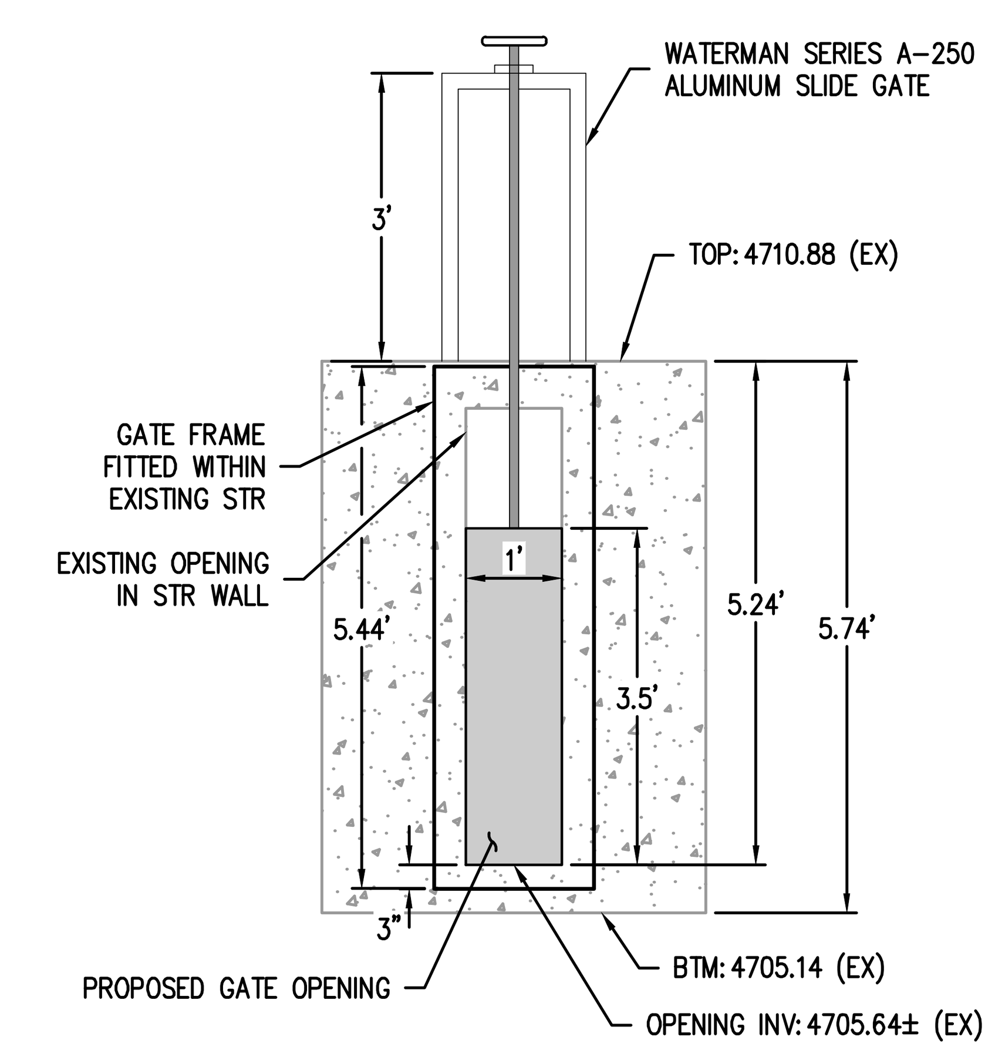


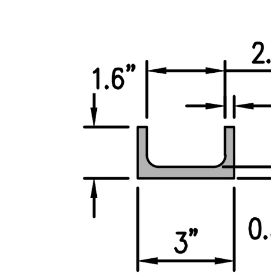
EASTERN OUTLET STRUCTURE DETAIL
SCALE: 1" = 3'



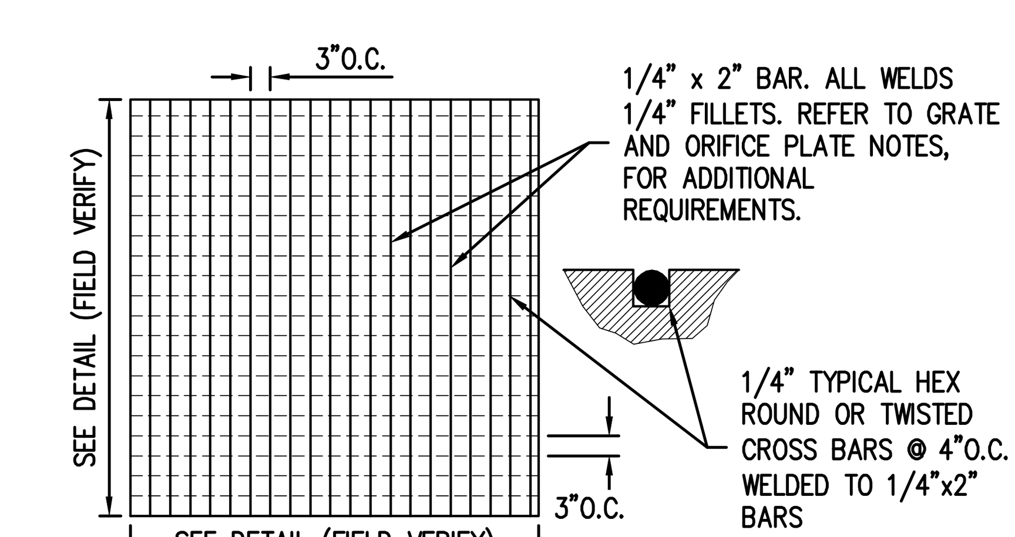
EASTERN OUTLET STRUCTURE DETAIL - SECTION A
SCALE: 1" = 5'



EASTERN OUTLET STRUCTURE DETAIL - SECTION B
SCALE: 1" = 5'



TYPICAL C3X6 CHANNEL
SCALE: NTS



TYPICAL TRASH RACK GRATING DETAIL
SCALE: 1" = 2'

Know what's below. Call before you dig.

30 0 30 60
SCALE: 1" = 30'

DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

DATE	REVISION COMMENTS
	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
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City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
OUTLET STRUCTURE DETAILS

COLORADO LICENSED MARK A. WEST 38561 PROFESSIONAL ENGINEER 03/07/2025

PROJECT #: 240339
SHEET NUMBER
4
4 OF 18

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

FILEPATH: P:\2024\240339\ENGINEERING\DRAINAGE\CD - P&P.DWG LAYOUT: DTL2
6 XREFs: e-base, e-legal[U], e-util, Keymap, p-base, stamp
PLOTTED: FRI 03/07/25 3:22:15P BY: STERLING MARVIN

CheckMate UltraFlex®- Often Imitated, Never Equaled

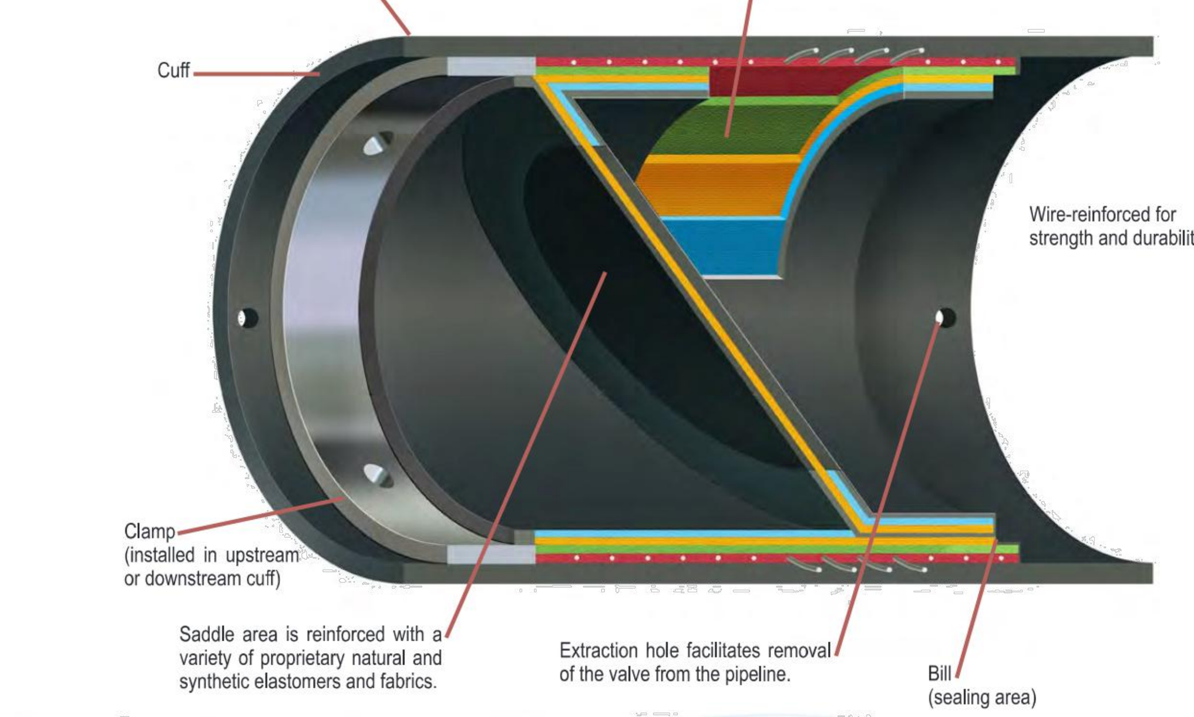
A Legacy of Leadership

Nearly 70 years ago, Red Valve was founded on a simple promise, to design and manufacture the highest quality engineered check valves, backed by an unsurpassed level of technical innovation and customer service.

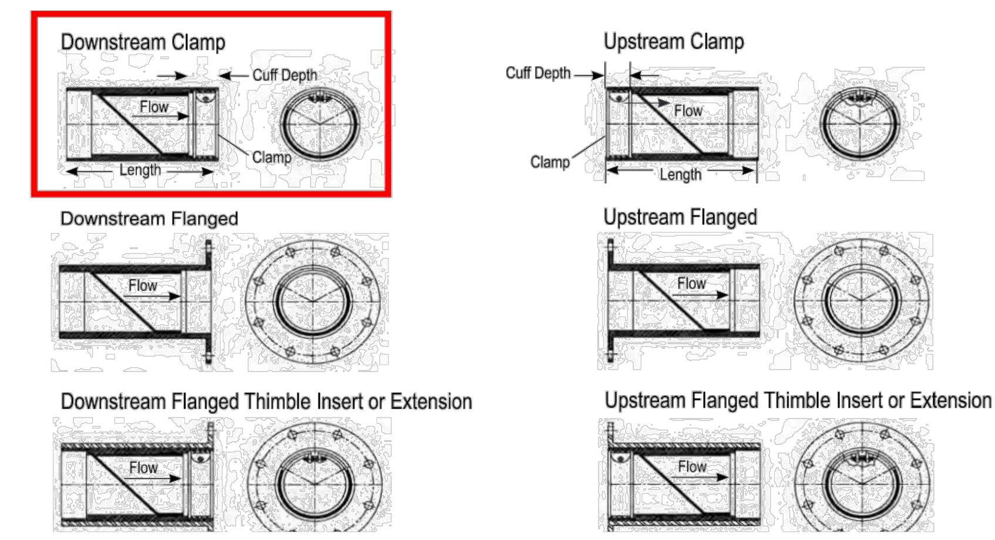
In 1984, the United States Environmental Protection Agency (EPA) commissioned Red Valve to develop and test an alternative to flap gate valves with the understanding that "Increasing the reliability and performance of tide gates has a beneficial impact on the general pollution abatement program for the nation's waterways."

In response, Red Valve developed and patented the Tideflex® Duckbill Check Valve and CheckMate® In-Line Check Valve. Today, more than one million Tideflex® Duckbill Check Valves and CheckMate® In-Line Check Valves are in service around the world, reliably solving backflow problems.

The CheckMate UltraFlex® Valve is a professional's choice for municipal and industrial applications - including stormwater, wastewater, highway run-off, combined sewer overflow (CSO), sanitary sewer overflow (SSO) and flood control. No other valve outperforms the CheckMate UltraFlex® for preventing unwanted backflow that can cause surcharging and flooding.



Configurations and Custom Designs



CheckMate® can be made for any pipe I.D. Built to fit in sizes from 3-72" (75-1800mm).

Flange shape and bolt pattern can be customized. Flangeless thimble inserts are available.

DIMENSIONS

	Nominal Pipe Size I.D. Inches	Nominal Pipe Size I.D. Millimeters	Overall Length* Inches	Overall Length* Millimeters	Number of Clamps	Cuff Depth Inches	Cuff Depth Millimeters	Back Pressure Rating** Feet	Back Pressure Rating** Meters	Weight*** lbs	Weight*** Kg
Low Pressure	3	75	5.1	130	1	1.5	38	10	3.0	0.7	0.3
	4	100	7.9	201	1	1.5	38	10	3.0	1.5	0.7
Standard Pressure	4	100	7.9	201	1	1.5	38	85	26.0	3	1.5
	5	125	9.5	241	1	1.5	38	83	25.3	4	2
	6	150	11.0	279	1	2.0	51	83	25.3	9	4
	7	175	12.8	325	1	2.0	51	79	24.1	11	5
	8	200	15.2	386	1	2.0	51	79	24.1	13	6
	9	225	15.4	391	1	2.0	51	75	22.9	17	8
	10	250	16.1	409	1	2.0	51	71	21.6	20	10
	12	300	19.8	503	1	2.0	51	68	20.1	37	17
	14	350	25.8	655	1	4.0	102	64	20.0	110	50
	15	381	25.8	655	1	4.0	102	62	18.9	120	55
	16	400	28.6	726	1	4.0	102	60	18.3	133	52
	18	450	31.0	787	1	4.0	102	56	17.1	143	65
	20	500	42.1	1069	2	8.0	203	53	16.2	223	102
	24	600	47.5	1207	2	8.0	203	45	13.7	304	137
	26	650	50.0	1270	2	8.0	203	42	12.8	370	168
	28	700	52.0	1321	2	8.0	203	40	12.2	434	197
	30	750	54.9	1395	2	8.0	203	38	11.6	500	227
	36	900	62.3	1582	2	8.0	203	30	9.1	828	376
	42	1050	70.6	1793	2	8.0	203	28	8.5	1423	646
	48	1200	79.0	2007	2	8.0	203	26	7.9	1801	817
	54	1350	86.4	2195	2	8.0	203	20	6.1	2700	1225
	60	1500	96.8	2459	2	9.0	229	18	5.5	3315	1504
	72	1800	119.0	3023	3	12.0	305	15	4.6	6100	2767

*Shorter lengths available.

**Back pressure measured from pipe invert. Higher back pressure ratings available. Consult factory.

***Weights are approximate and do not include crating.

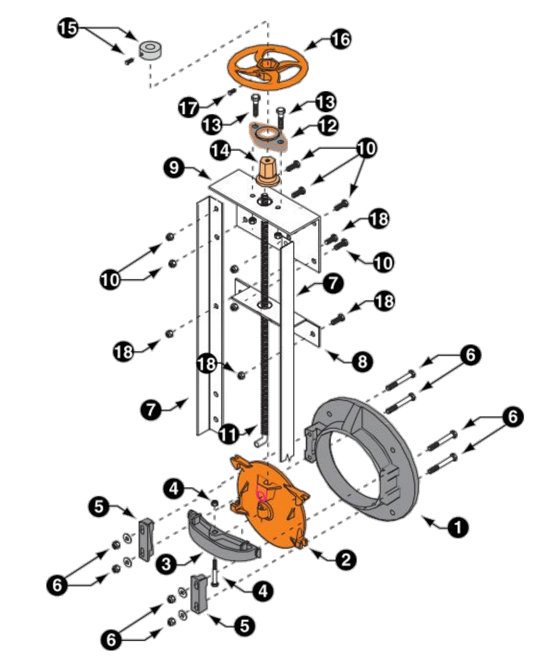
FRESNO

SERIES 6400 MODEL 20-10C SLIDE GATE

Series 6400 Slide Gate

Features

- Unique cross bar design provides uniform wedging action around seating surface.
- Roll threaded rising stem ensures ease of operation and extended stem life.
- Rugged Cast Iron seat and cover.
- Available for mounting to headwalls or corrugated pipe.
- Precision machined seating surfaces.
- Rated for up to 20 ft. seating head and 10 ft. unseating head.



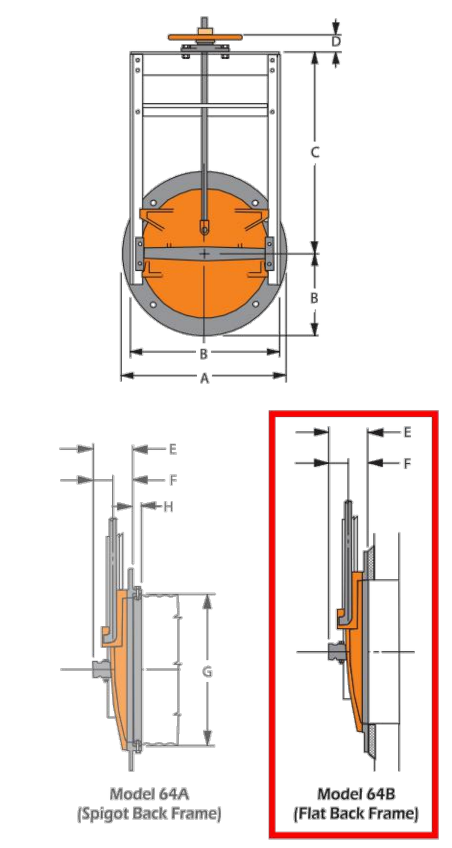
Material Specifications

Item	Description	Material	Specification
1	Seat	Cast Iron	ASTM A126, Class B
2	Slide	Cast Iron	ASTM A126, Class B
3	Cross Bar	Cast Iron	ASTM A126, Class B
4	Cross Bar Bolt & Nut	Steel, Plated	ASTM A307, A164
5	Wedge	Cast Iron	ASTM A126, Class B
6	Wedge Fasteners	Steel, Plated	ASTM A307, A164
7	Side Angle	Steel, Galvanized	ASTM A36
8	Stem Support	Steel, Galvanized	ASTM A36
9	Head Bar	Steel, Galvanized	ASTM A36
10	Head Bar Fasteners	Steel, Plated	ASTM A307, A164
11	Stem	Steel	ASTM A108, Grade 1045
12	Keeper	Cast Iron	ASTM A126, Class B
13	Keeper Bolts & Nuts	Steel, Plated	ASTM A307, A164
14	Lift Nut	Brass	ASTM B584, Alloy 844
15	Stop Nut	Brass	ASTM B16
16	Handwheel	Cast Iron	ASTM A126, Class B
17	Handwheel Set Screw	Steel, Plated	ATSM A307, A164
18	Stem Supt., Bolts/Nuts	Steel, Plated	ATSM A307, A164

Applications

The Series 6400 Slide Gate is designed for use in water control systems, reservoirs, irrigation systems, drainage systems, dams, soil conservation projects and flood control systems. The unique design of the Model 20-10C makes it ideal for controlling flow through round openings with heads up to 20 ft. on the front side and up to 10 ft. on the back side.

SPECIFICATIONS



Pressure Rating

Gate Size:

8"-12" .... 35 ft.
14"-18" .... 32 ft.
20"-24" .... 26 ft.
30"-42" .... 20 ft.

Installation

The Series 6400 Slide Gate is normally installed on corrugated steel pipe or bolted to a concrete head wall or steel flange. When attached to corrugated steel pipe, the spigot back style seat is used. This style seat allows for a simple bolted connection to the pipe or the use of a rod and lug harness assembly to mount the gate to the pipe. In either case, a mastic is used to seal the joint. When mounted to a concrete headwall the flat back style seat is used in conjunction with embedded anchor bolts to locate, align and support the gate. A 1" space between the seat and concrete is grouted after the gate has been mounted on the anchor bolts. The flat back style seat can also be machined and drilled to match a partial pattern of a standard 25 lb. or 125 lb. flange.

Options

- Frame angles - painted, Galvanized or Stainless Steel
- Cast Iron or Bronze seating faces
- Stainless Steel stems and fasteners
- Flatback for headwall or flange mounting
- Spigot back for mounting to corrugated pipe
- Rising and non-projecting stems
- Rising stem and non-projecting stem extensions.
- Tapered setting collars for concrete pipe installations.

SLIDE GATE IS TO BE BUILT AND INSTALLED FOR THE FUTURE ACTUATOR

Dimensional Information

Gate Size (Inches)	Dimensions (Inches) A	B	C	D	E	F	G	H	Anchor Bolt Data Qty.	Size	Lift Data Lift Type	H/Wheel Dia.	Stem Dia.
8	13.50	11.38	18.00	2.88	6.19	3.00	8.75	1.50	4.0	1/2 x 12	H1	10.0	7/8
10	16.00	13.38	21.00	2.88	6.44	3.00	10.75	1.50	4.0	1/2 x 12	H1	10.0	7/8
12	19.00	15.38	24.00	2.88	6.63	3.00	13.25	1.50	4.0	1/2 x 12	H1	10.0	7/8
14	21.00	17.38	27.00	2.88	6.88	3.31	15.25	1.50	4.0	1/2 x 12	H1	10.0	7/8
15	22.00	18.38	28.50	2.88	7.69	3.31	16.25	1.50	4.0	1/2 x 12	H1	10.0	7/8
16	23.50	19.38	30.00	2.88	7.94	3.31	17.25	1.50	4.0	1/2 x 12	H1	10.0	7/8
18	25.00	22.88	33.25	2.88	9.00	4.19	19.25	1.50	4.0	5/8 x 12	H1	14.0	1-1/8
20	27.50	24.88	36.25	2.88	9.31	4.19	21.25	1.50	4.0	5/8 x 12	H1	14.0	1-1/8
21	28.50	25.88	37.75	2.88	9.56	4.19	22.25	1.50	4.0	5/8 x 12	H1	14.0	1-1/8
24	32.00	28.88	42.25	2.88	10.94	4.19	25.25	1.50	4.0	5/8 x 12	H1	14.0	1-1/8
30	38.75	35.88	51.50	3.50	12.25	4.75	33.25	2.00	6.0	3/4 x 12	H2	18.0	1-1/2
36	46.00	41.88	60.50	3.50	13.88	5.00	37.25	2.00	6.0	3/4 x 12	H2	24.0	1-1/2
42	53.00	47.88	69.50	3.50	14.50	5.38	43.38	2.00	6.0	3/4 x 12	H2	30.0	1-1/2

FRESNO Valves & Castings, Inc.

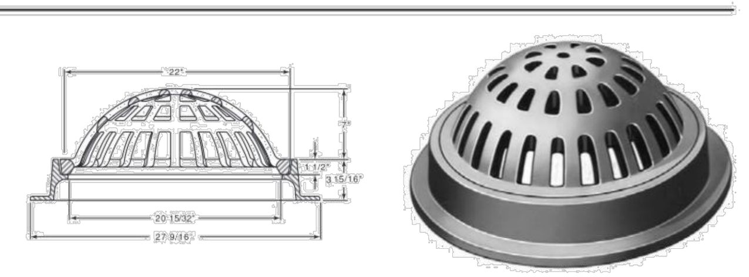
Fresno Valves & Castings, Inc.
7736 East Springfield Avenue
P.O. Box 40, Selma, CA 93662, U.S.A.
(800) 333-1658
www.fresnovalves.com

■ Note: When specifying/ordering grates, refer to "Choosing the Proper Inlet Grate" on pages 125-126. For a complete listing of FREE OPEN AREAS and WEIR PERIMETERS of all NEENAH grates, refer to pages 327-332.

INLET FRAMES & GRATES 2

R-2563
Inlet Frame, Beehive Grate

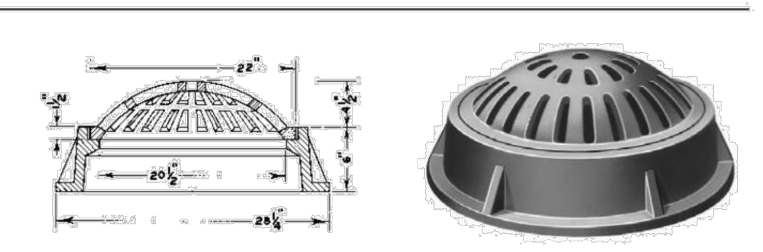
Catalog Number	Grate Type	Sq. Ft. Open	Weir Perimeter Lineal Feet
R-2563	Beehive	1.2	5.8



Available Lid: **R-1690**

R-2564
Inlet Frame, Beehive Grate

Catalog Number	Grate Type	Sq. Ft. Open	Weir Perimeter Lineal Feet
R-2564	Beehive	1.0	5.8

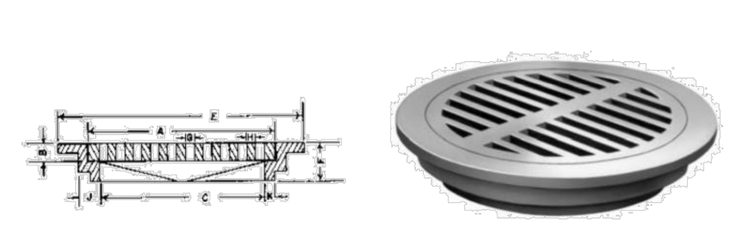


Available Lid: **R-1761**

R-2565 Series
Inlet Frame, Grate

Heavy Duty

Catalog Number	Grate Type	Sq. Ft. Open	Weir Perimeter Lineal Feet
R-2565-A	G	0.8	5.5
R-2565-C	G	1.2	6.0
R-2565-E	G	1.8	7.1
R-2565-F	G	1.8	7.1
R-2565-G	G	1.6	7.1
R-2565-H	G	1.9	7.6
R-2565-J	G	2.4	8.5



For Frame/Lid alternatives, see the **R-6052 Series**.

Dimensions in inches

Catalog No.	A	B	C	E	F	G	H	J	K	Frame/Lid
R-2565-A	21	2 1/2	18	27 1/2	5	1 3/8	1	2 7/8	1	R-6052-A
R-2565-C	23	1 1/4	20	29 3/4	4	1 3/8	1	2 1/2	1	R-6052-C
R-2565-E	27	1 1/4	23 1/2	33 1/2	4	1 1/2	1	2 1/4	3/4	R-6052-D
R-2565-F	27	2 1/2	24	33 1/2	5	1 1/2	1	2 7/8	1	R-6052-G
R-2565-G	27	2 1/2	24	33 1/2	5	1 1/2	1	2 7/8	1	R-6052-G
R-2565-H	29	1 3/4	27	35	6	1	1	2 7/8	1	R-6052-H
R-2565-J	32 3/8	2	30	39 1/2	6	1 1/2	1	2 7/8	1	R-6052-J

CLICK HERE to return to the Table of Contents

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2 XREFs: p-base, stamp
PLOTTED: FRI 03/07/25 3:22:20P BY: STERLING MARVIN

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

DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
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HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
DIVERSION STRUCTURE PRODUCT DETAILS

COLORADO LICENSED PROFESSIONAL ENGINEER MARK A. WEST 38561 03/07/2025

PROJECT #: 240339
SHEET NUMBER
5
5 OF 18

WATERMAN VALVE

ALUMINUM SLIDE GATES

A-250 SERIES

AWWA C-562 Compliant

Open Channel, Sluice and Weir Configurations

Designed, Manufactured and Tested in U.S.A.

MCWANE PLANT & INDUSTRIAL

Options:

- Models for normal aperture configuration, channel (embedded or surface mounted) as well as weirs (downward opening, often applied for decant and level control)
- A-250 can be ordered as self-contained gates or with extension stems and separate operators.
- Gate frames can be embedded in channel walls, mounted to a wall with anchor bolts, mounted to a pipe flange or wall thimble. (Waterman offers a complete line of wall thimbles including "F", "E", "spigot style" as well as custom configurations.)
- "Q" seal bottom seal for high debris environments.
- Manual, electric or hydraulic actuation.
- Non-rising stems, interconnected actuators.

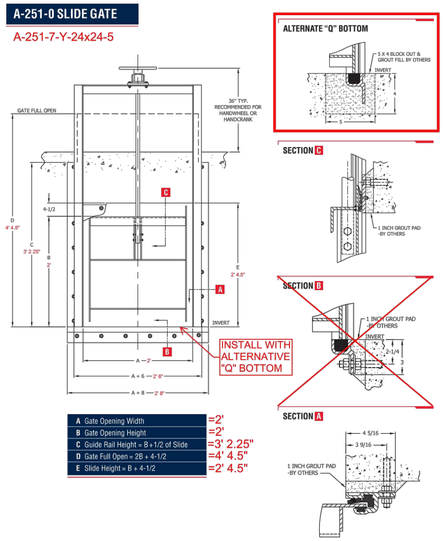
A-250 ALUMINUM SLIDE GATE CONFIGURATIONS

TYPE OF GATE	APERTURE		END OF CHANNEL			IN CHANNEL	
(OPENING)	STANDARD	DOWNWARD OPENING	UPWARD OPENING	DOWNWARD OPENING (WEIR)	NON RESTRICTED FLOW	EMBEDDED GUIDE	WALL MTD. GUIDE
RISING STEM	251	252	253	254	255	256	257
MACHINED FLANGE	251-F	252-F					
CIRCULAR FLANGE	251-CF	252-CF					
FULLY CONTAINED SLIDE IN GUIDE RAIL	251-L	252-L	253-L	254-L	255-L	256-L	257-L
SELF-CONTAINED GATE	251-Y	252-Y	253-Y	254-Y	255-Y	256-Y	257-Y
NRS COVER	251-N	252-N	253-N	254-N	255-N	256-N	257-N
SPECIAL OR MODIFIED APPLICATION	251-X	252-X	253-X	254-X	255-X	256-X	257-X

Western Outlet Structure

A-251-0 SLIDE GATE

A-251-7-Y-24x24-5

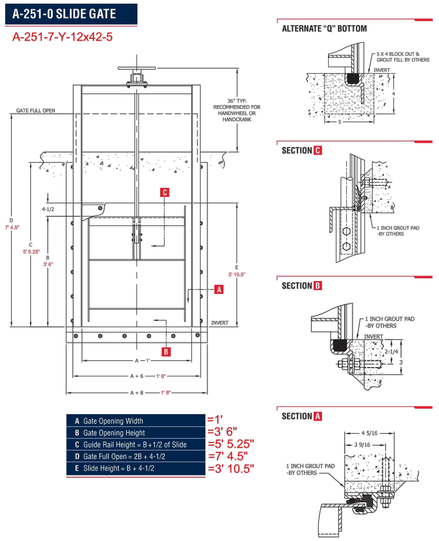


A Gate Opening Width	=2'
B Gate Opening Height	=2'
C Guide Rail Height = B + 1/2 of Slide	=3' 2.25"
D Gate Full Open = 2B + 4-1/2	=4' 4.5"
E Slide Height = B + 4-1/2	=2' 4.5"

Eastern Outlet Structure

A-251-0 SLIDE GATE

A-251-7-Y-12x42-5



A Gate Opening Width	=1'
B Gate Opening Height	=3' 6"
C Guide Rail Height = B + 1/2 of Slide	=5' 5.25"
D Gate Full Open = 2B + 4-1/2	=7' 4.5"
E Slide Height = B + 4-1/2	=3' 10.5"

Shut It® Face Mount BadAss Gate Hinges

SHUT IT | BADASS

NEW

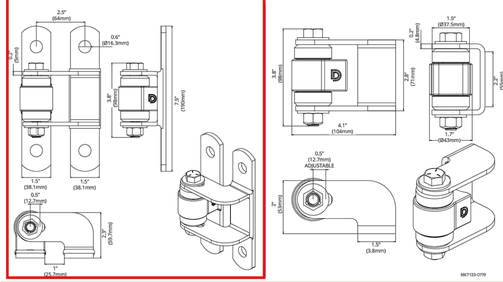
New Face Mount gate hinge opens to a full 180° in one direction for unobstructed passage.
Manufactured with exclusive maintenance-free high-temperature sealed bearings,
safe to powder coat with hinges installed on gate.
Available in bolt-on or weld-on models.

Face Mount Gate Hinge

- Opens gates to 180° for unobstructed pass through
- Horizontally adjustable for perfect installations and proper gate movement
- Adjustability enables gate gaps as small as ½" for an aesthetic appearance and heightened security
- Exclusive offering of bolt-on or weld-on versions
- Safe to powder coat with hinges installed on gate
- High-temperature sealed bearings require no greasing – no maintenance. EVER!
- CNC machined to the tightest tolerance in the industry and near frictionless movement
- Maximum gate weight of 1,100 lb (500kg)
- Tested to 1 Million Open / Close Cycles
- Zinc electroplating for long lasting rust and corrosion protection
- Limited Lifetime Warranty

D&D Technologies
World's most trusted gate hardware

Code	Product Name	Gate Gap	Finish	# of Sealed Bearings	Max Gate Weight	Max Gate	Yoke Material	Body Material	Height	Weight
CI3720	Face Mount Bolt-On BadAss	0.5-1.0" (13-25mm)	Zinc	2	1,100 lb (500kg)	2,000 lb (900kg)	Steel	Steel	7.5" (191mm)	3.8 lb (1.7kg)
CI3050	Face Mount Weld-On BadAss	0.5-1.0" (13-25mm)	Zinc	2	1,100 lb (500kg)	2,000 lb (900kg)	Steel	Steel	3.9" (98mm)	1.8 lb (0.8kg)



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info@ddtechusa.com

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DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
03-07-2025	BID SET

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

City of Greeley Colorado

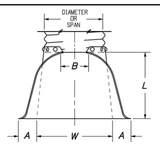
POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
OUTLET STRUCTURE PRODUCT SHEETS

COLORADO LICENSED
MARK A. WEST
38561
03/07/2025
PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER
6
6 OF 18

PIPE DIA.	THICKNESS	DIMENSIONS					
		A	B	H	L	W	T
		IN.					
12	0.064	6	6	6	21	24	34
18	0.064	8	10	6	31	38	46
21	0.064	9	12	6	36	42	52
24	0.064	10	13	6	41	48	58
30	0.079	12	16	8	51	60	70
36	0.079	14	19	9	60	72	94
42	0.109	16	22	11	69	84	106
48	0.109	18	27	12	78	90	112
54	0.109	18	30	12	84	102	124
60	0.109	18	33	12	87	114	136
66	0.109	18	36	12	87	120	142
72	0.109	18	39	12	87	126	148
78	0.109	18	42	12	87	132	154
84	0.109	18	45	12	87	138	160

FLEXIBLE ROUND PIPE



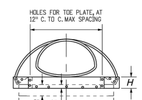
PLAN VIEW

PIPE ARCH SPAN x RISE	THICKNESS	DIMENSIONS					
		A	B	H	L	W	T
		(41°)	(MAX.)	(41°)	(41.5°)	(42°)	
		IN.					
21 x 15	0.064	7	10	6	23	36	46
24 x 18	0.064	8	12	6	28	42	52
28 x 20	0.064	9	14	6	32	48	58
35 x 24	0.079	10	16	6	39	60	70
42 x 29	0.079	12	18	8	46	75	85
49 x 33	0.109	13	21	9	53	85	103
57 x 38	0.109	18	26	12	63	90	108
64 x 43	0.109	18	30	12	70	102	123
71 x 47	0.109	18	33	12	77	114	132

FLEXIBLE PIPE ARCH

GENERAL NOTES

1. DIMENSIONS OF END SECTIONS MAY VARY SLIGHTLY FROM THOSE SHOWN ON THE TABLES DUE TO DIFFERENT MANUFACTURERS' CONFIGURATIONS.
2. CONCRETE END SECTIONS SHALL BE FURNISHED WITH TONGUE OR GROOVE AS REQUIRED.
3. DESIGN LENGTH OF PIPE OR SIDE DRAIN IS BASED ON LENGTH OF END SECTION SHOWN IN TABLE. ANY ADDITIONAL PIPE REQUIRED TO PROVIDE THE DESIGN LENGTH SHALL BE FURNISHED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
4. THE INSIDE CONFIGURATION AND THE COST OF CONCRETE END SECTION AND PIPE SHALL MATCH.
5. END SECTIONS FOR CMP ARCH PIPE SHALL MATCH THE DIMENSIONS OF THE PIPE SHOWN ON THE PLANS.
6. GALVANIZED TOE PLATE AS SHOWN IS REQUIRED ON END SECTIONS FOR CORRUGATED STEEL PIPE AND SHALL BE THE SAME THICKNESS AS END SECTIONS. TOE PLATE SHALL BE FIELD-BOLTED TO END SECTION WITH ¾" DIA. GALVANIZED BOLTS, NUTS AND WASHERS.
7. GALVANIZED STEEL SHALL CONFORM TO AASHTO M 111, M 218 OR M 232.
8. CONCRETE PIPE JOINT FASTENERS, WHERE SHOWN ON PLANS, SHALL BE INSTALLED SO THAT A MINIMUM OF 15 LINEAR FEET OF THE OUTLET END OF THE PIPE ARE MECHANICALLY LOCKED TOGETHER. END SECTION LENGTHS WHEN USED, SHALL BE INCLUDED IN THE 15 LF REQUIREMENT.
9. CONNECTIONS OF METAL END SECTIONS TO PLASTIC PIPE SHALL BE APPROVED BY THE ENGINEER. PLASTIC END SECTIONS SHALL NOT BE USED.
10. THE END SECTION STYLE, EITHER REGULAR OR SAFETY, SHALL BE AS SHOWN ON THE PLANS.
11. AT THE OPTION OF THE CONTRACTOR AND APPROVAL OF THE CDOT PROJECT ENGINEER, REINFORCED CONCRETE END SECTIONS MAY BE MADE WITH SYNTHETIC FIBERS INSTEAD OF STEEL FOR PIPES 36 INCHES IN DIAMETER AND SMALLER, AND CONFORM TO AASHTO M 86 AND SUBSECTION 601.03.



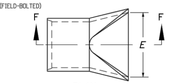
TYPE 1
FOR 18 IN. THRU 24 IN. ROUND PIPE WITH ANNULAR CORRUGATIONS, NOT TO BE USED ON HELICALLY-FORMED PIPE UNLESS RECORRUGATED.

TYPE 2
FOR 30 IN. THRU 36 IN. ROUND PIPE WITH ANNULAR CORRUGATIONS, NOT TO BE USED ON HELICALLY-FORMED PIPE UNLESS RECORRUGATED.

TYPE 3
FOR 42 IN. THRU 84 IN. ROUND PIPE WITH ANNULAR CORRUGATIONS AND ALL SIZES WITH HELICAL CORRUGATIONS AND FOR ALL METAL PIPE ARCH CULVERTS, SHOP ATTACH A 24 IN. MIN. LENGTH OF ANNULAR PIPE WITH GALV. RIVETS OR BOLTS, SPOT WELDS, OR 2 IN. LONG SKIP WELDS ON 8 IN. CTRS. REPAIR BURNT GALVANIZING IN ACCORDANCE WITH SUBSECTION 707.09.

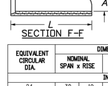
TYPICAL CONNECTIONS

ELEVATIONS

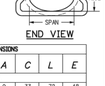


PLAN

DETAIL A



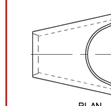
SECTION F-F



END VIEW

EQUIVALENT CIRCULAR DIA.	NOMINAL SPAN x RISE	DIMENSIONS			
		A	C	L	E
		IN.			
24	30 x 19	30	9	33	72
30	38 x 24	38	10	41	72
36	45 x 29	45	12	49	84
42	53 x 34	53	16	58	96
48	60 x 38	60	21	66	96
54	68 x 43	68	26	74	96
60	76 x 48	76	30	82	96

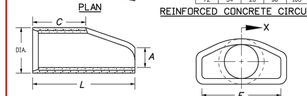
END SECTION FOR REINFORCED CONCRETE ELLIPTICAL PIPE



PLAN

PIPE I.D.	DIMENSIONS			
	A	C	L	E
	IN.			
18	10	48	78	36
24	10	48	78	48
30	14	36	96	60
36	18	36	96	72
42	24	36	96	78
48	28	24	96	84
54	30	36	96	90
60	36	30	96	96
72	34	20	96	108

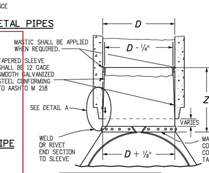
REINFORCED CONCRETE CIRCULAR PIPE



SECTION X-X

END VIEW

END SECTION FOR REINFORCED CONCRETE CIRCULAR PIPE

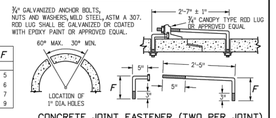


D	Z (MIN.)
IN.	
18 - 24	12
30 AND 36	16
42 AND LARGER	24

NOTE: METAL END SECTION SHALL BE FIRMLY WEDGED INTO PIPE END BEFORE BACKFILLING.

STEEL END SECTION FOR CONCRETE CIRCULAR PIPE
(ALTERNATIVE FOR CONCRETE END SECTION)

PIPE DIAMETER	F
IN.	
18 - 30	5
36 - 42	6
48 - 60	7
72 - 84	9



CONCRETE JOINT FASTENER (TWO PER JOINT)

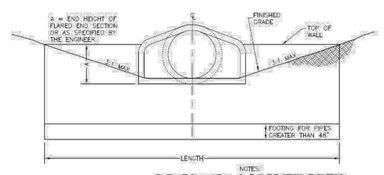
Computer File Information		Sheet Revisions	
Creation Date: 07/31/19		Date:	Comments:
Designer Initials: JBK	(BLK)		
Last Modification Date: 07/31/19	(BLK)		
Detailer Initials: LTA	(BLK)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(BLK)		

Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phone: 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

CONCRETE AND METAL END SECTIONS

Issued by the Project Development Branch: July 31, 2019

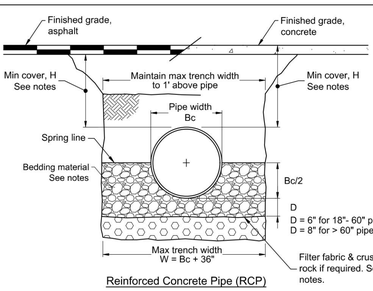
STANDARD PLAN NO.
M-603-10
Standard Sheet No. 1 of 1
Project Sheet Number:



TOEWALL DESIGN TABLE

PIPE SIZE	LENGTH, MIN
18"	7'-0"
24"	8'-0"
30"	10'-0"
36"	12'-6"
42"	15'-9"
48"	17'-6"
54"	19'-6"
60"	21'-6"
66"	23'-6"
72"	24'-0"

Figure 9-29. Flared end section (FES) headwall concept



Reinforced Concrete Pipe (RCP)

Notes

1. Trench backfill above bedding material shall be per Detail No. S-30 in the City of Greeley Design Criteria Construction Specifications Manual Volume 1 - Streets.
2. Minimum cover over pipe, H, shall be 1'-0" measured from bottom of asphalt or top of concrete pavement.
3. Consolidate the bedding w/ shovel slicing & tamping.
4. Backfill the pipe with bedding to the spring line.
5. Consolidate the bedding w/ shovel slicing & tamping evenly on both sides of pipe.
6. Place a 12" min layer of 1-1/2" to 3" crushed rock, or as required to provide a stable subgrade if groundwater is encountered or if required by the Engineer. Place Class 1 non-woven filter fabric over the crushed rock foundation before placing bedding.

Bedding Material

Bedding shall be CDOT No. 57 or No. 67 coarse aggregate.

Issued: ----
Revised: ----
Revised: ----

Standard Storm Drain Bedding
Reinforced Concrete Pipe (RCP)
Detail 6-6A

Seed Mixes

Bluegrass Mix. The Bluegrass Mix is not a native seed mix. It is intended for use in high traffic recreation areas such as parks. A permanent irrigation system is required where the bluegrass mix is used.

Species	Pounds per Acre Pure Live Seed (PLS)
Kentucky bluegrass, Moonlight	65.1
Kentucky bluegrass, Northstar	65.1
Kentucky bluegrass, Quantum Leap	65.1
Perennial ryegrass	21.7

Low Grow Mix. The Low Grow Mix is a native seed mix for unirrigated or native areas. It can be used in open areas where short grasses are desired. It shall be used on the sides of all paths or walkways for a minimum offset width of 8' on each side and for that same width along property lines abutting residential properties.

Species	Pounds per Acre Pure Live Seed (PLS)
Buffalo grass	8
Blue grama	6.5

Mature height ranges from 8" to 12".

Slope Mix. The Slope Mix is a native seed mix for unirrigated or native areas. It shall be used on all slopes and berms steeper than 5H:1V.

Species	Pounds Per Acre Pure Live Seed (PLS)
Side oats grama	4
Blue grama	4
Little bluestem	4
Sand dropseed	0.12
Streambank wheatgrass	8

Mature height ranges from 1' to 3'.

Riparian Mix. The Riparian Mix is a native seed mix for unirrigated or native areas. It shall be used along irrigation ditches and in areas that are frequently wet such as the lower banks of a vegetated open channel.

Species	Pounds Per Acre Pure Live Seed (PLS)
Switchgrass	6
Prairie cordgrass	5
Streambank wheatgrass	8

Mature height ranges from 3' to 6'.

Pond Mix. The Pond Mix is a native seed mix for unirrigated or native areas. It is to be used in and around detention facilities and in areas that are designed to hold water but may not be frequently wet.

Species	Pounds Per Acre Pure Live Seed (PLS)
Little bluestem	2
Yellow indian grass	2
Switchgrass	1
Blue grama	0.6
Side oats grama	3
Prairie sandreed	1.5
Western wheatgrass	4
Streambank wheatgrass	5

Mature height ranges from 3' to 6'.

Notes

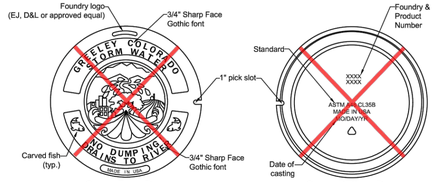
1. Seed mixes can be adjusted to meet site conditions including soil salinity or other conditions that might impede the successful establishment of the standard species with the approval of the City's Natural Areas Group.

SEE SHEET 10 (FINAL EROSION AND SEDIMENT CONTROL PLAN) FOR SEEDING DETAILS

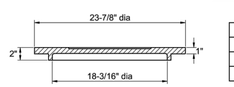
SEEDING SOUTH OF THE TRAIL SHALL BE COORDINATED WITH THE HOMEOWNERS ASSOCIATION

Issued: ----
Revised: ----
Revised: ----

Seed Mixes
Detail 1-2



Plan



24" Cover Section

Approved Covers		
Nominal Ø	East Jordan	D&L
24"	2408A 00240890	A-1043
30"	2508A 00250821	A-1361

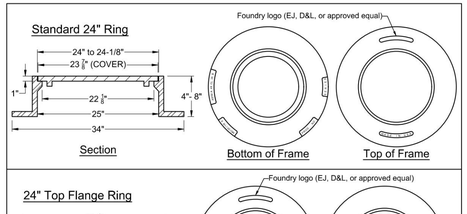
Notes

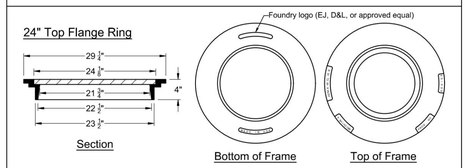
1. Cover shall be gray iron, manufactured per AASHTO M105-06/ASTM A48 Class 35B & conform to AASTHO M306-07. Cover diameter varies based on size of MH. See City Standard Details.
2. Cover shall be non-perforated, with lettering as shown, cast on the top of the lid for storm MHs.
3. Cover shall be bolted, if specified by the Public Works Department. Bolts shall be SS 3/8" dia hex bolts.
4. Material for rings & covers shall be gray or ductile cast iron conforming to CDOT-712.06.
5. This cover shall be used on all storm MHs & inlets. Covers reading "Storm Sewer" or "Sewer" are not acceptable.
6. Other foundries may produce this cover. The City must approve the product drawing and manufactured product as an approved equivalent prior to approval for installation.
7. All MH covers must have 1" pick slots. Hidden pick holes will not be acceptable.

COVER SHALL BE REPLACED WITH GRATED MANHOLE LID. SEE SPECIFIED PRODUCT INFORMATION ON SHEET 5.

Issued: ----
Revised: ----
Revised: ----

Standard Storm Manhole Cover
Detail 6-8A





Approved Products				
Type	Nominal Ø	Nominal H	East Jordan	D&L
Standard	24"	8"	2420Z2 00242013	A-1161
Standard	30"	8"	2508Z 00250811	A-1361-R1
Reversible	24"	4"	2425Z 00242511	A-1075
Reversible	30"	4"	2510Z 00251011	B-5490
Top Flange	24"	4"	2416Z 00241611	B-5086

Notes

1. Standard ring shall be used for all flat top & eccentric cone top manholes.
2. Top flange ring shall be used for all inlets. See cover details for cover specifications.
3. All rings & covers shall be heavy duty, meeting the AASHTO M306-10 Proof Load criteria.
4. Manhole rings produced by other foundries may be accepted by the City as an approved equivalent.
5. Dimensions shown are nominal and shall include a 1/16" tolerance for cover fit.
6. Standard ring height is 8". Others may be approved if all other specifications & dimensions are met.
7. Reversible 4" frames are not required but may be accepted.
8. Frame diameter varies based on size of MH. See City Standard Details.

Issued: ----
Revised: ----
Revised: ----

Standard Storm Manhole Frames and Rings
Detail 6-8B

Know what's below. Call before you dig.

DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024	
DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
03-07-2025	BID SET

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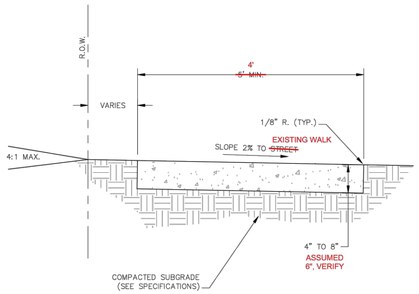
City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
STANDARD DETAILS

COLORADO LICENSED
MARK A. WEST
38561
03/07/2025
PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER
7
7 OF 18



NOTES:

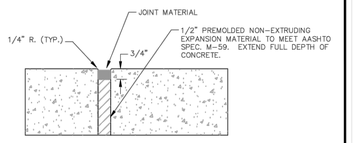
1. MAXIMUM SPACING OF CONTRACTION JOINTS IS TEN (10) FEET.
2. AT RESIDENTIAL DRIVEWAYS, THE SIDEWALK THICKNESS SHALL BE INCREASED TO SIX (6) INCHES.
3. EXPANSION JOINTS REQUIRED AT 400 FOOT MAXIMUM SPACING. ADDITIONAL JOINTS MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER. SEE JOINT DETAILS.
4. AT ALLEYS AND COMMERCIAL DRIVEWAYS, THE SIDEWALK THICKNESS SHALL BE INCREASED TO EIGHT (8) INCHES.
5. CONCRETE SURFACES TO RECEIVE A LIGHT BROOM FINISH.

MODIFIED

DETACHED SIDEWALK DETAIL

DETAIL NO. S-21

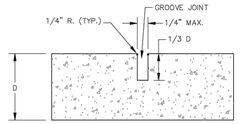
DATE: JULY, 2015 SCALE: N.T.S.



EXPANSION JOINT

NOTE FOR EXPANSION JOINTS:

EXPANSION JOINTS REQUIRED AT 400 FOOT MAXIMUM SPACING. ADDITIONAL JOINTS MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.



CONTRACTION JOINT

NOTES FOR CONTRACTION JOINTS:

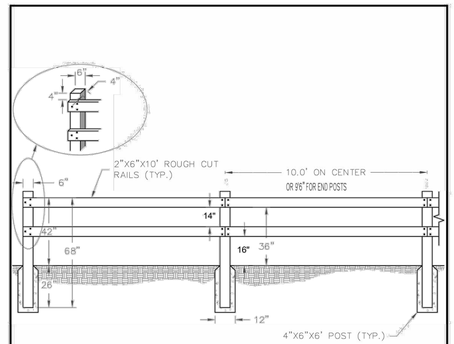
MATCH LOCATION OF EXISTING JOINTS

1. FORM WITH TOOL TEMPLATE OR SAWCUT JOINTS.
2. SAWCUT JOINTS, IF USED, SHALL BEGIN AS SOON AS CONCRETE IS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING AND BEFORE UNCONTROLLED CRACKING OCCURS.
3. MAXIMUM DISTANCE BETWEEN JOINTS IS TEN (10) FEET AND MINIMUM DISTANCE IS FIVE (5) FEET.

CONCRETE JOINT DETAILS FOR SIDEWALKS, CURBS, GUTTERS AND CROSS PANS

DETAIL NO. S-22

DATE: JULY, 2015 SCALE: N.T.S.



NOTES:

1. FENCE SHALL HAVE A 5-FOOT SETBACK FROM TRAIL/SIDEWALK TO ALLOW FOR MOWING MAINTENANCE CLEARANCE WIDTH, UNLESS OTHERWISE SPECIFIED.
2. FENCE IS TO BE CONSTRUCTED OF ROUGH SAWN DIMENSIONAL CEDAR LUMBER.
3. POST SHALL BE 26 INCHES BELOW GROUND, SET IN CONCRETE.
4. POST HOLE SHALL BE 12" DIAMETER WITH THE POST CENTERED IN THE HOLE. CONCRETE SHALL SLOPE AWAY FROM POST.
5. RAILS SHALL BE ATTACHED TO THE FACE OF THE POSTS ON THE EXTERIOR SIDE.
6. RAILS SHALL BE INSTALLED WITH DARK COLORED 4-1/2" STRUCTURAL WOOD SCREWS WITH A SPIDERDRIVE™ SCREWS SHALL BE HEADLOK BY FASTENMASTER OR APPROVED EQUIVALENT. PRE-DRILL SCREWHOLES IF WOODEN RAILS SPLIT AS SCREWS ARE DRIVEN.
7. ALL LUMBER SHALL BE TREATED WITH TRANSPARENT WESTERN RED CEDAR ULTRA PREMIUM PENETRATING OIL FINISH (PENOFIN) OR APPROVED EQUIVALENT.
8. BACKFILL POST HOLES AND REMOVE EXCESS SOIL TO OFF-SITE LOCATION.

NATURAL AREA AND TRAILS FENCE

DETAIL NO. F-1

DATE: REVISED OCT 2023 SCALE: N.T.S.

Know what's below. Call before you dig.

DESIGNED BY: MAW/SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024	
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01-09-2025	PER CITY COMMENTS
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HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
STANDARD DETAILS

COLORADO LICENSED
MARK A. WEST
38561
03/07/2025
PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER
8
8 OF 18

LEGEND

LIMITS OF CONSTRUCTION — LOC

INLET PROTECTION — IP

STAGING AND STOCKPILE AREA — SA (SP, SP, SP)

CONSTRUCTION FENCE — CF

ROCK SOCK — RS

VEHICLE TRACKING CONTROL — VTC /CM

CONCRETE WASHOUT AREA — CWA

SEDIMENT CONTROL LOG — SCL

DEWATERING — DW

SILT FENCE — SF

GENERAL NOTES

1) CONTRACTOR SHALL PROVIDE BARRICADES AND SIGNAGE DIRECTING PEDESTRIAN AND BIKE TRAFFIC AROUND THE POUDRE TRAIL CLOSURE. CONTRACTOR SHALL SUBMIT A PLAN FOR THE CITY TO REVIEW PRIOR TO CONSTRUCTION. SEE SHEET 12 FOR ENGINEER RECOMMENDED PLAN.
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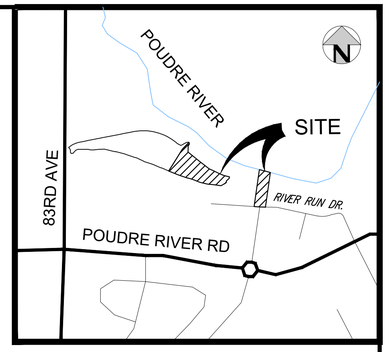

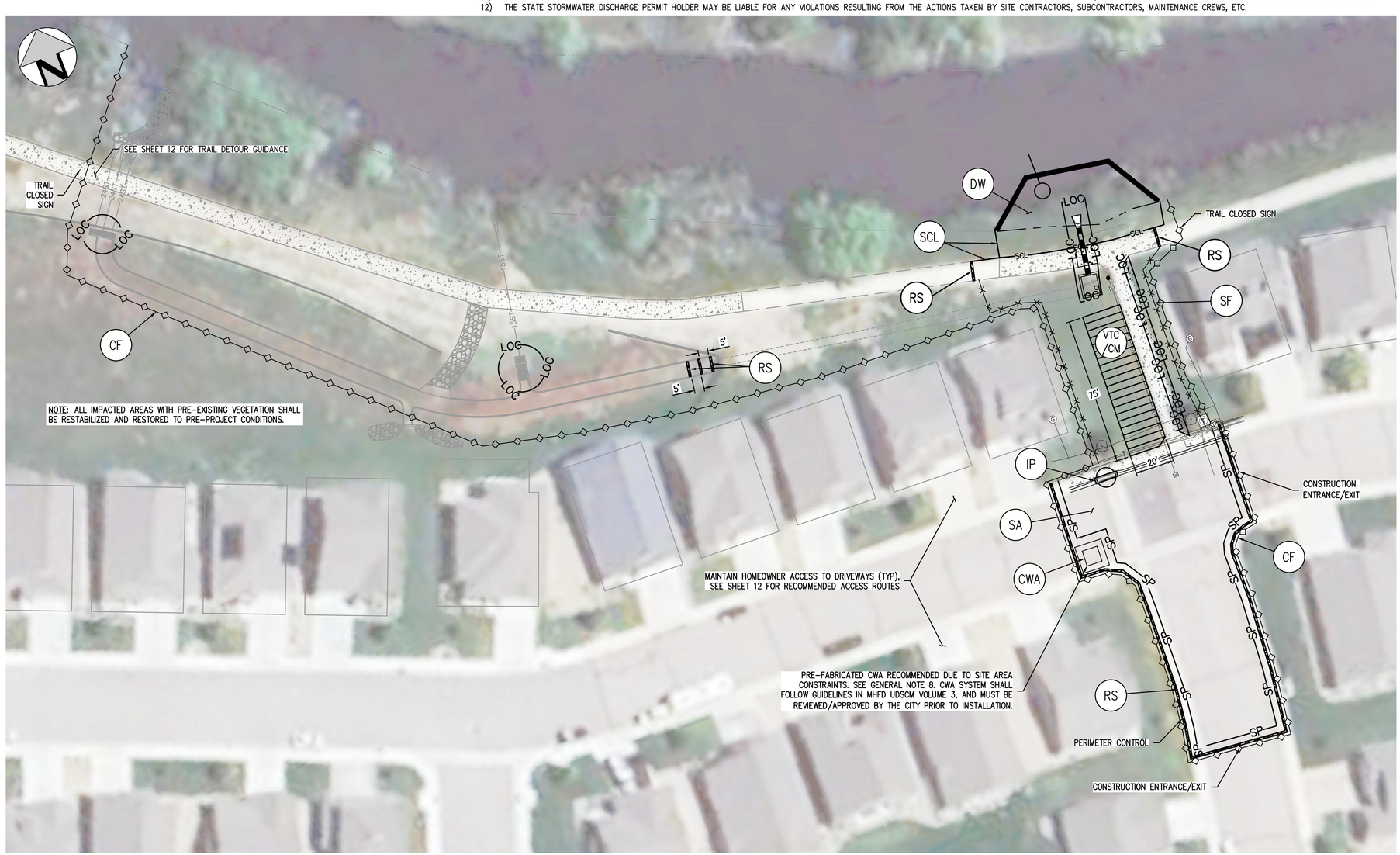

GENERAL NOTES CONTINUED

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QUANTITIES

CF = 1296 (LF)
IP = 1 (EA)
RS = 466 (LF)
SCL = 128 (LF)
SF = 234 (LF)

Know what's below. Call before you dig.

SCALE: 1" = 20'			
20	0	20	40

SCALE: 1" = 30'			
30	0	30	60

DESIGNED BY: SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

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City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLAN - INITIAL

COLORADO LICENSED
MARK A. WEST
38561
03/07/2025
PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER
9
9 OF 18

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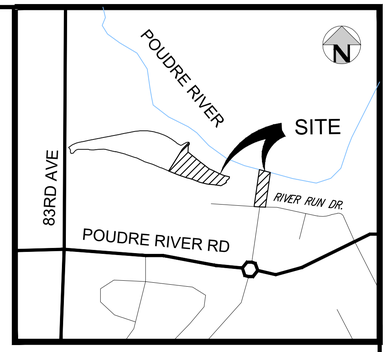

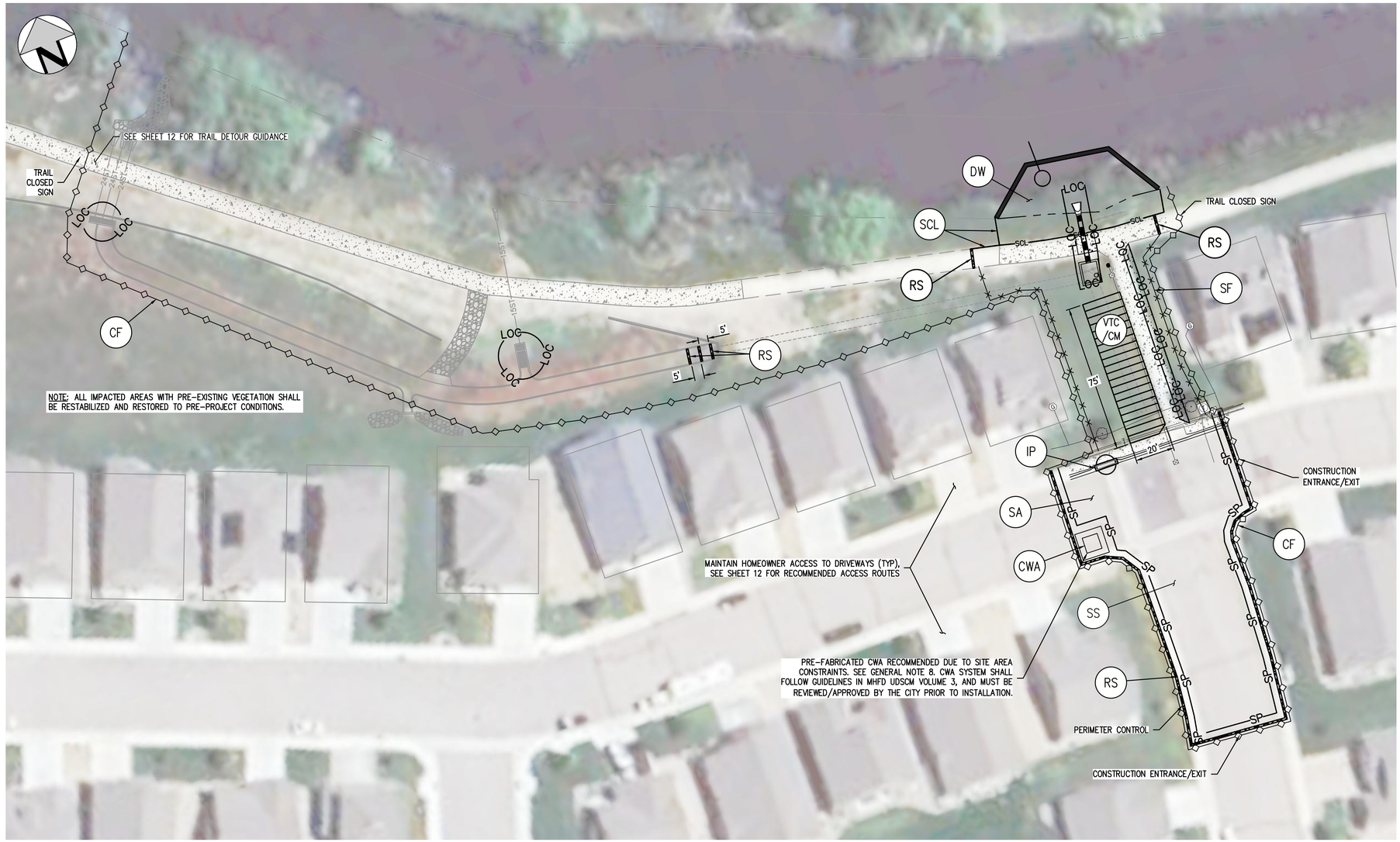

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POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLAN - INTERIM

COLORADO LICENSED
MARK A. WEST
38561
PROFESSIONAL ENGINEER
03/07/2025

PROJECT #: 240339
SHEET NUMBER
10
10 OF 18

LEGEND

EROSION CONTROL BLANKET

ECB

SEEDING ONLY

S

SEEDING AND MULCHING

SM

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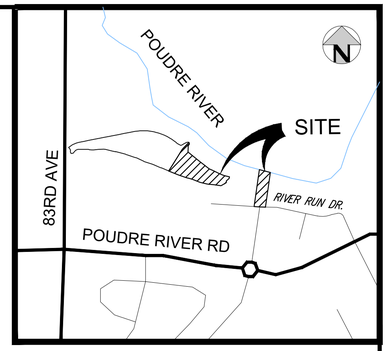
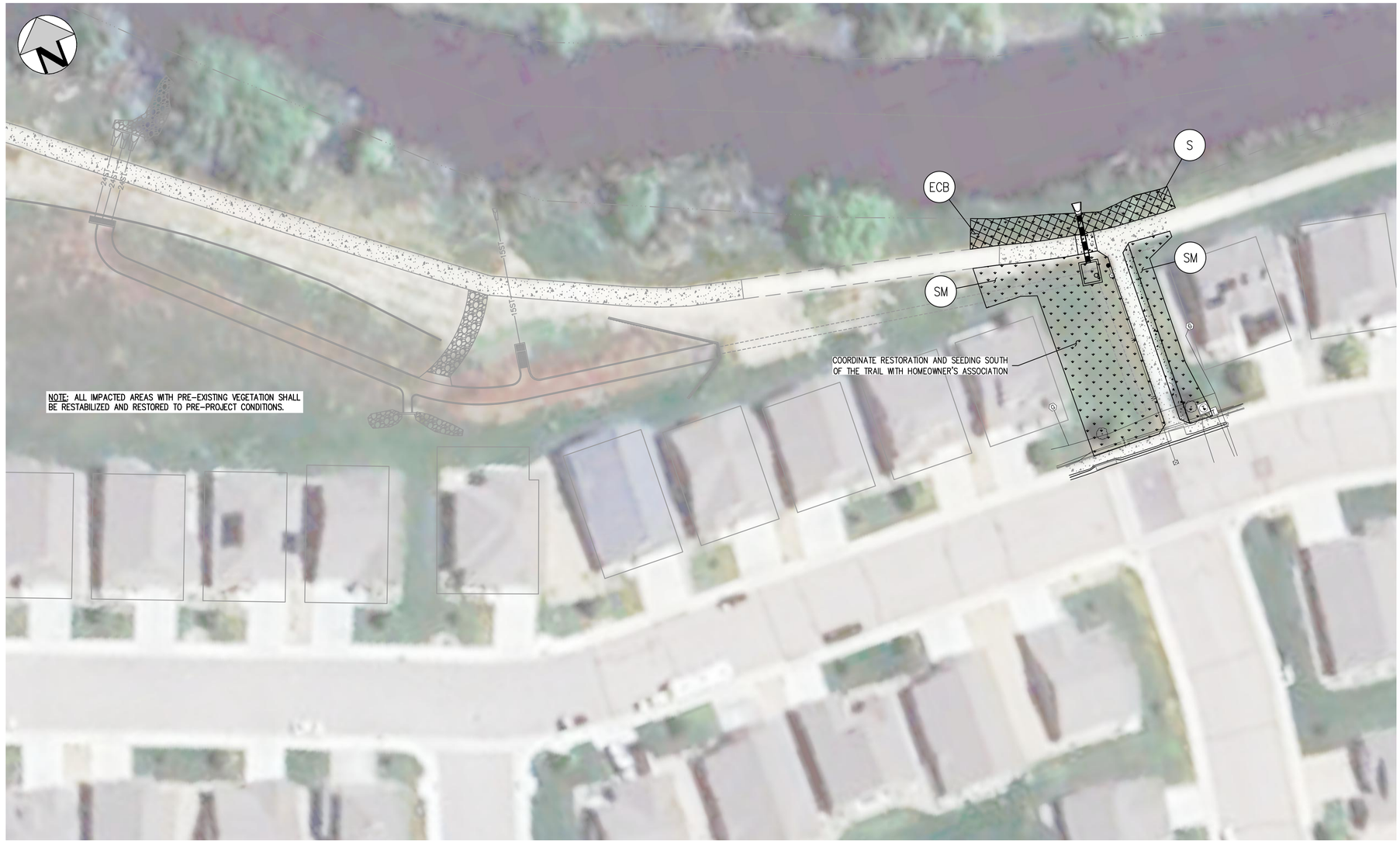
11) CONTROL MEASURES SHOWN SHALL BE VERIFIED BY CONTRACTOR DURING INSTALLATION. ADDITIONAL OR ALTERNATIVE CONTROL MEASURES MAY BE NECESSARY, AND SHALL BE CONFIRMED BY THE CITY OF GREELEY DURING INSPECTION.
12) THE STATE STORMWATER DISCHARGE PERMIT HOLDER MAY BE LIABLE FOR ANY VIOLATIONS RESULTING FROM THE ACTIONS TAKEN BY SITE CONTRACTORS, SUBCONTRACTORS, MAINTENANCE CREWS, ETC.





GENERAL NOTES CONTINUED

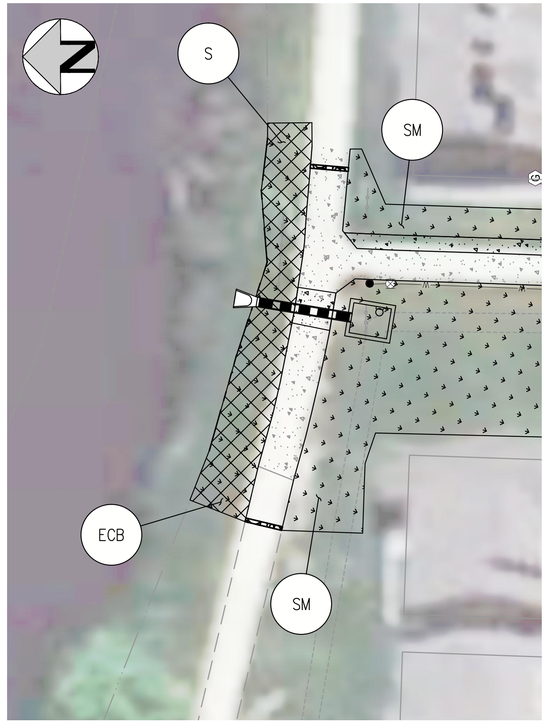
13) SOME SITE FEATURES OMITTED FROM THIS PLAN FOR VISUAL CLARITY. SEE DESIGN PLAN SHEETS FOR ALL EXISTING AND PROPOSED FEATURES.
14) A DEWATERING PERMIT AND NOTIFICATION TO THE CDPHE MAY BE NEEDED FOR WORKING IN A WATERWAY THAT DOES NOT MEET THE EPAs REQUIREMENT FOR WOTUS.
15) PORTABLE TOILETS SHOULD BE ANCHORED AND STAGED AWAY FROM INLETS AND OTHER STORMWATER CONVEYANCE FEATURES.
16) GOOD HOUSEKEEPING MEASURES SHOULD BE FOLLOWED PER MHFD UDSCM VOLUME 3.

QUANTITIES

ECB = 1282 (SF)
S = 1282 (SF)
SM = 5489 (SF)

REVEGETATION NOTES

1) EROSION CONTROL BLANKET SHALL ONLY CONTAIN NATURAL FIBERS. PLASTIC NETTING IS NOT ALLOWED. STAKES SHALL BE MADE OF WOOD.
2) SEED MIXES SHALL BE USED PER CITY OF GREELEY NATURAL AREAS DETAIL 1-2 AND AS FOLLOWS:
   A) LOW GROW SEED MIX WILL BE USED ALONG THE NORTH SIDE OF THE TRAIL AT A 5 FOOT WIDTH FROM EDGE OF CONCRETE.
   B) RIPARIAN SEED MIX SHALL BE USED NORTH OF THE LOW GROW MIX ON THE NORTH SIDE OF THE TRAIL.
   C) SEEDING FOR THE AREA SOUTH OF THE TRAIL SHALL BE COORDINATED WITH THE HOMEOWNER'S ASSOCIATION.



Know what's below. Call before you dig.

20 0 20 40
SCALE: 1" = 20'
30 0 30 60
SCALE: 1" = 30'

DESIGNED BY: SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

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HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLAN - FINAL

COLORADO LICENSED MARK A. WEST 38561 PROFESSIONAL ENGINEER 03/07/2025

PROJECT #: 240339
SHEET NUMBER 11
11 OF 18

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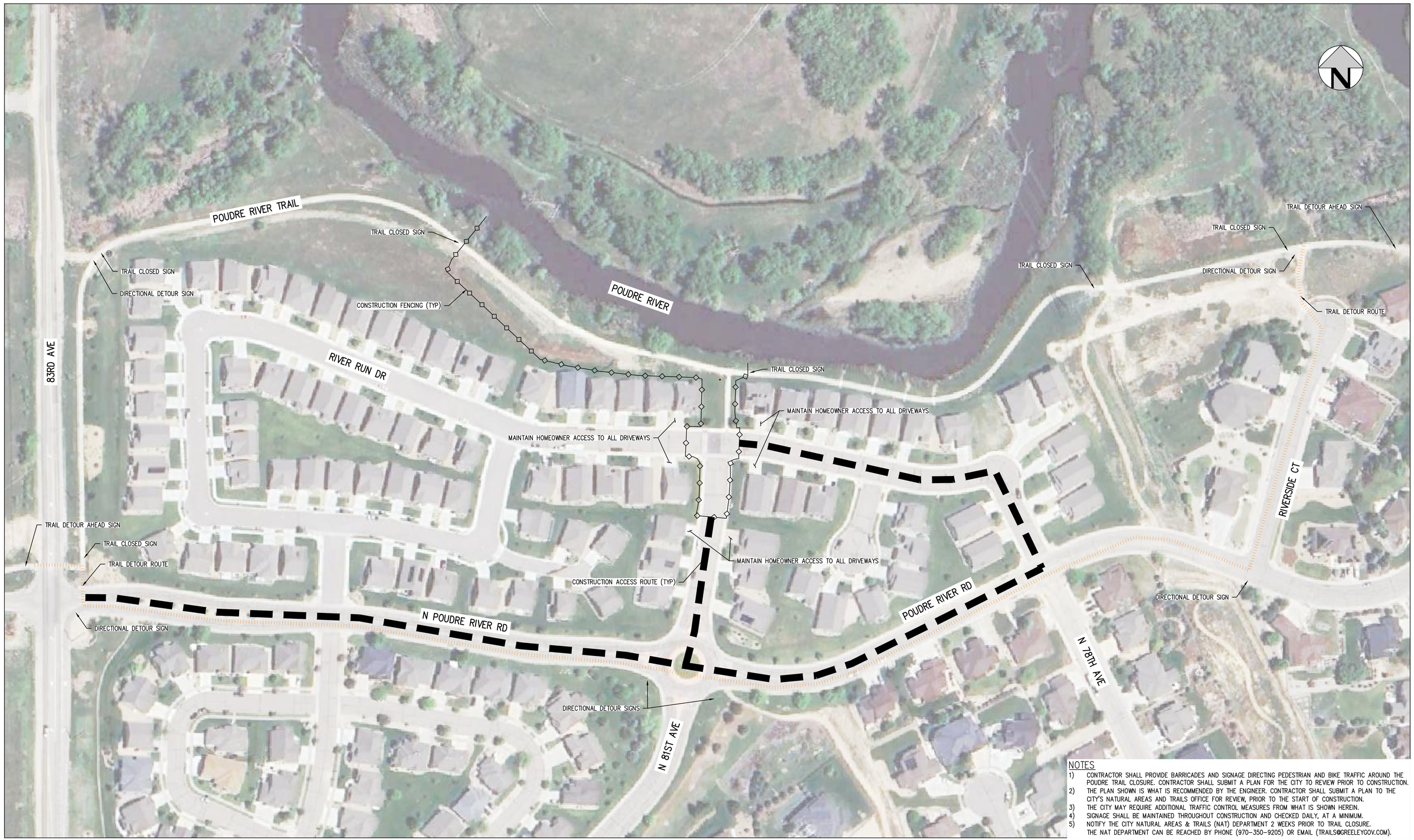

NOTES

1) CONTRACTOR SHALL PROVIDE BARRICADES AND SIGNAGE DIRECTING PEDESTRIAN AND BIKE TRAFFIC AROUND THE POUDRE TRAIL CLOSURE. CONTRACTOR SHALL SUBMIT A PLAN FOR THE CITY TO REVIEW PRIOR TO CONSTRUCTION.
2) THE PLAN SHOWN IS WHAT IS RECOMMENDED BY THE ENGINEER. CONTRACTOR SHALL SUBMIT A PLAN TO THE CITY'S NATURAL AREAS AND TRAILS OFFICE FOR REVIEW, PRIOR TO THE START OF CONSTRUCTION.
3) THE CITY MAY REQUIRE ADDITIONAL TRAFFIC CONTROL MEASURES FROM WHAT IS SHOWN HEREIN.
4) SIGNAGE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND CHECKED DAILY, AT A MINIMUM.
5) NOTIFY THE CITY NATURAL AREAS & TRAILS (NAT) DEPARTMENT 2 WEEKS PRIOR TO TRAIL CLOSURE. THE NAT DEPARTMENT CAN BE REACHED BY PHONE (970-350-9205) OR EMAIL (TRAILS@GREELEYGOV.COM).

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

70 0 70 140
SCALE: 1" = 70'

DESIGNED BY: SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024	
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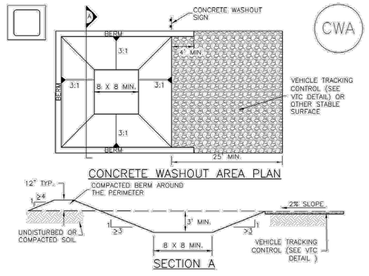
City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
CONSTRUCTION ACCESS AND TRAIL DETOUR PLAN

COLORADO LICENSED MARK A. WEST 38561 PROFESSIONAL ENGINEER 03/07/2025

PROJECT #: 240339
SHEET NUMBER
12
12 OF 18



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'.

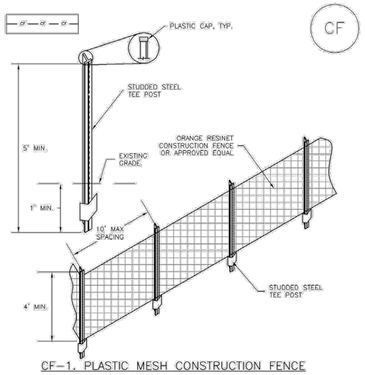
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.

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.



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.

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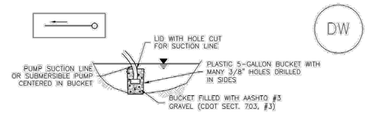
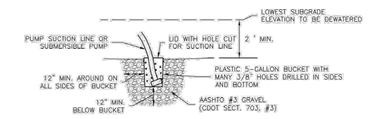
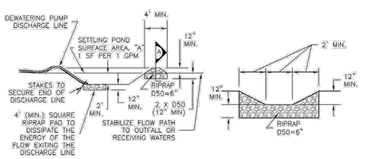


DW–1. DEWATERING POND ALREADY FILLED WITH WATER

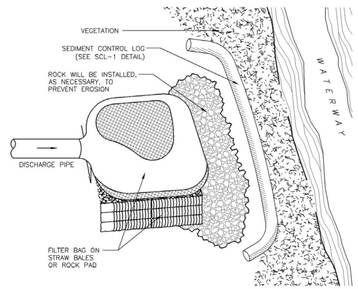


DW–2. DEWATERING SUMP FOR SUBMERSED PUMP



DW–3. SUMP DISCHARGE SETTLING BASIN

SETTLING BASIN SECTION A



DW–4. DEWATERING FILTER BAG

DEWATERING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF DEWATERING EQUIPMENT.
   –TYPE OF DEWATERING OPERATION (DW–1 TO DW–4).

2. THE OWNER OR CONTRACTOR SHALL OBTAIN A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT FROM THE STATE PRIOR TO ANY DEWATERING OPERATIONS DISCHARGING FROM THE SITE. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.

3. THE OWNER OR OPERATOR SHALL PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY TO PERMIT EXCAVATION AND SUBSEQUENT CONSTRUCTION IN DRY CONDITIONS AND TO LOWER AND MAINTAIN THE GROUNDWATER LEVEL A MINIMUM OF 2–FEET BELOW THE LOWEST POINT OF EXCAVATION AND CONTINUOUSLY MAINTAIN EXCAVATIONS FREE OF WATER UNTIL BACK–FILLED TO FINAL GRADE.

DEWATERING INSTALLATION NOTES

4. DEWATERING OPERATIONS SHALL USE ONE OR MORE OF THE DEWATERING SUMPS SHOWN ABOVE, WELL POINTS, OR OTHER MEANS APPROVED BY THE LOCAL JURISDICTION TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY SEDIMENT BASIN OR FILTRATION BMP TO REDUCE SEDIMENT TO ALLOWABLE LEVELS PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER. A SEDIMENT BASIN MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN SHOWN ABOVE IF A 4–FOOT–SQUARE RIPRAP PAD IS PLACED AT THE DISCHARGE POINT AND THE DISCHARGE END OF THE LINE IS STAKED IN PLACE TO PREVENT MOVEMENT OF THE LINE.

DEWATERING 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.

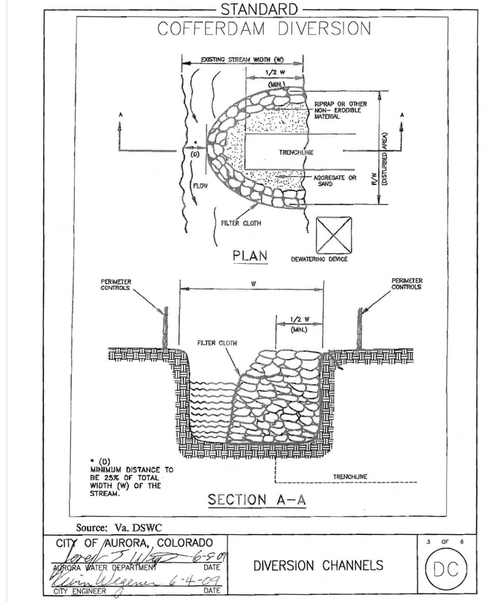
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. DEWATERING BMPs ARE REQUIRED IN ADDITION TO ALL OTHER PERMIT REQUIREMENTS.

5. TEMPORARY SETTLING BASINS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR DEWATERING OPERATIONS. ANY DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE 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.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)



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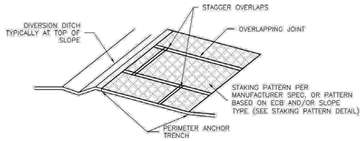
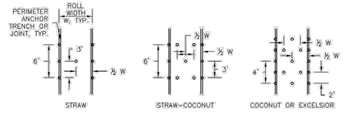
POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
EROSION CONTROL DETAILS

COLORADO LICENSED MARK A. WEST 38561 PROFESSIONAL ENGINEER 03/07/2025

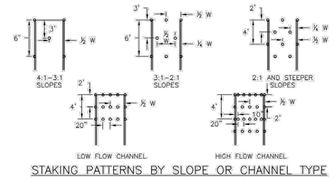
PROJECT #: 240339
SHEET NUMBER
13
13 OF 18



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 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.

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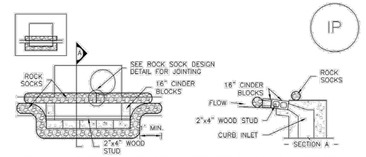


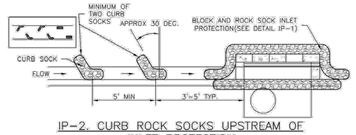
IP–1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP–2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

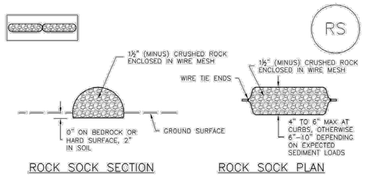
CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

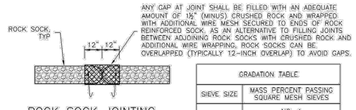
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON–GRADE INLETS.



ROCK SOCK SECTION ROCK SOCK PLAN



ROCK SOCK JOINTING

GRADATION TABLE

SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
⅜"	0 – 15
¾"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE ½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (½" MINUS).

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½". RECOMMENDED MINIMUM ROLL WIDTH OF 48".

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

ROCK SOCK 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 SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.

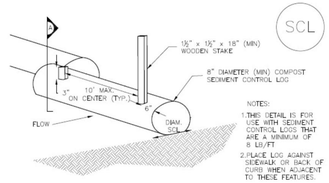
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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

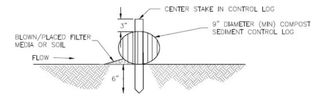
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.

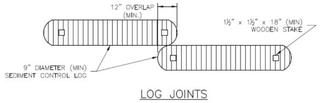
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.



COMPOST SEDIMENT CONTROL LOG (WEIGHTED)



SECTION (A)
COMPOST SEDIMENT CONTROL LOG



LOG JOINTS

SCL–2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND–DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ⅓ OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 4" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG 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 SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT 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.

Know what's below. Call before you dig.

DESIGNED BY: SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

DATE	REVISION COMMENTS
12-10-2024	PER CITY COMMENTS
01-09-2025	PER CITY COMMENTS
02-04-2025	PER CITY COMMENTS
03-07-2025	BID SET

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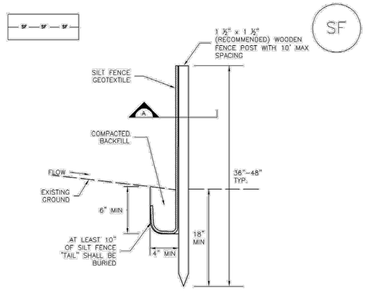
City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
EROSION CONTROL DETAILS

COLORADO LICENSED MARK A. WEST 38561 03/07/2025 PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER 14
14 OF 18



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".

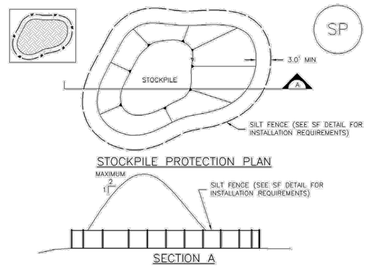
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

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.



STOCKPILE PROTECTION PLAN

SECTION A

SP–1, STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

STOCKPILE PROTECTION 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.

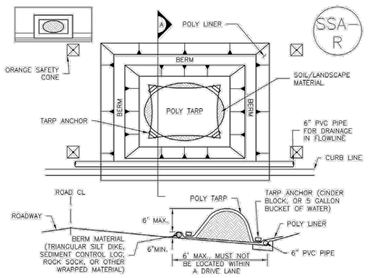
STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM 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.



SP–2, MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

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

2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.

3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.

4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.

5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.

6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.

7. THIS FEATURE CAN BE USED FOR:
   –UTILITY REPAIRS.
   –WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
   –OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

MATERIALS STAGING IN ROADWAY 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.

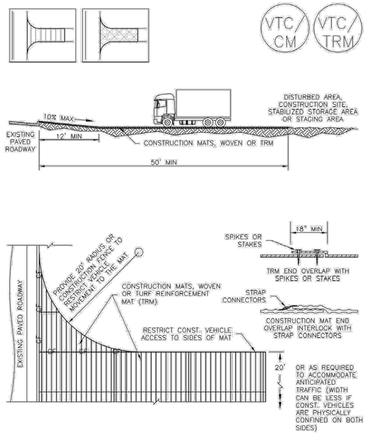
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.

5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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 AURORA, COLORADO)



VTC–3, VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

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)

DESIGNED BY: SDM
CHECKED BY: MAW
DRAWN BY: SDM

ISSUE DATE: 10-25-2024

DATE	REVISION COMMENTS
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HarrisKocherSmith.com

City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
EROSION CONTROL DETAILS

COLORADO LICENSED MARK A. WEST 38561 03/07/2025 PROFESSIONAL ENGINEER

PROJECT #: 240339
SHEET NUMBER
15
15 OF 18

GENERAL NOTES:

BASIS OF DESIGN:
- THE GEOMETRY FOR THIS DESIGN IS BASED UPON PLANS BY HARRIS KOCHER SMITH, PROJECT 240339.
- DESIGN LOADS:
  - HS-5 PICKUP TRUCK
  - SOIL COVER OVER EXISTING BOX CULVERT ~ 1 FOOT
  - SOIL COVER OVER NEW JUNCTION BOX ~ NONE
  - SOIL DENSITY = 130 PCF
- DESIGN CRITERIA: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION; ACI 350

MISCELLANEOUS:
- THESE PLANS ARE DESIGNED FOR THE FINAL PRODUCT. SHORING AND BRACING DURING CONSTRUCTION IN ORDER TO ACHIEVE INTERIM STABILITY IS THE RESPONSIBILITY OF THE CONTRACTOR.
- DO NOT SCALE REBAR SPACING. REBAR ON DETAILS IS SHOWN FOR GENERAL LAYOUT ONLY.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH CIVIL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- LOCATE EXISTING UNDERGROUND UTILITIES, AND NOTIFY OWNER OF EXISTING UTILITIES OR SUBGRADE CONDITIONS WHICH INTERFERE WITH WORK.
- WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, AND GENERAL NOTES, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- IF THE CONTRACTOR REQUESTS A CHANGE FROM THE STRUCTURAL DRAWINGS, IT SHALL BE APPROVED BY THE ENGINEER PRIOR TO SUBMITTING SHOP DRAWINGS. VARIATION SHALL BE INDICATED ON THE SHOP DRAWINGS.
- NOTIFY THE OWNER AND ENGINEER OF CONDITIONS NOT CONSTRUCTED PER THE CONTRACT DOCUMENTS PRIOR TO PROCEEDING WITH CORRECTIVE WORK. SUBMIT PROPOSED REPAIR TO THE OWNER AND ENGINEER FOR ACCEPTANCE.

SOILS:
- THE SUBGRADE SHALL HAVE THE NECESSARY STRENGTH, STIFFNESS, AND STABILITY TO SUPPORT THE LOADS THAT ARE TO BE PLACED ON IT.
- A GEOTECHNICAL ENGINEER SHALL OBSERVE AND APPROVE SUBGRADE PRIOR TO THE CONTRACTOR PLACING CONCRETE.
- BACKFILL WITH NATIVE SOILS, SO LONG AS THEY DO NOT CONTAIN UNSUITABLE MATERIAL OR PARTICLES LARGER THAN 4 INCHES. COMPACT MATERIALS IN ACCORDANCE WITH OVERALL PROJECT SPECIFICATIONS.

CONCRETE:
- USE THE MIX DESIGN CRITERIA LISTED IN THE TABLE (OR USE CDOT TYPE D).
- READY-MIXED CONCRETE SHALL COMPLY WITH ASTM C94 - STANDARD SPECIFICATION FOR READY-MIXED CONCRETE.
  - CEMENT TYPE IL (HS), ASTM C595.
- COLD WEATHER CONCRETING REQUIREMENTS PER ACI 306R
- HOT WEATHER CONCRETE PER ACI 305R - HOT WEATHER CONCRETING.
- CONTRACTOR SHALL PROVIDE MIX DESIGN SUBMITTALS FOR APPROVAL 14 DAYS PRIOR TO USE

REINFORCING STEEL:
- ALL REBAR SHALL BE EPOXY COATED.
- REINFORCING SHALL BE DEFORMED GRADE 60 STEEL UNLESS NOTED OTHERWISE (U.N.O.) ON THE PLAN AND SHALL CONFORM TO ASTM A615.
- MINIMUM CONCRETE COVER SHALL BE PER THE PLANS.
- ALL WALL REINFORCEMENT SHOULD BE WIRED IN PLACE. SLAB AND FOOTING REINFORCEMENT SHALL UTILIZE CHAIRS OR OTHER ACCEPTABLE METHODS TO ACHIEVE THE REQUIRED CROSS SECTION LOCATION.
- REINFORCEMENT PLACING TOLERANCES PER ACI 117. PROVIDE ADDITIONAL BARS OR STIRRUPS REQUIRED TO SECURE REINFORCING IN PLACE DURING CONCRETE PLACEMENT.

POST-INSTALLED ANCHORS / DOWELS:
1. TO THE EXTENT POSSIBLE, LOCATE ANCHORS / DOWELS SO THAT THEY DO NOT CONFLICT WITH EXISTING REBAR, EMBEDS, PENETRATIONS.
2. DRILL AND CLEAN HOLES IN ACCORDANCE WITH EPOXY MANUFACTURER'S RECOMMENDATIONS. CLEANING MUST BE OBSERVED BY A QUALIFIED THIRD PARTY INSPECTOR.
3. WHEN INSTALLING EPOXY, FILL HOLE WITH A SUFFICIENT AMOUNT OF EPOXY TO SURROUND ANCHOR, THEN SLOWLY TWIST ANCHOR INTO HOLE.
4. ACCEPTABLE EPOXY TYPES:
   - 4.1. SIMPSON STRONG-TIE SET-3G
   - 4.2. IN COLD TEMPERATURES, SIMPSON STRONG-TIE AT-XP.
   - 4.3. APPROVED EQUAL.

WATERSTOPS:
- NEW CONSTRUCTION: INSTALL WATERSTOP AT ALL FLOOR TO WALL INTERSECTIONS. USE 6" FLAT RIBBED PVC WATERSTOP.
- CONNECTING NEW CONCRETE TO EXISTING UTILIZING SIKA / GREENSTREAK 581 RETROFIT WATERSTOP.

STEPS AND ACCESS:
- STEPS SHALL MEET ASTM C-478 AND SHALL BE SPACED AT NO MORE THAN 12" O.C.

MATERIAL DESIGN PROPERTIES

CONCRETE

Location of Use	Design Strength (f'_c) (psi)	Max. w/cm Ratio	Entrained Air (%)	Durability Requirements	EPD GWP limit (kg CO_2 e / m^3)
Base, Walls, Lid	4500	0.45	6% +/- 1.5%	ES2, EC1, EF2	NA
Notes	1. Water to cementitious materials (w/cm) ratio refers to cement, fly ash, and other pozzolans.				

REINFORCING STEEL

Rebar Lap Splice Lengths

	Bar Size				
Rebar	#4	#5	#6	#7	#8
Bare	1'-6"	1'-10"	2'-3"	3'-3"	3'-9"
Epoxy	2'-8"	3'-4"	4'-0"	5'-10"	6'-8"

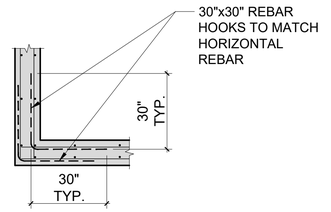
Lengths based on f'_c = 4500 psi with a clear cover of 2 inches

Rebar - 90° End Hooks

Size	#3	#4	#5	#6	#7	#8
Hook Length	0'-6"	0'-8"	0'-10"	1'-0"	1'-2"	1'-4"

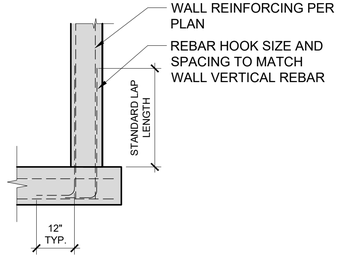
ABBREVIATIONS

ADJ.	Adjustable	GA	Gage	PSF	Pounds / Sq Foot
ARCH	Architectural	GR	Grade	PSI	Pounds / Sq Inch
B.O.	Bottom of	HORZ	Horizontal	SHT	Sheet
CTR	Center	HSS	Hollow Structural Section	SQ	Square
DBL	Double			STRUCT	Structural
Dia.	Diameter	ID	Inside Diameter	T&B	Top and Bottom
E.W.	Each Way	IN	Inches	T.O.	Top of
EA	Each	LF	Linear Feet	TOC	Top of Concrete
EX	Existing	MAX.	Maximum	TOG	Top of Grating
FDN	Foundation	MIN.	Minimum	TOS	Top of Steel
FF	Finished Floor	MISC	Miscellaneous	TYP	Typical
FLR	Floor	NTS	Not to Scale	U.N.O.	Unless Noted Otherwise
FT	Feet	O.C.	On Center		
FTG	Footing	OD	Outside Diameter	VERT	Vertical
				W/	With



TYPICAL WALL CORNER - TOP VIEW

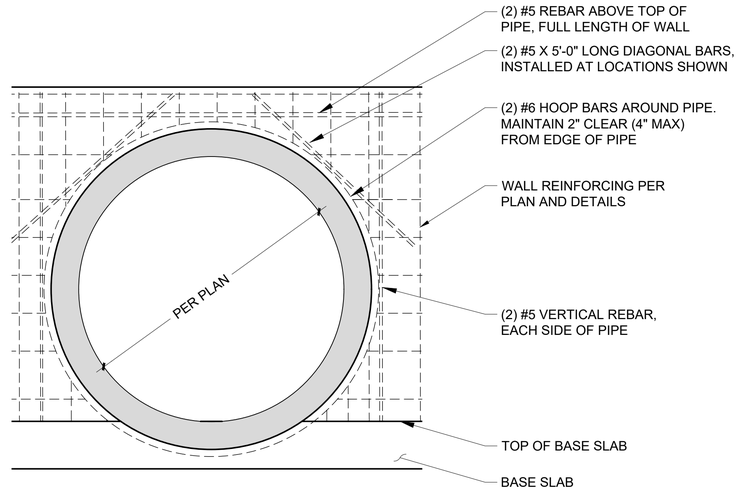
OPTION: CREATE 30" HOOK IN FULL LENGTH HORIZONTAL BARS



SECTION VIEW - BASE TO WALL DOWELS

1-TYPICAL REINFORCING DETAILS

NO SCALE



2 - TYPICAL REINFORCING AT PIPE PENETRATION

NO SCALE

STRUCTURAL DRAWING INDEX

DESIGNED BY: WGT
CHECKED BY: WGT
DRAWN BY: WGT

ISSUE DATE: FEB 4, 2025

DATE	REVISION COMMENTS

PEN Engineering
Ph. 720-347-0054
www.pen-engineeringllc.com

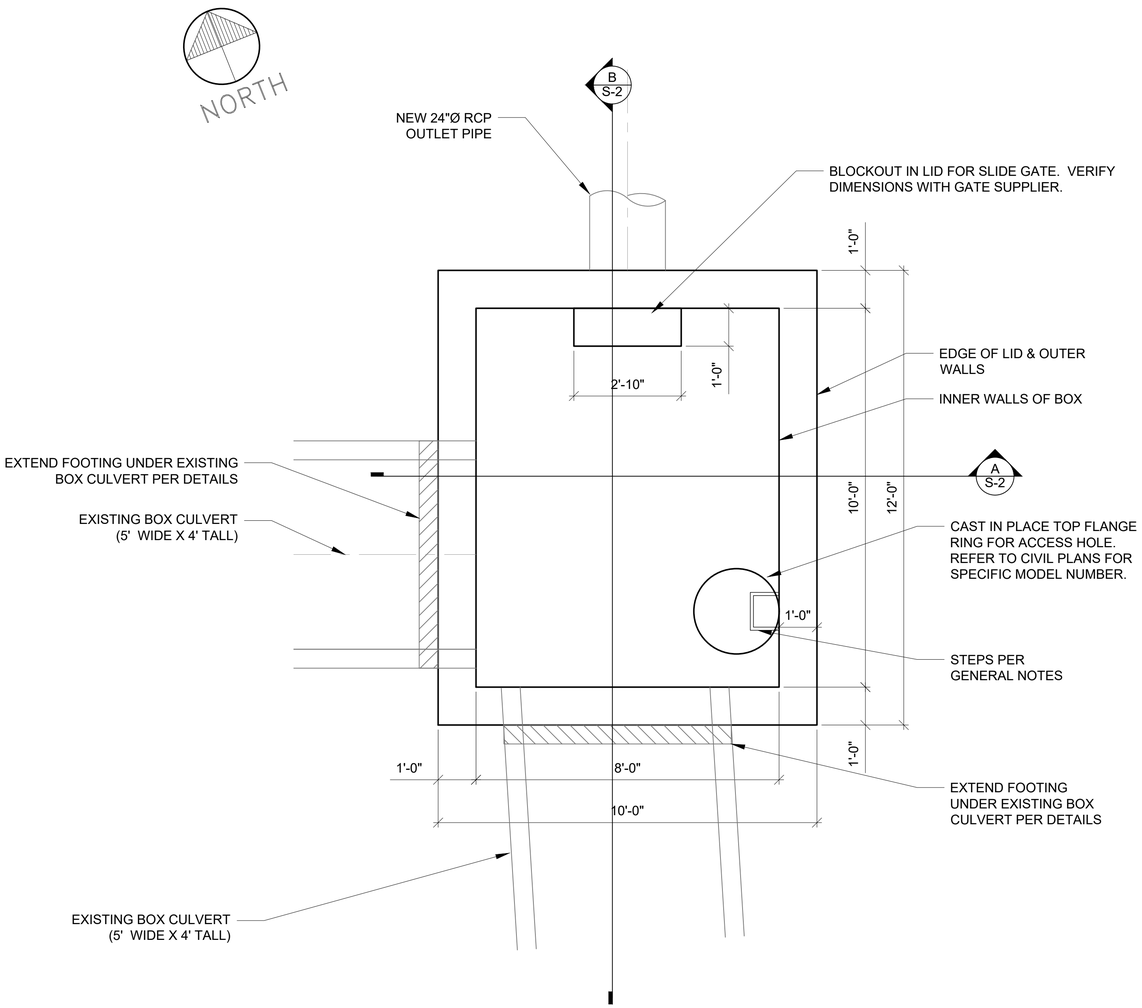
City of Greeley Colorado

POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
DESIGN LOADS & GENERAL NOTES

COLORADO REGISTERED WAYNE G. THOMPSON 35177 2/4/2025 PROFESSIONAL ENGINEER

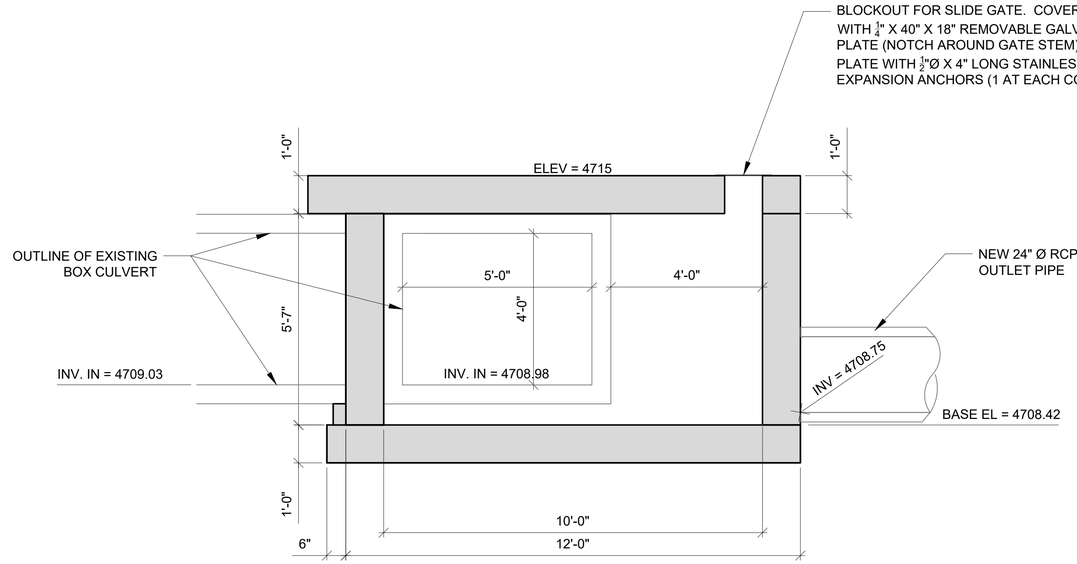
PROJECT #: 24-01003
SHEET NUMBER
S-1
16 OF 18

REFER TO SHEET S-3 FOR ALL REINFORCING AND CONNECTION DETAILS



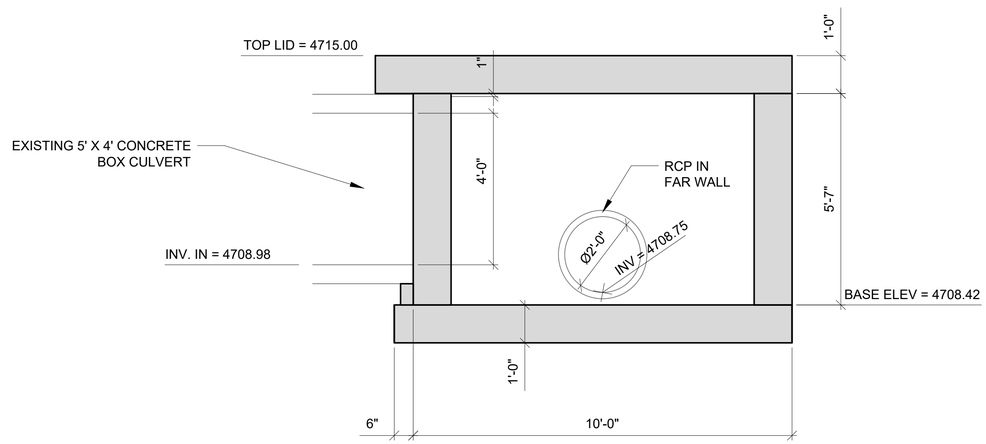
PLAN VIEW

SCALE 1/2" = 1'-0"



B - SECTION AT CULVERT TIE-IN

SCALE 1/2" = 1'-0"



A - BOX SECTION

SCALE 1/2" = 1'-0"

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POUDRE RIVER RANCH
RIVER RUN POND OUTFALL IMPROVEMENTS
DIVERSION STRUCTURE GEOMETRY

COLORADO REGISTERED WAYNE G. THOMPSON 35177 2/4/2025 PROFESSIONAL ENGINEER

PROJECT #: 24-01003

SHEET NUMBER

S-2

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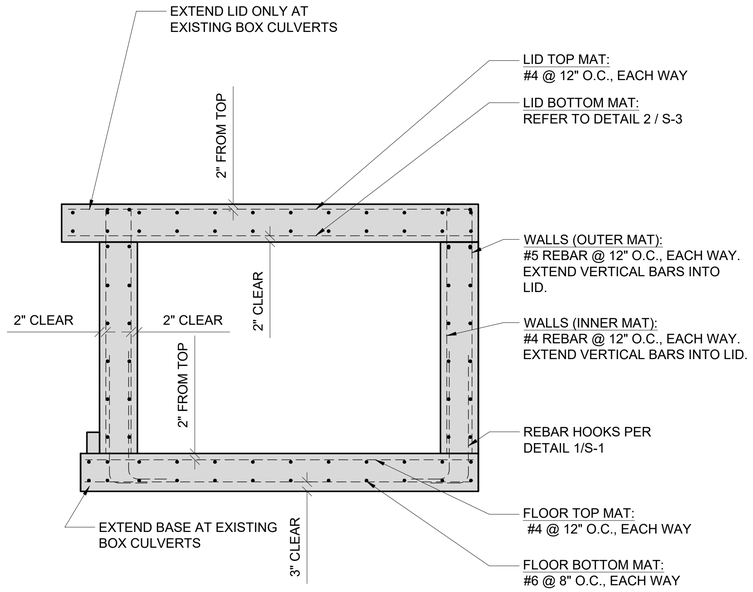
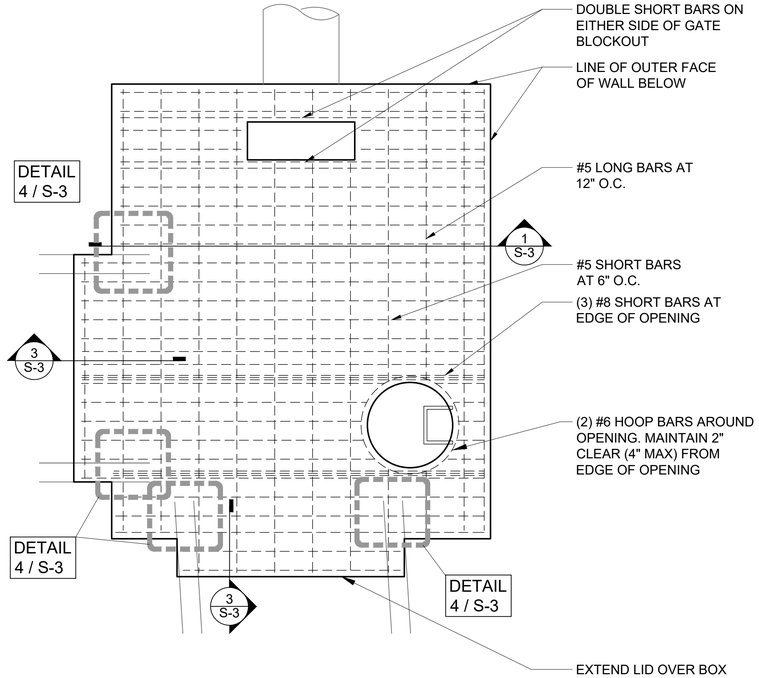


1 - TYPICAL REINFORCING

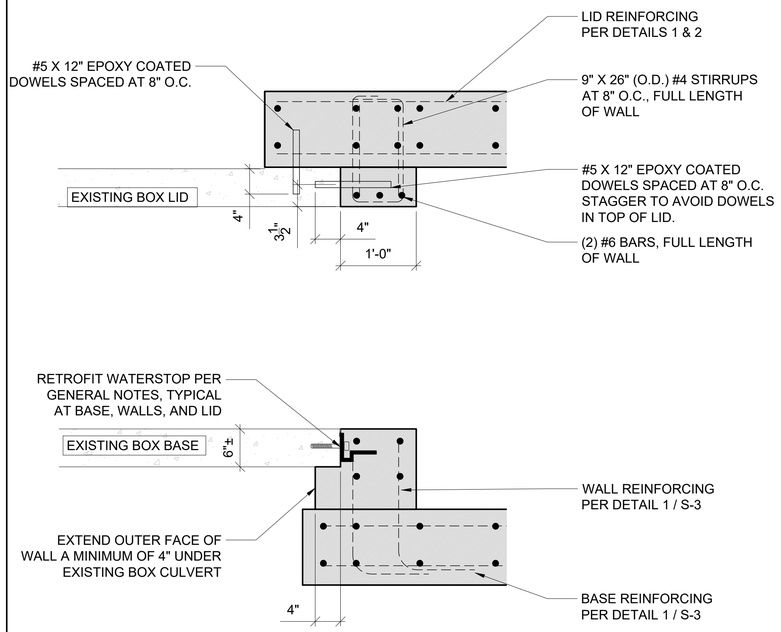
SCALE 1/2" = 1'-0"

PROVIDE REBAR HOOKS AT WALL CORNERS PER DETAIL 1/S-1



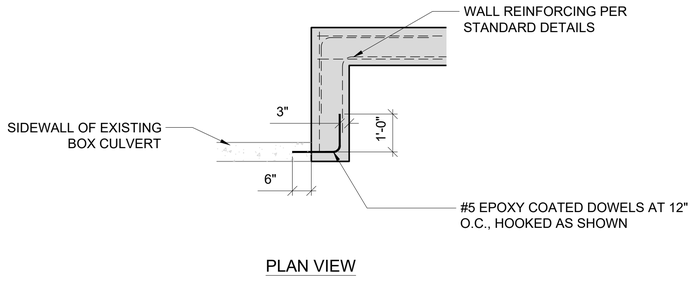
2 - LID REBAR - BOTTOM MAT

SCALE 1/4" = 1'-0"



3 - BASE & LID CONNECTION - EXISTING BOX CULVERT

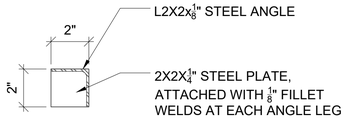
SCALE 1" = 1'-0"



PLAN VIEW

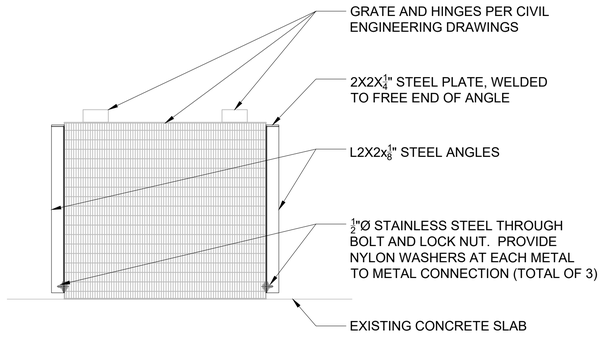
4 - WALL CONNECTION TO EXISTING BOX CULVERT

SCALE 1" = 1'-0"

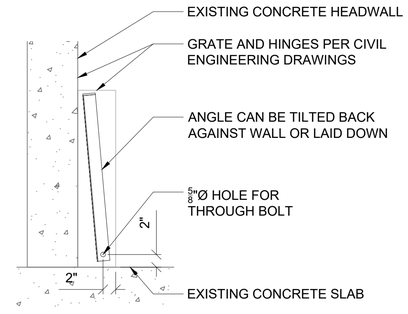


PLAN VIEW OF LEG

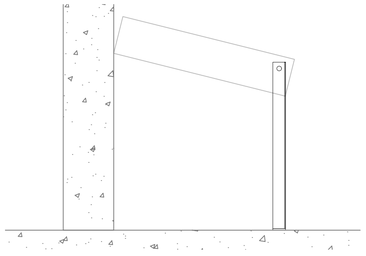
SCALE 3" = 1'-0"



GRATE ELEVATION VIEW



SIDE VIEW - GRATE DOWN



SIDE VIEW - GRATE UP

5 - GRATE SUPPORT LEGS - WESTERN OUTLET

SCALE 1" = 1'-0"

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