

**CITY OF GREELEY
INVITATION FOR BID**

PHASE 3 FIBER CONSTRUCTION – BID

**BID #F23-08-070
DUE NOVEMBER 13, 2023, BEFORE 2:00 P.M.**



Serving Our
Community
It's A Tradition

*The Office of the Purchasing Manager 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.*

SECTION 00110
BID #F23-08-070

INVITATION FOR BID

The City of Greeley, Colorado is requesting **sealed** bids for **PHASE 3 FIBER - BID before November 13, 2023, at 2:00 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.

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No bid shall be withdrawn after the opening on the bids without the consent of the City of Greeley, Colorado, for a period of sixty (60) days after the scheduled time of the receiving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 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 November 1, 2023, at 2:00PM (MST).

Schedule of Events (subject to change)	All times are given in local Colorado time
Bid Proposal Issued	10/17/2023
Pre-Bid Conference include date/time and location	10/25/2023 at 3:00 p.m. via Microsoft Teams Meeting
Inquiry Deadline	11/01/2023 – by 2:00 p.m. MST
Final Addendum Issued	11/08/2023
Bid Due Date and Time	11/13/2023 – By 2:00 p.m. MST via email to purchasing@greeleygov.com
Interviews	N/A
Notice of Award (tentative)	11/16/2023
Notice to Proceed	11/20/2023

Invitation for you to attend a Pre-Bid meeting via Microsoft Teams, Wednesday, October 25, 2023, at 3:00 PM (MST)

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 243 574 711 084

Passcode: pbmZDP

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 347-966-8471,681774135#](tel:+13479668471681774135) United States, New York City

Phone Conference ID: 681 774 135#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

City of Greeley, Colorado
Purchasing Division

Greeley Website
October 17, 2023

Section 00120

BID PROPOSAL

PROJECT: Phase 3 Fiber Construction – BID #F23-08-070

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.

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 and further agrees to complete the contract within eighty (80) Working Days from Notice to Proceed. 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

SIGNATURE

TITLE

**SECTION 00130
 BID SCHEDULE A
 PHASE 3 FIBER
 City of Greeley Project No. 12597
 Federal Aid Project M570-054 (23045)
 BID F23-08-070**

SEE SECTION 00160 SPECIAL PROVISIONS FOR ADDITIONAL BIDDER INSTRUCTIONS

ITEM	DESCRIPTION	BASE BID	BID ALT 1	BID ALT 2	QUANTITY	UNITS	UNIT PRICE	AMOUNT
					TOTAL			
1.	POTHOLING	118	36	46	200	HOUR	\$ _____	\$ _____
2.	TOPSOIL (ONSITE)	86	26	34	146	CY	\$ _____	\$ _____
3.	EROSION LOG TYPE 1 (12 INCH)	354	108	138	600	LF	\$ _____	\$ _____
4.	AGGREGATE BAG	47	14	19	80	LF	\$ _____	\$ _____
5.	CONCRETE WASHOUT STRUCTURE				1	EACH	\$ _____	\$ _____
6.	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	6	2	2	10	HOUR	\$ _____	\$ _____
7.	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	3	1	1	5	HOUR	\$ _____	\$ _____
8.	SWEEPING (SEDIMENT REMOVAL)	12	4	4	20	HOUR	\$ _____	\$ _____
9.	COMPOST (MECHANICALLY APPLIED)	7	2	3	12	CY	\$ _____	\$ _____
10.	HUMATE	18	5	7	30	LB	\$ _____	\$ _____
11.	MYCORRHIZAE	2	1	1	4	LB	\$ _____	\$ _____
12.	SEEDING (NATIVE) DRILL	0	0	0	0	ACRE	\$ _____	\$ _____
13.	SEEDING (NATIVE) BROADCAST	0	0	0	0	ACRE	\$ _____	\$ _____
14.	SPRAY-ON MULCH BLANKET	0	0	0	0	ACRE	\$ _____	\$ _____
15.	FENCE (PLASTIC)	177	54	69	300	LF	\$ _____	\$ _____
16.	CONCRETE SIDEWALK		10	15	25	SY	\$ _____	\$ _____
17.	LOCATION MARKER (FIBER OPTIC)(DOME)	30	8	13	51	EACH	\$ _____	\$ _____
18.	CONDUIT (INSTALL ONLY)	20,280	3,065	8,955	32,300	LF	\$ _____	\$ _____
19.	PULL BOX (INSTALL ONLY)	30	8	13	51	EACH	\$ _____	\$ _____
20.	INTERSECTION DETECTION SYSTEM (CAMERA)(INSTALL ONLY)	1			1	EACH	\$ _____	\$ _____
21.	FIBER OPTIC TERMINATION PANEL (6 FIBER)	1	2	1	4	EACH	\$ _____	\$ _____
22.	TEST FIBER OPTIC CABLE	1			1	LS	\$ _____	\$ _____
23.	FIBER OPTIC CABLE (SINGLE MODE) (12 STRANDS) (INSTALL ONLY)	385	330	160	875	LF	\$ _____	\$ _____
24.	FIBER OPTIC CABLE (SINGLE MODE) (144 STRANDS) (INSTALL ONLY)	31,165	10,765	11,915	53,845	LF	\$ _____	\$ _____
25.	ETHERNET SWITCH TYPE IV (INSTALL ONLY)		1	1	2	EACH	\$ _____	\$ _____
26.	SANITARY FACILITY	1			1	EACH	\$ _____	\$ _____
27.	CONSTRUCTION SURVEYING	1			1	LS	\$ _____	\$ _____
28.	MOBILIZATION	1	0	0	1	LS	\$ _____	\$ _____
29.	FLAGGING	120			120	HOUR	\$ _____	\$ _____
30.	UNIFORM TRAFFIC CONTROL	20			20	HOUR	\$ _____	\$ _____
31.	TRAFFIC CONTROL INSPECTION	30			30	DAY	\$ _____	\$ _____
32.	TRAFFIC CONTROL MANAGEMENT	75			75	DAY	\$ _____	\$ _____

SECTION 00130
BID SCHEDULE A
PHASE 3 FIBER
 City of Greeley Project No. 12597
 Federal Aid Project M570-054 (23045)
BID F23-08-070

SEE SECTION 00160 SPECIAL PROVISIONS FOR ADDITIONAL BIDDER INSTRUCTIONS

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
33.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	18	EACH	\$ _____	\$ _____
34.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	17	EACH	\$ _____	\$ _____
35.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	2	EACH	\$ _____	\$ _____
36.	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	1	EACH	\$ _____	\$ _____
37.	TRAFFIC CONE	120	EACH	\$ _____	\$ _____
38.	STACKABLE VERTICAL PANELS	50	EACH	\$ _____	\$ _____
39.	MOBILE ATTENUATOR	2	EACH	\$ _____	\$ _____
40.	F/A MINOR CONTRACT REVISIONS	1	FA	\$ _____	\$ _____
41.	F/A ON-THE-JOB TRAINEE	1	FA	\$ _____	\$ _____

TOTAL BID SCHEDULE A \$ _____
 (base bid with Alternate A and Alternate B)

Total Bid Schedule A Written Out: _____

Vendor Name: _____

Authorized Signature: _____ Date: _____

Print Name: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

**SECTION 00130
 BID SCHEDULE B
 PHASE 3 FIBER
 City of Greeley Project No. 12597
 Federal Aid Project M570-054 (23045)
 BID F23-08-070**

SEE SECTION 00160 SPECIAL PROVISIONS FOR ADDITIONAL BIDDER INSTRUCTIONS

ITEM	DESCRIPTION	BASE BID	BID ALT 1	QUANTITY	UNITS	UNIT PRICE	AMOUNT
				TOTAL			
1.	POTHOLING	118	36	154	HOUR	\$ _____	\$ _____
2.	TOPSOIL (ONSITE)	86	26	112	CY	\$ _____	\$ _____
3.	EROSION LOG TYPE 1 (12 INCH)	354	108	462	LF	\$ _____	\$ _____
4.	AGGREGATE BAG	47	14	61	LF	\$ _____	\$ _____
5.	CONCRETE WASHOUT STRUCTURE			-	EACH	\$ _____	\$ _____
6.	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	6	2	8	HOUR	\$ _____	\$ _____
7.	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	3	1	4	HOUR	\$ _____	\$ _____
8.	SWEEPING (SEDIMENT REMOVAL)	12	4	16	HOUR	\$ _____	\$ _____
9.	COMPOST (MECHANICALLY APPLIED)	7	2	9	CY	\$ _____	\$ _____
10.	HUMATE	18	5	23	LB	\$ _____	\$ _____
11.	MYCORRHIZAE	2	1	3	LB	\$ _____	\$ _____
12.	SEEDING (NATIVE) DRILL	0	0	0	ACRE	\$ _____	\$ _____
13.	SEEDING (NATIVE) BROADCAST	0	0	0	ACRE	\$ _____	\$ _____
14.	SPRAY-ON MULCH BLANKET	0	0	0	ACRE	\$ _____	\$ _____
15.	FENCE (PLASTIC)	177	54	231	LF	\$ _____	\$ _____
16.	CONCRETE SIDEWALK		10	10	SY	\$ _____	\$ _____
17.	LOCATION MARKER (FIBER OPTIC)(DOME)	30	8	38	EACH	\$ _____	\$ _____
18.	CONDUIT (INSTALL ONLY)	20,280	3,065	23,345	LF	\$ _____	\$ _____
19.	PULL BOX (INSTALL ONLY)	30	8	38	EACH	\$ _____	\$ _____
20.	INTERSECTION DETECTION SYSTEM (CAMERA)(INSTALL ONLY)	1		1	EACH	\$ _____	\$ _____
21.	FIBER OPTIC TERMINATION PANEL (6 FIBER)	1	2	3	EACH	\$ _____	\$ _____
22.	TEST FIBER OPTIC CABLE	1		1	LS	\$ _____	\$ _____
23.	FIBER OPTIC CABLE (SINGLE MODE) (12 STRANDS) (INSTALL ONLY)	385	330	715	LF	\$ _____	\$ _____
24.	FIBER OPTIC CABLE (SINGLE MODE) (144 STRANDS) (INSTALL ONLY)	31,165	10,765	41,930	LF	\$ _____	\$ _____
25.	ETHERNET SWITCH TYPE IV (INSTALL ONLY)		1	1	EACH	\$ _____	\$ _____
26.	SANITARY FACILITY	1		1	EACH	\$ _____	\$ _____
27.	CONSTRUCTION SURVEYING	1		1	LS	\$ _____	\$ _____
28.	MOBILIZATION	1	0	1	LS	\$ _____	\$ _____
29.	FLAGGING	120		120	HOUR	\$ _____	\$ _____
30.	UNIFORM TRAFFIC CONTROL	20		20	HOUR	\$ _____	\$ _____
31.	TRAFFIC CONTROL INSPECTION	30		30	DAY	\$ _____	\$ _____

SECTION 00130
BID SCHEDULE B
PHASE 3 FIBER
 City of Greeley Project No. 12597
 Federal Aid Project M570-054 (23045)
 BID F23-08-070

SEE SECTION 00160 SPECIAL PROVISIONS FOR ADDITIONAL BIDDER INSTRUCTIONS

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
32.	TRAFFIC CONTROL MANAGEMENT	75	DAY	\$ _____	\$ _____
33.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	18	EACH	\$ _____	\$ _____
34.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	17	EACH	\$ _____	\$ _____
35.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	2	EACH	\$ _____	\$ _____
36.	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	1	EACH	\$ _____	\$ _____
37.	TRAFFIC CONE	120	EACH	\$ _____	\$ _____
38.	STACKABLE VERTICAL PANELS	50	EACH	\$ _____	\$ _____
39.	MOBILE ATTENUATOR	2	EACH	\$ _____	\$ _____
40.	F/A MINOR CONTRACT REVISIONS	1	FA	\$ _____	\$ _____
41.	F/A ON-THE-JOB TRAINEE	1	FA	\$ _____	\$ _____

TOTAL BID SCHEDULE B \$ _____
 (base bid with Alternate A)

Total Bid Schedule B Written Out: _____

Vendor Name: _____

Authorized Signature: _____ Date: _____

Print Name: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

**SECTION 00130
 BID SCHEDULE C**

**PHASE 3 FIBER
 City of Greeley Project No. 12597
 Federal Aid Project M570-054 (23045)
 BID F23-08-070**

SEE SECTION 00160 SPECIAL PROVISIONS FOR ADDITIONAL BIDDER INSTRUCTIONS

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
		BASE BID			
1.	POTHOLING	118	HOUR	\$ _____	\$ _____
2.	TOPSOIL (ONSITE)	86	CY	\$ _____	\$ _____
3.	EROSION LOG TYPE 1 (12 INCH)	354	LF	\$ _____	\$ _____
4.	AGGREGATE BAG	47	LF	\$ _____	\$ _____
5.	CONCRETE WASHOUT STRUCTURE		EACH	\$ _____	\$ _____
6.	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	6	HOUR	\$ _____	\$ _____
7.	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	3	HOUR	\$ _____	\$ _____
8.	SWEEPING (SEDIMENT REMOVAL)	12	HOUR	\$ _____	\$ _____
9.	COMPOST (MECHANICALLY APPLIED)	7	CY	\$ _____	\$ _____
10.	HUMATE	18	LB	\$ _____	\$ _____
11.	MYCORRHIZAE	2	LB	\$ _____	\$ _____
12.	SEEDING (NATIVE) DRILL	0	ACRE	\$ _____	\$ _____
13.	SEEDING (NATIVE) BROADCAST	0	ACRE	\$ _____	\$ _____
14.	SPRAY-ON MULCH BLANKET	0	ACRE	\$ _____	\$ _____
15.	FENCE (PLASTIC)	177	LF	\$ _____	\$ _____
16.	CONCRETE SIDEWALK		SY	\$ _____	\$ _____
17.	LOCATION MARKER (FIBER OPTIC)(DOME)	30	EACH	\$ _____	\$ _____
18.	CONDUIT (INSTALL ONLY)	20,280	LF	\$ _____	\$ _____
19.	PULL BOX (INSTALL ONLY)	30	EACH	\$ _____	\$ _____
20.	INTERSECTION DETECTION SYSTEM (CAMERA)(INSTALL ONLY)	1	EACH	\$ _____	\$ _____
21.	FIBER OPTIC TERMINATION PANEL (6 FIBER)	1	EACH	\$ _____	\$ _____
22.	TEST FIBER OPTIC CABLE	1	LS	\$ _____	\$ _____
23.	FIBER OPTIC CABLE (SINGLE MODE) (12 STRANDS) (INSTALL ONLY)	385	LF	\$ _____	\$ _____
24.	FIBER OPTIC CABLE (SINGLE MODE) (144 STRANDS) (INSTALL ONLY)	31,165	LF	\$ _____	\$ _____
25.	ETHERNET SWITCH TYPE IV (INSTALL ONLY)		EACH	\$ _____	\$ _____
26.	SANITARY FACILITY	1	EACH	\$ _____	\$ _____
27.	CONSTRUCTION SURVEYING	1	LS	\$ _____	\$ _____
28.	MOBILIZATION	1	LS	\$ _____	\$ _____
29.	FLAGGING	120	HOUR	\$ _____	\$ _____
30.	UNIFORM TRAFFIC CONTROL	20	HOUR	\$ _____	\$ _____
31.	TRAFFIC CONTROL INSPECTION	30	DAY	\$ _____	\$ _____
32.	TRAFFIC CONTROL MANAGEMENT	75	DAY	\$ _____	\$ _____

SECTION 00130
BID SCHEDULE C
PHASE 3 FIBER
City of Greeley Project No. 12597
Federal Aid Project M570-054 (23045)
BID F23-08-070

SEE SECTION 00160 SPECIAL PROVISIONS FOR ADDITIONAL BIDDER INSTRUCTIONS

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
33.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	18	EACH	\$ _____	\$ _____
34.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	17	EACH	\$ _____	\$ _____
35.	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	2	EACH	\$ _____	\$ _____
36.	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	1	EACH	\$ _____	\$ _____
37.	TRAFFIC CONE	120	EACH	\$ _____	\$ _____
38.	STACKABLE VERTICAL PANELS	50	EACH	\$ _____	\$ _____
39.	MOBILE ATTENUATOR	2	EACH	\$ _____	\$ _____
40.	F/A MINOR CONTRACT REVISIONS	1	FA	\$ _____	\$ _____
41.	F/A ON-THE-JOB TRAINEE	1	FA	\$ _____	\$ _____

TOTAL BID SCHEDULE C \$ _____
 (base bid)

Total Bid Schedule C Written Out: _____

Vendor Name: _____

Authorized Signature: _____ Date: _____

Print Name: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

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.

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,

Phase 3 Fiber Construction – BID #F23-08-070

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.

Page 2

Bid Bond

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: PHASE 3 FIBER – BID – F23-08-070

A pre-bid conference will be held:

On October 25, 2023, at 3:00 p.m., via Microsoft Teams Meeting. All bidders are encouraged to attend.

Join Teams Meeting

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 243 574 711 084

Passcode: pbmZDP

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 347-966-8471,,681774135#](#) United States, New York City

Phone Conference ID: 681 774 135#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

Greeley 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



Virtual Bid Opening Meeting

Monday, November 13, 2023, at 2:00 PM (MST)

F23-08-070 – PHASE 3 FIBER – BID

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 227 830 128 159

Passcode: G3mhoW

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 347-966-8471,,719539010#](#) United States, New York City

Phone Conference ID: 719 539 010#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

SECTION 00210

NOTICE OF AWARD

DATE:

TO:

Re: **Phase 3 Fiber Construction – BID #F23-08-070**

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

Title: Director of Public Works

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: Phase 3 Fiber Construction – BID #F23-08-070

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:

CONTRACTOR:

The City of Greeley
Approved as to Substance

Signed: _____

Signed: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

ENDORSED:

The City of Greeley
Approved as to Legal Form

Signed: _____

Name: _____

Title: _____

Date: _____

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, CO. 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,

Phase 3 Fiber Construction – BID #F23-08-070

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.

Performance Bond
Page 2

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:

PRINCIPAL

By: _____

(Corporate Seal)

(Address)

IN PRESENCE OF:

OTHER PARTNERS

By: _____

By: _____

By: _____

IN PRESENCE OF:

SURETY

(Attorney-in-Fact) By: _____

(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.

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, Co. 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

Phase 3 Fiber Construction – BID #F23-08-070

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.

Payment Bond

Page 2

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.

SECTION 00350

LIEN WAIVER RELEASE

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

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

PROJECT: **Phase 3 Fiber Construction – BID #F23-08-070**

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.

Lien Waiver Release

Page 2

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

Debarment/Suspension Certification Statement

Phase 3 Fiber Construction – BID #F23-08-070

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.

The City will verify debarment/suspension information for all federally funded projects using the www.sam.gov site. The awarded vendor of federally funded projects must be pre-registered on the www.sam.gov site and show up as active with no exclusions at the time of the bid opening.

UEI#: _____

Name of Organization: _____ Authorized Signature:

Title: _____

Date: _____

SECTION 00410

NOTICE TO PROCEED

Month , 20

TO: NAME

PROJECT: **Phase 3 Fiber Construction – BID #F23-08-070**

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

Phase 3 Fiber Construction – BID #F23-08-070

_____, 20____

TO:

PROJECT:

The Owner hereby designates _____ as its Project Manager and authorizes this individual, under the authority of the Director of Public Works 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: **Phase 3 Fiber Construction – BID #F23-08-070**

Project or designated portion shall include: Describe Scope.

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 , 20

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.

Certificate of Substantial Completion
Page 2

The Contractor will complete or correct the Work on the list of items attached here within days from the above Date of Substantial Completion.

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: **Phase 3 Fiber Construction – BID #F23-08-070**

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 , 20 at 2:00 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): Describe Amendments.

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:

Contractor's Representative _____
DATE 20

Project Manager (COG) _____
DATE 20



**SECTION 00510
CITY OF GREELEY
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

(REVISED MAY 2020)

[SECTION 00510 General Conditions_F23-08-070.pdf](#)



SECTION 00520

Phase 3 Fiber Construction – BID #F23-08-070

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 to be assigned _____ Percentage: _____ %

Firm Name: _____ City Contractors License # _____

Address: _____

Phone Number: _____ Fax Number: _____

Proposed work and percentage of total work to be assigned _____ Percentage: _____ %

Firm Name: _____ City Contractors License # _____

Address: _____

Phone Number: _____ Fax Number: _____

Proposed work and percentage of total work to be assigned _____ Percentage: _____ %

Firm Name: _____ City Contractors License # _____

Address: _____

Phone Number: _____ Fax Number: _____

Proposed work and percentage of total work to be assigned _____ Percentage: _____ %

Firm Name: _____ City Contractors License # _____

Address: _____

Phone Number: _____ Fax Number: _____

Proposed work and percentage of total work to 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.

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

State of Colorado

THIS LICENSE IS NOT TRANSFERABLE

CERTIFICATE OF EXEMPTION FOR SALES AND USE TAX ONLY

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



A handwritten signature in black ink, appearing to read "John J. [unclear]", is written over the seal.

Executive Director
Department of Revenue

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

**CITY OF GREELEY
PUBLIC WORKS DEPARTMENT**

**PHASE 3 FIBER
City of Greeley Project No. 12597
Federal Aid Project M570-054 (23045)**

SECTION 00620 SPECIAL PROVISIONS

PROJECT DESCRIPTION

The City of Greeley has received \$2,375,653 Congestion Mitigation and Air Quality (CMAQ) grant to expand the existing communication system fiber optic ring. This expansion, referred to as Phase 3, includes conduit, handholes, fiber, and new adaptive traffic signal controls in the southwest sector of City of Greeley. Approximately 7.8 miles of fiber will be installed as part of the Phase 3 project, with 3.8 miles along state route US 34. As part of this project, Greeley will install new adaptive signal controls at three signalized intersections. All work shall be subject to CDOT oversight, review, and approval. This project must comply with all CDOT and/or FHWA requirements.

FEDERAL AID PROJECT

The apparent low bidder will be provided the following forms and will be required to submit them the day after the bid opening. The forms can be viewed and/or download from CDOT website.

- Form #605 Contractors Performance Capability Statement
- Form #621 Assignment of Antitrust Claims
- Form #1415 Commitment Confirmation (If the DBE goal > 0).
- Form #1416 DBE Good Faith Effort Documentation (If the DBE goal is not met).

These forms need to be returned to the Local Agency within five calendar days of the selection as the lowest apparent bidder.

The REQUIRED CONTRACT PROVISIONS for FEDERAL-AID CONSTRUCTION CONTRACTS (Form 1273 – Rev. 1994) supplement or modify the Contract General Conditions. This project is subject to “Payment of Predetermined Wage” requirements (Davis Bacon Act).

CERTIFICATE OF ANTI-COLLUSION AFFIDAVIT (CDOT Form 606) and ANTICIPATED DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION PLAN (CDOT Form #1414) must be completed and submitted with Bid proposal. Contractors submitting bids must be on CDOT’s pre-qualified contractor list.

The CDOT Form 347, Certification of EEO Compliance, is no longer required to be submitted in bid package. This form certified that the contractor/proposed subcontractors were in compliance with the Joint Reporting Committee EEO-1 form requirements. The EEO-1 Report must still be submitted to the Joint Reporting Committee if the contractors and subcontractors meet the eligibility requirements 29CFR 1602.7); we will, however, no longer required certification. For additional information regarding these federal requirements, please refer to: <http://www.eeoc.gov/stats/jobpat/elinstruct.html>

CDOT REVISIONS TO GREELEY GENERAL CONDITIONS – SECTION 00510

Article 2

Section 2.5 – Precedence of Contract Documents – In case of conflict, documents shall have the following priorities: (1) Special Provisions, (2) General Conditions, (3) Plans, (4) DCCSM, (5) CDOT Standard Special Provisions, (6) CDOT Standard Specifications.

Article 10

Section 10.3 – The State (CDOT) will have a direct interest in this local agency project.

Article 11

Section 11.1 – Per FHWA guidelines, there is no general warranty for the project constructed improvements.

Section 11.2 – Paragraph 11.2 refers to damages during construction.

Article 12

Section 12.1 – This does not waive the need for Finding in the Public Interest (FIPI) in CDOT projects.

Section 12.2 – Any proposed alternatives will only be accepted with CDOT Resident Engineer approval.

Section 12.3 – The use of alternative material will only be accepted with CDOT Materials Engineer approval.

Article 21

Section 21.1 – The “Practical Schedule” format must be approved by the City of Greeley.

LICENSE, FEES, AND PERMITS

The Contractor shall obtain all necessary City of Greeley and CDOT permits for work. City of Greeley permit fees will be waived. The Contractor is responsible to keep all permits in compliance until they can be terminated.

SUBMITTALS - 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.

CONSTRUCTION TRAFFIC CONTROL

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 should be on site daily and must be available twenty-four (24) hours a day. The name and phone 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 any closures with property owners. All costs associated with construction traffic control not included in pay items specified on the bid shall not be measured for separate payment, but shall be considered incidental to the items specified on the bid.

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 more than 25%, any allowance for an increase in quantity shall apply only to that portion more than 125% of the original contract item quantity, or in case of a decrease below 75%, to the actual amount of work performed.

SECTION 00620
COLORADO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
Greeley Phase 3 Fiber

The 2023 Standard Specifications for Road and Bridge Construction controls construction of this project (<https://www.codot.gov/business/designsupport/cdot-construction-specifications/2023-construction-specifications/2023-specs-book>). The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS

	<u>Date</u>	<u>Page</u>
Special Provisions	(July 28, 2023)	1-3
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Commencement and Completion of Work	(July 28, 2023)	8
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Revision of Section 240 – Burrowing Owl Protocol	(July 28, 2023)	13
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Revision of Section 613 – HDPE Conduit (Install Only)	(July 28, 2023)	18-20
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Revision of Section 614 – Fiber Optic Cable (Install Only)	(July 28, 2023)	23-25
Revision of Section 614 – Fiber Optic Termination Panel	(July 28, 2023)	26-27
Revision of Section 614 – Ethernet Switch (Install Only)	(July 28, 2023)	28
Revision of Section 614 – Test Fiber Optic Cable	(July 28, 2023)	29-33
Revision of Section 614 – Adaptive Signal Equipment (Install Only)	(July 28, 2023)	34
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Revision of Section 625 – Asset Geospatial Data Collection	(July 28, 2023)	37-41
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Traffic Control Plan – General	(July 28, 2023)	44
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SECTION 00620
COLORADO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
Greeley Phase 3 Fiber

STANDARD SPECIAL PROVISIONS

	<u>Date</u>	<u>No. of Pages</u>
Revision of Section 105 – Control of Work	(October 1, 2023)	1
Revision of Section 105 – Dispute Review Board and Claims for Unresolved Disputes	(October 1, 2023)	9
Revision of Section 107 – Water Quality Control (Under One Acre of Disturbance)	(October 1, 2023)	9
Revision of Section 109 – Prompt Payment (Local Agency)	(October 1, 2023)	2
Revision of Section 207 – Topsoil	(October 1, 2023)	9
Revision of Section 208 – Erosion Control (Under One Acre of Disturbance)	(October 1, 2023)	38
Revision of Section 212 – Soil Amendments, Seeding, and Sodding	(October 1, 2023)	25
Affirmative Action Requirements Equal Employment Opportunity	(October 1, 2023)	13
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Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO20230014 MOD 2, Highway Construction for Larimer, Mesa, and Weld counties.	(July 14, 2023)	7
On the Job Training	(October 1, 2023)	6
Required Contract Provisions – Federal-Aid Construction Contracts	(October 1, 2023)	14
Special Construction Requirements, Fire Protection Plan	(October 1, 2023)	2

NOTICE TO BIDDERS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 5 percent of the Contractor's total bid.

Pursuant to subsections 102.04 and 102.05, it is recommended that bidders on this project review the work site and plan details with an authorized City of Greeley representative. Prospective bidders may directly contact the following listed authorized City of Greeley representative only at the Pre-Bid Meeting.

Dave Wells
2835 10th Street
Greeley, CO 80634
Phone: 970-350-9796
E-mail: dave.wells@greeleygov.com

The above referenced individuals are the only representatives of the City of Greeley with authority to provide any information, clarification, or interpretation regarding the plans, specifications, and any other contract documents or requirements.

Questions pertaining to the Project may be directed to purchasing@greeleygov.com before 11/01/2023 2:00 PM. Questions received from bidders along with City of Greeley responses will be posted on the Rocky Mountain E-Purchasing System as they become available.

If the bidder has a question or requests clarification that involves the bidder's innovative or proprietary means and methods, phasing, scheduling, or other aspects of construction of the project, contact the Resident Engineer directly to address the question or clarification. The City of Greeley will keep the bidder's innovation confidential and will not share this information with other bidders.

The City of Greeley will determine whether questions are innovative or proprietary in nature. If the City of Greeley determines that a question does not warrant confidentiality, the bidder may withdraw the question. If the bidder withdraws the question, the City of Greeley will not answer the question and the question will not be documented on the Rocky Mountain E-Purchasing System. If the bidder does not withdraw the question, the question will be answered, and both the question and City of Greeley answer will be posted on the Rocky Mountain E-Purchasing System. If the City of Greeley agrees that a question warrants confidentiality, the City of Greeley will answer the question, and keep both question and answer confidential. The City of Greeley will keep a record of both question and answer in their confidential file.

Questions and answers shall be used for reference only and shall not be considered part of the Contract.

REQUIRED FEDERAL AID FORMS (FOR BID)

The following forms shall be completed and submitted with the bid. Bid will be disqualified without these forms completed and attached to the bid. The forms can be found at <https://www.codot.gov/library/forms>

- Form #606 - Anti-Collusion Affidavit
- Form #1413 - Bidders Lists
- Form #1414 – Anticipated DBE Participation Plan

MULTIPLE BID SCHEDULES

There are three separate bid schedules for this project. The Bidder shall submit a bid for each schedule. The schedules for this project are as follows:

Schedule C: 12597 Base Bid. Work includes installation of conduit and fiber optic cable along US-34 between Promontory Parkway and 47th Avenue and Adaptive Signal Equipment at the US-34 and Promontory Parkway intersection. Associated work includes connecting the US-34 and 83rd Avenue traffic signal to the proposed fiber optic network.

Schedule B: Base Bid and Bid Alternate 1. In addition to the Base Bid items described above, work includes installation of conduit and fiber optic cable along 71st Avenue between 10th Street and 20th Street and along 20th Street between 71st Avenue and 65th Avenue. Associated work includes connecting the 16th Street and the 20th Street traffic signals along and 71st Avenue to the proposed fiber optic network.

Schedule A: Base Bid, Bid Alternate 1 and Bid Alternate 2. In addition to the Base Bid and Bid Alternate 1 intersections described above, work includes installation of conduit and fiber optic cable along 71st Avenue between 20th Street and US-34 and along 20th Street between 83rd Avenue and 71st Avenue. Associated work includes connecting the HAWK traffic signal located on 20th Street, west of 71st Avenue, to the proposed fiber optic network.

The Bidder's proposal shall specify a unit bid price for each pay item in all bid schedules. Failure to include unit bid prices for each bid item in all bid schedules shall be cause for rejection of the Bidder's proposal.

The bid opening process will be as follows:

1. The maximum acceptable bid for Schedule A will be announced immediately prior to the bid opening.
2. The total bid for Schedule A will be read for each Bidder.
3. If one or more of the bids for Schedule A are at or below the maximum acceptable bid, the apparent low bidder for Schedule A will be announced; and the bids for Schedules B and C will not be announced.
4. If none of the bids for Schedule A are at or below the maximum acceptable bid, the maximum acceptable bid for Schedule B will be announced.
5. The total bid for Schedule B will be read for each bidder.
6. If one or more of the bids for Schedule B are at or below the maximum acceptable bid, the apparent low bidder for Schedule B will be announced; and the bids for Schedule C will not be announced.
7. If none of the bids for Schedule B are at or below the maximum acceptable bid, the maximum acceptable bid for Schedule C will be announced.
8. After the Schedule C bids have been read the apparent low bidder for Schedule C will be announced.

The contract award will be as follows:

1. The City will award the Contract to the lowest responsible bidder of Schedule A that results in a low bid at or less than the maximum acceptable bid.
2. If none of the Schedule A bids result in a low bid at or less than the maximum acceptable bid, the City will award the Contract to the lowest responsible bidder of Schedule B that results in a low bid at or less than the maximum acceptable bid.
3. If none of the Schedule B bids result in a low bid at or less than the maximum acceptable bid, the City will award the Contract to the lowest responsible bidder of Schedule C (Base Bid) provided it results in a total project cost less than 110 percent of the Project Budget.
4. If the low bid for Schedule C does not result in a total cost under 110 percent of the Project budget, the City may supplement the Project Budget in order to award Schedule C. The possibility of having different low bidders on different schedules is recognized.

COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall commence work under the Contract on or before the 15th day following Contract execution or the 30th day following the date of award, whichever comes later, unless such time for beginning the work is changed by the Resident Engineer in the "Notice to Proceed." The Contractor shall complete all work within the Working Days listed below in accordance with the "Notice to Proceed."

Schedule C – 65 Days

Schedule B – 75 Days

Schedule A – 80 Days

SCHEDULE AND SEQUENCES

The City of Greeley intends to issue the Notice to Award as soon as possible following the bid opening. The Contractor shall submit and update a construction schedule, which clearly outlines the work sequence. This will be reviewed by the City of Greeley, and when requested, the Contractor will revise his work sequence to better suit job conditions.

The following work hour restrictions and provisions apply to all work on the project exclusive of the work during construction: The Contractor is limited to working from 7:00 am to 5:00 pm. If the Contractor chooses to work outside normal business day/hours, then there will be a deduction from the final pay estimate to cover inspection costs. For one inspector working overtime on a job, the estimated cost to the City is \$65.00/hr. Should any outside consultants be used for testing or inspections, their hourly rates will be charged to the Contractor and overtime will be included, if charged by the consultant. The amount deducted from the project will be the actual amount incurred by the City.

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.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) CONTRACT GOAL

This is a federally-assisted construction project. As described in the CDOT DBE Standard Special Provision, the Bidder shall make good faith efforts to meet the following contract goal:

4 Percent DBE Participation

ON THE JOB TRAINING CONTRACT GOAL

The Department has determined that On the Job Training shall be provided to trainees with the goal of developing full journey workers in the types of trade or classification involved. The contract goal for On the Job Trainees working in an approved training plan in this Contract has been established as follows:

Minimum number of total On the Job Training required **0 hours**

**REVISION OF SECTION 101
DEFINITION AND TERMS**

Certain terms utilized in the latest edition of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction shall be interpreted to have different meanings within the scope of this Contract. A summary of redefinitions follows:

Subsection 101.28: — "Department" shall mean the City of Greeley.

Subsection 101.29: — "Engineer" shall mean the City of Greeley or their designated representative.

Subsection 101.39: — "Laboratory" shall mean the City of Greeley or their designated representative.

Subsection 101.51: — "Project Engineer" shall mean the City of Greeley or their designated representative.

Subsection 101.58 — "Region Transportation Director" shall mean the City of Greeley or their designated representative.

Subsection 101.76 — "State" shall mean the City of Greeley (where applicable).

**REVISION OF SECTION 217
HERBICIDE TREATMENT**

DESCRIPTION

217.01 This work consists of furnishing and applying herbicides to prevent or control plant growth in areas shown on the plans or designated.

MATERIALS

217.02 Herbicides shall be designated in the contract.

All herbicide labels shall be currently registered with the Colorado Department of Agriculture and the U.S. Environmental Protection Agency. All herbicides shall be supplied to the project in labeled containers. The labels shall show the product name, chemical composition, expiration date, and directions for use.

CONSTRUCTION REQUIREMENTS

217.03 All herbicides shall be applied by commercial pesticide applicators licensed by the Colorado Department of Agriculture as qualified applicators. The Contractor shall furnish documentation of such licensing before herbicide application. Herbicide mixing and application shall be done per instructions on the registered product label. The Engineer shall be furnished such label information before mixing and application.

The Contractor shall notify the Engineer at least 24 hours before each herbicide application and shall indicate the time and location application will begin. Application will not be allowed on Saturdays, Sundays, or holidays unless otherwise approved by the Engineer.

Herbicides shall not be applied when weather conditions, including wind conditions, are unsuitable for such work. Herbicides shall not be applied when soil is extremely dry.

Herbicide application method shall be such that plant growth outside the designated treatment areas will not be damaged. All damage caused by improper herbicide application shall be repaired at the Contractor's expense.

Herbicides shall not be used on areas that are to be topsoil sources unless otherwise approved by the Engineer.

METHOD OF MEASUREMENT

217.04 The quantity of herbicide treatment to be measured will be the actual number of square yards treated per the foregoing requirements or the actual number of hours the Contractor spends applying the herbicide and accepted by the Engineer. Areas designated to receive herbicide treatment will be measured once for each designated application. Reapplication of herbicide required due to inappropriate timing of the original application will not be measured or paid for.

BASIS OF PAYMENT

217.05 The accepted quantities of herbicide treatment will be paid for at the contract unit price per square yard or per hour.

Payment will be made under:

Pay Item	Pay Unit
Herbicide Treatment	Square Yard
Herbicide Treatment	Hour

Water will not be measured and paid for separately but shall be included in the work.

**REVISION OF SECTION 240
BURROWING OWL PROTOCOL
PERFORMED BY CONTRACTOR**

Section 240 of the standard specifications is hereby added to the Standard Specifications for this project as follows:

240.03 A burrowing owl survey shall be conducted by the Contractor's Biologist if construction begins between March 1st and October 31st.

If burrowing owls are confirmed to be present in the colony, one of two options will be utilized:

1. No disturbance will be allowed until it can be confirmed that owls have left the area, or
2. The owl activities within the colony will be carefully monitored and holes utilized by the owls will be marked. When all burrowing owl holes have been marked, no disturbance will be allowed within 200 meters (approximately 220 yards) of the burrow entrances.

Surveys must follow CPW's "Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls" (<https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/Recommended-Survey-Protocol-Burrowing-Owls.pdf>).

**REVISION OF SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY CONTRACTOR'S BIOLOGIST**

Section 240 of the standard specifications is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS AND CONSTRUCTION REQUIREMENTS

240.02 The Contractor shall schedule clearing and grubbing operations and work on structures to avoid taking (pursue, hunt, take, capture, or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall retain a qualified wildlife biologist for this project. The wildlife biologist shall have a minimum of three years' experience conducting migratory bird surveys and implementing the requirements of the MBTA. The Contractor shall submit documentation of the biologist's education and experience to the Engineer for acceptance. A biologist with less experience may be used by the Contractor subject to the approval of the Engineer based on review of the biologist's qualifications.

The wildlife biologist shall record the location of each protected nest, bird species, the protection method used, and the date installed. A copy of these records shall be submitted to the Engineer.

(a) **Vegetation Removal.** When possible, vegetation shall be cleared before the time when active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits for active migratory bird nests. The Contractor's wildlife biologist shall also survey for active migratory bird nests within 50 feet outside work limits. Contractor personnel shall enter areas outside CDOT right of way only if a written, signed document granting permission to enter the property has been obtained from the property owner. The Contractor shall document all denials of permission to enter property. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:

1. **Tree and Shrub Removal or Trimming.** Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests shall be conducted by the wildlife biologist within the seven days immediately before the beginning of work in each area of tree and shrub removal or trimming. The survey shall be conducted for each phase of tree and shrub removal or trimming.

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the wildlife biologist and approved by the Engineer. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

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**REVISION OF SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY CONTRACTOR'S BIOLOGIST**

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges but will be charged as contract time.

2. Grasses and Other Vegetation Management. Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by a wildlife biologist within the seven days immediately before ground disturbing activities.

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the Contractor's biologist. This buffer dimension may be changed if determined appropriate by the Contractor's biologist and approved by the Engineer. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges but will be charged as contract time.

- (b) The Contractor shall not conduct project related activities during the raptor nesting season or Bald Eagle winter roosting season as outlined in Colorado Parks and Wildlife's (CPW's) Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors, unless the Contractor takes the following actions:

1. Prior to the start of the project, a qualified biologist will conduct surveys to determine if active raptor nests or Bald Eagle winter roost sites occur within the CPW recommended buffer from the project area.
2. If nest or roost sites occur within the buffer distances, the qualified biologist will determine an appropriate survey protocol to ensure that project activities do not disrupt nesting raptors or Bald Eagle winter roost sites. The survey protocol should be developed in coordination with CPW.

- (c) Taking of a Migratory Bird. The taking of a migratory bird shall be reported to the Engineer. The Contractor shall be responsible for all penalties levied by the U. S. Fish and Wildlife Service (USFWS) for the taking of a migratory bird.

METHOD OF MEASUREMENT

240.03 Wildlife Biologist will be measured by the actual authorized number of hours a wildlife biologist is on site performing the required tasks.

Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just before and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Netting will be measured by the square yard of material placed to keep birds from nesting on the structure. Square yards will be calculated using the length of netting measured where it is attached to the ground and the average height of the netting where it is attached to the structure.

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**REVISION OF SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY CONTRACTOR'S BIOLOGIST**

BASIS OF PAYMENT

240.04 The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
Wildlife Biologist	Hour
Removal of Nests	Hour

REVISION OF SECTION 612 LOCATION MARKERS

Section 612 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

Contractor shall furnish and install location markers for identifying fiber optic conduit and other utility conduit at locations shown on the plans.

MATERIALS

Location Marker (Fiber Optic) (Dome) shall be made of non-conductive high-density polymer, and shall be integrally white in color with an orange cap. All colors shall be stabilized against ultraviolet light such that they will not fade under continuous exposure to direct sunlight. The marker shall retain dimensional stability in temperatures ranging from -40° F to 175° F. In some instances when markers are installed on National Forest Service Lands the location marker shall be brown (Federal Standard Color 20059 or approved by Project Engineer) in color with an orange cap.

The Location Marker (Fiber Optic) (Dome) shall include a label with City of Greeley contact information and the designation of "FIBER OPTIC CABLE". The label shall have black lettering on an orange background. The label shall include the highway milepost of the Pull Box. The mile post shall be to the nearest hundredth mile. This label shall be placed below the "FIBER OPTIC CABLE" warning label. The Contractor shall provide the label submittal to the Project Engineer.

Concrete or a pre-cast polymer concrete footing for dome marker shall be 18 inches x 18 inches x 12 inches per project detail. Concrete footing shall be Concrete Class B and shall be in accordance with Section 601. The gap between the concrete or pre-cast polymer concrete footing and dome marker shall be a maximum of ¼ inch.

The pre-cast polymer concrete footing shall be skid-resistant, non-metallic, non-conductive, and UV resistant, and shall include two lifting slots for placement in the field. The pre-cast polymer concrete footing shall be similar nominal dimensions of the concrete footing shown on the Plans.

CONSTRUCTION REQUIREMENTS

Location Marker (Fiber Optic) (Dome) shall be installed at all Pull Box locations that contain fiber optic cable. Intermediate markers shall be installed at 1000 foot spacing along the each conduit run. At pull boxes containing splices, the contractor shall use outdoor rated orange reflective tape to create two 1-inch wide stripes below the mile point label.

METHOD OF MEASUREMENT

Location markers and labels will be measured by the actual number of markers that are placed and accepted.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Location Marker (Fiber Optic) (Dome)	Each

Payment will be full compensation for all work, materials and equipment required to place the markers at the locations shown on the plans, including excavation, backfill, and patching.

**REVISION OF SECTION 613
HDPE CONDUIT (INSTALL ONLY)**

Section 613 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work includes installing a conduit bank consisting of two (2) new High-Density Polyethylene (HDPE) conduits for use with fiber optic cable. Reels of HDPE conduit will be furnished by the City for pickup and installation by the Contractor. All other materials necessary for installation shall be the responsibility of the Contractor to furnish, including fittings, sweeps, PVC connections, pull tape, and tracer wire.

MATERIALS

All materials furnished, assembled, fabricated, or installed by the contractor under this item shall be new, Underwriters Laboratories (UL) listed, corrosion resistant, and National Electric Code (NEC) compliant, including all fittings. Materials shall be submitted to the Project Engineer for approval.

HDPE conduit and fittings shall be certified by the manufacturer as meeting American National Standards Institute (ANSI) ANSI/UL 651A. PVC conduit and fittings shall be certified by the manufacturer as meeting ANSI/UL 651.

For reference, HDPE conduit furnished by the City is anticipated to be orange and orange with a contrasting stripe. Any PVC conduit or fittings shall be labeled to match HDPE colors.

Each conduit shall be equipped with a pull tape installed with or after all cabling for future use. The pull tape shall have a minimum tensile strength of 1800 pounds. The pull tape shall include a continuous 22 gauge tracer wire. Splices in the pull tape and tracer wire may occur inside manholes and pull boxes and shall not be permitted inside conduit. Pull tape shall be installed in conduits with electrical conductors carrying 50V or less.

A minimum 12 gauge copper tracer wire shall be included in at least one conduit within all conduit banks. The tracer wire shall be orange in color. In conduit banks with multiple conduits, the 12 gauge tracer wire shall be installed in the same conduit with the fiber optic cable.

CONSTRUCTION REQUIREMENTS

All conduit and fittings installation shall conform to the NEC.

Electrical Conduit (Bored) shall be HDPE and installed using a trenchless technology such as directional boring.

Electrical Conduit (Plastic) shall be HDPE and installed by direct burial methods such as plowing, open trenching, or other excavation methods.

For Electrical Conduit (Plastic) items, the contractor may select any of the trenching options provided in the typical detail in the Plans. The selected option may vary throughout the project, depending upon the conditions at each project location. The complete installation using any of the options will be paid for under Conduit (Install Only) item.

Prior to construction, the Contractor shall submit a trenching and boring plan to the Engineer for approval. The plan shall show the limits of the planned work areas and the areas of anticipated disturbance. The work on this project is anticipated to utilize trenchless technology to minimize disturbance area. All disturbances outside the planned work areas created by Contractor's operations shall be restored to their original condition at the Contractor's expense.

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**REVISION OF SECTION 613
HDPE CONDUIT (INSTALL ONLY)**

During construction operations, the contractor shall maintain boring logs that include the depth at specific distances along the bore relative to final grade. Boring logs shall be submitted on a weekly basis and shall include clear identification of the date, existing/proposed grade, location in relation to the plans, depth at 10ft maximum intervals, and conduit size/quantity installed.

All open excavations shall be backfilled by the end of each shift, unless otherwise approved by the Engineer. Material from any excavation operations shall be placed in a location that will not cause damage or obstruction to vehicular or pedestrian traffic or interfere with surface drainage.

The Contractor shall be responsible for damage due to over-excavating and heaving damage to the existing asphalt or concrete mat, caused by equipment directly and by dislodging rocks or boulders. All damage from over-excavation and heaving shall be repaired at the Contractor's expense. The Contractor shall bear the cost of backfilling all over-excavated areas with the appropriate backfill material approved by the Engineer.

The Contractor shall restore all surface materials to their original condition or better, including but not limited to pavement, sidewalks, sprinkler systems, landscaping, shrubs, sod, and native vegetation that is disturbed by the conduit installation operation. All restoration shall be included in the cost of the conduit.

The Contractor shall use corrosion resistant splice couplings that comply with the NEC. All associated work to splice the conduit shall be included in the cost of the item. The coupling technology used to connect conduit ends shall require no special tools and form a watertight, airtight seal. The breaking force between segments shall exceed 250 pounds. Conduit splices shall be kept to a minimum and all such locations shall be approved in advance and inspected by the Engineer and the authority having jurisdiction. Additional pull boxes substituted for conduit splices shall not be paid for separately, unless approved by the Engineer.

Conduits shall be terminated within the pull boxes to allow for easy installation and removal of conduit plugs. Conduits shall always enter a pull box, cabinet base, and all other structure types from the direction of the run only, and shall terminate between two inches and four inches from the bottom or sides of pull boxes..

Conduits not containing cable shall be plugged with a plug that is watertight, removable, mechanical and equipped with a connection to secure a pull rope.

Conduits containing cable shall be plugged with durable and reusable split type plugs, fabricated without corrosion resistant parts. The plugs shall allow easy removal and reinstallation around in-place cables. Split type plugs shall provide a watertight and airtight seal of at least 22 pounds per square inch. They shall be installable by hand without using tools and without damaging the cable. All plugs shall be correctly sized to fit the conduit being plugged.

Conduit shall be plugged at all termination points including but not limited to pull boxes, manholes, controller cabinets, structures, poles, and buildings.

All open conduit ends shall be plugged immediately after installation with an approved plug.

All conduit runs containing fiber optic cable shall have a limited number of bends. The sum of the individual bends on a single conduit run between any two pull points shall not exceed 270 degrees. No individual bend shall exceed 90 degrees. All conduit bends shall have a minimum radius of 24 inches. HDPE conduit minimum bending radius shall conform to Table 354.24 in the NEC.

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**REVISION OF SECTION 613
HDPE CONDUIT (INSTALL ONLY)**

New conduits may be installed into existing pull boxes, manholes and cabinet bases, and the Contractor shall carefully excavate around the existing facility and install the new conduit as shown on the plans. The Contractor shall not damage the existing facility or its contents. If the existing conduit, pull box, lid and concrete collars are damaged during conduit installation, the Contractor shall restore the damaged item or section to current CDOT requirements at no additional cost to the project. For locations where conduit is installed into existing pull boxes, manholes, and cabinet bases that are located in asphalt, concrete, or slope pavement, patching with asphalt, concrete or slope pavement will be required and shall be included in the cost of the conduit. The Contractor shall reseal all new conduit entries into an existing manhole with grout.

The Contractor shall refer to Asset Geospatial Data Collection specification for documentation requirements.

METHOD OF MEASUREMENT

Conduit (Install Only) will be measured by the actual linear foot of conduit bank installed and accepted, and comprised of two conduits furnished by City of Greeley.

Conduit (Install Only) shall also include all groundwork, lubricants, anchors, bands, skids, sweeps, pull rope, pull tape, copper tracer wire, adaptors, fittings, splice couplings, conduit plugs, foam sealant, installation equipment, mounting brackets and hardware, structure anchors, adhesives, labor and all other items necessary to complete the work.

BASIS OF PAYMENT

Conduit (Install Only) unit prices shall be full compensation for the work shown on the plans and described above.

Payment will be made under:

Pay Item	Pay Unit
Conduit (Install Only)	Linear Foot

Conduit (Install Only) contract unit price shall be full compensation for work described above, specified in the plans, and complete and in place.

The resealing of new conduit entries into existing pull boxes or cabinets will not be measured and paid for separately but shall be included in the cost of the conduit.

**REVISION OF SECTION 613
PULL BOXES (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work includes installing fiberglass reinforced polymer concrete pull boxes and concrete aprons at locations shown on the plans. The pull boxes will be furnished by the City for pickup and installation by the Contractor. All other materials necessary for installation shall be the responsibility of the Contractor to furnish, including concrete aprons, wire mesh, and granite-gravel.

MATERIALS

Wire mesh shall be installed in a manor to completely surround the box as shown on the Plans. The wire mesh shall meet the material standard ANSI/American Society of Testing and Materials (ANSI/ASTM) A555-79 and made of T-304 stainless steel, 0.025 inch wire diameter minimum and shall have a spacing of 4 mesh per inch.

Pull boxes installed in dirt or landscaped areas shall have a Class B concrete apron or a pre-cast polymer concrete apron. Class B concrete shall be in accordance with Section 601.

The pre-cast polymer concrete apron shall be skid-resistant non-metallic, non-conductive, and UV resistant, and shall include two lifting slots for placement in the field. The pre-cast polymer concrete apron shall be similar nominal dimensions of the concrete apron shown on the Plans. The gap between the pre-cast polymer concrete apron and outer wall of the pull box shall be a maximum of ¼ inch.

CONSTRUCTION REQUIREMENTS

A minimum of 12 inches of ¾ inch granite-gravel shall be installed as a base for the pull box. The granite-gravel shall be free of dirt and debris and spread evenly to facilitate a level base for the pull box. The Contractor shall ensure that sufficient compacting is met prior to the installation of granite-gravel to alleviate future settling.

Wire mesh shall be installed in to completely surround the box as shown on the plans. The wire mesh shall be gently cut to allow only the entrance of the conduit through at the bottom of the box. All openings cut in the wire mesh that are larger than the diameter of the conduit shall be covered with additional wire mesh in a manner to completely surround the pull box with wire mesh.

Tracer wire shall be attached to the trace test points on the underside of the pull box lid. Each trace wire shall be attached to an individual trace point, no two wires shall be attached to the same point. The Contractor shall coil an additional 6 feet of tracer wire inside the pull box to ensure that the tracer wire will not disconnect from test points when the lids are removed.

Pull boxes shall be installed in areas that are easily accessible by maintenance personnel. Pull Boxes installed on slopes 5:1 or less shall be installed with the grade of the slope. Pull Boxes installed on slopes greater than 5:1 shall include a 2 foot leveled area surrounding the apron.

At pull boxes installed in dirt and landscaped areas, the Contractor shall install a concrete apron or a pre-cast polymer concrete apron around the edges of the pull box. The dimensions of the concrete apron shall be as shown on Plans. Pull boxes shall not be installed above the grade of the apron. The concrete apron shall have a 1 percent slope away from the top of pull box to allow for drainage.

Pre-cast concrete aprons shall be installed per manufacturer's recommendations.

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**REVISION OF SECTION 613
PULL BOXES (INSTALL ONLY)**

METHOD OF MEASUREMENT

Pull Box (Install Only) will be measured by the actual number installed and accepted, and will include excavation, backfill, concrete apron, wire mesh, and 3/4 inch granite-gravel. Pull Box (Install Only) shall also include the work to match existing grade.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Pull Box (Install Only)	Each

Concrete will not be measured and paid for separately, but shall be included in the cost of the pull box.

**REVISION OF SECTION 614
FIBER OPTIC CABLE (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work includes installing backbone and lateral single mode fiber optic cables at locations shown on the plans. Reels of fiber cable will be furnished by the City for pickup and installation by the Contractor. All other materials necessary for installation shall be the responsibility of the Contractor to furnish, including splice enclosures, terminations, and equipment necessary for splicing.

CONSTRUCTION REQUIREMENTS

The City will provide the Contractor with an electronic copy of the cable manufacturer's installation instructions. All installations shall be in accordance with the manufacturer's recommendations except as otherwise approved by the manufacturer or directed by the Engineer. All additional costs associated with damages caused by the Contractor's neglect of recommended procedures shall be the Contractor's responsibility.

Fiber optic cable, including both backbone cables and lateral cables, shall be installed in continuous runs as shown on the project plans, utilizing only the cable end splices shown in the plans. Under no conditions shall fiber optic cable be cut or spliced at intermediate points without express written direction from the Engineer.

The new fiber cable shall be installed in a manner which will not interfere with the integrity of existing cable and equipment and shall be installed in a manner which will not interfere with the maintenance of the traffic signal cable, wiring or equipment.

The Contractor's Installation technician shall have a minimum certification in International Municipal Signal Association (IMSA) Fiber Optics for ITS, Traffic, Fire Alarm, and Communications Systems, or equivalent, or better fiber optics certification.

During cable installation, the contractor shall insure no damage to cable occurs due to friction conduit and cable jacket. This may require installing temporary sweeps on the ends of HPDE conduit during cable installation. If the entire reel length cannot be installed completely from one end of the run, the installation shall be performed from the mid-point of the run. The Contractor shall first pull one-half of the cable from the reel at the mid-point through the conduit to one end of the run. The other half of the cable shall be removed from the reel and carefully placed on the ground in a figure eight pattern with a minimum loop diameter of 10 feet. While installing the remaining cable, care shall be taken to avoid dragging against the ground resulting in damage or excess bending of the cable. The Contractor shall not kink, twist or bend the cable during installation coiling and uncoiling.

The cable shall be continuously lubricated as it enters the conduit. The Contractor shall only use pulling lubricants recommended by the cable manufacturer. Liquid detergent shall not be used.

Blowing cable is an acceptable alternative to pulling cable. If the Contractor chooses to use this method, submittals for cable installation shall be submitted along with complete information on fiber installation equipment.

The maximum pulling tension shall be 600 pounds (2700 N) during installation (short term) and 200 pounds (890 N) long term installed.

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**REVISION OF SECTION 614
FIBER OPTIC CABLE (INSTALL ONLY)**

All cables shall have a minimum bending radius based on the diameter of the cable and shall meet the following;

- (1) Under max pulling tension – 15 (Fifteen times the cable outside diameter)
- (2) Unloaded, not under tension – 10 (Ten times the cable outside diameter)

The fiber optic cable shall be installed in the conduit with a split-mesh cable grip to provide a firm hold on the exterior covering of the cable.

The manufacturer's recommended maximum allowable pull tension for cable pull lengths shall not be exceeded. The Contractor shall use a pulley system with a numerical readout indicating the cable tension. The pulley system shall be capable of alerting the installer when the cable pulling tension approaches the manufacturer's maximum allowable tension. The Contractor may supplement this procedure with a breakaway tension limiter set below the lowest recommended tensile limit of the cables being pulled. Intermediate pulleys shall be used at all pull boxes or manholes along the installation run to prevent cable damage.

In no case shall the conduit fill ratio of new conduit exceed the requirements of the National Electrical Code.

The Contractor shall furnish and install a pre-lubricated pull tape and tracer wire in the same conduit as the fiber is being installed. The pull tape and tracer wire shall conform with and be paid for under Revision of Section 613 – HDPE Conduit (Install Only).

Lateral cables shall be installed in continuous runs from the backbone splice location to the termination panel in the communications cabinet.

Installation of lateral fiber optic cables shall include a 10 foot slack coil and a minimum of three strain relief locations within all communications cabinets. All fiber coils shall be measured post splice, not including the fiber in the termination panel or splice enclosure. Strain relief shall ensure that the connectors are not subjected to the weight of the lateral cable.

For backbone fiber cables the Contractor shall coil 50 feet of each fiber cable in pull boxes. At locations of fiber optic cable end splices, install 150 feet of backbone cable slack coil in both directions from the splice enclosure. At locations of fiber optic cable splices that are not cable end splices, install 75 feet of backbone cable slack coil in both directions from the splice enclosure. All fiber coils shall be measured post splice, not including the fiber in the splice enclosures.

For lateral fiber cables the Contractor shall coil 50 feet of each fiber cable in pull boxes and 100 feet at splice locations. All fiber coils shall be measured post splice, not including the fiber in the splice enclosures.

In Pull Boxes, all cable coils shall be attached separately to the cable management hardware in a manner which will allow for fiber optic cable to be removed separately.

Backbone and lateral buffer tubes and fiber strands shall be labeled on the splice tray prior to sealing of the closure. In the CWDM splice closure, the optical filter wavelengths shall also be labeled.

Splicing shall be conducted at cable end splice locations and device splice locations shown on the project plans or as approved by the Project Engineer.

The Contractor shall conform to the requirements included in Revision of Section 614 -Test Fiber Optic Cable.

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**REVISION OF SECTION 614
FIBER OPTIC CABLE (INSTALL ONLY)**

All fiber optic cables shall include identification labels attached to the cable in each pull box or communications cabinet. The label shall be provided with information as shown on the Plans.

A minimum of one week prior to fiber optic work, the Contractor shall give the Project Engineer a detailed installation and splicing Method Statement and schedule. All installation, splicing, termination, and testing shall be listed on the schedule and Method Statement and revisions shall be re-submitted to the Project Engineer immediately. Installation of the fiber optic cable shall not be permitted until the Method Statement and schedule has been approved by the Engineer.

If the Contractor must install new cable in conduits that contain existing fiber optic cable or electrical wiring, the Contractor shall be responsible for all damage to the existing cables and wires. All costs associated with equipment testing and repairs shall be included in the cost of the fiber optic cable.

If an existing fiber optic cable is damaged during construction, it shall be removed from both points of termination and replaced, at no cost to the project.

METHOD OF MEASUREMENT

Fiber Optic Cable (Install Only) shall be measured by the linear foot for both backbone and lateral cable and shall include all labor and materials required to install, splice and terminate the cable to make a complete and operational system and shall include the following items:

- (1) All splice closures and all associated materials
- (2) All splicing at designated locations shown in the plans or as directed by the Project Engineer
- (3) All termination of backbone and lateral fiber optic cables at locations shown on Plans.
- (4) Identification labels for both backbone and lateral fiber cables in each pull box, manhole, communications cabinet and network facility
- (5) As-Built Documentation

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Fiber Optic Cable (Single Mode) (12 Strands) (Install Only)	Linear Foot
Fiber Optic Cable (Single Mode) (144 Strands) (Install Only)	Linear Foot

Testing Fiber Optic Cable shall be measured and paid for separately. See Revision of Section 614 - Test Fiber Optic Cable project special provision.

**REVISION OF SECTION 614
FIBER OPTIC TERMINATION PANEL**

Section 614 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 614.01 shall include the following:

This work consists of furnishing and installing fiber optic termination panels, splice trays, and patch cables in field communications cabinets for single mode fiber.

MATERIALS

Subsection 614.08, shall include the following:

Configurations shall be as shown in the Project Detail Sheets. The patch panels described below shall be mounted in existing equipment racks in ground-mounted traffic controller cabinets. The configurations of patch panels shall be as follows:

- 1) Ground-Mounted Traffic Controller Cabinets: 6 Port

The units shall meet the design requirements of ANSI/TIA/EIA-568 and the plastics flammability requirements of UL 94 V-0.

Field Termination Panels

Field termination panels shall be provided in traffic control cabinets shall be manufactured using 16-gauge aluminum or equivalent and shall be finished with a powder coating for durability.

Termination panels shall be a single six (6) port panel with ST type bulkheads. The panels shall have two hinged doors to provide future access to both the fiber pigtails and the termination bulkheads. The panel shall be sized to accommodate the entry of the lateral fiber optic cable, bulkheads, and the fiber patch panel with both access doors closed.

All bulkheads shall be metal. Plastic bulkheads will not be accepted.

CONSTRUCTION REQUIREMENTS

Subsection 614.10 shall include the following:

Termination panels shall be mounted in locations which will allow for ease of access and shall not interfere with maintenance of the traffic signal equipment.

All hardware shall be installed in accordance with manufacturer's recommendations. The Contractor shall provide the Project Engineer with documentation and all manuals. All connector housings shall have a labeling scheme that complies with ANSI/TIA/EIA-606.

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**REVISION OF SECTION 614
FIBER OPTIC TERMINATION PANEL**

METHOD OF MEASUREMENT

Fiber Optic Termination Panels will be measured by the actual number of fiber optic termination panels installed and accepted and shall include all bulkheads, covers for empty spaces, patch cables, labeling panels and all materials, hardware, labor and equipment necessary to complete the work.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Fiber Optic Termination Panel (6 Fiber)	Each

**REVISION OF SECTION 614
ETHERNET SWITCH (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised to include the following:

DESCRIPTION

For this project the Ethernet Switch (Install Only) shall be a Moxa 14-Port Ethernet Switch and shall be installed at the existing Traffic Signal Cabinets called out in the plans. The switch will be procured and configured by the City of Greeley.

CONSTRUCTION REQUIREMENTS

The Contractor shall coordinate with the City of Greeley project manager to schedule pickup of the Moxa 14 Port Ethernet switch with the City of Greeley project manager and install the switch in the cabinet identified in the plans.

For connection of the switch to the optical fiber network, one (1) lateral fiber optic cable shall be terminated and patch cables shall be installed and connected to the optical ports of the switch. A total of four (4) lateral fiber strands shall be used for data communications to the switch.

The Contractor shall provide single mode, bend insensitive, pre-connectorized duplex patch cables with a polyurethane jacket for connection from the patch panel to the network switch. Connectors for the patch cable shall be LC on the Ethernet switch end and ST on the termination end.

Patch cables shall be of sufficient length to span from the termination patch panel to the Ethernet switch with a maximum of two (2) feet of slack. Patch cables shall be installed in a manner which will not interfere with internal device equipment in the switch enclosure and will include cable management so as not to interfere with future maintenance within the enclosure.

METHOD OF MEASUREMENT

Ethernet Switch will be measured by the actual number of Ethernet Switches installed and accepted for a complete installation. Also included shall be all patch cables, mounting brackets, transport, and coordination with the City of Greeley.

BASIS OF PAYMENT

Subsection 614.14 shall include the following:

Payment will be under:

<u>Pay Item</u>	<u>Pay Unit</u>
Ethernet Switch (Install Only)	Each

**REVISION OF SECTION 614
TEST FIBER OPTIC CABLE**

Section 614 of the Standard specifications is hereby revised for this project as follows:

Subsection 614.08 shall include the following:

Test fiber Optic Cable. For this project this work shall consist of the testing of Single Mode fiber optic cable as shown and tabulated in the plans. The testing procedures involve an OTDR test and an Optical Power Meter Test.

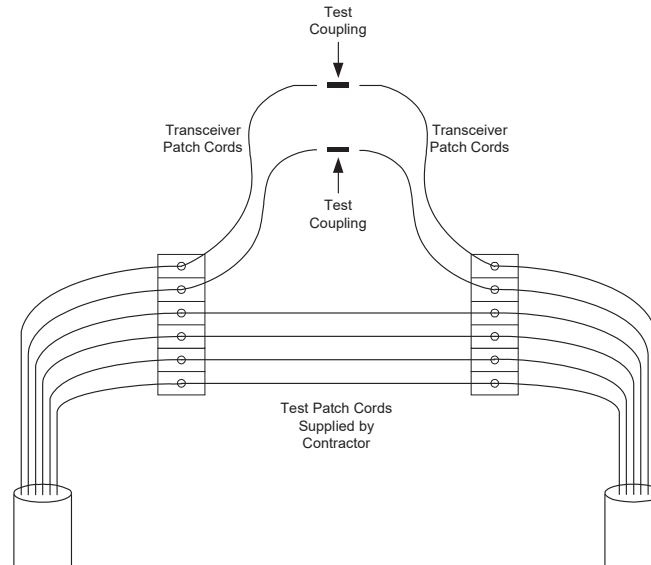
The guidelines for fiber optic cable testing include:

- (1) Test jumpers and patch cords must be of the same fiber core size and connector type as the cable system:
 - i) Single Mode fiber 8.3/125 μm
 - (2) The light source and OTDR must operate with the range of 1310 \pm 10 nm or 1550 \pm 20 nm for Single Mode testing in accordance with ANSI/EIA/TIA-526-7.
 - (3) The power meter and the light source must be set to the same wavelength during testing.
 - (4) The power meter must be calibrated and traceable to the National Institute of Standards and Technology (NIST).
 - (5) All system connectors, adapters and jumpers must be cleaned as per manufacturer's instructions before measurements are taken.
- A) Fiber Optic Cable Testing Equipment. The following is required to perform fiber optic cable tests:
- (1) An OTDR
 - (2) A test reel, of at least 900 feet
 - (3) A light source at the appropriate wavelength
 - (4) Optical Power Measurement Equipment
 - (5) Test Jumpers as specified below
 - i) Single Mode Fiber Testing
 - a) CPR Test Jumper-1 and Test Jumper-2 shall be 1-5 meters long with connectors compatible with the light source and power meter and have the same fiber construction as the link segment being tested.
- B) Optical Fiber Cable Testing with OTDR. The Contractor shall perform an OTDR test of all fibers in all tubes on the reel prior to installation of the fiber. The test results shall be supplied to the Engineer prior to installation of the cable.

If the fiber is specified as "Install Only", the Contractor shall test the fiber on the reel and provide the test results to the Engineer prior to accepting the cable. After installation, if there are unused portions of cable remaining on the reel, the Engineer may request the Contractor or other qualified technician to perform a reel test. The Contractor shall provide the Engineer the test results prior to delivering the cable to the Engineer. Any cable damaged while in the Contractor's possession shall be replaced at the Contractor's expense.

All fiber testing shall be performed on all fibers in the completed end-to-end system. Testing shall consist of a bi-directional end-to-end OTDR trace performed per TIA/EIA-455-61. The system margin loss measurements shall be provided at 1310 nm and 1550 nm for Single Mode fibers. If the Plans require installation of a fiber optic patch panel, the Contractor shall supply patch cords to patch all terminated fibers through the panel for all fiber testing. If patch cords are specified in the Plans for final equipment installation, these patch cords shall be connected using a test coupling for the end-to-end test.

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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE



OTDR readings will be used to ensure proper installation and to troubleshoot faults. OTDR signature traces will be used for documentation and maintenance. An OTDR provides an indirect estimate of the loss of the cable plant, generally, more accurate or reliable values will be obtained by using an Optical Power Meter. For fibers that are identified in the Plans to be left unterminated, an OTDR shall be used to test end-to-end attenuation.

Loss numbers for the installed link shall be calculated by taking the sum of the bi-directional measurements and dividing that sum by two.

The Contractor shall use an OTDR that is capable of storing traces electronically and shall save each final trace.

To ensure the traces identify the end points of the fiber under test and the fiber designation, the Contractor shall use a test reel, if required, to eliminate the “dead zone” at the start of the trace so that the start of the fiber under test can be identified on the trace. Indicate the length of the test reel for all test results.

If the fiber designation is not indicated on the trace itself, the Contractor shall provide a cross-reference table between the stored trace file name and the fiber designation.

In compliance with EIA/TIA-455-61 “Measurement of Fiber or Cable Attenuation Using an OTDR” the Contractor shall record the following information during the test procedure:

- (1) Names of personnel conducting the test.
- (2) Type of test equipment used (manufacturer, model, serial number, calibration date).
- (3) Date test is being performed.
- (4) Optical source wavelength and spectral width.
- (5) Fiber identification including tube color and fiber color
- (6) End point locations
- (7) Launch conditions
- (8) Method of calculation for the attenuation or attenuation coefficient.
- (9) Acceptable link attenuation
- (10) Identify loss event
- (11) Test direction

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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE

- C) Optic Fiber Cable Testing with Optical Power Meter. The Contractor shall conduct an Optical Power Meter Test for each fiber installed.

Single Mode segments shall be tested in one direction at both the 1310 nm and 1550 nm wavelength.

Fiber Cable Plant” and TIA/EIA-526-7 “Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant,” the following information shall be recorded during the test procedure:

- (1) Names of personnel conducting the test.
- (2) Type of test equipment used (manufacturer, model, serial number, calibration date).
- (3) Date test is being performed.
- (4) Optical source wavelength, spectral width, and for multimode, the coupled power ratio (CPR).
- (5) Fiber Identification including tube color and fiber color.
- (6) Identify loss event
- (7) End point locations.
- (8) Test direction.
- (9) Reference power measurement (when not using a power meter with a Relative Power Measurement Mode).
- (10) Method of calculation for the attenuation or attenuation coefficient.
- (11) Measured attenuation of the link segment.
- (12) Acceptable link attenuation.

The minor attenuation differences due to test direction are on par with the accuracy and repeatability of the test method. Lateral segments within a building are limited to 90 meters. Therefore, attenuation differences caused by wavelength are insignificant, and as a result, single wavelength testing is sufficient.

- D) Acceptable Attenuation Values. Acceptable attenuation values shall be calculated for each fiber tested. These values represent the maximum acceptable test values. A connection is defined as the joint made by mating two fibers terminated with re-mateable connectors (e.g. ST, SC, LC).

- (1) Singlemode Fiber. The general attenuation equation for any Single Mode link segment is as follows:

$$\text{Acceptable Link Attn.} = \text{Cable Attn.} + \text{Connector Attn.} + \text{Splice Attn.}$$

8.3 μm Single-mode Attenuation Coefficients:

- i) Cable Attn.=Cable Length (km) x (0.34 dB/km@1310 nm or 0.25 dB/km@1550 nm)
- ii) Connection Attn. (ST or SC connectors) = (# Connections x 0.39dB) No more than 0.75dB per connector
- iii) Splice Attn. (Mechanical or Fusion) = Splices x 0.10dB

- E) Test Procedures. All fiber testing shall be performed on all fibers in the completed end-to-end system.

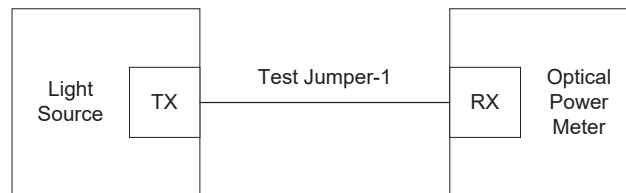
- (1) Single Mode Fiber. The Single Mode Optical Power Meter fiber test shall be conducted as follows:

- i) Clean the test jumper connectors and the test coupling per manufacturer’s instructions.

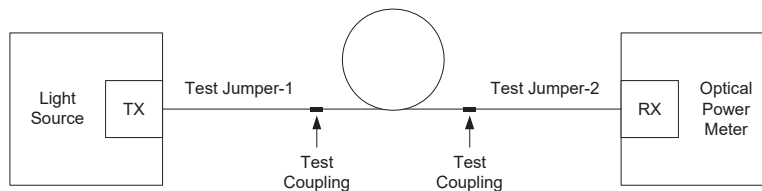
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**REVISION OF SECTION 614
TEST FIBER OPTIC CABLE**

- ii) Follow the test equipment manufacturer's initial adjustment instructions.
- iii) Connect Test Jumper-1 between the light source and the power meter. Avoid placing bends in the jumper that are less than 100 mm (4 inches) in diameter.



- iv) If the power meter has a Relative Power Measurement Mode, select it. If it does not, reduce the Reference Power Measurement (P_{ref}). If the meter can display power levels in dBm, select this unit of measurement to simplify subsequent calculations.
- v) Disconnect Test Jumper-1 from the power meter. Do NOT disconnect the test jumper from the light source.
- vi) Attach Test Jumper-1 to one end of the cable plant to be measured and Test Jumper-2 to the other end.



- vii) Record the Power Measurement (P_{sum}). If the power meter is in Relative Power Measurement Mode, the meter reading represents the true value. If the meter does not have a Relative Power Measurement Mode, perform the following calculation:
 - a) If P_{sum} and P_{ref} are in the same logarithmic units (dBm, dBu, etc.):

$$CPR (dB) = P_{sum} - P_{ref}$$
 - b) If P_{sum} and P_{ref} are in watts:
 - c)
$$CPR (dB) = 10 \times \log_{10} [P_{sum}/P_{ref}]$$

- F) Test Acceptance. The Contractor shall demonstrate that each Optical Power Test results in acceptable attenuation values.

The Contractor, solely at the Contractor's cost, shall remake any fusion splices and/or connectors that have test results exceeding acceptable attenuation values.

The Contractor, solely at the Contractor's cost, shall retest any fiber links that have been re-spliced.

The Contractor, solely at the Contractor's cost, shall bring any link not meeting the requirements of this specification into compliance.

- G) Submittals. The Contractor shall submit test results documentation as both a hard copy and electronic copy.

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**REVISION OF SECTION 614
TEST FIBER OPTIC CABLE**

After each reel test, the Contractor shall submit one (1) hard copy of the OTDR trace for every fiber on the reel. After installation, the Contractor shall submit one (1) hard copies of the OTDR trace for every spliced fiber. Hard copy traces shall be organized and bound in logical order in an 8 ½” x 11” 3 ring hard cover binder in addition to other documentation listed in this Special Provision and other splicing documentation listed in the project Special Provision package.

The Contractor shall submit, after approval of the hard copy traces, electronic copies of all traces and appropriate software to allow reading the traces.

The Contractor shall submit one (1) copy of all Optical Power Test results.

The Contractor shall submit one (1) copy of the complete contract Plans, including additional drawings issued as part of any change orders, with any deviations clearly marked in color. Deviations to be noted and shall include but not be limited to the following:

- Fiber Splice location
- (1) Fiber Splice configuration
- (2) Termination layout

Subsection 614.13 shall include the following:

The complete end-to-end OTDR test on one fiber, including document submission, represents one OTDR test.

The complete end-to-end optical power meter test on one fiber, including document submission, represents one optical power meter test.

The accepted quantities will be paid for at the contract price per pay unit of measurement for the work completed.

Subsection 614.14 shall include the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Test Fiber Optic Cable	Lump Sum

**REVISION OF SECTION 614
ADAPTIVE SIGNAL EQUIPMENT (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work shall consist of installing and configuring adaptive signal equipment in accordance with these Special Provisions at the locations shown on the Plans.

CONSTRUCTION REQUIREMENTS

The Contractor shall coordinate with the City of Greeley project manager to schedule pickup of the adaptive signal equipment and installation of the equipment by the Contractor at the intersection(s) identified in the plans.

The Contractor shall install the overhead mainline detection equipment, the associated equipment in the traffic signal cabinet, and the cabling between the two locations. The City of Greeley and the adaptive signal equipment vendor shall have the opportunity to be on site for the installation.

The configuration, testing, and commissioning of the final system shall be performed by the adaptive signal equipment vendor.

Contact Art Perez at 970-539-6211, ARTHUR.PEREZ@GREELEYGOV.COM before entering any traffic signal cabinets.

METHOD OF MEASUREMENT

Adaptive Signal Equipment will be measured by the actual number of intersections fully installed and accepted, and will include all mounting hardware, traffic control, communication and power cables, labor and all other items necessary to complete the work.

BASIS OF PAYMENT

The accepted quantities will be paid for at the contract unit price for the pay item listed below.

Payment will be made under:

Pay Item	Pay Unit
Adaptive Signal Equipment (Install Only)	Each

**REVISION OF SECTION 614
AS-BUILT DOCUMENTATION**

Section 614 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work includes completing the project documentation referenced below prior to project close-out. All costs incidental to the following documentation requirements will not be paid for separately but shall be included in the associated work.

DOCUMENTATION

The Contractor shall complete and submit the following items:

- a. Red-Line As-Builts of the Project Plans
- b. Fiber Optic Cable As-Built Documentation
- c. As-Built Survey Quality Data

a. Red-Line As-Builts of the Project Plans

The Contractor shall document the as-built communications infrastructure placement and material information. The Contractor shall clearly, electronically mark the plan sheets in red describing the as-built condition of all elements installed, including all changes made to fiber optic splicing. The as-built markups shall include:

- Pull box sizes and locations with actual conduit distances between all
- Connections to existing cabinets or pull boxes
- Locations of all installed equipment
- Locations of all splice points

The Contractor shall provide electronic interim updates to the as-builts. The interim as-builts shall be submitted to the Project Engineer on a monthly basis.

At the end of the project, the Contractor shall create a final PDF of the marked up as-built drawings, and submit to the Project Engineer.

b. Fiber Optic Cable As-Built Documentation

The Contractor shall record the required information on the Fiber Optic Cable As-Built Form for every fiber optic cable installed on the project. The Contractor shall record the following information at each fiber access point (pull box, manhole, or cabinet) that the cable passes through:

- Mile Marker and/or Station Number of access point
- Highway where access point is installed
- Cable measurement markings at both entrance and exit of the access point
- Cable ID Number
- If there is a splice case present in the access point
- If a cable end splice is present in the splice case
- Number and information for each lateral entering into the splice case

The City will accept a spreadsheet that includes all of the above-mentioned information in lieu of using the provided form.

c. The Contractor shall provide the survey data per the 625 Asset Geospatial Data Collection.

**REVISION OF SECTION 625
ASSET GEOSPATIAL DATA COLLECTION**

Section 625 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 625.04 shall include the following:

The Contractor’s surveyor shall conduct an as-constructed survey as defined below of all assets installed or relocated on this project within the project limits.

CONSTRUCTION REQUIREMENTS

The Contractor’s surveyor shall conduct an as-constructed survey of the following items: Installed or relocated utility lines as shown on the utility plans, including those installed or relocated by the Contractor or by others.

- (1) Traffic signal equipment.
- (2) Communications pull boxes, conduit, and fiber splice points.

The as-constructed survey shall be completed in accordance with the *CDOT Survey Manual*, Chapter 6, Section 6.14. Item 4 is hereby deleted and replaced with:

4. Three-dimensional (containing northings, eastings and elevations) data is to be submitted to CDOT’s utility database. The Contractor’s surveyor shall collect observations in accordance with Sections 2.1- 2.4 below. Accuracy requirements, projections, coordinate systems, and equipment requirements are outlined in Table 1 and Sections 1.1 - 1.4 below. Points and polylines shall be collected with the appropriately named survey codes identified in Table 2 below. Each file of observed points shall contain a description of what each point represents.

1.1. All utility and hydraulic installations within CDOT right of way shall be collected using CDOT’s mobile application, PointMan. Download the PointMan mobile application from the Apple Store (iOS) or Google Play (Android). If required, please contact CDOT at cdotpointman@gmail.com in order to obtain new login and password information.

1.2. High-accuracy equipment requirement:

The Contractor shall use a device designed specifically for capturing GPS coordinates that is listed as compatible with CDOT’s mobile application. Deviation from CDOT’s list of accepted GNSS receivers must be requested and approved by the department in writing prior to submission of as-built data:

Trimble DA1	Emlid Reach RS2
Trimble R2	Bad Elf – Flex RTK
Trimble R8	Android only – Leica RTK
Trimble R10	
Trimble 12 and 12i	

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**REVISION OF SECTION 625
ASSET GEOSPATIAL DATA COLLECTION**

Projections and Coordinate Systems

Horizontal Datum: The North American Datum of 1983, 2011 Adjustment (NAD 83) and the Geodetic Reference System of 1980, (GRS80).

Vertical Datum: The North American Vertical Datum of 1988, (NAVD 88)_RTK GPS is an acceptable method to derive NAVD 88 elevations and is the vertical datum to be used for all CDOT projects. Use the latest Geoid model from NGS to compute orthometric heights.

1.3. Positional Accuracy Specification

CDOT requires positional accuracy Level(s) 1, 2, or 3 for all Horizontal and Vertical positions collected for utilities and communications assets installed within CDOT right of way. Accuracy level designations are shown in Table 1 below. Other assets may be collected at accuracies not to exceed 5. Utilizing CDOT's mobile application pedigree (survey record) will assist in determining the accuracy levels that must be assigned to the specific permitted installation by the utility company representative responsible for collection of as-built data.

Table 1. Positional Accuracy Requirements

Positional Accuracy Level	Positional Accuracy (English Units)	Positional Accuracy (SI Units)
1	0.1 ft	25 mm
2	0.2 ft	50 mm
3	0.3 ft	100 mm
4	1 ft	300 mm
5	3 ft	1000 mm
0	indeterminate	indeterminate

At the 95% confidence level, use the root-mean-square error in accordance with FGDC-STD-007.3-1998. Positional accuracy is in direct reference to the actual geodetic positional coordinates referenced to the National Spatial Reference System maintained by the National Oceanic and Atmospheric Administration National Geodetic Survey. Geodetic positional coordinates (latitude, longitude, and orthometric heights) reference the official United States datum, currently the North American Datum of 1983 and the North American Vertical Datum of 1988. GPS coordinates shall be delivered in World Geodetic System 84, latitudes and longitudes, and be in decimal degree format.

Rigid above-ground features are subject to the same positional accuracy requirements as underground features. The positional accuracy of suspended aerial cables and wires is variable due to environmental factors, and therefore shall be classified as Level 0, except at the points where they are anchored to support structures such as poles.

For linear features, the depicted position must meet the tolerances as specified in Table 1 at every position along the length of the feature in order to be designated that accuracy level. Since survey-collected data and resulting 3D models are usually chorded, the point spacing must be close enough so that the true location and depicted location meet the tolerance along its entire length.

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**REVISION OF SECTION 625
ASSET GEOSPATIAL DATA COLLECTION**

Documentation verifying the type of GPS unit being proposed for use, and the specifications of the unit shall be provided to the Project Engineer for review prior to data gathering. The Contractor shall supply complete information for each device. For data collection, the Contractor shall use a fixed RTK solution only.

Data shall be submitted to the Project Engineer in an electronic format per Section 1.1. If deviating from using the department's approved mobile technology including a GPS-collecting device with Windows and ArcPad, capable of ArcView/ArcGIS Export/Import Formats *.e00 files, or ArcView/ArcGIS shape files must be approved in writing prior to using such alternative.

2.0 Utilities Collected

Table 2. Utilities Collected

Utility Type	Feature Code	Description of Utilities
Test hole	5950	Point – Test hole physically locating X,Y,Z underground facility location.
Proposed running line/Bore log data	6001 or 6075	Line segment code 6001 - surface elevation of proposed HDD bore. Point - 6075 location bore log depth required for each observed point.
Communication	4210, 4410 4211	Line segment - all communication facilities, including fiber optic (4211), copper (4210), coaxial (4410), including appurtenances within defined size parameter.
Gas	4510, 4511	Line segment - low pressure (4510), high pressure (4511), natural gas transmission, distribution, service lines, and appurtenances within defined size parameter.
Electric	4310	Line segment - secondary electric or higher voltage.
Pipe (Oil)	4610 or 4611	Line segment - pipeline facilities including crude oil, refined oil, and all other types of oil pipeline transmission, distribution, service lines, and appurtenances within defined size parameter.
Propane	4512	Line segment - propane transmission, distribution and service lines, and appurtenances within defined size parameter.
Sanitary Sewer	4811	Line segment - sanitary sewer facilities including all mains, collection system, force mains, services and leads, including appurtenances within defined size parameter. Combined sewer is classified as sanitary sewer.
Surface Elevation	6075	Point - X,Y,Z single observation for surface elevation.
Storm Sewer	2712	Line segment - storm sewer facilities including all mains and collection system, and appurtenances within defined size parameter. (Excludes underdrain).
Water	4710	Line segment - water transmission, distribution, service lines, and appurtenances within defined size parameter. (Excludes irrigation systems).
Unknown	6075 or 6001	Point and Line segment - this designation can be used for those facilities not covered by the feature codes above, including but not limited to industrial facilities of all types, and discovered utilities where the type of utility is unknown.

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**REVISION OF SECTION 625
ASSET GEOSPATIAL DATA COLLECTION**

2.1 - General Observations Standards

- A. All transmission, distribution and collector system main lines
 - a. Start and end points
 - b. Minimum of every 25 feet with the following additional points
 - i. Deviations in installation alignment (horizontal and vertical) including, but not limited to, the following:
 - a. Intentional changes in geometry such as changing direction to avoid obstacles
 - b. Fittings such as elbows (horizontal and vertical)
 - ii. Changes in facility characteristics (change in size, material, number or pair, encasement size, material, etc.)
 - iii. Start and end point for vaults
- B. Appurtenances installed concurrently with new main installations, whereas appurtenances are defined as service leads and stubs.
 - a. Tap-in at the main and at (near) the right of way line
- C. New appurtenances from existing mains
 - a. All size and material types shall be recorded for each utility type
 - b. Tap-in at main and at (near) the right of way line
- D. Transverse utility crossings installed via trenchless methods
 - a. All qualified utilities crossing roads as described in Section 2.4
 - b. 25-foot intervals across pavement sections when safely achievable

All other transverse utility crossings that are installed using methods conducive to a direct survey observation require survey observations to be collected at a minimum of 25-foot intervals when crossing a pavement section. Additionally, all utilities shall be directly observed when installed using a method that support direct observation.

All utilities installed by trenchless technologies shall be observed directly above the installed utility with the elevation computed from the best available depth readings (typically, depths read from bore head during installation). The accuracy of the depth readings to the installed utility will vary depending on the type of equipment used during installation, use code 6075 to record bore depth and attribute information.

Direct survey observations are required where utilities are exposed, including tie-in locations, bore pits, hand holes, and manholes. Alignment and depth shall be documented during boring operations at the required interval. Some form of field witnessing shall be used to mark the horizontal location and depth of the utility based on readings from the equipment being used. The utility company then can survey each marked location and compute the elevation of the installed facility based on the recorded depth readings at each surveyed location.

At a minimum, alignment and depths must be physically documented at an interval of not more than 50 feet, and at all changes in horizontal and vertical alignment. The more survey observations collected along a utility line, the better the true three-dimensional alignment of the utility will be represented. For example, long and deep bores could create a parabolic curve shaped utility that will not be accurately represented with point spacing at 50 feet. Use professional judgement and collect additional points at a closer interval to generate a more representative geometry of the utility.

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**REVISION OF SECTION 625
ASSET GEOSPATIAL DATA COLLECTION**

METHOD OF MEASUREMENT

Subsection 625.13 shall include the following:

Asset Geospatial Data work shall include all labor, materials, and equipment required to complete the work.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Construction Surveying	Lump Sum

**REVISION OF SECTION 630
MOBILE ATTENUATOR**

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.01 shall include the following:

This work shall consist of furnishing, operating, and maintaining a truck with an attached impact attenuator.

Subsection 630.09 shall include the following:

Mobile Attenuator Options:

(a) *Truck Mounted Attenuator.* The Contractor shall supply a vehicle with a truck mounted attenuator approved by the FHWA to meet NCHRP 350 criteria for level TL-3 collisions. The attenuator shall be mounted to a suitable truck in a manner meeting the Manufacturer’s specifications. The truck shall be furnished with a roof mounted Advance Warning Flashing or Sequencing Arrow Panel (B Type). The truck shall be used when setting up or taking down the work zone and shall be parked in the activity area protecting the construction work while work is being performed, unless otherwise directed.

(b) *Trailer Attenuator.* The Contractor shall supply a vehicle with an attached trailer attenuator approved by the FHWA to meet NCHRP 350 criteria for level TL-3 collisions. The trailer attenuator shall be attached to a suitable host truck in a manner meeting the Manufacturer’s specifications, to include factory-installed 20-ton (minimum) rated pintle hook and ½-inch (minimum) steel frame plate, or as specified by Manufacturer. The trailer shall be furnished with a mounted Advance Warning Flashing or Sequencing Arrow Panel (B Type).

The weight of the host truck shall be between 10,000 and 20,000 lbs, or as specified by the trailer attenuator manufacturer. The Contractor shall provide a certified scale ticket confirming the weight of the truck without trailer attached.

The Trailer Attenuator attached to its host truck shall be used when setting up or taking down the work zone and shall be parked in the activity area protecting the construction work while work is being performed, unless otherwise directed. A buffer zone shall be provided in front of the host truck, for worker safety. This buffer zone shall be in accordance with the manufacturer’s recommendations, but shall be no less than 100 feet in length, unless otherwise directed.

Subsection 630.13 shall include the following:

Maintenance, storage, operation, and all repairs of Mobile Attenuator and associated vehicle shall be the responsibility of the Contractor.

Subsection 630.15 shall include the following:

Mobile Attenuators will be measured by the maximum number of approved units in use on the project at any one time.

Subsection 630.16 shall include the following:

Pay Item	Pay Unit
Mobile Attenuator	Each

Payment will be full compensation for all labor, materials and equipment required to operate and maintain the truck and attenuator for the duration of the project, including the attenuator and flashing panel.

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the City's estimate for force account items included in the Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

BASIS OF PAYMENT

Payment will be made in accordance with subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

<u>Force Account Item</u>	<u>Quantity</u>	<u>Estimated Amount</u>
F/A 01 – Minor Contract Revisions	F.A.	\$ 20,000*

Force Account Descriptions:

F/A 01 Minor Contract Revisions – This work consists of minor work authorized and approved by the Engineer, which is not included in the Contract drawings or specifications and is necessary to accomplish the scope of work of the Contract.

TRAFFIC CONTROL PLAN GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

The components of the TCP for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the specifications.
- (2) Standard Plan S-630-1, Traffic Controls for Highway Construction, Case 5, and 11, and Standard Plan S-630-2.
- (3) Schedule of Construction Traffic Control Devices.
- (4) Manual on Uniform Traffic Control Devices.
- (5) Region 4 Lane Closure Strategy.

Unless otherwise approved by the Engineer, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backwards through the work zone. When located behind barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

Special Traffic Control Plan requirements for this project are as follows:

During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer.

Working hours shall be 8 a.m. to 5 p.m. unless otherwise authorized by the Engineer. Night and weekend work will be allowed only if approved in advance by the Engineer.

The Contractor is referred to the CDOT Region 4 Lane Closure Strategy regarding lane closure time restrictions.

The Lane Closure Strategy is available at:

<https://www.codot.gov/safety/traffic-safety/safety-performance-engineering/work-zone-safety>

No work shall occur at a project location until all the ITS equipment is approved and delivered. The Contractor shall work at only one project location at a time.

At least one week prior to starting construction, the Contractor shall notify the Engineer of the date the Contractor intends to start construction.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

UTILITIES

Known utilities within the limits of this project are:

UTILITY	CONTACT/EMAIL	PHONE/FAX
Allo Communications	John Surber John.Surber@allofiber.com	719-221-4374
AT&T	Chris Tone Ct4146@att.com	303-994-2209
Atmos Energy	Curtis Rau Curtis.Rau@atmosenergy.com	970-534-0288
CDOT ITS	Jill Scott Jill.Scott@state.co.us	303-512-5805
Comcast	John Hamburg John_Hamburg@comast.com	970-567-4797
Chevron Midstream	Erik Van Decar Erik.Vandecar@chevron.com	970-556-9476
City of Greeley – ITS	Nate McKinney	970-301-3753
City of Greeley - Traffic	AJ Swanson AJ.Swanson@greeleygov.com	970-702-3372
City of Greeley – Water and Sewer	Brandon Valenciano Brandon.Valenciano@greeleygov.com	970-302-2403
Civitas	Ivan Steinke ISteinke@civiresources.com	970-381-5114
DCP Midstream	Mike Smith	970-324-4327
Greeley & Loveland Ditch Co. Main Boomerang Ditch West Boomerang Ditch	Dan Kammerzell Dankzglic@gmail.com	970-352-0495
Lumen	Gary Crispe GCrispe@terratechllc.com	303-995-1456
Noble Midstream	Erik Van Decar Erik.Vandecar@chevron.com	970-556-9476
Poudre Valley REA	Minas Kavallieros mKavallieros@pvrea.coop	970-821-6576
Suncor	Dillon Ohrt	303-775-8106
Tallgrass Energy Partners	Andrew	307-365-1371
Weiderspon – Ditch Lateral	Theresa Weiderspon TE.Weid@gmail.com	970-371-7581
West Ridge Irrigation Association	John Miles JMiles99@comcast.net	970-301-5173
Xcel Energy Application for Gas & Electric Services	BCLCO@xcelenergy.com	1-800-628-2121
Zayo	James Black Jamesr.Black@zayo.com	719-216-8508

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UTILITIES

PART 1 CONTRACTOR SHALL PERFORM THE WORK LISTED BELOW:

Coordinate project construction with the performance by the utility owner of each utility work element listed in Part 2 below. Perform preparatory work specified in Part 2 for each utility work element. Provide an accurate construction schedule that includes all utility work elements to the owner of each impacted utility.

Provide each utility owner with weekly updates to the schedule. Conduct detailed utility coordination meetings prior to each construction phase to coordinate all requirements and schedules, and provide other necessary accommodations as directed by the Engineer. Notify each utility owner in writing, with a copy to the Engineer, prior to the time each utility work element is to be performed by the utility owner. Provide the notice with the number of days specified in Part 2 immediately prior to the time the utility work must be begun to meet the project schedule.

Provide traffic control, as directed by the Engineer, for any utility work by the utility owner expected to be coordinated with construction. However, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner.

Perform each utility work element for every utility owner listed here in Part 1. Notify each utility owner in advance of any work being done by the Contractor to its facility, so that the utility owner can coordinate its inspections for final acceptance of the work with the Engineer.

The Contractor shall meet the depth requirement of 120" below ditch as shown on plans.

Project Limits – All Utility Owners

Prior to excavating, the Contractor shall positively locate through potholing if necessary all potential conflicts with existing underground utilities and proposed construction, as determined by the Contractor according to proposed methods and schedule of construction. The Contractor shall modify construction plans to avoid existing underground facilities as needed, and as approved by the Engineer. Please note that Colorado811 notifies only its members who are responsible to mark their own facilities – Other facilities, such as ditches and drainage pipes may exist, and it is the Contractor's responsibility to investigate, locate and avoid such facilities.

The Contractor shall be responsible for coordinating the adjustment of utilities on this project. The Contractor shall keep each utility company advised of any work being performed in the vicinity of their facilities, so that each utility company can coordinate any needed locates, adjustments or inspections.

Contractor shall provide the appropriate utility company ample notice, but not less than two (2) working days, prior to commencing activities in the vicinity of their facilities. Any additional work performed by the Contractor on behalf of the impacted utility company shall not be paid for by the City and County of Denver but shall be paid by the utility company requiring the work, unless otherwise agreed to in writing by the Engineer.

Greeley & Loveland Ditch Co. Main Boomerang Ditch

The Contractor shall notify the Greeley and Loveland Ditch Co. at least three (3) days in advance of construction operations commencing near Boomerang Lateral Ditch.

The Contractor shall meet the requirements of the Boring License Agreement between Boomerang Lateral Ditch Co. and the City of Greeley.

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UTILITIES

Greeley & Loveland Ditch Co. West Boomerang Ditch

The Contractor shall notify the Greeley and Loveland Ditch Co. at least three (3) days in advance of construction operations commencing near Boomerang Lateral Ditch.

The Contractor shall meet the requirements of the Boring License Agreement between Boomerang Lateral Ditch Co. and the City of Greeley.

Weiderspon – Ditch Lateral

The Contractor shall notify the Weiderspon – Ditch Lateral at least three (3) days in advance of construction operations commencing near Weiderspon – Ditch Lateral.

West Ridge Irrigation Association

The Contractor shall notify the West Ridge Irrigation Association at least two (2) days in advance of construction operations commencing near West Ridge Irrigation facilities.

The Contractor shall meet the requirements of the Boring License Agreement between West Ridge Irrigation Association and the City of Greeley.

PART 2 UTILITY OWNERS SHALL PERFORM THE WORK LISTED BELOW:

Although the Contractor shall provide traffic control for utility work expected to be coordinated with construction, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner. The utility owner shall prepare and submit to the Project Engineer a Method of Handling Traffic for utility work to be performed outside typical project work hours. The utility owner shall obtain acceptance of the Method of Handling Traffic from the Project Engineer prior to beginning the utility work to be performed outside typical project work hours.

NO UTILITY WORK EXPECTED.**GENERAL:**

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavating or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the actual day of notice, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at phone no. **811**, to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading.

The location of utility facilities as shown on the plan and profile sheets, and herein described, are depicted in accordance with their achieved Quality Level as defined in the American Society of Civil Engineer's document ASCE 38, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.

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

END OF SECTION

Links for Further Information

1. [2023 Standard Specifications book — Colorado Department of Transportation \(codot.gov\)](#)
2. [Standard Special Provisions — Colorado Department of Transportation \(codot.gov\)](#)
3. [Plans.pdf](#)