



PROJECT DOCUMENTS

**2018 OVERLAY
PROJECT # SP-01-18
ITB-18-05
JANUARY 2018**

Prepared by:
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

CITY OF WHEAT RIDGE
7500 W. 29TH AVENUE
WHEAT RIDGE, CO 80033
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The engineering material and data contained in these Project Documents were prepared under the supervision and direction of Russell Higgins, PE, Field Services Supervisor.

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CITY OF WHEAT RIDGE
SOLICITATION # ITB-18-05

BID DUE DATE: THURSDAY, MARCH 22, 2018 BY 1:00 PM OUR CLOCK

**2018 OVERLAY
PROJECT # SP-M-01-18**

SEALED BIDS MUST BE MAILED OR DELIVERED TO:

City of Wheat Ridge Municipal Building
Attention: Jennifer Nellis, CPPB
7500 West 29th Avenue, Purchasing & Contracting Division
Wheat Ridge, CO 80033
303-235-2811

IMPORTANT: PLEASE READ ENTIRE DOCUMENT
Per the attached specifications, terms and conditions.

FEIN/SSN (Required) _____
Federal I.D. Number

COMPANY NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE _____ EMAIL _____

TYPED/PRINTED NAME _____

AUTHORIZED SIGNATURE _____
This is required. Must be in ink.

TITLE _____

ACKNOWLEDGE ADDENDAS, MUST INITIAL _____ NUMBER OF ADDENDA _____
(Bidder is responsible for following up on all addendums)

DO YOU ACCEPT VISA FOR PAYMENT? IT IS THE PREFERRED METHOD _____

Do not contact the requesting department or members of the evaluation committee.

Signature acknowledges that Bidder: has read the bid documents thoroughly before submitting a bid, will fulfill the obligations in accordance to the scope of work or specifications, terms, and conditions, and is submitting without collusion with any other individual or firm. Do not submit more than one bid from your firm or both bids will be disqualified. Submit bid with authorized signature.

Point of Contact: Jennifer Nellis, Purchasing Agent, jnellis@ci.wheatridge.co.us or fax 303-234-5924

Bidder must complete and SUBMIT this form with bid/proposal or will be considered Non-Responsive and/or Non-Responsible and therefore disqualified from bidding.

CITY OF WHEAT RIDGE

**INVITATION TO BID
2018 OVERLAY
ITB-18-05**

Bid Due Date: Thursday, March 22, 2018 by 1:00 pm our clock. Public Opening: City Hall, 7500 W. 29th Avenue, Wheat Ridge, CO.

Project Number: PROJECT # SP-M-01-18

Scope of Work: Provide all labor, equipment and materials HMA Overlay 1 ½"- 2 ½", Striping. Approximate quantities include: 86,000 SY Full Mill, 11,300 Tons HMA, 2,800 SY Mill Patch, 37,000 SF Modified Epoxy (Recess), 1,450 LF 24" Tape (Recess) . Budget is ~ \$1,250,000.

Term of Contract: The term of the contract shall be for one year. Anticipated start date is Mid-June. Completion time is approximately 85 working days. A pre-bid conference will not be held for this project. The City reserves the option to extend the term of the contract for up to two additional 1-year periods, 2019 and 2020.

Deadline for Questions: Noon, March 8, 2018 (email jnellis@ci.wheatridge.co.us)

Contractor Qualification: Bidder must complete and submit the Contractor Qualification Form provided with the bid document. Failure to complete this form and submit with bid may result in the disqualification of the contractor. The City's acceptance of this bid shall be based on information provided by the contractor in this form. Bid amount and qualifications are evaluated subsequent to bid opening to determine the successful bidder. The City does not pre-qualify contractors. On federally funded projects, Contractor cannot be banned or debarred, per current sam.gov information at www.sam.gov.

Disadvantaged Businesses: Disadvantaged business enterprises are afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color or national origin in consideration for an award.

Labor Compliance: Contractors shall comply with the amended provisions of CRS 8-17.5-101 and requirements of the Keep Jobs in Colorado Act, H.B. 13-1292 and CRS 8-17-101 et seq., regarding employment of illegal aliens and Colorado laborers to perform on public contracts.

Bid Bond: A 5% bid bond is required to be submitted with the bid. Payment and performance bonds for 100% of the contract price and insurance will be required for the successful bidder.

Submit Sealed Bids to: City of Wheat Ridge Municipal Building
Attn: Jennifer Nellis, CPPB
7500 W 29th Avenue, Purchasing Division
Wheat Ridge, CO 80033

Mark Sealed Envelopes: ITB-18-05, 2018 OVERLAY

Comments: All bids will be validated. No bids will be accepted after the bid due time. Bids received after the bid opening time will be filed unopened. The City of Wheat Ridge reserves the right to reject any and all bids or any part and to waive any formalities or informalities to make an award in the best interest of the City.

Bid Documents: Available on the Rocky Mountain E-Purchasing System (a division of BidNet) at www.rockymountainbidsystem.com (800-835-4603 option #2) and the City website at www.ci.wheatridge.co.us. Visit the City website for bid tab sheets and project updates.

Point of Contact: Jennifer Nellis, Purchasing Agent, jnellis@ci.wheatridge.co.us or fax 303-234-5924 or phone 303-235-2811. Do not contact the requesting department.

Publish Dates: February 26, 2018

Jennifer Nellis, Purchasing Agent

Daily Journal: February 26 and March 5, 2018

INFORMATION FOR BIDDERS

1.0 BID SUBMISSION REQUIREMENTS

- 1.1 Sealed Bids for **ITB-18-05, 2018 OVERLAY, PROJECT #S-PM-01-18** will be received by the City of Wheat Ridge, Office of the Purchasing Agent, 7500 W. 29th Avenue, Wheat Ridge, CO 80033, as stated in the Advertisement. Bid opening date is set for Thursday, March 22, 2018 by 1:00 pm our clock at which time bids will be publicly opened and read aloud.

Questions about this bid shall be referred to Jennifer Nellis, Purchasing Agent, 303- 235-2811, or by fax 303-234-5924 or by email jnellis@ci.wheatridge.co.us

- 1.2 Bid Documents are available on the Rocky Mountain E-Purchasing System (a division of BidNet) at www.rockymountainbidsystem.com (800-835-4603 option #2) and the City website at www.ci.wheatridge.co.us. Limited hard copies are available in the Purchasing Office for a non-refundable and no returnable cost of \$25.00. Cash or check only.

The City does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents.

The City in making copies of the bidding documents available on the terms in this Project Manual does so only for the purpose of obtaining bids on the Work and does not confer a license of grant for use.

- 1.3 Two (2) copies of the Project Document/Proposal must be submitted and signed. Single copies of the original bid bond will be accepted. All blank spaces for prices must be filled in, in ink or typewritten, and the Proposal Form must be fully completed and executed when submitted. In the case of discrepancies, the unit price shall govern the extension and subsequent total. No alteration in bid prices by erasures, deletions or strike-outs, will be acceptable unless each alteration is signed or initialed by the Bidder. A conditional or qualified Bid will not be accepted.

The Project Documents contain an affidavit certifying that the Bidder has not participated in any collusion or taken any action in restraint of free competitive bidding. This form must be signed and submitted with the Bid.

Names of all subcontractors and the amounts of their subcontract work shall be provided on the List of Subcontractors, as provided in this bid. If none, state "none".

- 1.4 Bids may be mailed or delivered in person, but must be in a sealed envelope. The envelope should bear on the outside the name of the project for which the Bid is submitted. No bids will be accepted after the date and time established above, except by written addendum.

- 1.5 Each Bid must be accompanied by a Bid Bond payable to the City for five percent (5%) of the total amount of the Bid. A certified check or cashier's check payable to the City of Wheat Ridge may be used in lieu of a Bid Bond. Securities may not be substituted for Bid Bonds.

Attorneys-in-Fact who sign Bid Bonds must file with each Bond a certified and effective dated copy of their Power of Attorney.

Surety companies executing bid and performance bonds must appear on the Treasury Departments most current list (Circular 570 as amended) and be authorized to transact business in the State of Colorado.

- 1.6 A bidder may withdraw or revise a proposal after it has been deposited with the City. Withdrawal of bids may be made either in writing or in person; however, any bid withdrawn for purpose of revision must be re-deposited with the City before the time set for opening of bids. Bids may not be withdrawn after the time set for opening of bids.

- 1.7 The City assumes no responsibility for late deliveries of mail on behalf of the United States Post Office. Only sealed bids received by the Purchasing Department will be accepted. Bids submitted by telephone, facsimile machine, or by other electronic means are not acceptable.

In the event of a situation severe enough to cause the City Council to close its offices for any reason, the Purchasing Agent has the prerogative of rescheduling the bid opening time and date. No bidder will be considered above all other bidders by having met the bid opening time and date requirements to the exclusion of those who were unable to present their bid due to the closing of City offices.

- 1.8 Issuance of this Request for Bid does not commit The City of Wheat Ridge to award any contract or to procure or contract for any equipment, materials, or services. The City further reserves the right to waive informalities or irregularities, and the right to accept or reject any and all bids, including but not limited to, any bid which does not meet bonding requirements, or bids which do not furnish the quality, or offer the availability

of materials, equipment or services as required by the specifications, description or scope of services, or bids from bidders who lack experience or financial responsibility, or bids which are not to form, or to award bids to the lowest and most responsive and responsible bidder, or to require new bids.

No award will be made to any person, firm, or corporation that is in arrears upon any obligation to the City.

- 1.9 The City of Wheat Ridge is exempt from City, County, State and Federal Sales/Excise Taxes. Certificates will be issued upon request.

2.0 BID DOCUMENTS

- 2.1 The Contract Documents consist of the Contract Bid Documents including construction specifications, if any. The Contract Bid Documents contain the provisions required for the bidding and construction of the Project. The Owner shall provide to Bidders, prior to Bidding, all information that is pertinent to, and delineates and describes, the Work. This may occur on the plans or on a separate document.
- 2.2 Each Bidder is responsible for inspecting the site and for reading and being thoroughly familiar with the Contract Documents, including Addenda. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve any Bidder from any obligation in respect to his Bid. After Bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of Work or of nature of the Work to be done or any materials specified for the Work.
- 2.3 If it should appear to a Bidder that the work to be done or matters relative thereto are not sufficiently described or explained in the Contract Documents or that the Contract Documents are not definite and clear, the Bidder may make written inquiry regarding same to the Purchasing Agent at least five (5) working days or a designated date set by the Purchasing Agent, before the scheduled closing time for filing Bids. Then, if in the judgment of the Purchasing Agent, additional, information or interpretation is necessary, such information will be supplied in the form of an Addendum, and will be delivered to all individuals, firms and corporations who have received the Contract Documents. Such Addendum shall have the same binding effect as though contained in the main body of the Contract Documents. Oral instructions or information concerning the contract documents or the project given out by officers, employees or agents of the owner to prospective bidders shall not bind the owner. If no request is made in the five working days or the designated time, Bidder waives right to any conflict in the Contract Documents.
- 2.4 All applicable laws, ordinances and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout. Further, the Bidder agrees to abide by the following federal requirements: Executive Order No. 11246 as amended, including specifically the provisions of the Equal Opportunity Clause, the Immigration Reform and Contract Act of 1986 and the Americans with Disabilities Act of 1991.

As a recipient of Federal funds, subject to United States Department of Transportation Title VI Regulations at 49 CFR Part 21 the Civil Rights Act of 1964, the City of Wheat Ridge, and its responsible agents, contractors and consultants assure that no person shall on the grounds of race, color, or national origin be excluded from participation in the opportunity to bid, or be discriminated against in consideration of award of this project. Disadvantaged business enterprises will be afforded full opportunity to submit bids in response to all invitations subject to the Regulations. The United States has a right to seek judicial enforcement with regard to any matter arising under Title VI, 49 CFR Part 21 and assurances.

- 2.5 Bidder must complete and submit the Contractor Qualification Form provided with the bid document. Failure to complete this form and submit with bid may result in the disqualification of the contractor. The City's acceptance of this bid shall be based on information provided by the contractor in this form. Bid amount and qualification shall be evaluated subsequent to bid opening to determine the successful bidder. The City does not pre-qualify contractors.
- ## 3.0 CONTRACT AWARD
- 3.1 The Owner may make such investigations as deemed necessary to determine the ability of the Bidder and Subcontractors to perform the Work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted, or investigation fails to satisfy the Owner that such Bidder or any Subcontractor is properly qualified to carry out the obligations of the Agreement. If the owner rejects any Subcontractor as unqualified, the Bidder may substitute another Subcontractor for approval by the Owner but no change to the Bid Price will be allowed.
- 3.2 The Award of Contract, is anticipated, within 60 calendar days after the opening of bids to the lowest most responsive, responsible qualified bidder whose bid complies with all the requirements of this request for bids.

Evaluation and award will only include the alternate if the base bid and the alternate price combined are within the advertised cost range. If more than one alternate, the order or the selection of the alternates for award is at the discretion of the City. Award is in the best interest of the City.

- 3.3 The successful bidder shall be notified of the recommendation for award and to provide two (2) signed agreements, insurance and bonds. A Performance Bond and Payment Bond, each in the amount of 100 percent (100%) of the Contract Price, with a corporate surety approved by the Owner, will be required for the faithful performance of the Contract. Securities may not be substituted for Payment or Performance Bonds. Attorneys-in-Fact who sign Payment and Performance Bonds must file with each Bond a certified and effective dated copy of their Power of Attorney.
- 3.4 The successful bidder shall return the two copies of the executed Agreement and one acceptable Performance and Payment Bonds by a designated date. In case the Bidder fails to comply by the designated date or if the Bidder fails to provide acceptable bonds, the Owner may, at its option, consider the Bidder in default, in which case the Bid Bond accompanying the Proposal (Bid) shall become the property of the Owner.
- 3.5 The Owner, within 14 calendar days of receipt of the requirement stated in 3.3 above, shall execute the Agreement and issue the Notice to Proceed at a pre-construction meeting with the Contractor. If the Owner cannot issue the Notice to Proceed within such time period, the time period will be extended by mutual agreement between the Owner and Contractor. If the Notice to Proceed has not been issued within the 14 calendar day period or within the period mutually agreed upon, the Contractor may terminate the Agreement, by Written Notice, without further liability on the part of either party.
- 3.6 Upon receiving notice of award, the Contractor may obtain from the City three sets of documents at no cost. Additional sets of drawings and specifications may be purchased on a cash sale basis from the City. The Contractor and the Owner will agree on the date that Work will commence which shall be within 14 calendar days of the date of the Notice to Proceed, unless a time extension is approved by the Owner.
- 3.7 Section 2-3 (a) – (e) of the City's Code of Laws is presented below:
 - (a) *Fiscal year.* Fiscal year for the city shall commence on January 1 and end on December 31.
 - (b) *Budget contains appropriations.* The city council shall annually adopt a budget in a manner consistent with the provisions of Chapter X of the Home Rule Charter of the City of Wheat Ridge. Upon the annual adoption by the city council of each fiscal year's budget, levels of authorized expenditures from the funds indicated within the annual budget itself and/or the adopting resolution shall constitute the appropriation of the amounts specified therein for the purposes specified therein. During the course of each fiscal year, approval by the city council of contracts for goods or services, and/or approval of bids for the provision of specified goods or services, shall likewise constitute appropriations of the amounts specified therein for the purposes specified therein.
 - (c) *No contract to exceed appropriation.* During each and any fiscal year, no contract entered into by or on behalf of the city shall expend or contract to expend any money, or incur any liability, nor shall any contract be entered into nor any bid be awarded by or on behalf of the city which, by its terms, involves the expenditure of money for any of the purposes for which provision is made either in the adopted budget or adopting resolution, including any legally authorized amendments thereto, in excess of the amount appropriated in the budget or the approved contract or bid award. Any contract or bid award, either verbal or written, made in violation of the provisions of this section shall be void as to the city and no city monies from any source whatsoever shall be paid thereon.
 - (d) *Amendments and authorized expenditures.* Nothing contained herein shall preclude the city council from adopting a supplemental appropriation in a manner consistent with the provisions of Section 10.12 of the Home Rule Charter of the city. Further, nothing contained in this section shall prevent the making of contracts for governmental services or for capital outlay for a period exceeding one (1) year if such contracts are otherwise allowed by the Home Rule Charter of the city; provided, however, any contract so made shall be executory only for the amounts agreed to be paid for such services to be rendered in succeeding fiscal years.
 - (e) *Notice to parties contracting with the city.* All persons contracting with, or selling goods or services to, the city are hereby placed upon notice of the provisions of this section. The provisions of this section shall become a part of the Merit System Personnel Rules and Regulations of the City of Wheat Ridge; shall be referred to specifically in all public works bid documents and contracts; and shall be incorporated into, and specially noted within, all other contracts entered into by or on behalf of the city wherein city funds are used to pay for said contract.

3.8 Section 2-4 of the City Code of Laws is presented below:

- (a) The city may, by contract, require the contractor awarded a public works contract to waive, release or extinguish its rights to recover costs or damages, or obtain an equitable adjustment, for delays in performing such contract if such delay is caused, in whole or in part, by acts or omissions of the city or its agents, if the contract provides that an extension of time for completion of the work is the contractor's remedy for such delay. Such a clause is valid and enforceable, any provision of state law to the contrary notwithstanding.
- (b) The city council, by this ordinance (Ordinance No. 812), declares its local contracting powers to be a matter of purely local concern, and further specifically intends to supersede, pursuant to its powers under Article XX of the Colorado Constitution, the provisions of Sections 24-91-101 and 24-91-103.5, C.R.S., insofar as they conflict with the provisions of this section of the Code of Laws of the City of Wheat Ridge, Colorado.

3.9 Option to renew for subsequent years (with price adjustments allowed):

- (a) The City shall have the option to renew the contract for an additional two (2) one-year periods providing that the Contractor provided satisfactory performance during the previous contract period. Continuation of the contract beyond the initial period is a City prerogative and not a right of the awarded Contractor and will be exercised only when such continuation is clearly in the best interest of the City.
- (b) During this option period, in November of each year, the City shall give written notification to the Contractor of Notice of Intent to Renew, if the City intends to exercise its option to renew. This written notification will include work locations and quantities for the upcoming year, or option to skip a year (see item e below). The contract automatically terminates on December 31 of each year, if the Notice of Intent to Renew is not given.
- (c) The Contractor shall submit a written response to the Notice of Intent to Renew within 30 days of receiving the notice. The City will consider an adjustment to the pricing structure if the Contractor can demonstrate, through documentation issued by material suppliers that it was subject to a price adjustment (reduction or increase). It shall be understood that such price adjustments shall not exceed the amount passed on to the Contractor by the supplier.
- (d) The City shall have the right to accept or reject the requested price adjustment, or to negotiate a price adjustment with the Contractor, in the best interest of the City. Pricing and specification changes, if any, shall be negotiated and agreed upon by both parties. The City reserves the right to terminate the contract with the Contractor based on such price adjustments. Termination will be by written notice and shall be given within 30 days of the Contractors request for price adjustment.
- (e) In the event that the preventative maintenance street budget does not include funding for overlay work in an upcoming fiscal year, or if there is no requirement for overlay, the City may elect to hold the Intent to Renew option of the award for the following year; with funding, projects and work allowed for a maximum of three years total as otherwise described.

4.0 ANTICIPATED PROJECT SCHEDULE

ITB Issued	February 26, 2018
Deadline for Questions	Noon, March 8, 2018
Final Addendum Issued	March 13, 2018
Bid Due Date and Time	March 22, 2018 at 1:00 pm our clock
Council Action Form Due	March 30, 2018
City Council Meeting to Approve Award	April 9, 2018
Project Start Date	June
Completion Date	85 Working Days

**CITY OF WHEAT RIDGE
GENERAL PROVISIONS**

1. DEFINITIONS:

"City" (also sometimes referred to as "Owner") means the City of Wheat Ridge, Colorado. The City is represented by employees who will assume Project administration, oversight, and inspection responsibilities as further defined in the Contract, the General and Special provisions, and the current edition of CDOT Standard Specifications for Road and Bridge Construction. At the time of the preconstruction meeting, or when requested by the Contractor, the City shall provide an official list of City representatives and their titles as applies to the Project.

"Contractor" means the person, partnership, firm or corporation responsible for the physical accomplishment of the project.

"Subcontractor" means only those having a direct contract with the Contractor and includes one who furnished materials worked to a special design according to the plans or specifications for the work under the Contract, but does not include one who merely furnishes material not so worked.

"Notice" means written demand, instruction or order duly served. Written notice shall be deemed to have been duly served if delivered in person to the Contractor, or if delivered in person or sent by registered mail to the address given in the Contract and shall have been duly served upon the City if delivered to the City Clerk of the City of Wheat Ridge, Municipal Building, Wheat Ridge, Colorado, either in person or by registered mail.

"Work" means performance of the Contractor or Subcontractor including labor and materials and all services incidental thereto.

"Cost" means all charges and expenditures of every kind applicable to the accomplishment of the work.

"Final Completion" means when all items are one hundred percent (100%) complete and when all known defective work has been corrected as certified by the City Representative.

"Substantial Completion Date" is the date on which the City Representative certifies the readiness of the work for beneficial occupancy or use, and is the date for terminating liability for liquidated damages and for determining incentive payments due for early completion.

2. MATERIALS, SERVICES, AND FACILITIES:

The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish and pay for all labor, superintendence, material, utilities, machinery, equipment, tools, transportation, facilities, temporary construction of every nature and all other services and facilities of every nature, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work, within the time stated, in accordance with the plans, drawings and specifications covered by the Contract, and any and all supplemental plans, drawings and specifications. He shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. It will be the responsibility of the Contractor to locate/negotiate a staging area. The City will not provide a staging area on City owned property. Any work necessary to be performed after regular working hours, on Saturdays, Sundays, or Legal Holidays, shall be performed without additional expense to the City.

3. CONTRACTOR'S TITLE TO MATERIALS:

No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims or encumbrances.

4. OBSERVATION AND TESTING:

All work performed and all workmanship, equipment and materials used in the construction shall be subject to Observation, examination and test, at any and all times during construction.

5. WEATHER CONDITIONS:

In the event of temporary suspension of work, or during inclement weather or whenever the City shall direct, the Contractor will, and will cause his Subcontractors to, protect carefully his and their work and materials against damage or injury from weather. If, in the opinion of the City, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors to so protect his work, such materials shall be removed and replaced at the expense of the Contractor.

6. EMERGENCY - PROTECTION OF LIFE AND PROPERTY:

In case of an emergency which threatens loss of injury or property, and/or safety of life, the Contractor is hereby permitted to act at his own discretion and in a diligent manner without prior instructions from the City to prevent the threatened loss or injury. He shall notify the City immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted in writing to the City for approval. The amount of any reimbursement claimed by the Contractor shall be determined in the manner provided in Article 9 of this Contract.

7. REPORTS, RECORDS, AND DATA:

The Contractor shall submit to the City such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as may be requested concerning work performed or to be performed under this Contract.

8. SUPERINTENDENCE BY CONTRACTOR:

At the site of the work, the Contractor shall employ a construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such Representative shall be acceptable to the City and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll. All directions given to such Representative in the Contractor's absence shall be as binding as if given to the Contractor.

9. CHANGES IN THE WORK:

The City may, at any time, by written order and without notice to the sureties, require the performance of extra work or make changes by altering, adding to, or deducting from the work. The amount of compensation to be paid to the Contractor shall be adjusted accordingly without invalidating the Contract and in accordance with whichever of the following plans the City elects: (1) a price agreed upon, (2) a price based on unit prices of the Contract; or (3) a price determined by adding fifteen percent (15%) to the reasonable cost of the extra work, addition, alteration, or deduction; provided however, that no additions to the Contract Price shall be agreed upon by, or shall be binding upon the City if the effect of said price increase is to increase the Contract amount beyond the amount of money appropriated by the City Council, as specified in Section 2-3 of the Code of Laws of the City of Wheat Ridge.

In giving instructions, the City may authorize minor changes in the work, not involving extra cost and not inconsistent with the purpose of the project. Otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written approved Change Order or RFI response by the City.

10. TIME EXTENSIONS:

The Contractor shall, within seven (7) days from the beginning of any delay, notify the City, in writing, of the causes thereof and the City shall ascertain the facts, the extent of the delay and notify the Contractor of the decision in the matter.

The completion time shall be extended when delay in completion of the work by the Contractor is due to unforeseeable causes beyond his control and without his fault or negligence, including, but not restricted to, acts of God or the public enemy, acts or neglect of the City, acts of neglect of any other contractor, fires, floods, epidemics, quarantine restrictions, strikes, riots, civil commotions or freight embargoes. The time of completion of his work shall be extended by such time as shall be fixed by the City.

No such extension of time shall be deemed a waiver by the City of its right to terminate the Contract for abandonment or delay by the Contractor as herein provided or relieve the Contractor from full responsibility for performance of his obligations hereunder. The City's liability for delay shall be limited pursuant to the provisions of Section 2-4 of the Code of Laws of the City of Wheat Ridge and shall be limited to granting a time extension to the Contractor.

11. DEFECTIVE WORK:

The observation of the work by the City shall not relieve the Contractor of any of his obligations to fulfill his Contract as herein prescribed, and defective work shall be made good, and unsuitable materials may be rejected, notwithstanding that such work and material have been previously overlooked by City representative(s) and accepted or estimated for payment or paid for. If the work or any part thereof shall be found defective or at any time before the final acceptance of the whole work, or the final payment therefore, the Contractor shall forthwith make good such defect in a manner satisfactory to the City and if any material brought upon the ground for use in the work, or selected for the same, shall be condemned by the City as unsuitable, the Contractor shall forthwith remove such materials from the vicinity of the work and shall replace, at his own expense, damaged or unsuitable materials with the new materials of satisfactory quality.

Neither the foregoing nor any provision of these Contract Documents, nor any special guarantee time limit, shall be held to limit the Contractor's liability for defects to less than the legal limit of liability in accordance with the law of the place of the construction.

The Contractor shall pay the City all expenses, losses, and damages as determined by the City incurred in consequence of any defect, omission, or mistake of the Contractor or his employees or the making good thereof.

12. UNEXPECTED UNDERGROUND STRUCTURES; CHANGE OF CONDITIONS:

Should the Contractor encounter underground structures at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the City of such conditions before they are disturbed. The City will thereupon promptly investigate the conditions, and if it is determined that they materially differ from those shown on the Plans, may authorize changes to be made to the Plan and/or Specifications as may be necessary.

It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary utility appurtenances in their present or relocated position as shown on the plans and that additional compensation will not be allowed except for any unreasonable delays, or damage sustained by him due to any interference from the said utility appurtenances. Unreasonable delays shall constitute delays caused by a complete shutdown of all operations. It is understood that utilities are not owned, operated or controlled or subject to control by the City of Wheat Ridge. Relocations of facilities owned by said utilities are not a matter over which the City has control. The Contractor shall adjust his schedule in anticipation of such delays so that work in other areas may be completed away from the area of utility conflict.

The locations of all utilities shown on the Project plans should be considered approximate. It is therefore the responsibility of the Contractor to notify the appropriate utility and obtain more precise locations. No compensation will be made to the Contractor for any damage, delay or additional cost incurred as a result of failure to obtain utility locations.

Information on the Plans in the Contract Documents referring to the existence of utilities or other underground structures is not guaranteed to be correct or to be a complete representation of all existing data. Every effort has been made, however, to make this information complete and accurate on the basis of all data and information which could be procured by the City. The Contractor shall make his own examination and shall draw his own conclusions as to the underground facilities which will be encountered, and he shall have no claim for damages of any kind on account of any errors, inaccuracies or omission that may be found.

There shall be no adjustment in Contract Price based on changed site conditions. The Contractor is required hereby to make an on-site inspection and investigation, which includes determination of location of utilities and said and other natural conditions. Representations regarding site and soil conditions and utility locations are based on the best information available to the Owner and final determination as to both site and soil conditions and utility locations is left to the Contractor, without recourse to the City. The City shall allow reasonable and necessary access to the site to Contractor and his representatives to make such determination and site review.

13. CLAIMS FOR EXTRA COSTS:

No claim for extra work or cost shall be allowed unless the same was done in pursuance of written order of the City, as provided for in Article 9, and the claim was presented prior to the issuance of the final payment. When work is performed under the "reasonable cost" method as outlined in Article 9 of the General Conditions, the Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost, and when requested by the City, give the City access to accounts relating thereto.

NO adjustments will be allowed for fuel cost of asphalt cement.

14. RIGHT OF CITY TO TERMINATE CONTRACT:

If (1) the Contractor or any of his Subcontractors shall be adjudged bankrupt or (2) if he shall make a general assignment for the benefit of his creditors or (3) if a receiver shall be appointed of his property, or (4) if the work to be done under this Contract shall be abandoned, or (5) if this Contract or any part hereof shall be sublet, without the previous written consent of the City, or (6) if the Contract or any claim thereunder shall be assigned by the Contractor otherwise than as herein specified, or (7) at any time the City shall certify in writing that the rate of progress of the work or any part thereof is unsatisfactory or (8) that the work or any part thereof is unnecessarily or unreasonably delayed, or (9) that the Contractor, his subcontractors, agents or employees have violated any of the provisions of this Contract, or of the plans and specifications, or construction schedule, the City shall notify Contractor and the Surety, and shall be entitled immediately to terminate the Contract. The Surety shall have the right to take over and perform the Contract, provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the City may take over the work and prosecute the

same to completion by contract or by force account for the account and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the City for any excess cost occasioned the City thereby, and in such event the City may take possession of and utilize in completing the work, such materials, machinery, appliances and plant as may be on the site of the work and necessary therefore. The Contractor, by signing this Contract, gives to the City in the event of default, right to use such aforesaid articles to the full extent which they could be used by the Contractor. The City shall not be liable to the Contractor for trespass or conversion.

All expenses charged under this article shall be deducted and paid for by the City out of money then due to become due the Contractor under this Contract or any part thereof, and in such account the City shall not be held to obtain the lowest figures for the work of completing the Contract or any part thereof or for insuring its proper completion, but all sums actually paid hereafter shall be charged to the Contractor and his Surety. In case the expenses so charged are less than the sum which would have been payable under this Contract if the same had been completed by the Contractor, the City shall be entitled to retain the difference and in case such expenses shall exceed the said sum, the Contractor and his Surety shall pay the amount of the excess to the City upon completion of the work without further demand being made therefore.

15. CONSTRUCTION SCHEDULE:

Before any work is begun, the Contractor shall provide to the City a written schedule detailing the order and manner of doing the work. Before the first partial payment is made, the Contractor shall deliver to the City an estimated construction progress schedule in form satisfactory to the City, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract. The Contractor shall provide an updated schedule every two weeks.

16. PAYMENTS TO THE CONTRACTOR:

During the course of construction, the Contractor shall request payment of work actually performed during the preceding month. The City will once each month make a progress payment to the Contractor on the basis of an evaluation of the claim by the City as to amount of work done and that the City has received full value thereof. In accordance with House Bill 11-1115, the City shall retain five percent (5%) of the value of the completed work. Retainage shall be held until final completion and acceptance of all work, as part security for the fulfillment of the Contract by the Contractor. The amount of the progress payments shall be the balance not retained as aforesaid, after deducting all previous payments and all other sums to be kept or retained under the provisions of this Contract. The Contractor shall have no right to either terminate the Contract or to claim damages if he considers partial payments inadequate.

17. CERTIFICATE OF COMPLETION:

Upon completion of all work whatsoever required including completion of all known defective work, the City shall file a written certificate with the Contractor as to the entire amount of work performed and compensation earned by the Contractor including Extra Work and compensation therefore, and including the date of completion.

18. FINAL PAYMENT:

After the filing of the Certificate of Completion, the City shall pay to the Contractor in accordance with applicable Colorado laws (Article 38, Chapter 26, Section 101 Et. Seq. Colorado Revised Statutes) and upon authorization of funds disbursement by the City Council the amount therein stated, less all prior payments and advances whatsoever, to or for the Account of the Contractor. All prior estimates and payments including those relating to extra work shall be subject to correction by this payment.

19. PAYMENT WITHHELD:

The City, as a result of subsequent discovered evidence, may withhold or nullify the whole or a part of any payment to such extent as may be necessary to protect the City from loss on account of:

- (a) Defective work not remedied.
- (b) Claims filed or reasonable evidence indicating probable filing of claim.
- (c) Failure of the Contractor to make payments properly to Subcontractor or for material or labor, or to comply with laws relative thereto.
- (d) A reasonable doubt that the Contract can be completed for the balance then unpaid.
- (e) Damage to another Contractor.
- (f) Damage to the real or personal property of another and failure to repair or replace the same.

When the grounds for withholding payment have been corrected to the satisfaction of the City, the City shall proceed to process any amounts due.

20. FINAL PAYMENT TO TERMINATE LIABILITY OF CITY:

The acceptance by the Contractor of the last payment made as aforesaid under the provisions of Article 19 shall operate as and shall be a release to the City, its officers, or agents from all claims and liability to the Contractor, his vendors, laborers or Subcontractors for anything done or furnished for, relating to, or for any act or neglect of the City or of any persons relating to, or affecting the work, except the claim against the City for the remainder, if any there be, of the amounts kept or retained as provided in Article 17, 19 and 20 of these . Said acceptance shall also operate as a general release of the City by the Contractor.

21. EFFECT OF CERTIFICATION AND PAYMENT:

Neither the certification nor payment made to the Contractor, not partial or entire use or occupancy of the work by the City shall be an acceptance of any work or materials not in accordance with the Contract. The making and acceptance of the final payment shall constitute a bar of all claims by the Contractor, except those previously made in writing and still unsettled.

22. GENERAL WARRANTY:

The Contractor shall guarantee the work against defective materials or workmanship for a period of one (1) year from the final completion date. Upon discovery of any defects including any damage to other work resulting, repair and replacement that is required, in the opinion of the City, shall be done immediately by the Contractor at the Contractor's expense. Should the Contractor fail to repair such defective material and/or workmanship, or to make replacement within five (5) days after written notice by the City, it is agreed that the City shall make such repairs and replacements and the actual cost of the required labor and materials shall be chargeable to and payable by the Contractor.

23. INSURANCE:

The Contractor shall maintain general liability and property damage insurance (the "Liability Policy") to protect the Contractor and the City from any and all claims for damages including but not limited to claims for property damage and bodily injury, including death, which may arise from operations under this Contract, including the operations of subcontractors. The Liability Policy shall state that it is the primary insurance for such claims and shall not contain any "excess" or "other insurance" clauses which limit its application as the primary coverage for those claims. The Contractor shall be individually liable for any and all defects in the Liability Policy. The Liability Policy shall not be terminated or cancelled prior to the completion of this Contract without at least 45 days prior written notice to the City.

For bodily injury	\$500,000 each person/ \$500,000 each accident/ \$500,000 each disease
For property damage	\$1,000,000 for each occurrence
For automobile liability	\$1,000,000 combined single limit

In lieu of the foregoing, a single limit public liability policy for personal injury, property and/or vehicle damage will be accepted in the amount of \$2,000,000.00.

Such insurance shall be without prejudice to coverage otherwise existing, and shall name as additional insured, the City of Wheat Ridge, its officers and employees.

Notwithstanding the naming of additional insured, the said policy shall protect each insured in the same manner as though a separate policy had been issued to each, but nothing herein shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable if only one person or interest had been named as insured. A certificate evidencing such insurance, together with the proper endorsement, shall be filed, subject to approval as to the adequacy of protection.

Fire and Standard Extended Coverage Insurance -- The Contractor shall insure the work for 100 percent (100%) of the replacement value thereof for the life of the Contract against all loss or damage covered by the Standard Extended Coverage Insurance endorsement, including theft, vandalism, and malicious mischief, with an insurance company or companies acceptable to the City. The amount of the insurance may vary with the extent of the work completed but shall at all times be at least equal to the replaceable value of the amount paid for the work and materials installed and delivered plus the replaceable value of the work or materials furnished or delivered, but not yet paid for by the City. The insurance policy or policies shall be held jointly in the name of the City and Contractor as their respective interest may appear.

The issue, if any, shall be made adjustable with and payable to the City as a trustee for whom it may concern. Any payments made under such policy shall insure to the benefit of the City to the extent of balance for replacement of the loss suffered. The policy of insurance shall provide that it shall not be terminated or be canceled prior to the completion of this Contract. The Contractor shall be responsible for all damage to the work under construction, whether from fire, water, high winds or other cause during construction and until final completion and acceptance, even though partial payments or progress payments have been made under the Contract.

Workers' Compensation Insurance -- The Contractor shall provide workers' compensation insurance coverage for all persons employed on the work to be done under the Contract and assure that all workers will receive the compensation for compensable injuries.

Certificates of Insurance shall be attached to the executed Contract Documents and shall become a part of the Contract. These Certificates shall include a provision that thirty (30) days prior to insurance cancellation, written notice shall be given to the City of Wheat Ridge.

Indemnification of City -- Contractor hereby indemnifies and agrees to hold the City and its representatives and agents harmless for and on account of any act or omission in the completion and execution of the project specified herein, which indemnification shall extend to and include any damage of whatever sort or description, suffered by any person or entity, and shall include compensatory, punitive or special damages; and Contractor agrees to defend City hereunder, at Contractor's sole expense and if he fails to do so, to thereafter indemnify City, in addition to the above indemnification, for all court costs and attorney fees incurred in any defense required to be undertaken by the City.

Notwithstanding the foregoing, nothing contained herein shall be deemed a waiver by the City of any of the protections afforded the City by virtue of the provisions of the Colorado Governmental Immunity Act (Colo. Rev. Stat. 24-10-101).

24. RESPONSIBILITY FOR WORK; PRIORITY OF DOCUMENTS:

- a) Debts and claims: The Contractor shall pay all debts for labor and materials contracted for by him on account of the work herein contemplated. The Contractor shall assume the defense of, and indemnify and save harmless, the City and its officers and agents, from all claims relating to labor and materials furnished for the work; to infringement or alleged infringement of invention patents and patent rights used in, or in connection with the work or however originating from any of the work under this Contractor from conditions created thereby; to injuries to any persons or corporation caused by the acts or negligence of the Contractor or any of his agents or employees, or of any Subcontractor or any agents or employees of any Subcontractors, in doing the work or in consequence of any improper materials, implements or labor used therein; and shall fully reimburse and repay to the City all outlay and expense which the City may incur by reason of his failure to do so. The Contractor shall satisfy all suits and claims against the City arising from the violation of any law, ordinance, regulation, order, or decree on the part of the Contractor or any of his agents or employees, or any Subcontractor, or agent or employees of any Subcontractor; shall fully indemnify and save harmless the City against and from all cost, loss, and damage which the City may suffer by reason of his failure to do so; and shall fully reimburse and repay to the City all outlay and expense which the City may incur in making good any such default. The Contractor shall fully complete the work required to be done under this Contract, free from all liens and claims of any kind whatsoever.
- b) Plans and Specifications: It shall be the duty of the Contractor to carefully study and compare all drawings, specifications and instructions, visit the project site and acquaint himself with all conditions, and call to the attention of the City any discrepancy, error, omission or inconsistency that may exist in the plans or specifications, or between the plans and specifications, or any conflict between existing conditions and requirements of the plans and specifications. The execution or work in accordance with the plans, specifications or other instructions will be considered as evidence that the Contractor is thoroughly familiar with the true intent of the plans, specifications or other instructions. Change orders will not be issued to cover any cost, loss, or expense for additional labor or material required to rectify any discrepancies discovered or reported to the City after the execution of the work, unless the discrepancies are errors in structural, mechanical or electrical design as determined by the City.
- c) Priority of Documents: In case of discrepancy or inconsistency in the terms or conditions of any documents, the Contract Documents shall have the following order of priority such that a statement appearing in the document with the higher priority shall control any inconsistent statement in a document of lower priority. (The following are listed from the highest priority to the lowest priority):
 1. The Agreement
 2. Drawings and any notes appearing on the drawings
 3. Project Special Provisions
 4. Current edition of CDOT Standard Specifications for Road and Bridge Construction and all supplements thereto (English Version).
 5. General Provisions of the Contract for construction.

25. CARE AND PROTECTION OF PROPERTY:

The Contractor expressly undertakes at his own expense:

To assume full responsibility for the preservation of all public and private property, and use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property or on account of any act, omission, neglect or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the City. No representations are made by or on behalf of the City concerning the conditions, locations or state of repair or existing sewers, drains, water mains and other underground structures;

To store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work on any other Contractor;

To provide suitable storage facilities for all materials which are liable to injury or exposure to weather, theft, breakage, or otherwise;

To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work;

To clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance;

To fully and completely remove all utility markings generated by or as a result of the project from public rights-of-way utilizing a method that is least destructive to the existing improvements, and which method has been approved by the City. Should the contractor propose to remove the markings with pressure washing, all pressure washing runoff and residue shall be contained and collected in accordance with Best Management Practices and Wheat Ridge Ordinance Chapter 20, Stormwater Quality and Control. Removal of all markings shall occur no later than twenty (20) days after completion of work.

To remove all surplus material, false-work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, and to put the site in a neat, orderly condition before final payment;

To affect all cutting, fitting or patching of his work required to make the same to conform to the Plans and Specifications and, except with the consent of the City, not to cut or otherwise alter the work of any other Contractor. The Contractor shall not, except after written consent from proper parties enter or occupy with men, tools, materials or equipment, any privately owned land except on easements provided herein.

26. LANDS FOR WORK AND RIGHT-OF-WAY:

The City will provide land, right-of-way and easements for all work specified in the Contract.

27. NO DAMAGES FOR CERTAIN DELAYS:

The City may delay the commencement of the work, or any part thereof, if the City shall deem it for the best interest of the City to do so. The Contractor shall have no claim for damages on account of such delay, but he shall be entitled to so much additional time in which to complete the whole or any portion of the work required under this Contract as the City shall certify in writing to be just. The Contractor shall have no claim for damages on account of any delay on the part of another Contractor. Contractor expressly acknowledges and accepts the provisions of Section 2-4 of the Code of Laws of the City of Wheat Ridge as controlling this Project.

28. REQUIRED PROVISIONS DEEMED INSERTED:

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the applications of either party, the Contract shall forthwith be physically amended to make such insertion.

29. PROTECTION OF LIVES AND HEALTH:

The Contractor shall take all necessary precautions for the safety of employees of the work, and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the work is being performed. He shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workmen and the public and shall post danger signs warning against the hazards created by the construction such as protruding nails, hod hoists, well holes, elevator hatchways, scaffolding, window openings, stairways, and failing materials.

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-19-54).

30. WAGE RATES:

The attention of the bidder is called to the requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor, and to the schedule of any minimum wage rates established in compliance with such laws. If, after the award of the Contract, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rate as shall be determined by the officials administering the laws mentioned above.

The Contract is subject to the applicable provisions of the Contract Work Hours Standards Act. Public Law 87-581, 87th Congress. No Contractor or Subcontractor contracting for any part of the contract work shall require or permit any laborer or mechanic to be employed on such work in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in any work week unless such laborer or mechanic received compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in such work week, as the case may be.

31. EMPLOYMENT OF LABOR:

The Contractor and each of his Subcontractors shall hire qualified workers for the project who are citizens of the United States or legal resident aliens with first preference being given, insofar as practicable, to those having served in the armed forces of the United States and having been honorably discharged or released from active duty therein.

The Contractor shall employ only competent persons to do the work, and whenever requested in writing by the City Representative, the Contractor shall discharge any person who commits trespass or is, in the opinion of the City Representative, disorderly, dangerous, unfaithful, insubordinate, incompetent or otherwise unsatisfactory.

32. SANITARY PRECAUTIONS:

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such points as shall be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committal of nuisances within, on, or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the City Representative.

The Contractor shall supply sufficient drinking water from approved sources to all of his employees.

The sanitary convenience specified above shall be the obligation and responsibility of the General Contractor until the completion of the work. The facilities shall be made available to all other Contractors and Subcontractors.

33. SALES AND USE TAXES:

Do not include sales or use taxes in your bid. House Bill 1451 provides that Contractors shall make application with the Colorado State Department of Revenue for a tax exempt number which will be issued for the duration of the project. This tax exempt number is for State taxes only. The City of Wheat Ridge will issue its own tax exempt number for local sales tax purposes. An affidavit must be signed by the General Contractor for such project before the City tax exempt number can be issued. Please be advised that a supplier is allowed by Colorado law (C.R.S. 39-26-703 (1) to disallow any exemption because the seller is ultimately responsible for the tax. When a supplier exercises this right, please seek a refund of sales taxes paid from the appropriate jurisdiction (city or state).

35. BUSINESS LICENSE:

A business license is required for all Contractors performing work in the City prior to beginning work. Please contact the City Sales Tax Division to obtain a license.

CONTRACTOR'S QUALIFICATION FORM

Your Bid Will Not Be Processed If Incomplete

SECTION I - IDENTIFICATION

1. Identification of Applicant Firm

A. _____
Exact Legal Name of Applicant Firm DUNS # _____

B. _____
Street Address City State Zip Code

C. _____
(Mailing Address, if different from above)

D. Primary Company Telephone No. _____ Fax No. _____

E. Applicant Firm's Contact Person for Public Works Office follow-up:

Print or Type Name	Position	Telephone Number
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F. Has the Applicant Firm changed its address or has the Firm or its Owner(s) operated under any other name(s) including other DBAs in the past five years? If yes, explain fully on a separate sheet of paper.
 No Yes

G. Type of business organization: _____

YEAR organization established: _____ NUMBER of current full time employees: _____

Sole Proprietor Corporation – [Date and State of Incorporation _____

Limited Partnership General Partnership

[Date and State of Partnership filing _____

Limited Liability Company Limited Liability Partnership

[Date and State of filing _____

Other (describe) _____

Type of service(s) to be provided to the City of Wheat Ridge.

General Contractor

Concrete Flatwork

Storm Sewer

Concrete Structures

Traffic Signals

Slurry Seal

Grading

Fog Seal

Asphalt Paving

Crack Sealing

Concrete Paving

Landscaping

Signing

Striping

Traffic Control

Other (describe) _____

**SECTION II - OWNERSHIP/MANAGEMENT, PROJECT MANAGEMENT,
SUPERVISORS, AND RELATED ENTITIES**

1. Owners

List Owners of Applicant Firm.

Full Legal Name	Title	Years of Related Experience	% Of Ownership

[Use additional sheets if necessary]

2. Project Management Team, Supervisors and Employees Who Will Be Working Directly On the Project(s).

List the full names of the primary employees of the proposed Project Team.

Full Legal Name	Present Position	Years of Related Experience	% of Time Devoted to Project	Professional Licenses

[Use additional sheets if necessary]

3. Resume

Attach resumes of the Project Management Team showing the last five years of employment in this field. Resumes must be comprehensive and include of Firms worked for and dates of employment. (RESUMES are not required from Materials Suppliers (Vendors).

4. Contractor's License(s)

The awarded Contractor must obtain or have a current City of Wheat Ridge Municipal Contractor's License within 7 days of Council approval of bid award.

SECTION III - CONTRACTING HISTORY

1. Contracting History

A. List the applicant Firm's six largest contracts in the last three years.

1. Company Name _____ Contact Name _____
Street Address _____
City _____ State _____ Zip Code _____
Phone No: _____ Fax No: _____
Contract Name & Number _____
Contract Amount _____ Start/Completion Dates _____
Description of Work _____

Prime or Subcontractor _____
2. Company Name _____ Contact Name _____
Street Address _____
City _____ State _____ Zip Code _____
Phone No: _____ Fax No: _____
Contract Name & Number _____
Contract Amount _____ Start/Completion Dates _____
Description of Work _____

Prime or Subcontractor _____
3. Company Name _____ Contact Name _____
Street Address _____
City _____ State _____ Zip Code _____
Phone No: _____ Fax No: _____
Contract Name & Number _____
Contract Amount _____ Start/Completion Dates _____
Description of Work _____

Prime or Subcontractor _____

SECTION III - CONTRACTING HISTORY – (Continued)

4. Company Name _____ Contact Name _____
Street Address _____
City _____ State _____ Zip Code _____
Phone No: _____ Fax No: _____
Contract Name & Number _____
Contract Amount _____ Start/Completion Dates _____
Description of Work _____

Prime or Subcontractor _____
5. Company Name _____ Contact Name _____
Street Address _____
City _____ State _____ Zip Code _____
Phone No: _____ Fax No: _____
Contract Name & Number _____
Contract Amount _____ Start/Completion Dates _____
Description of Work _____

Prime or Subcontractor _____
6. Company Name _____ Contact Name _____
Street Address _____
City _____ State _____ Zip Code _____
Phone No: _____ Fax No: _____
Contract Name & Number _____
Contract Amount _____ Start/Completion Dates _____
Description of Work _____

Prime or Subcontractor _____

SECTION III - CONTRACTING HISTORY – (Continued)

In the past five years has the Applicant Firm or any Affiliate been the subject of any of the following actions?

- A. Been suspended, debarred, disqualified, or otherwise declared ineligible to bid?
 No Yes
- B. Failed to complete a contract for a commercial, private owner or Government agency?
 No Yes
- C. Been denied a low-bid contract in spite of being the low bidder?
 No Yes
- D. Had a contract terminated for any reason, including default?
 No Yes
- E. Had liquidated damages assessed against it during or after completion of a contract?
 No Yes

If "Yes" to Sections IV, V or VI, provide details including a brief summary of cause(s) of action, indicate if Applicant Firm, Owner or Affiliate Firms were plaintiffs (P) or defendants (D); define charges explicitly, by what authority, court or jurisdiction, etc. Complete details are required!

NOTE: For Sections IV and V below, the definition of an "investigation" includes: an appearance before a grand jury by representatives of the Firm; any oral or written inquiry or review of the Firm's documents by a governmental or law enforcement agency or investigative agency; or questioning of employees concerning the general operation or a specific project or activities of the Firm

SECTION IV - CIVIL ACTIONS

1. Violations Of Civil Law

In the past five years has Applicant Firm, any of its Owners, or any Affiliate been the subject of an investigation of any alleged violation of a civil antitrust law, or other federal, state or local civil law?

- No Yes

2. Lawsuits With Public Agencies

At the present time is, or during the past five years has the Applicant Firm, any of its Owners, or any Affiliate been a plaintiff or defendant in any lawsuit regarding services or goods provided to the City of Wheat Ridge or to a public agency?

- No Yes

3. Bankruptcy

During the past five years, has the Applicant Firm or any Affiliate filed for bankruptcy or reorganization under the bankruptcy laws?

- No Yes

4. Judgments, Liens And Claims

During the past five years, has the Applicant Firm been the subject of a judgment, lien or claim of \$10,000 or more by a subcontractor or supplier?

- No Yes

5. Tax Liens

During the past five years, has the Applicant Firm been the subject of a tax lien by federal, state or any other tax authority?

- No Yes

SECTION V - COMPLIANCE WITH LAWS AND OTHER REGULATIONS

1. Criminal

In the past five years has the Applicant Firm, any of its Owners, or Affiliates:

- A. Been the subject of an investigation involving any alleged violation of criminal law?
 No Yes

- B. Been arrested, indicted or named as an unindicted co-conspirator in any indictment or other accusatory instrument?
 No Yes
- C. Been convicted, after trial or by plea, of any felony under state or federal law?
 No Yes
- D. Been convicted of any misdemeanor involving business-related crimes?
 No Yes
- E. Entered a plea of nolo contendere to a charge of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or a violation of any antitrust laws?
 No Yes
- F. Entered into a consent decree?
 No Yes
- G. Been granted immunity from prosecution for any business-related conduct constituting a crime under state or federal law?
 No Yes
- H. Taken the Fifth Amendment in testimony on any business-related crime?
 No Yes
- I. Paid a fine or settlement to resolve any criminal or civil violations or allegations involving a business activity?
 No Yes
- J. Do any Owners in Applicant Firm have any felony charges pending against them that were filed either before, during, or after their employment with the Applicant Firm?
 No Yes

1. Regulatory Compliance

In the past five years, has Applicant Firm, any of its Owners, or Affiliates been cited for:

- A. A violation of any labor law or regulation, including prevailing wage rates and fair labor practices?
 No Yes
- B. An OSHA violation?
 No Yes
- C. A violation of federal, state or local environmental laws or regulations?
 No Yes
- D. Any other administrative, statutory or regulatory violations?
 No Yes

SECTION VI - ETHICS

1. False Statements, Bribes, Collusion

In the past five years has the Applicant Firm, any of its Owners, or Affiliates:

- A. Filed with a government body (including City of Wheat Ridge) or submitted to a government employee (including City of Wheat Ridge employee) any form of document known by the Applicant Firm, any of its Owners, or by the person submitting the document, to contain false information?
 No Yes
- B. Created or maintained false business records?
 No Yes
- C. Given, or offered to give, money or any other benefit to a public official or employee with intent to influence that person regarding any of their official acts, duties or decisions?
 No Yes
- D. Given, or offered to give, money or other benefit to an official or employee of a private business with intent to induce that official or employee to engage in unethical or illegal business activities (including but not limited to improper gratuities, and/or violations of lobbying regulations)?
 No Yes

- E. Agreed with another to bid below prevailing market rate?
 No Yes
- F. Agreed with another to submit identical or complimentary bids or otherwise not to bid competitively?
 No Yes
- G. Agreed with another not to submit competitive bids in another's territory established either by geography or customers?
 No Yes
- H. Agreed with another to take turns in obtaining contracts by pre-determining which Firm shall submit the lowest bid?
 No Yes

2. Conflict Of Interest

- A. Does the Applicant Firm, any of its Owners or Project Team Members have any existing relationships that could be construed as either personal or organizational conflicts of interest, or which would give rise to a conflict if Applicant Firm should be a recipient of a contract with the City of Wheat Ridge?
 No Yes
- B. Has any Owner or Project Team member of Applicant Firm ever (if yes explain fully):
 - 1. Been an employee of the City of Wheat Ridge, or served as a Member of Wheat Ridge City Council?
 No Yes
 - 2. Been related by blood or marriage to a City of Wheat Ridge employee or Council Member?
 No Yes

SECTION VII - ADDITIONAL DOCUMENTATION REQUIRED

Additional document copies to be submitted with this application:

Letter of Reference from your Firm's Surety, which states current available aggregate and single project bonding capacity (This Application will not be processed without this letter)

List of Major Equipment by number and type available for the Project(s).

Certification of all IMSA certified personnel, if applying for traffic signal project(s). A minimum of two full time employees must be certified at Level II or higher.

**PROPOSAL FORM
ITB-18-05
2018 OVERLAY
PROJECT # S-PM-01-18**

This is the Proposal (Bid) of _____ (hereinafter called "BIDDER") or organized and existing under the laws of the State of _____ doing business as a _____ (Insert "a corporation", "a partnership", or "an individual" as applicable.)

To the CITY OF WHEAT RIDGE (hereinafter called "Owner").

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Contract Bid Documents, to complete all Work as specified or indicated in the Contract Bid Documents for the Contract Sum and within the Contract time indicated in accordance with the Contract Bid Documents.

Bidder accepts all of the terms and conditions of the Instructions to Bidders. The Bid will remain open for sixty days after the day of Bid opening. Bidder will sign the Agreement and submit any documents required by the Contract documents within seven (7) calendar days after notification or the designated date.

By submission of this Bid, each Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to his own organization, that this Bid has been arrived at independently without consultation, or communication with any competitor. Every bid submitted to the City shall contain a statement certifying that the Bidder has not participated in any collusion or taken any action in restraint of free competitive bidding. This statement shall be in the form of an affidavit provided by the City and included in the Bid Proposal. The Bidders proposal will be rejected if it does not contain the completed Non-collusion Affidavit.

Bidder agrees to abide by the following federal requirements:

Executive Order No. 11246 as amended, including specifically, the provisions of the Equal Opportunity Clause, the Immigration Reform and Contract Act of 1986, and the Americans with Disabilities Act of 1991.

United States Department of Transportation Title VI Regulations at 49 CFR Part 21 the Civil Rights Act of 1964, assuring that no person shall on the grounds of race, color, or national origin be excluded from participation in the opportunity to bid, or be discriminated against in consideration of award of this project.

Bidder hereby agrees to commence Work under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the Project within eighty five (85) working days.

The Notice to Proceed shall be issued within fourteen (14) days of the execution of the Agreement by the Owner. Should there be reason why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the Owner and Contractor. If the Notice to Proceed has not been issued within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Agreement.

Bidder has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress, or performance of the Work and has made such independent investigation as Bidder deems necessary.

Bidder will complete the Work for all accepted bid items.

PROPOSAL FORM, CONTINUED
ITB-8-05
PRICING SCHEDULE

Provide all materials, labor, and equipment to complete the work as per the specifications. It is the Owner's intent to award a single contract to the lowest qualified bidder.

Project: 2018 OVERLAY, PROJECT #S-PM-01-18

Company Name Date

Authorized Signature Title

Printed Name

Title

License No. Type Expiration Date

ATTEST:

Printed Name

Signature Title

SEAL
(If bid is by corporation)

627G	WHITE MARKING TAPE (24") (RECESS)	1450	LF	\$	_____	\$	_____
627H	WHITE PAVEMARK MODIFIED EPOXY	1000	SF	\$	_____	\$	_____
627I	YELLOW PAVEMARK MODIFIED EPOXY	1000	SF	\$	_____	\$	_____
627J	WHITE MARK MODIFIED EPOXY (RECESS)	16,050	SF	\$	_____	\$	_____
627K	YELLOW MARK MODIFIED EPOXY (RECESS)	24,000	SF	\$	_____	\$	_____
627L	WHITE PAVEMENT MARKING (TEMP)	9,000	SF	\$	_____	\$	_____
627M	YELLOW PAVEMENT MARKING (TEMP)	18,000	SF	\$	_____	\$	_____
627N	WHITE MARKING ONLY (8') TAPE (RECESS)	10	EA	\$	_____	\$	_____
627O	WHITE MARK SCHOOL (8') TAPE (RECESS)	2	EA	\$	_____	\$	_____
627P	TRAFFIC LOOPS (6' X 40')	4	EA	\$	_____	\$	_____
630A	TRAFFIC CONTROL MANAGEMENT	1	LS	\$	_____	\$	_____
630B	TRAFFIC CONTROL PATROL OFFICER	10	DY	\$	_____	\$	_____
630C	MESSAGE BOARD (2)	30	DY	\$	_____	\$	_____
630D	WORK ZONE TOWING	5	EA	\$	_____	\$	_____
720	MATERIAL SAMPLING & TESTING	1	LS	\$	_____	\$	_____

SUBTOTAL THIS PAGE \$ _____

TOTAL AMOUNT OF BASE BID \$ _____

WRITTEN OUT AMOUNT OF BASE BID _____

COMPANY SUBMITTING BID _____

BID ALTERNATE #1 W 44TH AVE. – VIVIAN ST. TO YOUNGFIELD ST.

ITEM NO.	PAY ITEM	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENSION
202	ASPHALT PLANING (2 ½")	10,250	SY	\$ _____	\$ _____
210A	ADJUST MANHOLE TO GRADE	3	EA	\$ _____	\$ _____
210B	ADJUST VALVE TO GRADE	4	EA	\$ _____	\$ _____
403A	HMA 2 ½" OVERLAY SP-100 PG (64-22) S ½	1,525	TN	\$ _____	\$ _____
626	MOBILIZATION	1	LS	\$ _____	\$ _____
627C	MARK ARROW LFT. (15.5 SF) TAPE (RECESS)	8	EA	\$ _____	\$ _____
627G	WHITE MARKING (24") TAPE (RECESS)	330	LF	\$ _____	\$ _____
627J	WHITE MARK MODIFIED EPOXY (RECESS)	1,250	SF	\$ _____	\$ _____
627K	YELLOW MARK MODIFIED EPOXY (RECESS)	1,550	SF	\$ _____	\$ _____
627L	WHITE PAVEMARK (TEMP)	3,100	SF	\$ _____	\$ _____
627M	YELLOW PAVEMARK (TEMP)	2,500	SF	\$ _____	\$ _____
630A	TRAFFIC CONTROL	1	LS	\$ _____	\$ _____
720	MATERIAL SAMPLING & TESTING	1	LS	\$ _____	\$ _____

SUBTOTAL THIS PAGE \$ _____

COMPANY SUBMITTING BID _____

TOTAL AMOUNT OF BID ALTERNATE #1 \$ _____

WRITTEN OUT AMOUNT OF BID ALTERNATE #1 \$ _____

CITY OF WHEAT RIDGE, CO
NON-DISCRIMINATION ASSURANCE FORM
TITLE VI REGULATIONS AT 49 CFR PART 21

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color or national origin by any entity receiving federal financial assistance.

The City of Wheat Ridge is a recipient of Federal financial assistance and as such, it, as well as all of its responsible agents, contractors and consultants, is required by the United States Department of Transportation Title VI Regulations at 49 CFR Part 21 (the Regulations) to assure nondiscrimination. The City of Wheat Ridge assures that no person shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination on the grounds of race, color, or national origin under any program or activity conducted by the City.

All bidders are hereby notified that the City of Wheat Ridge will affirmatively ensure that disadvantaged business enterprises will be afforded full opportunity to submit bids in response to all invitations and will not be discriminated against on the grounds of race, color or national origin in consideration for an award. This applies to all solicitations for bids for work or material subject to the Regulations, and for all proposals for negotiated agreements.

The bidder, whose name and signature appear below, certifies and agrees as follows:

1. The bidder shall comply with the provisions of Title VI of the Civil Rights Act of 1964.
2. The bidder assures the City of Wheat Ridge that disadvantaged business enterprises are afforded full opportunity to submit bids as sub-contractors or sub-consultants and will not be discriminated against on the grounds of race, color or national origin in consideration for award.
3. The bidder shall comply with all reasonable requests made in the course of an investigation of Title VI, the Regulations and this assurance by the Colorado Department of Transportation, the US Department of Transportation or the City of Wheat Ridge, as a sub-recipient of Federal financial assistance.
4. The bidder agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under Title VI, the Regulations and this assurance.

FIRM: _____
(Print full legal name of company)

AUTHORIZED SIGNATURE: _____

Printed Name and Title: _____

Date Certified and Agreed: _____

Attestation: (A corporate attestation is required)

Place corporate seal below:

BY: _____
Corporate Secretary or Equivalent

Bidder must complete and SUBMIT this form with bid/proposal or will be considered Non-Responsive and/or Non-Responsible and therefore disqualified from bidding.

CITY OF WHEAT RIDGE, CO
CERTIFICATION STATEMENT FOR
ILLEGAL ALIENS, COMPLIANCE TO HB 1343

The Vendor, whose name and signature appear below, certifies and agrees as follows:

1. The Vendor shall comply with the provisions of CRS 8-17.5-101 et seq.
2. The Vendor shall not knowingly employ or contract with an illegal alien to perform work under this purchase order or enter into a contract with a subcontractor that knowingly employs or contracts with an illegal alien.
3. The Vendor represents, warrants, and agrees that it (i) has verified that it does not employ any illegal aliens, through participation in the Basic Pilot Employment Verification Program administered by the Social Security Administration and Department of Homeland Security, or (ii) otherwise shall comply with the requirements of CRS 8-17.5-102(2)(b)(I).
4. The Vendor shall comply with all reasonable requests made in the course of an investigation by the Colorado Department of Labor and Employment. If the Vendor fails to comply with any requirement of this provision or CRS 8-17.5-101 et seq., the City may terminate the above referenced purchase order for breach and the Vendor shall be liable for actual and consequential damages to the City of Wheat Ridge.

CERTIFIED and AGREED to this _____ day of _____, 2018

BID NUMBER: _____

FIRM: _____
(Print Full Legal Name)

Authorized Signature: _____

Print Name: _____

Print Title: _____ Date: _____

Attestation: (A corporate attestation is required.)

BY: _____
Corporate Secretary or Equivalent Place corporate seal here, if applicable

Bidder must complete and SUBMIT this form with bid/proposal or will be considered Non-Responsive and/or Non-Responsible and therefore disqualified from bidding.

CITY OF WHEAT RIDGE, CO
NON-COLLUSION AFFIDAVIT

COMPANY SUBMITTING BID: _____

STATE OF: _____

COUNTY OF: _____

_____ of lawful age, being duly sworn, on oath says that (s)he is the agent authorized by the Bidder to submit the attached bid. Affidavit further states that the Bidder has not been a party of any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or any Federal, State or Municipal official or employees as to quantity, quality, or price in the prospective Contract, or any other items of said prospective Contract; or in any discussions between bidders and any Federal, State or Municipal official concerning exchange of money or other thing of value for special consideration in the letting of a Contract.

NAME: _____

TITLE: _____

Subscribed and sworn to before me this _____ day of _____, 2018

NOTARY PUBLIC SIGNATURE

My Commission Expires:

Bidder must complete and SUBMIT this form with bid/proposal or will be considered
Non-Responsive and/or Non-Responsible and therefore disqualified from bidding

CITY OF WHEAT RIDGE, CO
CERTIFICATION STATEMENT FOR
KEEP JOBS IN COLORADO ACT (80% Colorado Labor),
COMPLIANCE TO H.B. 13-1292

Effective January 1, 2014, the Keep Jobs in Colorado Act requires that Colorado labor be employed to perform at least 80% of the work on a public works project, as defined in C.R.S. 8-19-102(2).

References

Keep Jobs in Colorado Act - 8-17-101, et.seq., C.R.S.

Definition of Public Projects - 8-19-102, C.R.S.

Construction Bidding for Public Projects – 24-92-102, C.R.S.

House Bill 13-1292, Keep Jobs in Colorado Act

The Vendor, whose name and signature appear below, certifies and agrees as follows:

1. The Vendor shall comply with the provisions of House Bill 13-1291 and CRS 8-17-101 et seq.
2. The Vendor represents, warrants, and agrees that it (i) Colorado labor will be employed to perform at least 80% of the work on a public works project, or (ii) otherwise, shall comply with the notification requirements and/or waiver request of CRS 8-17-101 et seq.
3. The Vendor shall comply with all reasonable requests made in the course of an investigation by the Colorado Department of Labor and Employment. If the Vendor fails to comply with any requirement of this Act or CRS 8-17-101 et seq., the City may terminate the above referenced purchase order for breach and the Vendor shall be liable for actual and consequential damages to the City of Wheat Ridge.

CERTIFIED and AGREED to this _____ day of _____, 20_____

BID NUMBER: _____

FIRM: _____
(Print Full Legal Name)

AUTHORIZED SIGNATURE: _____

Print Name: _____

Print Title: _____ Date: _____

Attestation: (A corporate attestation is required.)

BY: _____
Corporate Secretary or Equivalent

Place corporate seal here, if applicable

Bidder must complete and SUBMIT this form with bid/proposal or will be considered Non-Responsive and/or Non-Responsible and therefore disqualified from bidding.

BID BOND FORM

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

(name and address of Contractor)

as Principal, and

(name and address of surety)

as Surety, are hereby held and firmly bound unto the City of Wheat Ridge 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.

Signed this _____ day of _____, 2018.

The condition of the above obligation is such that whereas the Principal has submitted to the City of Wheat Ridge a certain BID, attached hereto and hereby made a part hereof, to enter a contract in writing for the Project titled **ITB-18-05, 2018 OVERLAY, PROJECT #S-PM-01-18**

NOW, THEREFORE,

1. If said Bid shall be rejected or,
2. If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with the said Bid) and shall furnish a Bond for his faithful performance of said Contract, and for the payment for all persons performing labor or furnishing materials in connection therewith, 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 an extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, 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/Contractor)

(Surety)

By: _____

IMPORTANT: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

**CITY OF WHEAT RIDGE
ITB-18-05
2018 OVERLAY
PROJECT #S-PM-01-18
SAMPLE AGREEMENT**

THIS AGREEMENT, made this _____ day of _____ 2018 by and between the City of Wheat Ridge, Colorado, hereinafter called "Owner" and _____, doing business as an individual, whose business address is _____, hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned the parties agree as follows:

1. The Contractor agrees to furnish all materials, supplies, tools, equipment, labor and other services necessary to complete the construction of the Project titled, **ITB-18-05, 2018 OVERLAY, PROJECT #S-PM-01-18** in accordance with the Contract Bid Documents.
2. The Contractor agrees to perform all the Work described in the Contract Bid Documents and comply with the terms therein for the Total Contract amount of

_____ Dollars

(\$ _____) which includes any alternates.

3. The Contractor agrees to commence the Work required by the Contract Documents within **Fourteen (14)** calendar days after the date of the Notice to Proceed and to complete the same within Eighty Five (85) working days after the date of the Notice to Proceed unless the time for completion is extended otherwise by written changes to the Contract Bid Documents.
4. The City shall have the option to extend the term of this agreement by two additional one-year periods, when such continuation is in the best interest of the City. Written Notice of Intent to Renew and written acceptance, rejection or negotiation of price adjustments is required. 100% Performance and Payment bonds are a requirement of renewal agreement terms.
5. The term "CONTRACT BID DOCUMENTS" means and includes the following:

A	Signature Page	L	Bid Bond
B	Advertisement for Bids	M	Agreement
C	Information for Bidders	N	Payment Bond
D	Contractor Qualification	O	Performance Bond
E	Bid Form	P	Notice to Proceed
F	Bid Schedule	Q	Final Receipt
G	List of Subcontractors	R	Project Special Provisions
H	Non-Discrimination Assurance	S	General Provisions
I	Illegal Alien Certification	T	Addenda
J	Non-Collusion Affidavit	U	Drawings/Exhibits
K	Keep Jobs in Colorado Form		
6. The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions, such amounts as required by the Contract Documents.
7. Section 2-3 (a) – (e) of the City's Code of Laws is presented below:
 - (a) *Fiscal year.* Fiscal year for the city shall commence on January 1 and end on December 31.
 - (b) *Budget contains appropriations.* The city council shall annually adopt a budget in a manner consistent with the provisions of Chapter X of the Home Rule Charter of the City of Wheat Ridge. Upon the annual adoption by the city council of each fiscal year's budget, levels of authorized expenditures from the funds indicated within the annual budget itself and/or the adopting resolution shall constitute the appropriation of the amounts specified therein for the purposes specified therein. During the course of each fiscal year, approval by the city council of contracts for goods or services, and/or approval of bids for the provision of specified goods or services,

shall likewise constitute appropriations of the amounts specified therein for the purposes specified therein.

- (c) *No contract to exceed appropriation.* During each and any fiscal year, no contract entered into by or on behalf of the city shall expend or contract to expend any money, or incur any liability, nor shall any contract be entered into nor any bid be awarded by or on behalf of the city which, by its terms, involves the expenditure of money for any of the purposes for which provision is made either in the adopted budget or adopting resolution, including any legally authorized amendments thereto, in excess of the amount appropriated in the budget or the approved contract or bid award. Any contract or bid award, either verbal or written, made in violation of the provisions of this section shall be void as to the city and no city monies from any source whatsoever shall be paid thereon.
- (d) *Amendments and authorized expenditures.* Nothing contained herein shall preclude the city council from adopting a supplemental appropriation in a manner consistent with the provisions of Section 10.12 of the Home Rule Charter of the city. Further, nothing contained in this section shall prevent the making of contracts for governmental services or for capital outlay for a period exceeding one (1) year if such contracts are otherwise allowed by the Home Rule Charter of the city; provided, however, any contract so made shall be executory only for the amounts agreed to be paid for such services to be rendered in succeeding fiscal years.
- (e) *Notice to parties contracting with the city.* All persons contracting with, or selling goods or services to, the city are hereby placed upon notice of the provisions of this section. The provisions of this section shall become a part of the Merit System Personnel Rules and Regulations of the City of Wheat Ridge; shall be referred to specifically in all public works bid documents and contracts; and shall be incorporated into, and specially noted within, all other contracts entered into by or on behalf of the city wherein city funds are used to pay for said contract.

8. Section 2-4 of the City Code of Laws is presented below:

- (a) The city may, by contract, require the contractor awarded a public works contract to waive, release or extinguish its rights to recover costs or damages, or obtain an equitable adjustment, for delays in performing such contract if such delay is caused, in whole or in part, by acts or omissions of the city or its agents, if the contract provides that an extension of time for completion of the work is the contractor's remedy for such delay. Such a clause is valid and enforceable, any provision of state law to the contrary notwithstanding.
- (b) The city council, by this ordinance (Ordinance No. 812), declares its local contracting powers to be a matter of purely local concern, and further specifically intends to supersede, pursuant to its powers under Article XX of the Colorado Constitution, the provisions of Sections 24-91-101 and 24-91-103.5, C.R.S., insofar as they conflict with the provisions of this section of the Code of Laws of the City of Wheat Ridge, Colorado.

9. Any notice or communication given pursuant to this Agreement to the City shall be made in writing:

City Contact:	Contractor Contact:
Name:	Name:
Address:	Address:
E-mail:	Fax:
Phone:	Phone:
Fax:	Fax:

- 10. The Contractor agrees to abide by the requirements under EXECUTIVE ORDER NO. 11246 as amended, including specifically the provisions governed by the Equal Opportunity Commission and also to abide by the requirements of the IMMIGRATION REFORM AND CONTRACT ACT OF 1986 and the requirements of the AMERICANS WITH DISABILITIES Act of 1991; and the United States Department of Transportation Title VI Regulations at 49 CFR Part 21 requirements under the Civil Rights Act of 1964, assuring that no person shall on the grounds of race, color, or national origin be excluded from participation in the opportunity to bid, or be discriminated against in consideration of award of this project.

11. In accordance with CRS Title 24, Article 91, Section 103.6, Paragraph 2, Subparagraph a, the City of Wheat Ridge hereby states that funds have been appropriated for this Project in an amount equal to or in excess of the Original Contract Amount.
12. Illegal Aliens – Public Contracts for Services. CRS 8-17.5-101 and Public Law 208, 104th Congress, as amended and expanded in Public Law 156, 108th Congress, as amended:

The Contactor certifies that he/she shall comply with the provisions of CRS 8-17.5-101 et seq. The Contractor shall not knowingly employ or contract with an illegal alien to perform work under this contract or enter into a contract with a subcontractor that knowingly employs or contracts with an illegal alien. The Contractor represents, warrants, and agrees that it (i) has verified that it does not employ any illegal aliens, through participation in the Basic Pilot Employment Verification Program administered by the Social Security Administration and Department of Homeland Security, or (ii) otherwise will comply with the requirements of CRS 8-17.5-101 (2)(b)(I). The Contractor shall comply with all reasonable requests made in the course of an investigation by the CO Department of Labor and Employment. If the Contractor fails to comply with any requirement of this provision or CRS 8-17.5-101 et seq., the City may terminate this contract for breach and the Contractor shall be liable for actual and consequential damages to the City.
13. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in two (2) copies, each of which shall be deemed an original on the date first above written.

ATTEST:

JANELLE SHAVER, CITY CLERK

 DATE

(Seal)

APPROVED AS TO FORM:

 GERALD DAHL, CITY ATTORNEY

 NAME

 TITLE

 DATE

OWNER

**CITY OF WHEAT RIDGE
 7500 WEST 29TH AVENUE
 WHEAT RIDGE, CO 80033
 303-234-5900**

 BUD STARKER, MAYOR

CONTRACTOR

 COMPANY NAME

 ADDRESS

 AUTHORIZED SIGNATURE

 PRINT NAME

 TITLE

 DATE

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

A _____ hereinafter called "PRINCIPAL", and

(Name of Surety)

(Address of Surety)

hereinafter called "Surety", are held and firmly bound unto the City of Wheat Ridge, 7500 West 29th Avenue, Wheat Ridge, Colorado 80033, hereinafter called "Owner", in the penal sum of

_____ dollars

(\$ _____) 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 CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 2018, a copy of which is hereto attached and made a part hereof for the Project titled, **ITB-18-05, 2018 OVERLAY,PROJECT #S-PM-01-18.**

NOW, THEREFORE, if the Principal shall promptly 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, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed 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 or to the Work to be performed or the Specifications accompanying the same shall in any wise 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 or to the Work or to the Specifications.

*Insert "a corporation", "a partnership", or "an individual" as applicable.

IN WITNESS WHEREOF, this instrument is executed in one part, each of which shall be deemed an original, this the

_____ day of _____, 2018

ATTEST:

PRINCIPAL

CORPORATE SECRETARY

PRINCIPAL

ADDRESS

BY

ADDRESS

(SEAL)

ATTEST:

SURETY

SURETY

ADDRESS

BY (ATTORNEY IN FACT)

ADDRESS

(SEAL)

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

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Colorado.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

A _____ hereinafter called "PRINCIPAL", and

(Name of Surety)

(Address of Surety)

hereinafter called "Surety", are held and firmly bound unto the City of Wheat Ridge, 7500 West 29th Avenue, Wheat Ridge, Colorado 80033, hereinafter called "Owner", in the penal sum of

_____ dollars

(\$ _____) 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 CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 2018, a copy of which is here to attached and made a part hereof for the Project titled, **ITB-18-05, 2018 OVERLAY, PROJECT #S-PM-01-18.**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract 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 one year guarantee period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs 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, 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 or to the Work to be performed or the Specifications accompanying the same shall in any wise 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 or to the Work or to the Specifications.

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

*Insert "a corporation", "a partnership", or "an individual" as applicable.

IN WITNESS WHEREOF, this instrument is executed in one part, each of which shall be deemed an original, this the

_____ day of _____, 2018

ATTEST:

PRINCIPAL

CORPORATE SECRETARY

PRINCIPAL

ADDRESS

BY

ADDRESS

(SEAL)

ATTEST:

SURETY

SURETY

ADDRESS

BY (ATTORNEY IN FACT)

ADDRESS

(SEAL)

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

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Colorado.

NOTICE TO PROCEED

TO: _____
FROM: **CITY OF WHEAT RIDGE, CO**
RE: **ITB-18-05, 2018 OVERLAY, PROJECT #S-PM-01-18**

You are hereby notified to commence Work in accordance with the Agreement dated _____, 2018, on or before _____, 2018, and you are to complete the work within Eighty Five working days. The date of completion of all work is ____,2018.

Dated this _____ day of _____ 2018.

By: _____
Title: **Engineering Manager**

RECEIPT OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by
_____ on this _____ of _____, 2018.

Printed Name _____

Signature _____

Title _____

FINAL RECEIPT

DATE: _____

TO: _____
(Contractor)

(Address)

FROM: CITY OF WHEAT RIDGE, CO

RE: ITB-18-05, 2018 OVERLAY, PROJECT #S-PM-01-18

Received this date, of the Owner, as full and final payment of the cost of the improvements provided for in the Project Contract Documents, the amount of \$ _____ in cash, being the remainder of the full amount accruing to the undersigned by virtue of said contract.

Said cash also covers and includes full payment for the cost of all extra work and material furnished by the undersigned in the construction of said improvements, and all incidentals thereto.

The undersigned hereby releases said Owner from all claims whatsoever which may develop from said contract.

These presents are to certify that all persons doing work upon or furnishing materials for said improvements under the foregoing contract have been paid in full.

Printed Name _____

Signature _____

Title _____

Date _____

CDOT STANDARD SPECIFICATIONS

All work required for the project shall be in accordance with the latest edition of the COLORADO DEPARTMENT OF TRANSPORTATION (CDOT), Standard Specifications for Road and Bridge Construction, 2017 Edition, unless modified by these Specifications.

CDOT STANDARD SPECIAL PROVISIONS

The CDOT Standard Specifications are modified with the following CDOT Standard Special Provisions.

REVISION OF SECTION 101 DEFINITIONS AND TERMS

Section 101 of the CDOT Standard Specifications is hereby revised for this project as follows:

Delete subsection 101.10 and replace with the following:

101.10 Director of Public Works. The Director of Public Works for the City, or his duly authorized representative, who is responsible for public works activities within the City. The Director of Public Works is responsible for final decisions relating to Contractor claims for contract modification orders, additional compensation, or extensions of contract time. All references to "CDOT Resident Engineer" shall be replaced by "Director of Public Works".

In subsection 101.17 delete the first paragraph and replace with the following:

The written agreement between the City and the Contractor setting forth the obligations of the parties for the performance of the work and the basis of payment.

Delete subsection 101.23 and replace with the following:

101.23 Contractor. The individual, firm, or corporation contracting with the City for performance of prescribed work.

Delete subsection 101.28 and replace with the following:

101.28 Department. Department of Public Works. A department with the City.

Delete subsection 101.29 and replace with the following:

101.29 Engineer. The Engineering Manager of the Department acting directly or through an authorized representative, who is responsible for engineering and administrative supervision of the project. For the purpose of these specifications, the Engineer is responsible for initial decisions relating to Contractor claims for additional compensation or additional time. The Engineer or Director are the City representative who may approve modifications to Contract documents or drawings.

Delete subsection 101.36 and replace with the following:

101.36 Holidays. Holidays recognized by the City are:

- New Year's Day
- Martin Luther King, Jr. Day
- Presidents' Day
- Memorial Day
- Independence Day
- Labor Day
- Veterans' Day
- Thanksgiving Day
- Day after Thanksgiving Day
- Christmas Day

When New Year's Day, Independence Day, or Christmas Day falls on Sunday, the following Monday shall be considered a holiday. When one of these days falls on Saturday, the previous Friday shall be considered a holiday.

Additional legal holidays, when designated by the Governor or the President of the United States, may also be recognized by the City.

Delete subsection 101.48 and replace with the following:

101.48 Preconstruction Conference. A meeting of City project personnel, Contractor project personnel, and other stake holders held prior to the beginning of construction at which topics pertinent to the successful prosecution of the work are discussed.

Delete subsection 101.51 and replace with the following:

101.51 Project Engineer. The Engineer's duly authorized representative who may be a City employee or an employee of a consulting engineer (consultant) under contract to the City as defined below:

- (a) *City Project Engineer.* The City employee who is the Engineer's duly authorized representative. The City Project Engineer is in direct charge of the work and is responsible for the administration and satisfactory completion of the project under contract.
- (b) *Consultant Project Engineer.* The consultant employee under the responsible charge of the consultant's Professional Engineer who is in direct charge of the work and is responsible for the administration and satisfactory completion of the project. The Consultant Project Engineer's duties are delegated by the Engineer in accordance with the scope of work in the consultant's contract with the City. The Consultant Project Engineer is not authorized to sign or approve Contract Modification Orders.

Delete subsection 101.58 and replace with the following:

101.58 Region Transportation Director. All references to "Region Transportation Director" shall be replaced by "Director of Public Works".

Delete subsection 101.59 and replace with the following:

101.59 Right of Way. A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a highway, street, alley, or other access.

In subsection 101.72, delete the 2nd sentence and replace with the following:

Special provisions fall within one of the three following categories and take precedence as specified in subsection 105.09:

In subsection 101.72, add the following paragraph:

- (c) *City Special Provisions.* Additions and revisions to the Standard and Supplemental Specifications specific to the City project.

In subsection 101.95, replace all references to CDOT with the City.

Add subsections 101.96 – 101.104 as follows:

101.96 Approved Equal. A product, component or process whose use in or on a particular project is specified as a standard for comparison purposes only. The "equal" product, component or process shall be the same or better than that named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project design requirements will be made by the Engineer. It is the responsibility of the supplier to provide all necessary information for determining equality.

101.97 Bid Bond. The security required to be submitted with each proposal as described in Section 101.52 as a Proposal Guaranty.

101.98 City Special Provisions. See definition for City Special Provisions, subsection 101.72..

101.99 Easement. The right to use a defined area of property for a specific purpose or purposes as set forth in a document which has been made a part of the Contract Documents.

101.100 Lump Sum. A method of payment providing for one all-inclusive cost for the work or for a particular portion of the work; including any incidental costs necessary to perform that item of work.

101.101 Notification of Award. A written notification of acceptance of the bid from the City to the successful bidder.

101.102 Payment Bond. Same as Contract Payment Bond, subsection 101.20.

101.103 Performance Bond. Same as Contract Performance Bond, subsection 101.21

101.104 Utility. Tracks, overhead or underground wires, pipelines, conduits, pipes, ducts or structures, owned, operated or maintained in or across a public right-of-way or easement.

**REVISION OF SECTION 102
BIDDING REQUIREMENTS AND CONDITIONS**

Subsection 102 of the CDOT Standard Specifications is hereby revised for this project as follows:

Delete subsection 102.01 and replace with the following:

102.01 Prequalification of Bidders. The City does not prequalify bidders. Each Contractor is required to complete the Contractors Qualification Form included in the Bid Package.

In subsection 102.02, delete the first sentence and replace with the following:

The City will publish bidding opportunities to prospective bidders on the City's website at www.ci.wheatridge.co.us and on RMEPS/BidNet website at www.rockymountainbidsystem.com.

In subsection 102.02, delete the second paragraph.

Delete subsection 102.04 and replace with the following:

102.04 Interpretation of Plans and Specifications. If it should appear to a Bidder that the work to be done or matters relative thereto are not sufficiently described or explained in the Contract Documents or that the Contract Documents are not definite and clear, the Bidder may make written inquiry regarding same to the City Purchasing Agent before the Deadline for Questions specified in the advertisement for bids.

Then, if in the judgment of the City, additional information or interpretation is necessary, such information will be supplied in the form of an addendum. Each addendum will be delivered where possible by posting to the City website, RMEPS, or electronic mail (email) to all individuals, firms and corporations who have acknowledged receipt of Bid Document Sets. Such addendum shall have the same binding effect as though contained in the main body of the Contract Documents. Oral instructions or information concerning the contract documents or the project given out by officers, employees, or agents of the City to prospective bidders shall not bind the City. If no request is made before the Deadline for Questions, Bidder waives right to any conflict in the Contract Documents.

Delete subsection 102.06 and replace with the following:

102.06 Preparation of Proposal. The bidder shall submit his proposal upon the forms supplied by the City. The bidder shall specify a unit price in words or figures, or both if required, for each pay item for which a quantity is given and shall also show the products to the respective unit prices and quantities written in figures in the column provided for that purpose and the total amount of the proposal obtained by adding the amounts of the separate items. All the words and figures shall be in ink or type. In case of a mathematical error, the unit price shall govern.

When an item in the proposal contains a choice to be made by the bidder, the bidder shall indicate his choice in accordance with the specifications for that particular item, and thereafter no further choice will be permitted.

The bidder's proposal must be signed in ink by the individual, by one or more members of the partnership, by one or more officers of a corporation, or by an agent of the contractor legally qualified and acceptable to the City.

If the proposal is made by an individual, his name and address must be shown, by a partnership, the name and address of each partner must be shown, by a corporation, the name of the corporation and the business address of its corporate office must be shown.

In subsection 102.07 delete paragraphs (7) and (9)

In subsection 102.09, delete the last two sentences and replace with the following:

The Bidder's Proposal will be rejected if it does not contain the completed Non-collusion Affidavit.

Add subsections 102.11 – 102.14 as follows:

102.11 Disqualification of Bidders. Any of the following reasons may be considered as being sufficient for the disqualification of a bidder and the rejection of his proposal or proposals:

- (1) More than one proposal for the same work from an individual, firm, or corporation under the same or different name.
- (2) Evidence of collusion among Bidders. Participants in such collusion will not receive recognition as Bidders for any future work of the City until any such participant shall have been reinstated as a qualified Bidder.
- (3) If, during a Contract with the City, a Contractor or Subcontractor incurs liquidated damages as described in subsection 108.09, he shall be disqualified for a period of one (1) year from the date of final acceptance of that Contract.

- (4) Missing required documentation, certifications, license, or experience as required elsewhere in the project solicitation documents.

102.12 Bid Prices. Bidders must include, in their bid prices, the entire cost of each item of the work set forth in the proposal, and it is understood and agreed that there is included, in each lump sum or unit price bid, the entire cost of materials and labor incidental or necessary to the completion of that portion of the work covered, unless such work is expressly included in other lump sum or unit price bids in the proposal. Since the bid information cannot be guaranteed, the Contractor shall have assumed the risks attendant to successful performance of the work at the amount of the bid.

102.13 City Contract Laws. Section 2-3 (a) – (e) of the City's Code of Laws is presented below:

- (a) *Fiscal year.* Fiscal year for the city shall commence on January 1 and end on December 31.
- (b) *Budget contains appropriations.* The city council shall annually adopt a budget in a manner consistent with the provisions of Chapter X of the Home Rule Charter of the City of Wheat Ridge. Upon the annual adoption by the city council of each fiscal year's budget, levels of authorized expenditures from the funds indicated within the annual budget itself and/or the adopting resolution shall constitute the appropriation of the amounts specified therein for the purposes specified therein. During the course of each fiscal year, approval by the city council of contracts for goods or services, and/or approval of bids for the provision of specified goods or services, shall likewise constitute appropriations of the amounts specified therein for the purposes specified therein.
- (c) *No contract to exceed appropriation.* During each and any fiscal year, no contract entered into by or on behalf of the city shall expend or contract to expend any money, or incur any liability, nor shall any contract be entered into nor any bid be awarded by or on behalf of the city which, by its terms, involves the expenditure of money for any of the purposes for which provision is made either in the adopted budget or adopting resolution, including any legally authorized amendments thereto, in excess of the amount appropriated in the budget or the approved contract or bid award. Any contract or bid award, either verbal or written, made in violation of the provisions of this section shall be void as to the city and no city monies from any source whatsoever shall be paid thereon.
- (d) *Amendments and authorized expenditures.* Nothing contained herein shall preclude the city council from adopting a supplemental appropriation in a manner consistent with the provisions of Section 10.12 of the Home Rule Charter of the city. Further, nothing contained in this section shall prevent the making of contracts for governmental services or for capital outlay for a period exceeding one (1) year if such contracts are otherwise allowed by the Home Rule Charter of the city; provided, however, any contract so made shall be executory only for the amounts agreed to be paid for such services to be rendered in succeeding fiscal years.
- (e) *Notice to parties contracting with the city.* All persons contracting with, or selling goods or services to, the city are hereby placed upon notice of the provisions of this section. The provisions of this section shall become a part of the Merit System Personnel Rules and Regulations of the City of Wheat Ridge; shall be referred to specifically in all public works bid documents and contracts; and shall be incorporated into, and specially noted within, all other contracts entered into by or on behalf of the city wherein city funds are used to pay for said contract.

Section 2-4 of the City Code of Laws is presented below:

- (a) The city may, by contract, require the contractor awarded a public works contract to waive, release or extinguish its rights to recover costs or damages, or obtain an equitable adjustment, for delays in performing such contract if such delay is caused, in whole or in part, by acts or omissions of the city or its agents, if the contract provides that an extension of time for completion of the work is the contractor's remedy for such delay. Such a clause is valid and enforceable, any provision of state law to the contrary notwithstanding.
- (b) The city council, by this ordinance (Ordinance No. 812), declares its local contracting powers to be a matter of purely local concern, and further specifically intends to supersede, pursuant to its powers under Article XX of the Colorado Constitution, the provisions of Sections 24-91-101 and 24-91-103.5, C.R.S., insofar as they conflict with the provisions of this section of the Code of Laws of the City of Wheat Ridge, Colorado.

**REVISION OF SECTION 103
AWARD AND EXECUTION OF CONTRACT**

Section 103 of the CDOT Standard Specifications is hereby revised for this project as follows:

Delete subsection 103.01 and replace with the following:

103.01 Consideration of Proposals. After the proposals are opened and read, they will be compared on the basis of the summation of the products of the approximate quantities shown in the bid schedule by the unit prices.

The City reserves the right to settle bid discrepancies that occur in the low Bidder's proposal at the time the Contract is awarded. Bid discrepancies will be settled with the understanding that the low Bidder waives any claims against the City because of Bidder's mistakes in the Bid Proposal.

In subsection 103.02 change the time of award from 30 calendar days to 60 calendar days.

Subsection 103.04 shall include the following:

Failure to execute the Contract and file acceptable bonds within 15 days after the date of award shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the City.

The City may elect to waive forfeiture of the proposal guaranty only if it is determined that the bidder has made a good faith remedial error and that no damages were sustained by the City as a result of the failure by the successful bidder to execute the Contract and file acceptable bonds within the time prescribed. Award may then be made to the next lowest responsible bidder, or the work may be re-advertised and constructed under Contract or otherwise as the City may decide.

Add subsections 103.05 – 103.06 as follows:

103.05 Cancellation of Award. The City reserves the right to cancel the award of any Contract at any time before the execution of said Contract by all parties without liability against the City.

103.06 Return of Proposal Guaranty. All proposal guaranties consisting of bid bonds will be retained by the City. All proposal guaranties in the form of certified checks or cashier checks will be treated as follows:

For the three lowest Bidders, the proposal guarantee will be held until the Contract is awarded to the successful bidder. Proposal guaranty will then be returned to the other Bidders. The proposal guaranty of the successful Bidder will be returned upon receipt of executed Contract and approved payment and performance bonds.

**REVISION OF SECTION 104
SCOPE OF WORK**

Section 104 of the CDOT Standard Specifications is hereby revised for this project as follows:

Subsection 104.04 shall include the following:

The Contractor shall be responsible for maintaining access to all residences and businesses along the Project areas during construction. Lane widths during construction shall not be less than 10 ft and a minimum clearance of two feet shall be maintained between traffic and the construction work zone.

The Contractor will not be permitted to have construction equipment or materials in the lane(s) open to traffic at any time unless permitted by the Engineer.

The Contractor is cautioned that all personal vehicle and construction equipment parking will be prohibited where it conflicts with safety, access, or the flow of traffic.

**REVISION OF SECTION 105
CONTROL OF WORK**

Section 105 of the CDOT Standard Specifications is hereby revised for this project as follows:

In subsections 105.02 (b) 4 and 5. add the following:

Electronic submittals of the drawings are acceptable in lieu of the paper copies. The format of the electronic submittals must be printable in the format outlined in 1 – 3 above.

Subsection 105.02 (f) shall include the following:

1. All Contractors who construct public storm drainage systems, bike paths, sidewalks, streets, or other items within Public property to be maintained by the City must submit an "As Constructed" set of construction drawings for approval as a part of the City's acceptance process. The initial submittal shall be one set of "red-

lined” marked up prints, which should be delivered to the Inspector. Written City acceptance of the final As Constructed plan is a condition for final acceptance and release of retainage.

As Constructed plans for construction of irrigation systems within public property to be maintained by the City shall be submitted per subsection 623.25.

2. All As Constructed information shall be red-lined and shown on the original construction drawings. The As Constructed drawings shall clearly show any changes or variations from the approved design. Horizontal variations greater than 1.0 foot should be shown dimensionally or through plus stations. Horizontal variations greater than 10.0 feet should also show the graphic relocation of the object. For construction of public storm drainage systems, vertical elevation variations greater than 0.1 feet shall be provided for all shown design elevations. For construction of all remaining project features, vertical elevation variations greater than 0.25 feet shall be provided for all shown design elevations.
3. The As Constructed Certificate (shown below) shall be signed and sealed by a Colorado professional engineer or professional land surveyor and shall appear on the cover sheet of the As Constructed plan set. All sheets included in the Contract Drawings set must be submitted in the final As Constructed plan set.

AS CONSTRUCTED CERTIFICATE

I hereby certify that the information shown on this as constructed drawing is an accurate and complete representation of data established from field information obtained under the direction of a Professional Engineer or Professional Land Surveyor, and that the physical dimensions or elevations shown are as-built information and the facility was constructed according to the approved plans, except as otherwise noted hereon.

_____ Name	_____ License #
_____ Title	_____ Date

In subsection 105.03 change the first sentence of the seventh paragraph as follows:

Materials may be sampled and tested by the Department in accordance with the City’s Permit Testing and Inspection Requirements and CDOT’s Field Materials Manual.

Delete subsection 105.09 (a) and replace with the following:

- (a) Special Provisions
 1. City General Provisions
 2. City Special Provisions
 3. Project Special Provisions
 4. Standard Special Provisions

Subsection 105.09 shall include the following:

Any discrepancy or error discovered in the Drawings, Specifications, or during field construction shall be immediately called to the attention of the Engineer through submission of a “Request for Information” (RFI) document. Only the Engineer may authorize a modification to the contract documents via written response to an RFI. Neither the Inspector nor Project Engineer may authorize alterations, in-field changes, or modifications to the project, whether orally or written, unless said change is so minor in nature that grades, horizontal geometry, detail, or the original purpose and intent of the drawings are not altered. Concurrence by the Inspector, Project Engineer, or any other City representative in the field or on the daily inspection report does not constitute approval of any element of the project. The Contractor is solely responsible for constructing the project according to the contract documents.

Subsection 105.10 shall include the following:

Not furnishing a competent superintendence will be grounds for suspension of the Project until such superintendence is furnished by the Contractor. Contract time will continue in the event of a work suspension caused by lack of furnishing a project superintendence satisfactory to the City.

Subsection 105.11 shall include the following:

The locations of all utilities shown on the project plans should be considered approximate. It is therefore the responsibility of the Contractor to notify the appropriate utility and/or utility locating service to obtain more precise locations. No compensation will be made to the Contractor for any damage, delay or additional cost incurred as a result of failure to obtain utility locations.

Utilities which are adjusted, removed, or reset for the construction convenience of the Contractor and which would not conflict with the line or grade of the proposed project works, shall be done at the Contractor's expense. This shall include, but not be limited to, sanitary sewer service lines, water service lines, telephone, gas and electrical lines.

The Contractor shall coordinate with all affected utility owners for work to be performed on said utility as defined in the Contract documents. Coordination shall include application for permits, licensing, payment of fees, scheduling inspections with each owner, as required. All such costs and/ or time spent for coordination with utility owners shall be paid by the Contractor, and shall not be compensated with a Pay Item or Change Order.

Subsection 105.16 shall include the following:

The Department will provide all inspection during construction. The Inspector will oversee the materials testing.

The Contractor shall keep the Inspector informed of future construction operations to facilitate scheduling of required inspections. The Contractor shall notify the Inspector 24 hours in advance of starting any construction operation that will require inspection. Failure of the Contractor to provide such notice shall relieve the City from any responsibility for extra costs or delays caused by such failure.

Inspection of the work or materials by the City or conversations made between the Contractor and the Inspector shall not relieve the Contractor of the obligation to fulfill the requirements of the Contract. Work and materials not meeting such requirements shall be made good and unsuitable work or materials may be rejected, notwithstanding that such work or materials have been previously inspected by the City or that payment thereof has been included in a progress estimate.

Inspection and acceptance of work pertaining to utilities not owned by the City shall be made by a representative of the owning utility. The Contractor shall obtain required permits and/ or licenses and notify & schedule an inspection by the owning utility prior to commencing any work so that a representative may be made available to approve the work to be performed.

Subsection 105.21 (a) shall include the following:

The one year guarantee period for the portion or unit of the project partially accepted will not begin until completion of the entire project unless otherwise agreed to by the Engineer.

In subsections 105.22 and 105.24 change all references to "CDOT" to the "City" and remove all references to subsection 105.23.

Subsection 105.22 shall include the following:

In accordance with Section 2-4 of the City Code, as provided in subsection 102.13 of the City Special Provisions, the Contractor shall waive, release or extinguish its rights to recover costs or damages, or equitable adjustment, for delays in performing this contract if such delay is caused, in whole or in part, by acts or omissions of the City or its agents unless the Department accepts responsibility. An extension of time for completion of the work shall be the Contractor's remedy for such delay.

The Contractor shall not be entitled to additional monetary compensation for delays caused by the failure of a utility company or special district to relocate its facilities in timely manner. An extension of time for completion of the work shall be the Contractor's remedy for such delay. Relief from failure of utility companies to fulfill their responsibilities is discussed in subsection 105.11 of the Standard Specifications.

In subsection 105.22 (d) delete the last paragraph and replace with the following:

If these meetings do not result in a resolution or the participants mutually agree that they have reached an impasse, the Contractor may file a claim in accordance with subsection 105.24.

Delete subsection 105.23.

In subsection 105.24 change the reference to "City and County of Denver" and replace with "Jefferson County":

In subsection 105.24 (c) delete the reference and address to "CDOT Audit Unit" and replace with "Department":

Add subsections 105.25 and 105.26 as follows:

105.25 Protection of Survey Markers. Survey markers shall be protected as follows:

- (a) *Permanent Survey Markers.* Should the Contractor believe that a survey monument, control point, or benchmark will be disturbed by construction activities, the Contractor shall notify the Engineer not less than seven days prior to starting work in order that the Engineer may take necessary measures to insure the preservation of survey monuments, stakes and bench marks. The Contractor shall notify the Engineer and bear the expense of replacing

any that may be disturbed without permission. Replacement shall be done by a Registered Land Surveyor at no expense to the City.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the monument cover or box shall be adjusted to the new grade.

- (b) *Lot Stakes*. Unless otherwise directed by the Engineer or shown in the plans, the Contractor shall preserve existing survey stakes that mark property lines and corners. Any stakes that become lost or disturbed by his operations shall be replaced at the Contractor's expense by a registered land surveyor. Any lot corners marked on sidewalks that are designated for removal by the Contract Documents or the Engineer are not the responsibility of the Contractor for replacement.

105.26 Maintenance During Free Time. Maintenance during free time, shall meet the requirements of Sec. 105.19 and shall be considered incidental to the work.

REVISION OF SECTION 106 CONTROL OF MATERIAL

Section 106 of the CDOT Standard Specifications is hereby revised for this project as follows:

Delete subsection 106.03 and replace with the following:

106.03 Samples, Test, Cited Specifications. Materials sampling and testing shall be performed at the expense of the Contractor. The Contractor shall employ an independent materials testing company to sample and test the materials or the finished product in accordance with the City Materials Testing Requirements, and the Frequency Guide Schedule of the CDOT Field Services Manual, per Section 720 of the City Special Provisions. All materials sampling, testing and inspection shall be performed by certified field technicians who work under the supervision of a registered professional engineer in the State of Colorado practicing in this field.

Field technicians shall furnish copies of failed test results to the Engineer within two working days of completion and prior to the next phase of construction. On a weekly basis, the Contractor shall furnish the Engineer with copies of all test results taken that week and a cover letter, signed by the supervising registered professional engineer, which summarizes the results and addresses any failed tests or inconsistencies.

Unless otherwise designated, all specifications, standards or policies referenced in Section 720 shall be the latest edition as revised or updated by approved supplements published and issued prior to the date of the advertisement for bids.

Subsection 106.08 shall include the following:

The Contractor will not receive compensation for storage of topsoil or other materials generated on site that are stored either onsite or offsite for later disposal or inclusion into the Work.

Add subsection 106.14 as follows:

106.14 Trade Names, Approved Equals, or Substitutes. In order to establish a basis of quality, certain processes, types of machinery and equipment, or kinds of materials may be specified either by description or process or by designating a manufacturer by name and referring to that brand or product designation, or by specifying a kind of material. It is not the intent of the specifications to exclude other processes, equipment or materials of equal value, utility or merit.

Whenever a process is designated, or a manufacturer's name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation, or description, whether in fact they do so or not.

If it is desirable to furnish items of equipment by manufacturers other than those specified, as a substitute after the contract is executed, the Contractor shall secure approval prior to placing a purchase order or furnishing the same.

If the proposal includes a list of equipment, materials, or articles for which the Contractor must name the manufacturer at the time of submission of the bid, no substitutions therefore will be permitted after a proposal has been accepted without the express consent of the Owner.

**REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

Section 107 of the CDOT Standard Specifications is hereby revised for this project as follows:

Subsection 107.12 shall include the following:

Property pins, right-of-way markers and other survey corners shall remain undisturbed until a method of preserving or perpetuating such markers is approved by City. Should any such markers be disturbed, destroyed or removed without obtaining said approval, the Contractor shall be assessed for any costs incurred in resurveying, resetting, and registering said markers.

In subsection 107.15 change all references to "CDOT" to the "City".

Subsection 107.15 shall include the following:

Certificates of Insurance shall be attached to the executed Contract Documents and shall become a part of the contract. These certificates shall include a provision that thirty days prior to insurance cancellation, written notice shall be given to the City.

Indemnification of City - Contractor hereby indemnifies and agrees to hold the City harmless for and on account of any act or omission in the completion and execution of the project specified herein, which indemnification shall extend to and include any damage of whatever sort or description, suffered by any person or entity, and shall include compensatory, punitive or special damages; and Contractor agrees to defend City hereunder, at Contractor's sole expense and if he fails to do so, to thereafter indemnify City, in addition to the above indemnification, for all court costs and attorney fees incurred in any defense required to be undertaken by the City.

Add subsection 107.18 as follows:

107.18 Contractor's Responsibility During Warranty. The Contractor shall, at his sole expense and cost, remedy any defects in the work, and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of work unless a longer period is specified. The City will give notice of defects with reasonable promptness upon their discovery.

In subsection 107.25 delete all references to Region Water Pollution Control Manager (RWPCM) and Landscape Architect.

In subsection 107.25, change all references to "CDOT Maintenance" to "Inspector".

**REVISION OF SECTION 108
PROSECUTION AND PROGRESS**

Section 108 of the CDOT Standard Specifications is hereby revised for this project as follows:

In subsection 108.01 delete the second sentence and replace with the following:

Prior to beginning any work by subcontractor, the Contractor shall request permission from the Engineer.

In subsection 108.02 delete the last sentence and replace with the following:

The Contractor shall commence work under the Contract within 14 calendar days of the date of the Notice to Proceed.

In subsection 108.03 (b) delete the first sentence and replace with the following:

The Contractor shall use Microsoft Project software to develop and manage a CPM Project Schedule to plan, schedule, and report the progress of the work.

In subsection 108.04 delete the first sentence and replace with the following:

The Contractor shall prepare a payment schedule which shall show the dollar amount of work the Contractor expects to be completed.

Delete subsection 108.04 (a) and replace with the following:

- (a) *Initial Payment Schedule.* At the time of the Preconstruction meeting, the Contractor shall submit to the City a schedule of partial progress payments. This schedule will show the percentage of Work completed and the date and dollar amount of each anticipated progress payment.

Subsection 108.05 shall include the following:

Working hours under this Contract shall be between 7:00 am and 5:00 pm. The Contractor shall not operate equipment before 7:00 am and shall schedule all work operations to be completed before 5:00 pm. Work after 5:00 pm will not be allowed except when required for circumstances beyond the Contractor's control and when approved

by the Engineer. Work between 5:00 pm and 6:00 pm on more than two consecutive working days will be charged as one-half working day. Work after 6:00 pm on any day will be charged as one-half working day.

Contractor operations in lanes open to traffic are not allowed between the hours of 6:30 am to 8:30 am and 3:30 pm to 6:30 pm, unless otherwise approved by the Engineer. These restrictions apply to temporary delays including ingress and egress of materials, etc.

Subsection 108.08 shall include the following:

An extension of time for completion of the work shall be the Contractor's sole remedy for delays in performing this contract if such delay is caused, in whole or in part, by acts or omissions of the City or its agents unless the Department accepts responsibility.

An extension of time for completion of the work shall be the Contractor's remedy for delays in performing this contract caused by the failure of a utility company or special district to relocate its facilities in timely manner. Relief from failure of utility companies to fulfill their responsibilities is discussed in subsection 105.11 of the Standard Specifications and the City Special Provisions.

In subsection 108.09, change all references for "calendar days" to "working days"

REVISION OF SECTION 109 MEASUREMENT AND PAYMENT

In subsection 109.01 change all references to CDOT to the City.

Delete subsection 109.04 (f) and replace with the following:

- (f) The Contractor's representative and the Inspector shall, on a daily basis, agree in writing on the quantities of labor, equipment and materials used for work, extra work, and/ or force account work.

Subsection 109.04 (h) shall include the following:

Time extension for force account work shall be allowed only if a controlling operation or critical path item of the project is interrupted. Time extension requests shall meet the requirements of subsection 108.08. Force account items shall be completed in a workmanlike manner so as not to cause undue delays.

In subsection 109.06 (a) delete the second sentence and replace with the following:

The amount to be retained will be 5 percent of the value of the completed work including change orders and contingency.

Delete subsection 109.06 (b) and replace with the following:

- (b) Securities are not acceptable to the City in lieu of standard amount retained.

Add subsection 109.08 as follows:

109.08 Final Guarantee. All work shall be and is guaranteed by the Contractor for a specified period of one year from and after the date of written final acceptance of all work by the City, unless a longer period is specified. All other current applicable State statutes shall apply.

If within the guarantee period, non-emergency repairs, changes, or replacements are required in connection with guaranteed work which, as determined by the City, is rendered necessary as the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the contract, the Contractor shall, within 14 calendar days from receipt of notice from the City, and without expense to the City:

- (a) place in satisfactory condition, in every particular, all of such guaranteed work, correct all defects therein, or proceed with replacement of defective or unsatisfactory work where deemed necessary by the Engineer; and
- (b) make good all damage to the building site, equipment or contents thereof which, in the opinion of the Engineer, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the contract; and
- (c) make good any work or material disturbed, or the equipment and contents of any building or structure on the site, in fulfilling any such guarantee.

In the case of emergency repairs, changes or replacements, the Contractor shall promptly upon receipt of notice from the city and without expense to the City, perform the necessary actions to remediate the situation.

**REVISION OF SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

Section 202 of the CDOT Standard Specifications is hereby revised for this project as follows:

Subsection 202.02 shall include the following:

Areas within existing Asphalt pavement that are designated for removal or patching shall be sawcut to the full depth of the asphalt or cut by a method approved by the Engineer which leaves a vertical face on the existing pavement and no deformation of the surface at the cut. Limits of cutting for patching shall be as directed by the Engineer.

All street cuts shall be in straight lines. Irregular shaped cuts with more than four (4) sides or cuts within existing patches shall not be allowed. Street cuts shall have no longitudinal joints within the wheel tracks.

Trees with a specified trunk diameter measured one foot above the ground surface and shrubs that are designated for removal under this section shall be removed in accordance with the requirements of Section 201. Removal of remaining vegetation as required by the project will be paid under Section 201.

Irrigation lines to be abandoned shall be adequately capped at the point of abandonment to prevent leaks or blowouts of the line that is to remain. The irrigation lines that are to be abandoned can remain in place unless removal is necessary to allow other work.

Subsection 202.03 shall include the following:

All inlet castings, manhole rings and covers and other metal items relating to structures to be removed shall remain the property of the City or the owning utility company. This material shall be reused on the project where possible or as directed by the Engineer. Material not reused on the project shall be delivered to the City or owning utility company unless arrangements have been made for it to be picked up by the City or owning utility company.

Subsection 202.07 shall include the following:

Concrete from curbs, gutters, sidewalks and pavements may not be used in fills unless crushed to meet the gradation requirements for Class 4 Aggregate Base Course.

Subsection 202.09 shall include the following:

Planers shall operate moving against traffic in areas being planed in order to ensure that trucks used in hauling removed materials will be able to arrive and depart with the flow of traffic.

Planing shall result in a surface acceptable to the Engineer. Acceptability shall be based upon the following criteria:

1. Free of surface ridges in excess of ¼ inch.
2. Surface area free of excess surface fines.
3. All planed surfaces, especially wheel ruts, show scoring by planer teeth.
4. Specified cut depth attained at edges of roadway appurtenances and curb lips.

Vertical cuts adjacent to traffic lanes from rotomilling over 1" depth shall be delineated at 50 foot intervals immediately after removal operations.

The Contractor shall use caution when planing around manholes, water valve boxes, and other roadway appurtenances. Manholes, water valve boxes, and other similar structures shall either be adjusted to below the bottom of the cut prior to commencing planing operations or cut around using planing equipment. The maximum deviation between the top of the milled pavement and top of the manhole or water valve box shall be no more than ¾ inch in areas open to traffic. This condition may be achieved by placing a temporary wedge of asphalt around the structure. This temporary taper shall be removed prior to placement of new pavement.

Subsection 202.11 shall include the following:

Removal of trees will be measured by the actual number of trees removed with specified diameters measured 4.5 feet above the ground surface. Multiple tree trunks from one root structure with one trunk being the specified diameter will be considered one tree. Trees with a diameter less than 4" or when removal of trees is not included as a separate pay item, removal of trees shall be included in clearing and grubbing.

Removal of existing asphalt pavement for patching, to include asphalt sawing or other approved methods of cutting existing asphalt pavement, will not be measured but shall be incidental to the pay item for HBP (Patching).

Asphalt sawing or other approved cutting methods shall be incidental to the pay items for Removal of Asphalt Mat, or pay items which include removal of asphalt pavement.

Abandon irrigation line will be measured by the actual number of point of connections that require capping.

Subsection 202.12 shall include the following:

Pay Item	Pay Unit
Asphalt Planing (< 1")	SY
Asphalt Planing (1½"-2½")	SY

REVISION OF SECTION 210 RESET STRUCTURES

Section 210 of the CDOT Standard Specifications is hereby revised for this project as follows:

Subsection 210.02 shall include the following:

Any work performed by the Contractor on a utility facility is subject to inspection and approval by the owning utility company. The Contractor is responsible for coordinating inspection with the owning utility.

The contractor must give written notice to all customers affected by water service outages at least 24 hours before the water is turned off for this work. The Contractor shall give a minimum of 24 hours notice to the owning utility company before any work which will affect their facilities. The Contractor shall not operate any water valves without permission of the owning utility company.

Subsection 210.10 shall include the following:

Any existing manholes, water valves, range boxes, traffic control boxes, etc., which are required to be adjusted shall be adjusted to 1/4 inch below finished grade prior to or immediately following placement of the final lift of asphalt. The intent of this specification is that the freshly placed HMA be compacted around the structure after the structure is adjusted to finish grade. When adjusting valve boxes, the box shall be cleaned of all foreign debris such that the operating nut of the valve is fully accessible to operate. The work shall be subject to inspection by and approval of the owning utility and is incidental to the pay item for adjusting water valves.

Subsection 210.12 shall include the following:

The pay item for resetting, modifying or adjusting meter pits shall include all additional material required to modify, adjust and/or reset the meter pits and curb stops.

Tapping tee, valves, pipe, pipe fittings and other materials required to reset, relocate or extend a fire hydrant assembly will be included in the pay item for Reset Fire Hydrant.

Subsection 210.13 shall include the following:

Pay items shall include, unless otherwise specified, all new hardware and material.

Add subsections 210.14 – 210.16 as follows:

210.14 Fire Hydrants. If required on the drawings, before resetting, relocating or extending fire hydrants, the Contractor shall contact the owning utility for inspection of the removed hydrant. The Contractor may be required to excavate the existing tee and remove any pipe or valves at the tee and place a plug at the tee if required by the owning utility company. The new hydrant lead is to be constructed of all new pipe and other material.

210.15 Water or Sewer Service Line. This work shall be performed where necessary to remove, relocate, or replace a utility service line caused by a grade and/or line conflict with new construction. Adjustment work may entail complete relocation and replacement of the affected service line. Payment under this item shall include all costs associated with service line relocation. For reset work, the approximate limits of replacement would be the width of the trench. Payment under this item shall include all costs associated with service line restoration within the limits of the excavation.

210.16 Water Meter Pit. Adjustment work shall be performed on existing water meter pits. The Contractor will adjust existing water meter pit structures to grade. Adjustment of associated curb stops shall be included under this pay item. For reset work, the contractor shall remove the existing water meter pit and replace the existing structure with new meter pit structure material. Unless otherwise specified, required material will be supplied by the contractor. The new meter pit will be relocated along the existing water lateral. This pay item also includes all work and additional material required to complete installation of the new meter pit structure to finish grade. Resetting the curb stop shall be included under this pay item. Modification work shall entail the conversion of the existing water meter pit cover to a heavy duty lid and frame adjusted to grade. This pay item shall also include related work on the associated curb stop. Unless otherwise specified, the heavy duty frame and lid will be furnished by the Contractor.

**REVISION OF SECTION 403
HOT MIX ASPHALT**

Subsection 403.03 shall include the following:

Areas to be patched back shall be saw cut, unless alternative methods of cutting which produce straight lines and vertical cuts are approved by the Engineer. Limits of cutting shall be as specified on the plans or as directed by the Engineer. Jagged edges are unacceptable and shall be replaced at the Contractors expense. Prior to placement of the patch, all exposed sides of the existing pavement shall be thoroughly coated with tack.

All materials excavated from the patch area shall become the property of the Contractor and hauled from the site.

**REVISION OF SECTION 614
TRAFFIC CONTROL DEVICES**

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

Delete subsections 614.08 (b) and (c) and replace with the following:

- (b) *Traffic Signal Controller*. The traffic signal controller shall be an Econolite Cobalt-C. No equal or equivalent will be considered.
- (c) *Controller Cabinets*. The traffic signal cabinet shall be an Econolite TS2 T1 PNG CAB ASSY (system ready) with a slide out tray. No equal or equivalent will be considered
1. *Cabinet Shell*. The cabinet shell shall meet or exceed the requirements of NEMA 3R rating with the following additions:

The cabinet shell shall be 0.125 inch thick aluminum Type 5052-H32. External welds shall be made using heliarc welding method, whereas internal welds shall be made by the wire or heliarc method. All welds shall be neatly formed and free of cracks, blow holes and other irregularities. All inside and outside edges of the cabinet shall be free of burrs. The exterior surface shall be polished graffiti free aluminum.

The cabinet shall be designed with a sloped top to prevent the accumulation of water on its top surface.

The door opening shall be double flanged on all four sides. A door restraint shall be provided to prevent door movement in windy conditions. The cabinet door shall be a minimum of 80% of the front surface of the cabinet and hinged on the right side when facing the cabinet. The hinges shall be continuous and bolted to the cabinet door using 1/4-20 stainless steel carriage bolts and ny-lock nuts. The hinges shall have a 0.120 inch diameter stainless steel hinge pin capped top and bottom to render it tamper proof. The door latching mechanism shall be a 3-point draw roller type with push rods of 0.250 inch by 0.750 inch steel, minimum. Rollers shall have a minimum diameter of 0.875 inch and be made of nylon with a 0.140 inch steel center. An outside door opening handle will be furnished and shall be stainless steel with a 3/4 inch diameter shank. The latching handle shall have a provision for locking in the closed position. The cabinet shall be provided with louvered vents on the main door. The inside of the main door shall have a washable metal mesh air filter held firmly in place by bottom and top brackets and a spring loaded upper clamp.

The inside of the main door shall be provided with a brace at least 15 inches long, 6 inches high and 1/2 inch deep. A print envelope of at least 15 inches by 12 inches and 10 mil thickness shall be mounted to this brace, with washers to prevent ripping.

A switch (police door) compartment with removable back panel shall be supplied on the outside of the cabinet main door.

The switch compartment and main door shall be furnished with a gasket that satisfies the physical properties as found in UL508 Table 21.1 and will form a weather tight seal between cabinet and door.

The switch compartment door lock shall be Corben R357SGS series or equal and have a key hole cover. The main door shall have a Corben #1548-1 or equal lock with cover. Two keys of each type shall be supplied with each cabinet.

Exhaust air will be vented out between the top of the cabinet and door. The exhaust area shall be screened with material having a maximum hole diameter of 0.125 inch. A removable fan plate shall be furnished with a 100 CFM ball bearing fan controlled by an adjustable thermostat. An incandescent light shall also be mounted to this plate.

Eight (8) phase cabinets shall be "P" type and supplied with 2 shelves as manufactured by Econolite. Traffic signals with less than 8 phases can use an "M" type cabinet.

A "P" type shell will be approximately 56 inches high, 38 inches wide and 26 inches deep excluding the door. An "M" type shell will be approximately 49 inches high, 30 inches wide and 17 inches deep excluding the door.

2. *Cabinet Wiring.* All conductors used shall be 19 strand #22 AWG or larger Type B nylon jacketed polyvinyl chloride or irradiated cross linked polyethylene. Conductors that are #14 AWG or larger as an option shall be UL type THHN. The cabinet ground conductor feeding the ground point within the cabinet shall have the same amperage as the main breaker. A single #14 AWG conductor shall supply no more than 3 load switches. If each load switch is wired separately, then #16 AWG or larger conductor shall be used.

The signal common ground buss (AC-) shall not be grounded to the cabinet and shall provide at least 10 terminals. An earth ground buss shall be provided and have at least 6 terminals. Wiring within the cabinet shall be neatly arranged and laced or enclosed in a protective sleeve. All crimp style connectors shall be applied with a proper tool which prevents opening of the handles until the crimp is completed.

3. *Cabinet Components.* Each cabinet shall be supplied with a surge arrestor comprised of at least a metal oxide transient suppressor and a dual gas tube suppressor.

The metal oxide suppressor shall have:

Recurrent Peak Voltage:	150 VDC
Energy Rating, Maximum:	20 Joules
Power Dissipation, Average:	0.85 Watts
Peak Current for Less than 7 Microseconds:	1250 amperes

The dual gas tube shall have:

Breakdown:	300-500 VDC
Impulse Breakdown:	Less than 1000V in less than 1.1 microseconds at 10KV/USEC
Operating Delay:	Less than 0.1 US when measured by applying 1500 VDC in less than 0.1 US.
Energy Application:	Withstands 20 AMP AC for 1 second applied 10 times at 3 minute intervals on either side
Current Rating:	40,000 amp (8/20 impulse)
Capacitance:	6 Picofarads, line to GND

A radio interference suppressor (RIS) shall be supplied and be hermetically sealed in a substantial metal case filled with a suitable insulating compound. Four phase cabinets shall have RIS rated for 30 AMP minimum, 8 phase cabinets shall have RIS rated at 60 AMP minimum.

Three circuit breakers shall be provided which are UL approved and of the magnetic type. Breakers shall be quick-break type on either manual or automatic operation. The operating mechanism shall be enclosed and shall be trip-free from the operating handle on overload and be trip-indicating. The main breaker on a 4 phase cabinet shall be 30 AMP and on an 8 phase cabinet shall be 50 AMP. A 15 AMP breaker shall be used to power the controller, conflict monitor, and detectors. A 15 AMP breaker shall be wired from incoming AC power and supply the fan, cabinet light, and ground fault interrupter outlet.

The fan located on the vent panel shall be fused at 125% of its motor amperage. A mercury contactor shall be used to switch AC power to the load switches and its amperage shall match or exceed the main breaker amperage.

The switch compartment located on the outside of the main door shall have an auto/flash and signal lights on/off switch. The police panel auto/flash switch shall restart the controller when switched from the flash to the auto position. This switch shall also stop time the controller in the flash position if the stop time switch is in the flash stop timing position.

A panel located on the inside of the main door shall have a fuse holder and fuse for the vent panel's fan, controller on/off switch, auto/flash switch, stop time /on/off/flash stop timing switch, and a ground fault interrupter outlet. As an option, the ground fault interrupter outlet may be supplied on the load switch panel. The conflict monitor shall stop time the controller regardless of the switch positions.

Detector test switches shall be provided on the inside door panel and shall be momentary type push button switches used to place manual calls into the controller during actuated operation. These switches shall be in parallel with detector amplifier relay closure circuits. One switch will be provided for each vehicle phase and pedestrian phase.

Door switches of the push button type shall be provided to turn off the cabinet light and controller display when the door is closed.

The load bay panel shall be designed to allow access to the back plane for servicing. Wing nuts or other threaded fastening devices which are hand loosened or hand tightened shall be provided. The panel shall be designed to separate from the cabinet without the need to remove any internal cabling. Unsoldering wires to remove this panel is unacceptable. Connections to all load bay components can be crimped or push-on connectors.

A system interface panel, with necessary cables, shall be installed on the left side wall of the cabinet. This interface panel shall have all termination points to effect all inputs and outputs of the latest version of the Econolite Zone Monitor Closed Loop Signal System. At a minimum, all monitoring functions are to be installed. System detectors will be installed as called for on the plans.

4. *Detection.* Eight phase cabinets shall be supplied with a permanently fixed 7 slot card rack. A power supply plug-in module capable of supplying +24 VDC power to each slot shall be provided with the card rack.
5. *Flasher.* The cabinet shall be equipped for alternating flashing operation of signal lights with a 2 circuit solid state flasher in accordance with latest NEMA specifications (15 AMP per circuit).
6. *Load Switches.* The load switches shall be in accordance with the latest NEMA specifications and shall have 3 input and 3 output L.E.D. indications on the front panel. The load switches shall contain 3 separate cube type solid state relays and shall have triacs rated for 25 AMPS but de-rated to 10 AMP when used in the load switch assembly. Cabinets shall be supplied with the correct number of load switches necessary to accomplish the phasing as shown on the plans.
7. *Flash Transfer Relay.* Flash transfer relays shall be as manufactured by Midtex Model #136-62T3A1, 120 VAC, DPDT, 30 AMP with Jones plug base and dust cover or approved equal. One flash transfer relay shall be provided for every two vehicular traffic phases (including overlaps).
8. *Conflict Monitors/Malfunction Management Unit (MMU).* The conflict/voltage monitor shall comply to Part 6 of NEMA Standard TS-1, 1983. Bidders will be required to supply documentation with their bid from an independent laboratory that the conflict monitors they propose to furnish have passed all NEMA certification and environmental tests. In addition, the unit must also be capable of detecting the following error conditions:
 - A. Simultaneous sensing of active yellow and green inputs on a channel.
 - B. Simultaneous sensing of active red and green or yellow inputs on a channel.

If either of these conditions exist for less than 200MS, the unit shall not trigger. If either of these conditions exist for more than 500MS, the unit shall trigger.
 - C. Absence of a 2.8 second period of an active yellow input on a channel during red to green to yellow to red sequence.

Functions #1 and/or #2 and #3 shall be enabled on a per channel basis via front panel accessible programming devices. One or both of the above dual combinations (#1 & #2) shall be selectable via front panel accessible programming devices.
 - D. Absence of a logic input transition from the cabinet controller watchdog circuitry for 1500MS (+/- 100MS) shall cause the unit to trigger. This function shall be enabled via a front panel accessible programming device.
 - E. Absence of or an improperly seated programming card shall cause the unit to trigger.

Should one of these conditions exist which triggers the unit, it shall cause the output relay contacts to transfer. These contacts shall remain in this state until the unit is reset by activation of front panel control of the external reset input. AC+ power interruption shall not reset the unit once it has been triggered. Upon restoration of AC+ power to the unit, all display indications shall return to their original state before the interruption.
 - F. A voltage monitor latch function shall be provided which will sense an improper voltage level at the controller voltage monitor input or either of the +24 V monitor inputs and cause the unit to trigger. If this function is enabled via a front panel accessible programming device, restoration of proper voltage levels will not reset the unit. Only a manual reset or external reset will reset the unit.
 - G. When the AC+ line voltage is below the drop-out level of 92VRMS for 475MS (+/-25MS), the unit will suspend all fault monitoring functions, de-energize the output relay, and de-energize the start relay. The power indicator on the front panel will blink at a rate of 2HZ to indicate the brown-out status.

When the AC+ line voltage returns above the restore level of 100 VRMS for 100 MS (+/-16 MS), the monitor will resume normal operation and the power indicator on the front panel will remain illuminated. After a 2.5 second (+/-1 second) delay, the start relay will be energized. After a programmable delay determined by front panel accessible programming device, the output relay will be energized. The delay shall be programmable from 4 seconds to 15 seconds in 1 second increments. A 0.5 second delay shall be provided for test purposes.

- H. An internal watchdog shall be provided to assure continuous operation of internal microprocessor device. Failure of this circuitry to detect a logic input transition from the microprocessor device for 100 MS or a DC supply voltage sufficient to assure proper operation shall cause the unit to trigger.
- I. If a reset command is received from either the front panel control or the external reset input for a continuous duration of more than 120 seconds, the unit will ignore the reset command and begin normal monitoring functions.
- J. A real time clock shall be provided to mark the date and time when the unit is triggered by an error condition. Backup power to the real time clock shall allow it to maintain timing accuracy during interruptions of AC+ power to the unit. Automatic adjustments should be made to the time of day and date to accommodate leap years and daylight savings time.
- K. In addition to displaying the fault status and field output status for an error condition which may have the monitor unit currently triggered, the unit shall maintain a complete record of at least the last 9 faults which caused the monitor to trigger. These events should be able to be reviewed at any time via activation of a front panel control. This fault record shall not be lost due to AC+ power interruptions.
- L. All critical timing functions shall be accomplished by digital methods and shall utilize either the power line frequency or a quartz crystal based timer. All monitoring functions except conflict monitoring shall have a dedicated timer unique to each channel being monitored.
- M. A field input monitoring function (BND) shall be provided to sense improper input wave forms on the field signal inputs. Improper inputs may result from irregularly rapidly blinking (flickering) inputs, constant extraneous noise, or dimming operations other than half-waved suppressed.
- N. The monitor unit shall be capable of verifying the program card information by displaying the channels programmed as permissive in a sequential fashion for each channel monitored via front panel control.
- O. The monitor unit shall be capable of displaying the fault timing values being used to trigger the monitor for conflicts, red failures, controller voltage monitor (CVM) and 24V monitor (24 V-I & 24 V-II) conditions, dual indications, clearance failures and controller watchdog failures (if enabled) via front panel control. If any fault monitoring functions are disabled by control inputs, red enable or +24V monitor inhibit, this shall be indicated. Channels which are selected for dual indication and clearance monitoring via the front panel accessible programming devices shall also be displayed.
- P. An infrared LED output shall be provided to transfer to a hand held printer all internal settings and previous faults. The printer is not required at this time.
- Q. The power, fault, and monitor fail indicator shall be LED type. All other displays and indications shall be LCD type. The minimum display indicators are required as follows:
 - i. Triggering of the conflict monitoring portion of the unit.
 - ii. Triggering of the red monitoring portion of the unit.
 - iii. Triggering of the sequence monitoring portion of the unit.
 - iv. Triggering of the dual monitoring portion of the unit.
 - v. Triggering of the controller voltage monitoring or controller watchdog monitoring portion of the unit.
 - vi. Triggering of the +24V monitor #1 portion of the unit.
 - vii. Triggering of the +24V monitor #2 portion of the unit.
 - viii. Triggering of the program card monitoring portion of the unit.
 - ix. Triggering of the internal watchdog portion of the unit.
 - x. Time of day and date display.
 - xi. Four indications per channel which display an active red, yellow, or green input for each channel monitored.
 - xii. AC+ power indicator which is flashing when AC+ power is below 92 VRMS and illuminated when AC+ line voltage returns above 100 VRMS.
 - xiii. One indicator per channel which identifies a channel as being involved in an error condition which has triggered the unit.
 - xiv. Triggering of the field input monitoring (BND) portion of the unit.

Eight (8) phase cabinets shall be supplied with a Malfunction Management Unit (MMU).

9. *Documentation.* Two paper copies of the cabinet prints shall be accurate and complete and shipped with each cabinet. An additional copy shall be supplied in digital format (DXF) on 3.5 inch high density diskette. If additions or deletions are necessary to the cabinet as supplied, a new print will be supplied. Corrections to an existing print will not be accepted. A quality assurance sheet shall be supplied stating the following:
 - A. The date of the test.
 - B. The duration of the test.
 - C. The method of testing.
 - D. If the testing involved components, the manufacture and model number of the devices used.
 - E. The technician's signature (not initials).
 - F. Quality control supervisor's signature (not initials).
 - G. The serial number or other unique identifier of the cabinet.

Subsection 614.08 (d) shall include the following:

Detector units shall be card rack mounted plug-in type 3M Canoga 400 4-channel units.

Subsection 614.08 (e) shall include the following:

Micro Detector shall be as supplied by 3M Micro Probes.

Subsection 614.08 (g) shall include the following:

Traffic signal poles, pedestals, and mast arms shall be of the general configuration shown on Standard Drawings. All traffic signal poles and mast arms shall be designed to meet the requirements outlined in the latest edition of "Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals", published by AASHTO. Hand holes are to be supplied at the base and across from the mast arm fitting.

All traffic signals with single mast arms less than 55 feet in length shall conform to CDOT Standard Plans, M&S Standards S-614-40A Alternate Traffic Signal Installation Details. All other traffic signals shall conform to CDOT Standard Plans, M&S Standards S-614-40 Typical Traffic Signal Installation Details.

All poles and mast arms shall be powder coated black after fabrication in accordance with ASTM A123.

Subsection 614.08 (h) shall include the following:

(h) *Traffic Signal Faces.*

1. *Traffic Signal Units.* All signal units shall be of the individual section, adjustable type, black polycarbonate. Signal units shall be supplied by Eagle, IDC, or Econolite.

Programmable heads shall be Cast Aluminum frame units supplied by 3M.

Visors shall be detachable, 12 inch tunnel type, open at the bottom; be black in color on the outside and flat black on the inside.

Reflector shall be silvered glass or Alzak type units.

Lenses shall be in accordance with Institute of Transportation Engineers (ITE) Specifications.

Sockets shall be fixed focus.

Doors on the signal heads for the installation of lamps and lens replacement or other maintenance shall not require use of any tool to be opened. Doors and lenses shall be equipped with neoprene weather proof gaskets to ensure against infiltration of moisture, road film and dust. Each three-color signal unit shall have the socket leads from all signal sections connected to a terminal board stamped identifiable with terminals. There shall be a terminal for color indication plus a common terminal where one lead from each socket shall terminate. The terminal board shall be mounted in the middle section and be properly insulated. All openings, top and bottom, shall be for 1 ½ inch pipe or pipe mounting brackets. Gaskets shall be supplied for top and bottoms openings.

2. *Pedestrian Signal Units.* 18 inch one-way ICC pedestrian signal head as specified on the plans. The specifications are the same as subsection 614.08 (h) with the following exceptions:
 - A. Walk/Don't Walk Indications shall be symbolized and side by side.
 - B. Visors shall be egg crate type and heads shall be black.
3. *Countdown Pedestrian Signal Units.* Single, self-contained retrofit module for clamshell housing.

Two message overlay combining Portland Orange LED for the “Hand” and White LED for “Walking Man.”

Double digit display for countdown made of Red LED’s.

Timing is derived directly from the controller and no timing shall be programmed, or otherwise initiated.

Countdown numerals shall be illuminated continuously during countdown and not alternating.

Pedestrian signal head shall blank out countdown portion if the countdown is different than the controller.

Hand/Man indications shall be solid style, not outline.

Countdown pedestrian signals shall consist of Portland orange numbers that are at least 150 mm (6-inch) in height on a black opaque background. The countdown pedestrian signal shall be located immediately adjacent to the associated UPRaised HAND (symbolizing DONT WALK) pedestrian signal head indication.

The display of the number of remaining seconds shall begin only at the beginning of the pedestrian change interval. After the countdown displays zero, the display shall remain dark until the beginning of the next countdown.

The countdown pedestrian signal shall display the number of seconds remaining until the termination of the pedestrian change interval. Countdown displays shall not be used during the walk interval, or during the yellow change interval of a concurrent vehicular phase.

4. *LED Traffic Signal Faces.* All traffic signal faces (vehicular and pedestrian) shall be Light Emitting Diode (LED) type, unless otherwise specified by the City. The LED traffic signal faces shall conform to the requirements of subsection 713.11.

Subsection 614.08 (i) shall include the following:

All back plates are to be of aluminum. Back plates shall provide a minimum 8 inch border for all 8 and 12 inch signal heads.

Delete subsection 614.08 (k) and replace with the following:

(k) *Traffic Signal Electrical Conductors and Control Cable.* Conductors and cables shall conform to subsection 713.11.

1. *Signal Cable.* #14 AWG multi-conductor stranded copper wire manufactured to meet IMSA 19-1 specifications or approved equivalent. Each conductor in the cable will be individually insulated and rated at 600 volts. There shall be a minimum of 4 and a maximum of 9 strands per conductor. As a minimum, one spare conductor shall be provided for each cable run.
2. *Fiber Optic Interconnect Cable.* Where specified on the plans, interconnect wire connecting traffic signal controller cabinets shall be fiber optic type. Fiber optic cable runs consist of a main cable, which runs the length of the project, and connects to the individual local controller cabinets.

Fiber optic cable shall be loose tube non-armored outdoor cable consisting of 24 single mode fibers and 12 multi-mode fibers and complying with the following specification for fiber optic cable. Fiber optic cable for installation in conduit shall meet the applicable portions of I.M.S.A. Specification 60-2 or approved equal. A 16 gauge (minimum) stranded trace wire shall be installed in the conduit with the fiber cable.

- A. *General Considerations.* The fiber optic cable shall meet all requirements stated in the specification. The cable shall be an accepted product of the United States Department of Agriculture Rural Electrification Administration (REA) as meeting requirements of 7CFR1755.900.

The cable shall be new, unused and of current design and manufacture.

Connectors shall be “ST” single mode type.

- B. *Fiber Characteristics.* All fibers in the cable must be usable fibers and meet this specification:

All optical fibers shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical and environmental requirements of this specification.

Each optical fiber shall consist of a doped silica core surrounded by a concentric silica cladding.

The single-mode fiber utilized in the cable specified herein shall conform to the following specifications:

Typical Core Diameter:	8.3 μm.
Cladding Diameter:	125.0 ± 1.0 μm.
Core-to-Cladding Offset:	≤ 0.8 μm.

Cladding Non-Circularity: 1.0%.
 Defined as: $[1 - (\text{min. Cladding dia.} + \text{max. Cladding dia.})] \times 100$
 Coating diameter: $245 \pm 10 \mu\text{m}$.
 Colored Fiber Diameter: nominal 250 μm .
 Attenuation Uniformity: No point discontinuity greater than 0.10 dB at either 1310 nm or 1550 nm.
 Attenuation at the Water Peak: The attenuation at $1383 \pm 3 \text{ nm}$ shall not exceed 2.1 dB/km.
 Cutoff Wavelength: The cabled fiber cutoff wavelength shall be $\leq 1250 \text{ nm}$.
 Mode-field Diameter (Petermann II):
 $9.30 \pm 0.50 \mu\text{m}$ at 1310 nm
 $10.50 \pm 1.00 \mu\text{m}$ at 1550 nm
 Zero Dispersion Wavelength: $(\lambda_0) - 1301.5 \text{ nm} \leq (\lambda_0) \leq 1321.5 \text{ nm}$.
 Zero Dispersion Slope: $(S_0) - \leq 0.092 \text{ ps}/(\text{nm}^2\text{km})$

The coating shall be a dual layered, UV cured acrylate applied by the fiber manufacturer. The coating shall be mechanically strippable without damaging the fiber.

C. *Fiber Specification Parameters.* All fibers in the cable shall meet the following requirements:

When tested in accordance with FOTP-3, "Procedure to Measure Temperature Cycling Effects on Optical Fiber, Optical Cable and Other Passive Fiber Optic Components", (single-mode only), the average change in attenuation at extreme operational temperatures (-40°C to $+70^\circ\text{C}$) shall not exceed 0.05 dB/km at 1550 nm. The magnitude of the maximum attenuation change of each individual fiber shall not be greater than 0.15dB/km at 1550 nm.

Required Fiber Grade - Maximum Individual Fiber Attenuation

The maximum dispersion for single mode optical fibers shall be $\leq 3.3\text{ps}/(\text{nm.km})$ for 1285 nm through 1330 nm and shall be $\leq 18\text{ps}/(\text{nm km})$ at 1550 nm.

Specifications for Outdoor Cables:

- i. Optical fibers shall be placed inside a loose buffer tube.
- ii. Each buffer tube shall contain up to 6 fibers.
- iii. The fibers shall not adhere to the inside of the buffer tube
- iv. Each fiber shall be distinguishable from others by means of color coding or numbers according to the following:
 - a. Blue
 - b. Orange
 - c. Green
 - d. Brown
 - e. Slate
 - f. White

The above colors shall meet EWTIA-598, "Color Coding of Fiber Optic Cables".

- v. Buffer tubes containing fibers shall also be color coded or numbered with distinct and recognizable colors or numbers according to the following:

1. Blue	6. Red
2. Orange	7. Black
3. Green	8. Yellow
4. Brown	9. Violet
5. Slate	10. Rose

The above colors shall meet EMIA-598, "Color coding of Fiber Optic Cables".

- vi. In buffer tubes containing multiple fibers, the colors or numbers shall be stable during temperature cycling and not subject to fading or smearing onto each other or into the gel filling material. Colors shall not cause fibers to stick together.
- vii. Buffer tubes shall be of a dual-layer construction with the inner layer made of polycarbonate and the outer layer made of polyester.
- viii. Fillers may be included in the cable core to lend symmetry to the cable cross-section where needed.

- ix. The central anti-buckling member shall consist of a glass reinforced plastic rod. The purpose of the central member is to prevent buckling of the cable.
 - x. Each buffer tube shall be filled with a non-hygroscopic, non-nutritive to fungus, electrically non-conductive, homogenous gel. The gel shall be free from dirt and foreign matter. The gel shall be readily removable with conventional nontoxic solvents.
 - xi. Buffer tubes shall be stranded around a central member using the reverse oscillation, or 'TZ', stranding process.
 - xii. The cable core interstices shall be filled with a water-blocking compound. The compound shall be a thixotropic gel containing a Super Absorbent Polymer (SAP) material. The gel shall be non-nutritive to fungus, electrically non-conductive and homogenous. The gel shall be free from dirt and foreign matter and shall be readily removable with conventional nontoxic solvents.
 - xiii. Binders shall be applied with sufficient tension to secure the buffer tubes to the central member without crushing the buffer tubes. The binders shall be non-hygroscopic, non-wicking (or rendered so by the flooding compound), and dielectric with low shrinkage.
 - xiv. The cable shall contain at least one ripcord under the sheath for easy sheath removal.
 - xv. Tensile strength shall be provided by high tensile strength aramid yarns, fiberglass yarns, or both.
 - xvi. The high tensile strength aramid yarns and/or fiberglass yarns shall be helically stranded evenly around the cable core.
 - xvii. All-dielectric cables (with no armoring) shall be sheathed with medium density polyethylene. The minimum nominal jacket thickness shall be 1.4mm. Jacketing material shall be applied directly over the tensile strength members and flooding compound. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.
 - xviii. The jacket or sheath shall be free of holes, splits and blisters.
 - xix. The cable jacket shall contain no metal elements and shall be of a consistent thickness.
 - xx. Cable jackets shall be marked with sequential meter or foot markings, year of manufacture and a telecommunication handset symbol, as required by Section 350G of the National Electrical Safety Code (NESC). The actual length of the cable shall be within -0/+1% of the length markings. The marking shall be in contrasting color to the cable jacket. The height of the marking shall be approximately 2.5 mm.
 - xxi. The maximum pulling tension shall be 2700 N (608 lbf) during installation (short term) and 890 N (200 lbf) long term installed.
 - xxii. The shipping, storage and operating temperature range of the cable shall be -40°C to +70°C. The installation temperature range of the cable shall be -30°C to +70°C.
- D. *General Cable Performance Specifications.* The un-aged cable shall withstand water penetration when tested with a one meter static head or equivalent continuous pressure applied at one end of a one meter length of filled cable for 24 hours. No water shall leak through the open cable end. When a one meter static head or equivalent continuous pressure is applied at one end of a one meter length of aged cable for one hour, no water shall leak through the open cable end. Testing shall be done in accordance with FOTP-82, "Fluid Penetration Test for Filled Fiber Optic Cable".

When tested in accordance with FOTP-81, "Compound Flow (Drip) Test for Filled Fiber Optic Cable", Method A; the cable shall exhibit no flow (drip or leak) of filling or flooding compound at 80°C. If material flow is detected, the weight of any compound that drips from the sample shall be less than 0.05 grams (0.002 ounce).

The cable shall withstand a minimum compressive load of 220 N/cm (125lbf/in) for non-armored cables applied uniformly over the length of the compression plate. The cable shall be tested in accordance with FOTP-41 "Compressive Loading Resistance of Fiber Optic Cables", except that the load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for 10 minutes. The magnitude of the attenuation change shall be within the repeatability of the measurement system for 90% of the test fibers. The remaining 10% of the fibers shall not experience an attenuation change greater than 0.1 dB at 1550 nm (single-mode). The average increase in attenuation for the fibers shall be ≤ 0.02 dB at 1300 nm (multimode). The repeatability of the measurement system is typically ± 0.05 dB or less. No fibers shall exhibit a measurable change in attenuation after load removal.

When tested in accordance with FOTP-104, "Fiber Optic Cable Cyclic Flexing Test", the cable shall withstand 25 mechanical flexing cycles at a rate of 30 ± 1 cycles per minute, with a sheave diameter not greater than 20 times the cable diameter. The magnitude of the attenuation change shall be within the repeatability of the measurement system for 90% of the test fibers. The remaining 10% of the fibers shall not experience an attenuation change greater than 0.1 dB at 1550 nm (single-mode). The repeatability of the measurement system is typically ± 0.05 dB or less. The cable jacket shall exhibit no cracking or splitting when observed under 5X magnification.

When tested in accordance with FOTP-25, "Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies", the cable shall withstand 25 impact cycles. The magnitude of the attenuation change shall be within the repeatability of the measurement system for 90% of the test fibers. The remaining 10% of the fibers shall not experience an attenuation change greater than 0.1 dB at 1550 nm (single-mode). The repeatability of the measurement system is typically ± 0.05 dB or less. The average increase in attenuation for fibers shall be ≤ 0.04 dB at 1300 nm (multimode). The cable jacket shall not exhibit evidence of cracking or splitting at the completion of the test.

When tested in accordance with FOTP-33, "Fiber Optic Cable Tensile Loading and Bending Test", using maximum mandrel and sheave diameter of 560 mm, the cable shall withstand a tensile load of 2700 N (608 lbf) applied for one hour (using "Test Condition II" of the procedure). In addition, the cable sample, while subjected to a minimum load of 2660 N (600 lbf), shall be able to withstand a twist of 360 degrees in a length of less than 3 meters. The magnitude of the attenuation change shall be within the repeatability of the measurement system of 90% of the test fibers. The remaining 10% of the fibers shall not experience an attenuation change greater than 0.1 dB at 1550 nm. The repeatability of the measurement system is typically ± 0.05 dB or less. The average increase in attenuation for fibers shall be ≤ 0.40 dB at 1300 nm (multimode). The cable shall not experience a measurable increase in attenuation when subjected to the rated residual tensile load, 890 N (200lbf).

When tested in accordance with FOTP-85, "Fiber Optic Cable Twist Test", a length of cable no greater than 2 meters will withstand 10 cycles of mechanical twisting. The magnitude of the attenuation change will be within the repeatability of the measurement system for 90% of the test fibers. The remaining 10% of the fibers will not experience an attenuation change greater than 0.1 dB at 1550 nm. The repeatability of the measurement system is typically ± 0.05 dB or less. The average increase in attenuation for fibers shall be ≤ 0.40 dB at 1300 nm (multimode). The cable jacket will exhibit no cracking or splitting when observed under 5X magnification after completion of the test.

When tested in accordance with the proposed FOP-181, "Lighting Damage Susceptibility Test for Fiber Optic Cables with Metallic Components", the cable shall withstand a simulated lighting strike with a peak value of the current pulse ≥ 105 kA. The test current used shall be damped oscillatory with a maximum time-to-peak value of $15\mu\text{s}$ (which corresponds to a minimum frequency of 16.7 kHz) and a maximum frequency of 30 kHz. The time of half-value of the waveform envelope (t_2) shall be from 40 - $70\mu\text{s}$. In addition to the analysis criterion set forth in FOTP-181, the integrity of the buffer tubes (or analogous loose tube, i.e., core tube) and strength members must be intact after removal of the cable specimens from the test box.

- E. *Quality Assurance Provisions.* All optical fibers shall be proof tested by the fiber manufacturer at a minimum load of 100 ksi.

All optical fibers shall be 100% attenuation tested. The attenuation of each fiber shall be provided with each cable reel.

- F. *Packaging.* The complete cable shall be packaged for shipment on non-returnable wooden reels.

Top and bottom ends of the cable shall be available for testing.

Both ends of the cable shall be sealed to prevent the ingress of moisture.

Each reel shall have a weatherproof reel tag attached identifying the reel and cable.

Each cable shall be accompanied by a cable data sheet that contains significant information on the cable.

- G. *Miscellaneous.* The cable manufacturer shall provide installation procedures and technical support concerning the items contained in this specification.

- H. *Testing.* When fiber optic cable is installed, the fiber optic cable test shall consist of the testing of both multimode and single mode fiber optic cable. The testing procedures involve an OTDR test and an Optical Power Meter Test.

The guidelines for fiber optic cable testing include:

- i. Test jumpers and patch cords must be of the same fiber core size and connector type as the cable system:
 - (1) Multimode fiber 62.5/125 μm
 - (2) Singlemode fiber 8.3/125 μm
 - ii. The light source and OTDR must operate within the range of 850 \pm 30 nm or 1300 \pm 20 nm for multimode testing in accordance with ANSI/EIA/TIA-526-14.
 - iii. The light source and OTDR must operate with the range of 1310 \pm 10 nm or 1550 \pm 20 nm for singlemode testing in accordance with ANSI/EIA/TIA-526-7.
 - iv. The power meter and the light source must be set to the same wavelength during testing.
 - v. The power meter must be calibrated and traceable to the National Institute of Standards and Technology (NIST).
 - vi. All system connectors, adapters and jumpers must be cleaned as per manufacturer's instructions before measurements are taken.
3. *Service Cable*. 2 #THHN-8, 7 strands tinned soft drawn copper wire, 1/16 inch neoprene insulation, black and white in color. Conductors shall be twisted.
 4. *Loop Wire*. Single conductor #14, stranded THHN as supplied by Detect-A-Duct.
 5. *Pedestrian Push-button Cable*. One 3 conductor #14 seven strands tinned soft drawn copper wire, 1/16 inch neoprene insulation, conductors to be twisted. Color coded, 1 white, 1 red, and 1 black.
 6. *Loop Lead-In Cable*. 2 conductor, Canoga CC3003.
 7. *Ground*. Single conductor, AWG #6, soft drawn bare solid copper wire.

Add subsections 614.08 (m) – (s) as follows:

(m) *Video Detection*. Where specified on the plans, video detection shall be installed. The following describes the minimum requirements for providing a complete Video Detection System. Initially, the system shall be capable of providing presence vehicle detection at selected intersections. The video system shall be expandable without removing or replacing existing units.

Acceptable systems include that of any manufacturer, provided such equipment meets all qualifying specifications identified herein. Using standard image sensor optics and in the absence of occlusion, the system shall be able to detect vehicle presence with 98% accuracy under normal conditions (days and nights), and 96% accuracy under adverse conditions (fog, rain, snow).

All items and materials furnished shall be new, unused, current production models installed and operational in a user environment and shall be items currently in distribution. The products algorithms shall have a proven record of field use at other installations for at least two (2) years of service i.e., not including prototype field trials prior to installation.

1. *General*. These technical specifications describe the minimum physical and functional properties of a video detection system. The system shall be capable of monitoring all licensed vehicles on the roadway, providing video detection for areas outlined in the construction drawings. The entire video detection system shall consist of the following:
 - A. Video Image processing unit(s)
 - B. Video Camera(s) with IR filter, enclosure, and sunshield
 - C. Camera Lens
 - D. Surge suppresser
 - E. All other necessary equipment for operation
2. *Video Image Processing Unit*. The Video Image Processing Unit shall be Traficon Model VIP3.1 or VIP3.2, the second releases of the VIP3 board. The new boards shall fit directly into the 170 and NEMA racks without an interface box. The VIP3.1 shall monitor one camera and the W3.2 shall monitor two (2) separate cameras. Video inputs to either unit shall enter through the input file or detector rack edge connector. The Video Image Processing Unit shall be located on one module, daughter PC cards connected through ribbon cables shall not be allowed.

On each camera the presence is detected on 24 zones. Counting data can be stored for up to 6 different lanes. The up to 4000 records stored on board can be retrieved via a RS232 port on the front. All probes (24 for two cameras) can be combined in different relationships (AND, OR, NOT) to 24 outputs. 20 digital inputs to allow to expand the conditional output with external equipment. Also conditional count is possible. All probes and parameters can be changed without stopping the detection. For example: when one probe is modified all probes continue to work, including the one that is being modified. When the new position is confirmed, the new probe will enter a learning phase. Once the new probe is in function, it will take over the job of the old one. In this way, the detector is always fully operational with no interrupt on any probe, even during modification.

Four detector configurations can be stored on board. Software download from PC via serial port is possible.

Specifications:

- A. 1 or 2 camera inputs
- B. 24 digital outputs
- C. 20 digital inputs
- D. Fits direct into the NEMA rack without additional adapter
- E. 24 direction sensible detector probes per camera, including up to 6 counting probes per camera
- F. Stores counts for 4000 intervals
- G. Detection results of all detection probes can be combined with the inputs to the related outputs. AND, OR, NOT
- H. 4 configurations stored on board
- I. Modifications with no interruption on all probes
- J. Setup via keypad and monitor (no pointing device needed)
- K. Software update via RS232

The video detection board will have only 4 outputs and will use expansion boards for additional input and output. The video detection (Main) board will have the following on the front:

- A. One Male DB9 for connection with the first expansion board
- B. One Female DB9 for setup with keypad (Service port)
- C. LEDs for outputs on board (2 for cam 1 and 2 for camera 2), power, Video Cam 1 and Video Cam2, Communication with expansions
- D. One video output for setup via keypad
- E. A switch to select which image to be on the service output

The input/output expansion board will have the following on the front:

- A. LED's for power, Expansion communication, In/output activity
- B. 2 DB9 ports for communication with Master or other expansion boards
- C. An 8-dipswitch device to select the following:
 - i. Input or Output Range: 1-12 or 13-24
 - ii. Input or Output number (see example for more info)

- (n) *On Street Master Controller.* The traffic signal master controller shall be an Econolite Cobalt-C master controller with most recent software version. No equal or equivalent will be considered.

The master controller shall be wired into a cabinet assembly which also includes a local intersection equipment configuration. The cabinet shall be wired complete with master connecting cables in accordance with applicable portions of the local controller cabinet specifications. The incoming power service and interconnect terminals shall be adequately equipped with surge arrestors to protect against high energy transients.

- (o) *Miscellaneous Hardware.*

- 1. Aluminum pedestal mounts (Type ITT) shall be either of two types as called for in the plans specifications:
 - A. Center mount with two side ports plain
 - B. Offset mount separated with one side port
- 2. Covers for valve pull boxes shall have the word "Traffic" cast into them to avoid confusion with water valve boxes.

- (p) *Instructions and Wiring Diagrams.* All equipment shall be provided with complete installation instructions, including a complete chart of field connections, as well as manuals for the controller containing service

instructions including wiring diagrams, troubleshooting procedures, etc. Each and every component used shall be clearly referenced in the service manual and its value, ratings and manufacturer's part number shall be given.

- (q) *Emergency Vehicle Detectors.* Optical Communication Detectors for emergency vehicle pre-emption shall be the 3M Model 711, 712 or 722 Optical Detector or approved equivalent as specified in the construction plan notes. Placement of the Detectors shall be determined by the Engineer. Optical phase selector modules for emergency vehicle pre-emption shall be 3M Model M752 or approved equal.
- (r) *Uninterruptible Power Supply (UPS).* A UPS shall be incorporated in all new traffic signals and where otherwise specified in the plans. UPS shall be "SH1200UR TRAFFIC UPS" as manufactured by Signal Sense or approved equal and shall be installed per manufacturer's specifications.

All UPS equipment shall be housed either entirely in the traffic signal cabinet or entirely in a separate cabinet, which matches the requirements of the traffic signal cabinet, as specified in the plans.

The UPS equipment shall include the following hardware:

1. Manual bypass switch to by which the UPS unit is bypassed and runs off utility power.
2. Generator receptacle accessible from the exterior of the cabinet with the UPS equipment.
3. Automatic sensor to detect generator power.
4. The UPS equipment shall include a display with the following indications, alarms, and faults:
 - A. Battery charge level.
 - B. UPS load level.
 - C. Presence or absence of a critical UPS fault.
 - D. Presence or absence of utility power.

The UPS equipment shall meet the following operational specifications:

1. Source input: 120 Vac, 60 Hz, single phase with input surge suppression.
2. Output: 120 Vac \pm 3%, 60 Hz, single phase pure sine wave
3. Operating voltage range: 85 Vac – 135 Vac
4. Include the following user definable settings:
 - A. Full run time prior to the UPS transitioning to flash operation.
 - B. Battery level flash.
 - C. Trigger options to notify owner of critical events and/or failures.

The UPS equipment shall meet the following operational characteristics:

1. Installed in series with the utility power such that the UPS powers the entire traffic signal cabinet and all associated equipment.
 2. Provide an automatic bypass by which the UPS unit is bypassed and runs off utility power if a critical internal UPS fault occurs.
 3. Provide full signal operation for a minimum of one hour, with additional flash time for a minimum of two hours.
 4. Operate in an always on condition continuously monitoring the input and shall provide continuous frequency and voltage regulation at the output. Upon loss of power, the UPS shall transfer to full UPS operation in < 5 ms.
 5. Remain in or automatically transfer to flash operation when utility power AND the UPS battery levels are below, or fall below, the battery level flash setting.
 6. Restore the signal to full operation when utility power is restored.
 7. Operate under generator power under the following conditions:
 - A. Full signal operation regardless of the UPS battery charge levels.
 - B. Recharge the UPS batteries.
 - C. Bypass utility power.
 - D. If generator power fails, operates outside acceptable signal tolerances, or is disconnected, the UPS unit shall automatically revert back to either utility power or UPS battery power based on availability.
 8. Recharge the UPS batteries within 10 hours.
 9. Low battery cutout to prevent critical discharge of, and damage to, the UPS batteries.
- (s) *Thermal Detection.* Where specified on the plans, thermal detection shall be installed. The following describes the minimum requirements for providing a complete Thermal Detection System. Initially, the system shall be capable of providing presence vehicle detection at selected intersections. The thermal system shall be expandable without removing or replacing existing units.

Acceptable systems include that of any manufacturer, provided such equipment meets all qualifying specifications identified herein. Using standard thermal sensors and in the absence of occlusion, the system shall be able to

detect vehicle and cyclist presence with 98% accuracy under normal conditions (days and nights), and 96% accuracy under adverse conditions (fog, rain, snow).

All items and materials furnished shall be new, unused, current production models installed and operational in a user environment and shall be items currently in distribution. The products algorithms shall have a proven record of field use at other installations for at least two (2) years of service i.e., not including prototype field trials prior to installation.

3. *General.* These technical specifications describe the minimum physical and functional properties of a thermal detection system. The system shall be capable of monitoring all licensed vehicles on the roadway, providing thermal detection for areas outlined in the construction drawings. The entire thermal detection system shall consist of the following:
 - A. Thermal Image processing unit(s)
 - B. Thermal Camera(s) with enclosure and sunshield
 - C. Camera Lens
 - D. Surge suppresser
 - E. All other necessary equipment for operation
4. *Thermal Image Processing Unit.* The Thermal Image Processing Unit shall be compatible with the Video Detection equipment specified in Sub-section 614.08 (m). The new boards shall fit directly into the 170 and NEMA racks without an interface box. Inputs shall enter through the input file or detector rack edge connector. The Thermal Image Processing Unit shall be located on one module, daughter PC cards connected through ribbon cables shall not be allowed.

On each camera the presence is detected on 24 zones. Counting data can be stored for up to 6 different lanes. The up to 4000 records stored on board can be retrieved via a RS232 port on the front. All probes (24 for two cameras) can be combined in different relationships (AND, OR, NOT) to 24 outputs. 20 digital inputs to allow to expand the conditional output with external equipment. Also conditional count is possible. All probes and parameters can be changed without stopping the detection. For example: when one probe is modified all probes continue to work, including the one that is being modified. When the new position is confirmed, the new probe will enter a learning phase. Once the new probe is in function it will take over the job of the old one. In this way, the detector is always full operational with no interrupt on any probe, even during modification.

Four detector configurations can be stored on board. Software download from PC via serial port is possible.

Specifications:

- A. 1 or 2 camera inputs
- B. 24 digital outputs
- C. 20 digital inputs
- D. Fits direct into the NEMA rack without additional adapter
- E. 24 direction sensible detector probes per camera, including up to 6 counting probes per camera
- F. Stores counts for 4000 intervals.
- G. Detection results of all detection probes can be combined with the inputs to the related outputs. AND, OR, NOT
- H. 4 configurations stored on board
- I. Modifications with no interruption on all probes
- J. Setup via keypad and monitor (no pointing device needed)
- K. Software update via RS232

The thermal detection board will have only 4 outputs and will use expansion boards for additional input and output. The thermal detection (Main) board will have the following on the front:

- A. One Male DB9 for connection with the first expansion board
- B. One Female DB9 for setup with keypad (Service port)
- C. LEDs for outputs on board (2 for cam 1 and 2 for camera 2), power, Thermal Cam 1 and Thermal Cam2, Communication with expansions
- D. One video output for setup via keypad
- E. A switch to select which image to be on the service output

The input/output expansion board will have the following on the front:

- D. LED's for power, Expansion communication, In/output activity
- E. 2 DB9 ports for communication with Master or other expansion boards

- F. An 8-dipswitch device to select the following:
 - i. Input or Output Range: 1-12 or 13-24
 - ii. Input or Output number (see example for more info)

Subsection 614.10 (a) shall include the following:

1. *Intersection Power.* The contractor shall notify the Engineer 2 weeks prior to the signal turn-on so that orders may be issued to Xcel Energy for power connection to the intersection on the specified turn-on date.
2. All traffic signal equipment which is removed shall remain the property of the City. Such property shall be removed from the work site and returned by the Contractor to the City Maintenance Facility, 11220 West 45th Place. Work relating to the salvage and delivery of salvage material to the City Shops Yards will be incidental to the Project.
3. When existing traffic signal installations are modified or completely rebuilt, the Contractor shall work around existing traffic signal equipment until the new or modified traffic signal system has been installed and put into operation. If the existing traffic signal equipment must be removed to accommodate the new construction, the contractor shall, if directed by the Engineer, install temporary overhead traffic signal equipment. The contractor shall at all times maintain a minimum of 2 1/2 inch, three-section (red, yellow, green) traffic signal heads for each roadway approach. If, during construction, a traffic signal must be turned off so that there are no indications in one or more directions, the contractor shall, if so directed by the Engineer, provide a uniformed traffic officer to direct traffic. Provision of temporary signal equipment or uniformed traffic control will be paid for at contract unit prices or paid for as extra work
4. During construction, if traffic signal heads have been installed, but are not ready for actual electrical connection, such heads will be totally covered. If the covering material should come loose, the contractor must replace or repair covering within 6 hours of notification.
5. *Equipment List and Drawings.* The contractor shall submit with his Bid a list of equipment and material which he proposes to furnish, including all equipment and material as identified on the plans or in the specifications by the manufacturer's name which is necessary or customary in the trade to identify such equipment and material. The list shall be complete as to name of manufacturer, size and catalog number of unit, and shall be supplemented by such other data as may be required.

Inspection or sampling of any material other than those already approved according to the material specifications will be made by the Engineer or his designee prior to installation.

If the Contractor proposes a substitution of equipment called for in the plans or specifications, he shall provide additional information to prove the substitution item is of equal or superior quality. Any material and/or equipment installed by the Contractor that is not in conformance with the City's specifications will be removed or changed at the contractor's expense.

Upon completion of the work, the contractor shall submit "record drawings" or corrected plan showing in detail all construction changes, including, but not limited to, wiring, cable, and location and depth of conduit. This information is in addition to wiring diagrams and other required information.

Subsection 614.10 (b) shall include the following:

A common neutral conductor, separate from the signal light circuit neutral, shall be used for all low voltage circuits, including the detectors and pedestrian push-button circuit.

A small permanent tag with permanent markings on which the direction and phase is printed, in the order named, using the codes given in "Cable Schedule", shall be securely attached near the end of each conductor at each controller, standard, or pull box where conductors are separated. Where direction and phase are not clearly indicated by conductor insulation, additional tags shall be used.

Cable Schedule

PHASE	COLOR OF TAPE	WIRE TAG
1- Northbound Left Turn	Red/White	NBLT
2- Northbound	Red	NB
3- Northbound Left Turn	Green/White	SBLT
4- Southbound	Green	SB
5- Eastbound Left Turn	Orange/White	EBLT
6- Eastbound	Orange	EB
7- Westbound Left Turn	Blue/White	WBLT
8- Westbound	Blue	WB

NOTE: This is a typical cable schedule and shall be used for the wiring of all signal installations. A new cable schedule will be noted on the plans at each intersection where different phasing and/or special equipment is required. It should be noted that a band of white is used to indicate a left turn and yellow for a pedestrian movement. This is in addition to directional tape for the phase. For cable size and number of conductors, see Traffic Signal Material Specifications and/or Standard Drawings.

In subsection 614.10 (b) delete the seventh paragraph and replace with the following:

In no case shall any shellac compounds be used. All connections shall be wire nut connectors. Connections shall be DIAPERED and sealed with non-conducting silicone at all splices. Splices in underground systems shall be waterproofed. A minimum of 12 inches of slack shall be left at each splice except within handholes where 24 inches shall be left.

Subsection 614.10 (c) shall include the following:

Interconnect cable shall be grounded only at one end. Bonding and grounding jumpers shall be solid copper wire, #6 AWG for all systems.

The ground electrode shall be driven into the ground so as the top is 2 inches above the bottom of the pull box. The ground rod connector will be placed so that the bare solid copper wire (#6) can be pulled into a pole, pedestal, or attached to the control cabinet ground buss.

Subsection 614.10 (d) shall include the following:

Excavations, other than for conduit, shall be backfilled with Structure Backfill (Class 1). The surface of the backfill material will be placed to the bottom of the pavement repair or to 6 inches below surface in unpaved areas. The final layer of material will be identical to the material surrounding the backfilled section.

When excavations must remain open overnight, they shall be properly marked to warn motorists and/or pedestrians according to the most recent revision of Part VI in the "Manual on Uniform Traffic Control Devices for Streets and Highways".

Subsection 614.10 (e) shall include the following:

All foundations shall be fiberglass, polymer, or Portland cement concrete, class BZ.

The exposed portions shall be formed with "Sonotube" to present a neat appearance. Sonotube forms shall not extend below finished grade more than 1 foot.

Precast traffic signal pole footings shall be installed in drilled holes, with tamped sand backfill material. Precast signal footings are not to be used with poles with mast arms.

Anchor bolts shall conform to the specifications of the manufacturer of the poles and mast arms and each individual bolt shall have 2 flat washers, 1 lock washer and 2 nuts. Shims or other similar devices for plumbing or raking will not be permitted. Threaded portions of the anchor bolts shall be protected from contamination with concrete or other damage.

Forms shall not be removed until the concrete has thoroughly set.

Any abandoned foundation shall be removed to 18 inches below finish sub-grade and disposed of by the contractor. Any conduit runs associated with an abandoned foundation shall be extended or abandoned as called for on the plans. When a foundation is removed, the hole shall be backfilled in accordance with subsection 614.10 (d).

Subsection 614.10 (f) shall include the following:

Each individual detector loop is to be terminated within a pull box or water valve housing as specified on the construction drawings and each loop shall consist of one continuous wire, without splicing, to this termination point. Any required series or parallel connections are to be at the termination point.

Detector loops are to be constructed using DETECTADUCT 14 gauge one conductor IMSA Spec #51-5. The loop run shall go through the water valve pull box unspliced to the Quazite pull box located off the roadway. Canoga lead in wire between the Quazite box and the controller cabinet shall be continuous through intermediate pull boxes without splices. All field wires shall be tagged and color coded with permanent markings in the cabinet.

All loops shall have a tag attached to the leading clockwise lead of the loop. This tag shall be marked to indicate the relative location of the loop. This marking shall correspond directly to the loop designations on the intersection drawing provided in the contract.

Detector loop roadway slots shall be sealed to the surface level of the original roadway with 3M Loop Sealant or approved equal. This sealant is to be used whether or not the roadway is to be overlaid.

All presence detector loops shall be quadrupole type, dimensioned as shown on the plans or located in the field, and shall be installed with 2-4-2 turns.

Subsection 614.10 (j) shall include the following:

The contractor shall have full maintenance responsibility of the traffic signal installation from the date of the written Notice to Proceed to the Final Inspection and written approval of the work performed under the contract.

Prior to the functional test, the system shall be operated on flash for 7 calendar days.

The functional test for each traffic signal system shall consist of not less than 14 calendar days of continuous, satisfactory operation.

During the seven day signal flash time and the fourteen day functional test period, the contractor will maintain the system or systems. The cost of any maintenance necessary, except electrical energy, shall be borne by the contractor and will be considered as included in the price paid for the contract items involved and no additional compensation will be allowed therefore.

In subsection 614.10 (j) 4. change all time period references from 5 days to 14 days.

Add subsections 614.10 (k) – (n) as follows:

(k) *Conduits.* All metal conduit referred to in the specifications and shown on the plans shall be rigid and adequately galvanized, or approved equal. All PVC conduit will be of schedule 80 or heavier. Galvanized rigid conduit shall be used only for installations above grade.

All signal cable conduit shall be not less than 3 inches inside diameter. Conduit for low voltage conductor (pedestrian and vehicle detector) shall not be less than 2 inches inside diameter. Conduit between power pole and controller cabinet used for Xcel Energy feed and interconnect cable (where not supplied by Xcel Energy) shall be 2 inches inside diameter.

The contractor, at his sole expense, may use larger conduit if desired. Where larger conduit is used, it shall be for the entire length of the run from outlet. No reducing couplings will be permitted underground.

The ends of all metal conduit, existing or new, shall be well reamed to remove burrs and rough edges. Ends shall be capped or otherwise closed off until cable is pulled. Field cuts of existing or new conduit shall be made square and true, and the ends shall butt together for the full circumference thereof. Slip joints of running thread will not be permitted for coupling metal conduit. When a standard coupling cannot be used, an approved threaded union coupling shall be used. All couplings shall be screwed up until the ends of the metal conduits are brought together. Joints for PVC pipe shall be cut square and true and the ends shall butt together for the full circumference. All Joints shall be solvent welded unless otherwise approved. Slip joints may be used to joint two separate runs of conduit.

Where a "stub-out" is called for on the plans, a sweeping "ell" shall be installed in the direction indicated and properly capped. The ends of all conduits in structures or terminating at curbs shall be marked by a "Y" at least 3 inches high, cut into the face of the curb, gutter or wall directly above the conduit.

Conduit bends, except factory bends, shall have a radius of not less than 6 times the inside diameter of the conduit. Where factory bends are not used, conduit shall be bent without crimping or flattening, using the longest radius practical.

Conduit shall be laid at a depth of not less than 24 inches below the curb gutter grade in the sidewalk areas and to a depth of not less than 24 inches below the finished sub-grade in all other areas. Conduit under railroad tracks shall be not less than 48 inches below the bottom of the tie or as directed by the owning railroad company.

Trench excavations for conduit shall be 2 inches wider than the outside diameter of the conduit. Backfilling of conduit trenches shall be accomplished by placing Structure Backfill (flowfill) up to the bottom surface of the roadway pavement material. The remaining portion of the excavation shall be backfilled with the same type of material used to construct the existing roadway surface. Care shall be taken during placement of multiple conduit runs in one trench to ensure Structure Backfill (flowfill) completely surrounds the conduit.

Conduit shall always enter a pedestal base, pull box, or any other type structure from the direction of the run only.

Conduit terminating in a standard or pedestal shall extend approximately 2 inches above foundation vertically. The conduit shall be installed in such a way that it will slope toward the handhole opening.

All conduit runs that exceed 10 feet in length shall have a continuous 1/4 inch diameter nylon line pulled into the conduit along with the specified electrical cables. The line shall be firmly secured at each end of the conduit run with a minimum slack of 3 feet. The purpose of this line is to be able to pull future electrical cable through the existing conduit runs.

Existing underground conduit to be incorporated into a new system shall be cleaned with a mandrel or blown out with compressed air.

New conduit runs shown on the plans are for bidding purposes only and may be changed with approval of or as directed by the Engineer.

All conduit connections at pull boxes shall be tightly secured and waterproofed. Conduit entering controller cabinets shall be sealed by the use of paraffin or other approved sealing compound or as directed by the engineer.

- (l) *Pull Boxes.* A pull box shall always be installed in combination with a steel strain pole and at all other locations shown on the plans and at such additional points as ordered by the engineer. The contractor may install, at his own expense, any additional pull box he may desire in order to facilitate the work and as approved by the engineer.

Special pull boxes and extensions which are required shall be fabricated and installed in general conformance with the size and details shown on standard drawings.

Pull boxes installed in finished areas shall be designed for such installations and shall be stackable and manufactured of a pre-cast polymer concrete material such as Quazite or an approved equal. Pull boxes shall be installed so that the covers are level with curb or sidewalk grade or level with the surrounding ground when no grade is established. The bottoms of all pull boxes shall be bedded in six (6) inches of crushed rock.

When a new conduit run enters an existing pull box, the Contractor shall remove the pull box or tunnel under the side at no less than 18 inches and enter from the direction of the run. No new conduit will be allowed to enter a new or existing pull box in any other manner than that shown on the standard drawings.

Traffic valve pull boxes installed in the street shall be placed according to the plans or as directed by the engineer. The lids shall have the word "Traffic" cast into them.

New pull boxes will not be paid for separately, but shall be included in the cost of conduit.

- (m) *Controller and Cabinet.* A controller shall consist of a complete electrical mechanism for controlling the operation of traffic control signals, including the timing mechanism and all necessary auxiliary equipment.

Each control cabinet shall be mounted on a base as shown on the drawings. All electrical conduits running to the control cabinet shall enter from the bottom. No holes shall be drilled in any part of the cabinet other than the bottom unless otherwise called for on the drawings.

All controller cabinets and control equipment shall be factory wired, ready for operation; field work will be limited to placing cabinets and equipment and the connecting of field wiring to field to field terminal strips. All cabinet wiring shall be neat and firm and all harness and cabinet wiring shall be brought out to a backboard and terminated.

The model and/or serial number shall appear on the controller and cabinet. All auxiliary equipment shall be of the most current design.

At the Contractor's request, the Engineer will provide, during the construction period, an additional external lock for the controller cabinet to maintain security of the controller cabinet.

Flashing operation shall be set for flashing yellow on main street approaches and flashing red on all other approaches in accordance with the "Manual on Uniform Traffic Control Devices". The flashing mechanism shall remain operational during removal of the controller.

- (n) *Traffic Signals and Mast Arms.* Traffic signal heads requiring backboards shall be drilled for rivets or self-tapping screws. If the manufacturer fails to supply as described, it will be the contractor's responsibility to do so.

Mast arm brackets shall be Astro Brackets or the equivalent and shall be installed 90 degrees to the roadway.

In subsection 614.13, delete the fourth, sixth, seventh, ninth, tenth, eleventh, twelfth, and thirteenth paragraph and replace with the following:

Traffic signs will be measured by unit including all materials included in the steel sign post and sign panel and other work necessary to complete the item.

In subsection 614.13, delete the twenty second and twenty third paragraphs and replace with the following:

Traffic loops will be measured by unit including all materials and other work to complete the item.

Subsection 614.13 shall include the following:

Pedestrian flashing sign assemblies will be measured by the unit including the two sign assemblies, conduit and cables, pedestrian push buttons, solar panels, batteries and chargers, and all other materials and work to complete this item.

Subsection 614.14 shall include the following:

Pay Item	Pay Unit
Traffic Loop	Each

Add subsection 614 as follows:

614.15 Rectangular Rapid Flashing Beacon. (Added subsection)

The pedestrian flashing sign consists of two school crosswalk warning assemblies located at each end of the crosswalk. Each assembly consists of a rectangular rapid flashing beacon.

The flashing LED lights will be the latest generation high intensity yellow colored LEDs. The lights will be pedestrian actuated with a pedestrian push button that conforms to the requirements of subsection 614.08 (f). Both assemblies will be actuated from either push button on each end of the crosswalk. The lights will flash for 45 seconds after actuation.

The sign shall be solar powered with an 80 watt solar panel, backup battery, and charger mounted on the pole with the sign. The pole will be a 14 foot long aluminum pole with a minimum outside diameter of 4 ½ inches, base, collar, and all other mounting hardware included.

**REVISION OF SECTION 627
PAVEMENT MARKING**

Section 627 of the CDOT Standard Specifications is hereby revised for this project as follows:

Subsection 627.08 shall include the following:

Application of pre-formed plastic pavement marking materials shall be in accordance with the manufacturer's written specifications. Contractor shall submit manufacturer's pavement surface preparation and application specifications, for each type of marking material, for approval by the Engineer.

Pre-formed plastic pavement marking materials shall be inlaid into fresh pavement when the pavement temperature is between 135 degrees and 150 degrees.

In subsection 627.12, in the second and third paragraphs, delete all references to "gallons" and replace with "linear feet".

In subsection 627.12, in the fourth paragraph, delete all references to "square feet" and replace with "linear feet".

In subsection 627.12 delete the sixth paragraph and replace with the following:

Pavement word and symbol markings, transverse and longitudinal crosswalk lines, and stop lines will not be measured, but shall be the number of symbols placed or the linear feet of marking, color and width as specified, placed.

In subsection 627.13, the pay units for the first nine pay items shall be changed to "linear feet".

In subsection 627.13, the pay units for the last seven pay items shall be changed to "each".

Subsection 627.13 shall include the following:

Pay Item	Pay Unit
Preformed Pavement Marking (Arrow)	EA
Preformed Pavement Marking (Tape)	LF
Preformed Pavement Marking (Modified Epoxy)	SF
Preformed Pavement Marking (Temp)	SF
Preformed Pavement Marking (ONLY)	EA
Preformed Pavement Marking (SCHOOL)	EA
Preformed Pavement Marking (ADA SYMBOL)	EA

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

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

Subsection 630.10 shall include the following: If the Contract Documents do not include a Traffic Control Plan (TCP), the Contractor shall submit a method for handling traffic (MHT). The MHT must utilize the Manual on Uniform Traffic Control Devices (MUTCD) or Standard Plans S-630-1 and S-630-2 for devices that are proposed. Approval of the MHT does not relieve the Contractor of traffic control liability specifically assigned to him under this Contract. A copy of the approved MHT shall be available at the project site at all times in order that Division personnel may verify compliance with the specified traffic control requirements.

The Contractor's MHT shall also include the following:

- (1) The number of flag persons to be used.
- (2) The number of authorized 24-hour days a traffic control supervisor will be required.

The Contractor shall erect and maintain warning lights, signs, barricades and sufficient safeguards around all excavations, embankments and obstructions.

Subsection 630.13 shall include the following:

The Contractor shall provide an inventory of all existing pavement marking to be disturbed to the Engineer prior to beginning work.

All warning and construction zone traffic control devices shall bear the name, address and phone number of the barricade company that owns them. The phone number shall be a 24 hour a day dispatched hot line in the event an emergency situation occurs where additional devices are needed or existing devices must be removed.

The Contractor shall install construction zone traffic control devices in locations where they do not block or impede sidewalks for pedestrians, disabled persons, bicyclists or other existing traffic control devices. A minimum four foot wide, unobstructed sidewalk area is to be maintained where possible. In the event that a minimum four foot wide sidewalk area with a minimum overhead clearance of 7 feet 6 inches cannot be maintained, a pedestrian/bicycle detour plan shall be submitted in conjunction with the traffic control plan.

All existing traffic control devices including traffic signals, signs, and pavement markings that are compatible with the construction zone traffic control shall remain visible and fully operational. If these devices are incompatible with the temporary construction, they shall be covered, relocated or removed.

Whenever the Contractor removes, obliterates or covers in any way, any pavement markings including lane lines and crosswalks, he shall replace them on a daily basis. Prior to opening affected areas to traffic, all pavement marking shall be placed in accordance with the Plans and Specifications or as directed by the Engineer.

The Contractor shall equip all vehicles operating within the moving lanes with flashing amber lights visible from all directions.

Subsection 630.17 shall include the following:

Signs, barricades, traffic channelizing devices, flashing beacons (portable), method of handling traffic, traffic control supervisor, flagging, and all other requirements of Subsection 630 are included in the pay item for Traffic Control Management unless they are identified in the Bid Schedule as separate pay items.

Subsection 630.18 shall include the following:

No payment will be made under Section 630 until the method of handling traffic (MHT) has been submitted and accepted.

Pay Item	Pay Unit
Traffic Control Management	Lump Sum
Traffic Control Patrol Officer	DAY

Traffic Control Message Board (2)
Traffic Control (Work Zone Towing)

DAY
EACH

Revised 09/2017

SECTION 720 MATERIALS SAMPLING AND TESTING

Section 720 is hereby added for this project as follows:

DESCRIPTION

720.01 Materials sampling and testing shall be performed under the Contract by an independent materials testing company. This work shall include all necessary labor, equipment and material required for sampling and testing materials or finished products in accordance with the specifications of this section. Unless otherwise designated, all referenced specifications, standards or policies shall be the latest edition as revised or updated by approved supplements published and issued prior to the date of the advertisement for bids

CONSTRUCTION REQUIREMENTS

720.02 All materials sampling and testing shall be performed by certified, experienced and qualified materials testing technicians who work under the supervision of a registered professional engineer in the State of Colorado, practicing in this field. At the request of the Engineer, the Contractor shall require the materials testing company to replace any technician who cannot satisfactorily perform the testing duties.

720.03 All materials sampling and testing equipment shall be serviceable and have been currently calibrated. At the request of the Engineer, the Contractor shall require the materials testing company to replace any testing equipment that is not satisfactory.

720.04 Retesting the density of subgrade and base course materials shall be required at the Contractor's expense, if they are reworked or weather causes the materials to become wet, dry or frozen.

720.05 Materials testing technicians shall furnish copies of failed test results to the Engineer within two working days of completion of testing and prior to the next construction phase. On a weekly basis, the Contractor shall furnish the Engineer with copies of all test results taken during that week and a cover letter, signed by the supervising registered professional engineer, which summarizes the results and discusses any failed tests or inconsistencies.

720.06 The City materials testing requirements are provided in Table 720-1. All testing procedures, point of verification and central lab requirements shall be as specified in the Frequency Guide Schedule of the Colorado Department of Transportation Field Materials Manual. Without increasing the total number of tests or samples required, the Engineer or Inspector may change the test locations from the frequency spacing shown in Table 720-1. One test is required for any fraction of the specified frequency.

**Table 720-1
City of Wheat Ridge Materials Testing Requirements**

Type of Test	Frequency	Remarks
Soil Survey (Classification), AASHTO M 145	1 per 500 feet of roadway or pipe trench	Surveys for roadway and trench may be combined
Moisture-Density Curve, AASHTO T 99	1 per on-site soil type 1 per import material source	AASHTO method determined by soil or materials type
Embankment in-place density, Colorado Procedures	1 per 250 feet per lane per 6 inch loose lift	Minimum density per soil classification, Section 203.07
Roadway subgrade in-place density, Colorado Procedures	1 per 250 feet per lane	Minimum density per soil classification, Section 203.07
Sidewalk subgrade in-place density, Colorado Procedures	1 per 250 feet of sidewalk	Minimum density per soil classification, Section 203.07
Pipe trench in-place density, Colorado Procedures	1 per 200 feet of trench per 18 inch vertical interval	Minimum density per soil classification, Section 203.07
Aggregate base course in-place density, Colorado Procedures	1 per 250 feet per lane	Minimum 95% of maximum density, T 180
Lime treated subgrade in-place density, Colorado Procedures	1 per 250 feet per lane	No less than 95% of standard dry density and optimum moisture, T99
Cement treated base in place density, Colorado Procedures	1 per 250 feet per lane	Density in accordance with contract documents, T 134
Hot Bituminous Pavement asphalt content and gradation	1 per 1000 tons	Within specifications of approved mix design: Binder PG 64-22
Hot Bituminous Pavement in-place density, Colorado Procedures	1 per 100 tons	92 - 96% of maximum density, T 209
Concrete compressive strength, AASHTO Procedures	1 set per 50 cubic yards	PCC pavement, structural concrete, sidewalks, and curbing
Concrete air content and slump, AASHTO Procedures	1 per 25 cubic yards	PCC pavement, structural concrete, sidewalks, and curbing

BASIS OF PAYMENT

720.07 Payments for materials sampling and testing will be lump sum.