

SECTION 00620

SPECIAL PROVISIONS FOR CITY OF GREELEY 95th Avenue/Jones Ditch Culvert Replacement

October 2021

PROJECT DESCRIPTION

This project involves the replacement of an irrigation ditch culvert under an arterial roadway in Greeley, Colorado.

The project generally includes the following work:

Removals / Relocation

- Removal of culvert;
- Clearing and grubbing
- Unclassified excavation

Storm Sewer

- Installation Water Quality Structure, orifice plate and micropool
- Installation of Tideflex Inline Check Valve
- Modification of and connection to existing irrigation diversion structure
- Installation of Concrete trickle channel

General

- Landscaping restoration
- Construction and maintenance of erosion and sediment control measures
- Survey and staking

CONSTRUCTION PLANS

The construction PLANS for this project are dated October 2021 as prepared by the Harris Kocher Smith and include the Plan and Profile, Details, Horizontal Control Plan, and Erosion and Sediment Control Plans, shown on sheet numbers 1-7, which are a part of these contract documents.

CONSTRUCTION SPECIFICATIONS

This project is subject to the following specifications:

Abbreviated as:

- | | |
|--|------------------|
| • Drawings and Special Provisions | D&S |
| • City of Greeley Design Criteria and Construction Specifications | DCCS |
| ➤ Volume I - "Streets," July 2015 | Streets |
| ➤ Volume II - "Storm Drainage" June 2008 | Drainage |
| ➤ Volume III - "Water / Sewer" February 2008 | Water |
| • 2019 CDOT Standard Specifications for Road and Bridge Const. | CDOT Orange Book |
| • CDOT M&S Standards, July 4, 2012 (including applicable modifications listed in the CDOT Standard Special Provisions) | M&S |
| • MGPEC Pavement Design Standards and Const. Specifications, Latest Edition | MGPEC |

PRIORITY OF DOCUMENTS

In case of conflict, documents shall have the following priorities:

1. Special Provisions
2. PLANS
3. General Conditions
4. CDOT Specifications and Standards listed above.
5. City of Greeley DCCS

The applicable materials specifications are listed under each specific bid item.

PRE-CONSTRUCTION CONFERENCE

After Contract Notice of Award, the CONTRACTOR shall attend a pre-construction conference with the City prior to commencement of construction. The CONTRACTOR shall have submitted digitally the following information prior to the meeting, or it shall be available at the meeting:

- Materials Sources
- List of major subcontractors-including but not limited to: traffic control and flatwork
- Bar graph construction schedule in accordance with General Conditions Article 21.1

SUMMARY OF WORK

Work shall conform to the Summary of Work items outlined in the City of Greeley Streets Design and Construction Standards – Section 01010 Summary of Work, except as modified herein.

PERMITS

Conform to Greeley Streets Standards - Section 01010 Summary of Work. Fees for City permits will be waived (Fees for City's CONTRACTOR License application will not be waived).

CONTRACTOR USE OF SITE

The CONTRACTOR shall, at all times, so conduct his work as to ensure the least possible inconvenience to the general public and adjacent property owners to the project site, and to ensure safety of persons and property. Fire hydrants on or adjacent to the Work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to insure the use of access roads / driveways to adjacent properties.

Full closure of any road is not allowable unless special approval is granted by the City.

The CONTRACTOR shall submit for approval: a Traffic Control Plan conforming to MUTCD Standards, Greeley Streets Construction Specification 01010, and Greeley Regulations for Street Construction, Section G Traffic Control prior to initiating construction. Any temporary pavement markings shall follow Greeley Streets Construction Specification 02618.

The contractor shall give residents a minimum of 48 hours notification of potential utility disruptions.

CONTRACT TIME, LIQUIDATED DAMAGES, DELAYS

The entire project shall be at Substantially Completion within thirty (30) calendar days from the date of the Notice to Proceed. The CONTRACTOR shall complete the following work in order for the project to be considered Substantially Complete:

- Installation of Water Quality Structure
- Modification of Existing Water Quality Structure
- Installation of Trickle Channel
- Access to Poudre Trail restored

Liquidated damages will be withheld from final payment to the CONTRACTOR for each day that the entire project's substantial completion is delayed beyond the contract date. Liquidated damages will be determined in accordance with CDOT Standard Special Provisions Section 108.09 (2017) and shall not exceed five hundred dollars (\$500) per calendar day. This daily charge will be deducted from any money due the CONTRACTOR. Liquidated damages are based on additional costs to the City of Greeley for delay of project completion and are not a "late penalty."

The CITY will not be responsible for any delays due to failure on the CONTRACTOR's part to notify utility companies of conflicts. The CONTRACTOR shall contact the utility companies before construction.

WORKING HOURS

The CONTRACTOR shall restrict working hours to between 8:00 am and 5:00 pm on normal City of Greeley business days unless prior approval has been obtained from the City. Costs incurred by the City to inspect, test, or oversee work performed outside these hours will be deducted from progress payments to the CONTRACTOR through the project's final change order. Hourly rates per individual are as follows:

- Project Manager - \$95; Construction Inspector - \$75; Technician - \$60; and Surveyor - \$50.

PROJECT WORK SCHEDULE

The CONTRACTOR is responsible for submitting an updated schedule to the CITY at weekly progress meetings, with each pay request or at the request of the CITY for the duration of the project. Failure to do so will delay payment.

SCALE TICKETS

The CONTRACTOR shall provide certified scale tickets for each truckload of material to be paid by unit weight that is delivered to and incorporated in the project. The CONTRACTOR shall submit tickets to the designated CITY at the time material is delivered to the site.

PROTECTION OF EXISTING UTILITIES / UTILITY COORDINATION

Protection of existing utilities and coordination with utility companies shall be in accordance with DEES - Streets Section 01010. Such additional coordination shall not be paid for separately, but shall be included with the Work.

The CITY has not allowed for any damage costs to the adjacent utilities. No utilities were identified to be in conflict with the WORK during the design phase of the project.

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

GEOTECHNICAL AND GROUNDWATER CONDITIONS

A geotechnical engineering investigation was completed by Kumar & Associates, as documented in a letter dated August 5, 2021. This letter is included in the contract documents. Four exploratory borings were performed in July 2021, with two borings completed as groundwater wells.

Groundwater was encountered at shallow depths at the pond in July but are anticipated to be lower at the time of construction. Based upon this investigation, construction dewatering is not included as a pay items in this project.

MATERIALS TESTING

MATERIALS, ACCEPTANCE AND QUALITY CONTROL TESTING

The CONTRACTOR shall submit bills of lading or invoices for materials of importance, such as

concrete reinforcement bars or RCP as the material is received. Failure to submit requested documents may result in refusal of payment for appropriate bid item.

The CITY will provide project acceptance and material testing to the extent the City deems necessary for project acceptance. The CONTRACTOR shall coordinate with the CITY as to when the work is ready for acceptance testing. The CONTRACTOR shall assist City in obtaining samples for testing. Uncover and recover at no cost to the CITY any work buried prior to acceptance tests and approvals to allow CITY to test.

The CONTRACTOR shall be responsible for costs associated with re-testing materials that failed acceptance tests. Testing for construction quality control such as establishing roller patterns, backfill moisture content, embankment compaction and the like is the responsibility of and shall be provided by the CONTRACTOR.

Do not use any materials or equipment represented by samples until tests, if required, have been made and the materials or equipment found to be acceptable. Any product which becomes unfit for use for any reason after being found acceptable shall not be incorporated into the work.

Tests shall be made by an accredited testing laboratory selected by the CITY. Except as otherwise provided, sampling and testing of all materials and the laboratory methods and testing equipment shall be in accordance with the latest standards and tentative methods of the American Society for Testing Materials (ASTM), and the American Association of Highway and Transportation Officials (AASHTO).

Where additional or specific information concerning testing methods, sample sizes, etc., is required, such information is included under the applicable sections of the Specifications. Any modification of, or elaboration on, these test procedures which may be included for specific materials under their respective sections in the Specifications shall take precedence over these procedures.

Written reports of tests and engineering data furnished by CONTRACTOR for CITY's review of materials and equipment proposed to be used in the work shall be submitted as specified for Shop Drawings.

The testing laboratory retained by the CITY will furnish three (3) copies of a written report of each test performed by laboratory personnel in the field or laboratory - two (2) copies of each test report to the CITY and one (1) copy to the CONTRACTOR within seven (7) days after each test is completed.

Refer to the City of Greeley's Design and Construction Standards for the Quality Control testing Schedule for this project.

ACCESS AND STAGING

The water quality pond is located on a parcel owned and maintained by the City of Greeley. All construction shall be confined to the area(s) identified on the PLANS and located within City of Greeley property or identified area of disturbance located on the PLANS. Any unauthorized disturbance occurring outside these limits shall be restored to its original condition (or better) at the CONTRACTOR'S expense.

POUDRE TRAIL

Construction will require temporary closure of the Poudre Trail. The CONTRACTOR shall coordinate with the PROJECT MANAGER to notify Bob Hinderaker 970 336 4044, Poudre

Trail Manager, a minimum of 7 days prior to proposed closure.

The CITY has not allowed for any damage to the Poudre Trail as a part of construction activities. The CONTRACTOR shall at all times protect the trail from damage as a result of equipment, vehicles and construction activity, by minimizing traffic on the trail and constructing protective earthen bridges over trail crossings. The CONTRACTOR shall replace at their sole expense any damaged trail segments that result from construction activity.

TIDEFLEX CHECKMATE CHECK VALVE

~~The CITY has determined the lead time for this item, as installed per Pay Item 17, is approximately 11 weeks. Consequently, the CITY has ordered this item directly from the supplier, with approximate delivery in early January 2022. The CITY will reimburse the CONTRACTOR for the cost to install this item under Pay Item 17 only. The CONTRACTOR need not order or furnish this item. Contact the PROJECT MANAGER for details on picking up the valve item.~~ *Removed from contract, Addendum 2, 11/10/21*

CONSTRUCTION STAKING

The CONTRACTOR shall provide project staking and As Built survey per the PLANS. The Horizontal Control plan is available in the PLANS as Sheet 4.

CONSTRUCTION MATERIALS SUBMITTALS

CONTRACTOR shall submit manufacturers' information and materials specifications, testing results, and certifications that the materials proposed for this project meet the specification requirements outlined in the Standard Specifications and these Supplemental Specifications. The CONTRACTOR shall submit to the City manufacturers' information and certification that all materials conform to materials specifications for the following items before confirmation of orders:

1. Water Quality Structure Miscellaneous Metals
 - a. Stainless Steel Orifice Plate
 - b. Inlet Grates
 - c. Trash Rack/Well Screen
2. Aggregated Base Course
3. Soil retention blanket
4. Seed Mixture
5. Concrete Mix Design
 - a. Structural Concrete
 - b. Grout

WARRANTY

CONTRACTOR is responsible for providing a **TWO-YEAR** warranty to the City of Greeley for all work completed under this contract. The City will establish the beginning of the TWO-YEAR warranty period with the issuance of the Certificate of Final Acceptance. If the concrete fails, spalls, or deteriorates during the first or second year, the CONTRACTOR shall replace concrete under this warranty. Warranty work will be completed according to these contract Special Provisions and within 30 days of written notification by the City of Greeley. See Article 11, "Warranty of Work" in the General Conditions for additional information. **The CITY will grant no waiver of permit fees for Warranty work.**

EXCESS MATERIAL

The CONTRACTOR shall legally dispose of all material removed from the project which is deemed unusable by the CITY. The CONTRACTOR shall legally dispose of, off the project site, all designated excess material at no additional cost to the City.

During the installation of the Work, excavated earthen material is to be stockpiled onsite or to a site approved by the CITY.

At the end of each work week, the contractor shall remove all stockpiled excess earthen material to a site approved by the CITY. Additionally, no stockpiled material shall limit access to driveways or alleys at any time during construction. The CONTRACTOR shall minimize disruption to local parking and shall seek CITY approval for all parking disruptions associated with the PROJECT.

SURFACE AND GROUND WATER CONTROL

The CONTRACTOR shall conduct his operation in such a manner that storm or other waters may proceed uninterrupted along their existing drainage courses. By submitting a bid, the CONTRACTOR acknowledges that he has investigated the risk arising from such waters and has prepared his bid accordingly, and assumes all of said risk. At no time during construction shall the CONTRACTOR affect existing surface or subsurface drainage patterns of adjacent property. The CONTRACTOR shall repair any damage to adjacent property resulting from the CONTRACTOR's alteration of surface or subsurface drainage patterns at no additional cost to the CITY.

CONTRACTOR shall remove all temporary water control facilities when they are no longer needed or at the completion of the project.

Pumps and generators used for water control shall be quiet equipment enclosed in sound deadening devices.

The CONTRACTOR shall coordinate, evaluate, design, construct, and maintain temporary water conveyance systems. A water control plan shall be submitted to the City for approval prior to construction. These systems shall not worsen flooding, alter major flow paths, or worsen flow characteristics during construction. The CONTRACTOR is responsible to ensure that any such worsening of flooding does not occur. The CONTRACTOR is solely responsible for determining the methods and adequacy of water control measures.

The CONTRACTOR shall be responsible for planning for and implementing a culvert diversion along the pipe main alignment of required. Temporary conveyance systems should be designed to safely convey this discharge, without harming public or private property or new utility installations, in addition to any surface water flows expected as part of a rainfall or irrigation event. Temporary provisions shall be made by the CONTRACTOR to insure the use of access roads / driveways to adjacent properties.

The CONTRACTOR will be responsible for diverting the quantity of surface flow around the construction area so that the excavations will remain free of surface water for the time it takes to install these materials, and the time required for curing of any concrete or grout. The

CONTRACTOR is cautioned that the minimum quantity of water to be diverted is for erosion control and construction purposes and not for general protection of the construction-site. It shall be the CONTRACTOR's responsibility to determine the quantity of water which shall be diverted to protect his work from damage caused by storm water.

The CONTRACTOR shall, at all times, maintain a flow path for all surface flow. The CONTRACTOR shall provide a contingency plan for flooding during project construction. Temporary structures such as berms, sandbags, pipeline diversions, etc., may be permitted for the control of channel flow, as long as such measures are not a major obstruction to flows and do not worsen flooding, or alter historic flow routes.

CONTRACTOR is responsible for all clean up and/or repairs within the construction site as a result of any storm event during construction.

SEDIMENT AND EROSION CONTROL

The CONTRACTOR is responsible for control and routing of storm water runoff draining onto and from the construction area to prevent erosion, pollution, or other damage and shall comply with City of Greeley Environmental Municipal Construction Best Management Practices (BMP) (attached) including requirements for saw-cutting and concrete placement.

The CITY will perform regular inspections and will inform CONTRACTOR when maintenance of items or additional items is required. All maintenance or replacement of items will be accomplished within 24 hours of notice from City.

The CONTRACTOR shall coordinate with City representative for approval of the method of bypassing existing flows of water around the construction area.

The CONTRACTOR shall coordinate with City representative for approval of protection of stockpiles of excavated material and bedding material, particularly where located on asphalt surfaces.

The CONTRACTOR shall use mobile Concrete Washout bins exclusively. No conventional washout pits will be allowed. One mobile Concrete Washout bin will be required on-site at all times.

TREES & LANDSCAPING

CONTRACTOR shall document the condition and type of landscaping in all areas to be disturbed prior to commencing work, either through video or photographs. Should the CONTRACTOR damage existing landscaping outside the project limits of construction as defined in the DRAWINGS, landscaping shall be restored to pre-existing conditions or better by the CONTRACTOR at the CONTRACTOR's expense.

If tree roots (within 50' of the trunk of any tree) will be cut or damaged, CONTRACTOR must contact Greeley Forestry at 970-339-2436 prior to such work. Access routes to the work area over the root zones of mature trees will be prohibited without providing proper compaction mitigation measures. Any necessary excavation, as approved by Greeley Forestry staff, will require cutting of large roots (>2" diameter) with a saw except as specifically approved by the CITY.

PAYMENT

Monthly payments will be made in conformance with the General Conditions of this contract. CITY and CONTRACTOR shall meet on site to verify quantities. No payment will be made on incomplete work, including clean up.

Removals not shown on the PLANS or marked as such by the City will not be paid for unless first authorized by the City's CITY.

BID ITEMS - GENERAL DESCRIPTION OF MEASUREMENT AND PAYMENT

The work performed under this Agreement shall be paid for on both a Unit Price basis and Lump Sum basis for individual line items at the rates for the respective items on the Bid Schedule. The quantities provided on the Bid Schedule are only estimates of the actual quantities of the work to be performed, and are only included for purposes of making the award and establishing a basis for estimating the probable cost of the work. The actual amounts of work performed and materials furnished for unit price bid items may differ from the estimated quantities. The basis of payment for work and materials bid as a unit price will be the actual amount of approved work done and materials furnished. Any quantity overages shall be first approved by the City prior to this work being completed.

Payment shall be made only for those items included in the Bid Schedule. All costs incurred shall comply with the provisions of these Specifications and shall be included in the unit price bid for the associated items in the Bid Schedule. Except as may be otherwise stipulated, no material, labor or equipment will be furnished by the OWNER. The quantity of work which will be considered for payment is the actual number of units completed in accordance with all relative Specifications. This basis of measurement and payment for each proposal item will be described below. The following provides a general listing of contract bid items along with a brief summary of the work and materials included, but not limited to, in the unit price or lump sum price for each bid item. Refer to the Specifications and PLANS for additional information.

PAY ITEMS

1. Clearing and Grubbing

Specification - Conforms to Greeley Streets Construction Specification 02220 – Excavation, Removals, and Embankment.

- A. The measurement for payment for this item will be lump sum based on BID item and in accordance with the DRAWINGS and SPECIFICATIONS. The payment shall be total compensation for all labor, equipment, materials, maintenance, and all incidentals necessary to prepare, implement, and conduct the clearing and grubbing of sod, in accordance with the Drawings and Specifications, including all costs associated with the disposing of materials off-site.
- B. Payment will be made for complete work as a Lump Sum (LS). Pay will be based on percentage of work completed.

2. Remove Pipe

Specification - Conforms to Greeley Streets Construction Specification 02220 – Excavation, Removals, and Embankment, Specification 02225 - Grading, Compaction Subgrade, and Unimproved Area Preparation

- A. Measurement for payment for these items will be made for each horizontal linear foot of pipe that is removed per the DRAWINGS and SPECIFICATIONS. The unit price bid for each item shall be full compensation for sawcutting, removing, hauling and disposing these items. These bid items also include excavation and subsequent backfill with suitable material associated with the removal; and all other work necessary.
- B. Payment will be based on linear feet of pipe removed and accepted.

3. Remove Orifice Plate and Side Walls

Specification - Conforms to Greeley Streets Construction Specification 02220 – Excavation, Removals, and Embankment.

- A. Measurement for payment for these items will be LUMP SUM in accordance with the DRAWINGS and SPECIFICATIONS. No separate measurement for payment will be made for any labor, equipment, and materials required for this item. The unit price will include all of the CONTRACTOR's costs, which are not specifically measured and paid for under other BID items. This BID item includes, but is not limited to: Removing, hauling, and disposing of structures and obstructions including: existing pipe, culverts, inlets, concrete, sawcutting and removal of asphalt, and any structures and obstructions that interfere with the WORK; stockpiling of all salvageable inlet grates/hardware, manhole rings/covers (to be hauled by City Streets Department), Backfilling and compacting, placement of CLSM flow-fill after removal of inlets, structures and obstructions; Moisture conditioning of suitable backfill material; Restoring area, as required; Providing all other related and necessary labor, equipment, and materials to complete the WORK.
- B. Payment will be based on a lump sum once all units are removed and accepted.

4. Install Galvanized Steel Orifice Plate (Existing Outfall)

Specification: Conforms to Greeley Stormwater and Sewer Construction

- A. The measurement for payment shall be for the installation of the orifice plate furnished and installed in accordance with the DRAWINGS and SPECIFICATIONS. The unit price will include all of CONTRACTOR's costs whatsoever, including: furnishing; transporting; and installing the plate; furnishing, drilling and installing bolts, washers and applicable hardware; and providing all other related and necessary labor, equipment, and materials to complete the WORK in accordance with the DRAWINGS.
- B. Payment shall be made for the orifice plate once completed and approved in place at the time of each monthly progress payment.

5. Unclassified Excavation (CIP)

Specification – Conforms to DCCS Volume III Construction Specifications Section 02315

- C. The unit price for this item includes all of the CONTRACTOR's costs of whatsoever nature to remove soil materials from the site, haul these materials away, and dispose of the soil materials in accordance with local, State, and Federal law.
- D. Payment for Unclassified Excavation shall be made for actual cubic yards of materials removed from the excavation and accepted by the CITY. The CONTRACTOR shall notify the PROJECT MANAGER if any over-excavation is required prior to completing any over-excavation.

- 6. **Silt Fence**
- 7. **Concrete Washout**
- 8. **Inlet Protection**
- 9. **Vehicle Tracking Pad**
- 10. **Stabilized Staging Area**
- 11. **Seeding (Native)**
- 12. **Mulching (Weed Free)**
- 13. **Soil Retention Blanket**

Specification - Conforms to Greeley Stormwater Criteria – Section 13.0 – Construction Site Erosion and Sediment Control; Urban Drainage Flood Control District Specification – 01 57 19 Temporary Environmental Controls. City of Greeley Natural Area Seeding Specifications (Pond Mix and Native Prairie Seed Mix)

- A. The measurement of this item will be on a lump sum basis. Work includes all equipment, labor, and materials required for the installation and maintenance of erosion and sediment control BMP's in accordance with the DRAWINGS and SPECIFICATIONS, or as otherwise directed by the CITY. Erosion and sediment control measures include (but are not limited to): maintaining an Erosion Control Supervisor; establishing, removing, and restoring to its original condition stabilized staging areas within City right-of-way; furnishing, installing, maintaining BMP's; disposing of all fencing and signage; furnishing and installing and disposing vehicle tracking control; storage devices; street sweeping; furnishing, installing and disposal of silt fence, inlet protection, rock socks, and sediment control logs; stockpile management; temporary diversion measures; concrete washout areas; and any additional erosion and sediment control BMP's as required by the City, permitting and preparation of all documents for required permits; inspecting and reporting; and maintain all erosion control BMP's throughout construction and in accordance with the DRAWINGS and SPECIFICATIONS.
- B. Payment for Stormwater Management/Erosion Control will be paid for as a Lump Sum (LS) and will be based on percentage of work completed. This item will also include all other erosion control measures required. Fifty percent (50%) of the lump sum bid price will be paid at the time of the first monthly pay application; an additional thirty percent (30%) will be paid when fifty percent (50%) of the original contract amount has been earned; and the remaining twenty percent (20%) will be paid upon final acceptance of the project.

14. Aggregate Base Course

Specification – Conforms to DCCS Section 02220 – Excavation, Removals, and Embankment, Specification 02225 – Grading, Compaction, Subgrade, and Unimproved Area Preparation, Specification 02227 – Sub-Base, Specification 02229 – Aggregate Base Course

- A. The measure for payment of Aggregate Base Course will be per the cubic yard installed and completed in place. The unit price bid per cubic yard shall include all of the CONTRACTOR'S costs of whatsoever nature required for installing the aggregate base course. The price bid shall include: furnishing; transporting material to site; grading to appropriate grades; compaction of material; proof-rolling; and all other related and necessary labor, equipment, and materials to complete the work in accordance with the DRAWINGS and SPECIFICATIONS.
- B. Payment shall be made for the amount of aggregate base course measured by the cubic yard compacted in place.

15. Trickle Channel

Specification - Conforms to City of Greeley Street Construction Specifications Section 02227 – Subbase, Section 02585 – Portland Cement Concrete pavement, Section 03310 – Curbs, Gutters, Sidewalks, Valley Gutters, Bikeways, Driveway, and Alley Approaches.

- A. The measurement for payment of this item will be on a linear foot basis. The unit price bid per linear foot shall include all of the CONTRACTOR's costs of whatsoever nature including: furnishing and placing reinforcing steel, furnishing and placing concrete; coordinating with the CITY; forming; furnishing and installing; furnishing expansion joints; furnishing and applying the curing compounds; sawcutting existing concrete as required; sawcutting control joints; finishing and edging the concrete surface; concrete finishing; furnishing and compacting all materials required for preparation of a stable subbase; backfilling; landscaping; irrigation adjustments; and all other related and necessary materials, work, and equipment required to construct the concrete pan in accordance with the DRAWINGS and SPECIFICATIONS.
- B. Payment shall be made for the number of linear footage installed, complete in place at the time of each monthly progress payment.

16. Water Quality Outlet Structure (Micropool)

Specifications: Conforms to Greeley Stormwater and Sewer Construction Specification 02220 – Excavation, Removals, and Embankment, Specification 02223 – Structural Backfill, Specification 02225 - Grading, Compaction Subgrade, and Unimproved Area Preparation; Technical Specifications 03110 – Structural Cast-in-place Concrete Forms, 03151 Hydrophilic Rubber Waterstop, Section 03210 – Reinforcing Steel, 03300 – Structural Concrete, Section 03320 Construction Joints, Section 03350 - Concrete Finishing, Section 03390 Concrete Curing, Section 03615 – Grout, Section 07900 – Sealants, Section 07905 – Joint Sealers for Precast Concrete Manholes, Section 09985 – Structural Concrete Coating

- A. The measurement for payment for the installation of outlet structures shall be based on each structure furnished and installed in accordance with the DRAWINGS and SPECIFICATIONS. The unit price will include all of CONTRACTOR's costs whatsoever, including: furnishing; transporting; and installing precast structures; concrete, reinforcing steel, mortar and grout; forming; grate, frame; concrete apron surrounding inlet grate and frame, flow-fill, any necessary connections; excavating, backfilling and compacting including imported backfill material if no suitable on-site material is available; Removing pavement, base course, subbase material, sod, and other surfacing material outside of the prescribed trench width which is not paid for under another section of these SPECIFICATIONS; landscaping; hauling and disposing excess excavated trench material; water control; and providing all other related and necessary labor, equipment, and materials to complete the WORK.

CONTRACTOR shall have the opportunity to select either pre-cast or cast-in-place concrete. Selection shall be made in conjunction with City representatives, dependent on estimated schedule and cost.

- B. Payment for installation of the outlet structures shall include payment for all materials and labor to construct the outlet structure micropool and walls, per the construction detail on Sheet 3 of the PLANS.
- C. Payment shall be made for each structure completed and approved in place at the time of each monthly progress payment.

~~17. **Tideflex Checkmate Inline Check Valve (Install Only)** – *Removed from contract, Addendum 2, 11/10/21*~~

~~Specification – TideFlex CheckMate Inline Check Valve Technical Specifications by Red Valve. Conforms to Greeley Stormwater and Sewer Construction Specification 02220 – Excavation, Removals, and Embankment, Specification 02223 – Structural Backfill, Specification 02225 – Grading, Compaction Subgrade, and Unimproved Area Preparation~~

- ~~A. The measurement for payment shall be for the installation of the valve installed in accordance with the DRAWINGS and SPECIFICATIONS. The unit price will include all of CONTRACTOR's costs whatsoever, including:; transporting and installing the valve; furnishing, removal of earth or pipe material to install the valve, installation of any fasteners; and providing all other related and necessary labor, equipment, and materials to complete the WORK in accordance with the DRAWINGS.~~
- ~~B. Payment shall be made for the Tideflex valve once completed and approved in place at the time of each monthly progress payment.~~
- ~~C. Due to lead time concerns, the City has purchased the Tideflex Checkmate Inline Check Valve. The CONTRACTOR's bid shall be for installation of the item only.~~

18. Construction Fence

Specification - Conforms to Greeley Stormwater Criteria – Section 13.0 – Construction Site Erosion and Sediment Control

- A. The measurement for payment of this item will be the actual number of linear feet of fence placed in accordance with the DRAWINGS and SPECIFICATIONS or as otherwise directed by the City of Greeley. The unit price will include all of CONTRACTOR's costs. This BID items includes, but is not limited to, furnishing and installing all materials, including posts, rails, wire, fabric, concrete, and nails as shown on the DRAWINGS; excavating, filling, and compacting; removing, hauling, and disposing at the end of construction; and restoring area, as required; providing all other related and necessary labor, equipment, and materials to complete the WORK.

19. Construction Surveying and Staking (Including As-Built Survey)

Specification - Conforms to CDOT Section 625 – Construction Surveying, with CDOT Standard Special Provision.

- A. No unit measurement shall be made for this item. Work includes providing all equipment, labor, and materials required to provide Construction Surveying for construction of all work items for the project including: Staking of horizontal and vertical alignments; overlot grading; subgrade elevations; off-sets; temporary control points; and re-establishment of land monuments. **Upon project completion, an as-built survey of the completed final grades and inverts along with all appurtenant features of the work should be completed** and submitted to the City prior to final payment.
- B. The lump sum price bid shall include all of the CONTRACTOR's costs of whatsoever nature to perform the Construction Surveying as required for the construction of the Project in accordance with the DRAWINGS and SPECIFICATIONS and shall include all of the CONTRACTOR's costs as required for production of the As Built drawings. Fifty percent (50%) of the lump sum bid price will be paid at the time of the first monthly pay application; an additional thirty percent (30%) will be paid when fifty percent (50%) of the

original contract amount has been earned; and the remaining twenty percent (20%) will be paid upon final receipt and acceptance of the As-built survey.

20. Mobilization

Specification - Conforms to CDOT Section 626 – Mobilization.

- A. No unit measurement for payment will be made for any of the work, materials, and equipment required for mobilization and field overhead. This work consists of the mobilization of personnel, equipment and supplies at the project site in preparation for work on the project. This item shall include the establishment of the CONTRACTOR'S offices, buildings and other necessary facilities, and all other costs incurred or labor and operations which must be performed prior to beginning the other items under the Contract. This item shall also include temporary fencing around project work and driving areas, and any other fencing/security items as deemed necessary by the CONTRACTOR. This item also includes obtaining permits and CONTRACTOR testing. This item may also include provision of required bonds, insurance, and preparation of the project schedule. The removal of the CONTRACTOR's equipment, supplies, excess materials, and cleanup of the site are also included in this item.

- B. Payment will be made as the work progresses. Fifty percent (50%) of the lump sum bid price will be paid at the time of the first monthly progress payment. An additional thirty percent (30%) will be paid when one-half the original contract amount is earned. The remaining twenty percent (20%) will be paid upon final acceptance of the project.

**DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
REQUIREMENTS: MANDATORY AS INDICATED BELOW**

Activities such as asphalt application, slurry saw cutting, and directional boring can contribute high concentrations of toxic hydrocarbons, other toxic organic compounds, oils and greases, solids, and heavy metals to stormwater runoff. Concrete pouring can contribute suspended solids and heavy metals to stormwater runoff and cause pH increases in receiving waters.

The following Best Management Practices, (BMPs), or equivalent measures, methods, or practices are required if you are engaged in saw cutting, concrete pouring or asphalt application in right-of-ways within the City Of Greeley.

Slurry from Sawcutting:

Storm drains can carry saw cutting slurry and other pollutants from the streets and gutters directly to local waterways. This slurry can be toxic to fish and wildlife. The slurry can clog storm drains and catch basins which increase maintenance costs and could cause flooding.

If saw cut slurry from your job runs down the gutter uncontained, you have violated City Code. This also is a violation of state and federal regulations. Offenders may be subject to fines and clean-up costs.

Concrete Pouring and Asphalt Applications EFFECTIVE IMMEDIATELY	Saw Cut Slurry And Directional Boring Mud
<p>. Use drip pans, ground cloths, and perhaps heavy plywood whenever concrete, asphalt, and asphalt emulsion chunks and drips are likely to fall unintentionally, such as beneath exit points from mixing equipment.</p> <p>. Place storm drain barriers or similarly effective containment devices over all nearby drains at the beginning of the work day. All accumulations of runoff, aggregate chunks, and other solids must be collected with a shovel or other mechanism for proper disposal at the end of the work day (or more frequently) prior to removing the containment device(s). Drain barriers and other containment devices are commercially available.</p> <p>. Contain and collect the slurry from exposed aggregate washing, where the top layer of unhardened concrete is hosed or scraped off to leave a rough finish. Use a storm drain barrier or other containment device, as mentioned above. All collected runoff must be properly disposed.</p> <p>4. Concrete and concrete pumping vehicles shall not, under any circumstances, discharge any concrete, slurry, or rinse water into street gutters, storm drains or drainage ditches. and detention ponds. GREELEY CODE 14.16.170</p> <p>Designate a wash-out area on-site where cleaning of application and mixing equipment can take place and where the rinse water is controlled. It is also acceptable to dispose of rinse water and slurry in a hole in the ground big enough to contain the slurry and rinse material. Commercial products and services are also available for concrete, slurry, and rinse water disposal</p> <p><u>Routine Maintenance:</u> Sweep the pouring area at the end of each day to collect loose aggregate chunks and dust. DO NOT hose down the area to a storm drain.</p>	<p>1. Block Gutters: EFFECTIVE IMMEDIATELY Dam up gutters to contain slurry and minimize the containment area.</p> <p>Know the location of all nearby storm drain inlets, culverts, and catch basins through which slurry discharges may enter a waterway.</p> <p>If you are within access of a storm drain inlet, block the path to the nearest drain. Either divert flows or berm inlets to pool water away from the drains.</p> <p>2. Minimize Slurry Movement: EFFECTIVE IMMEDIATELY</p> <p>Slurry and sediment from saw cutting or boring operations should be confined to the immediate work area by using temporary berms, sand bags or diversion structures. Minimize the tracking of slurry off site by cars and pedestrians.</p> <p>3. Remove Slurry: MANDATORY JANUARY 1, 2005</p> <p>Efficiently and effectively collect and remove all slurry and runoff from the saw cutting operation as soon as possible. Be sure to include removal of any slurry collected in or near storm drain inlets by pumping to a collection vessel or using a wet/dry vac. It may be necessary to use a street sweeper or wash down the area and collect the water.</p> <p>No slurry or wash water is allowed to drain off site. Slurry and wash water may be disposed of on site, with owner's permission, where it can filter into bare soil. Otherwise, dispose of all collected slurry and wash water properly. One way is to allow collected slurry to settle and decant the water onto the ground or, <u>with approval, into the sanitary sewer. Contact Water Pollution Control Facility for approval at 350-9360. Must obtain approval prior to discharging to sanitary sewer.</u> Dispose of the solids appropriately.</p>

**DO NOT HOSE DOWN WORK AREAS INTO THE GUTTER, STREET, OR STORM DRAIN.
DO NOT WASH IT DOWN PAST THE PROJECT AREA WHERE IT BECOMES "SOME ONE**

STREET, CURB, AND GUTTER REPLACEMENT AND CONSTRUCTION

Activities involving the replacement and construction of streets, curbs, and gutters have the potential to impact stormwater quality.

Materials involved in these activities should be used efficiently and disposed of properly.

- Applicable sediment and erosion controls should be installed; such as: inlet protection, silt fence, sediment traps, erosion control logs, check dams, and vehicle tracking control. Sediment and erosion controls will be installed and maintained in accordance with approved design criteria and/or industry standards.

- When saw cutting, ensure that no slurry enters the storm drain.**
 - Block gutters**
 - To contain slurry and minimize the containment area.
 - Protect inlets and pool water away from the drains.
 - Minimize Slurry Movement**
 - Confine slurry and sediment from saw cutting to immediate work area by using temporary berms, sand bags, or diversion structures.
 - Minimize the tracking of slurry from the job site by cars and pedestrians.
 - Remove Slurry**
 - Sweep or vacuum slurry and properly dispose of the sweepings or vacuum while saw cutting.
- Monitor construction equipment for leaks and use drip pans as necessary.
- Leaking material containers should be properly discarded and replaced.
- Store materials in containers under cover when not in use and away from any storm drain inlet.
- Wash out mixers, delivery trucks, or other equipment in the designated concrete washout area only.
- Locate concrete washout, portable toilets, and material storage away from storm drain inlets.
- Material stockpiles will not be stored in or near stormwater flow lines. Temporary sediment controls will be used during temporary, short-term placement while work is actively occurring.
- Sweep or vacuum the roadway as needed, during construction and once construction is complete.
- Best management practices will be periodically inspected and maintained as necessary.
- Where practicable, non-structural controls will be used, such as phased construction, dust control, good housekeeping practices, and spill prevention and response.
- Absorbent material should be kept on job site.
- Concrete Work**
 - Minimize the drift of chemical cure on windy days by using the curing compound sparingly and applying it as close to the concrete surface as possible.
 - Ensure that there is a concrete truck washout area available or require the contractor to wash out at the batch plant.
- Asphalt Work**
 - Control the placement of road base or asphalt used in embankments or shoulder backing; do not allow these materials to fall into any storm drain or watercourse.
 - Whenever possible, recycle unused asphalt.
- Traffic Control Devices such as cones may be needed to guard inlet protection devices during certain traffic set-up and flows.