



INVITATION FOR BID

Construction

B24-T012MZ

Date issued: January 17, 2024

TUTT BLVD EXTENSION: DUBLIN TO TEMPLETON GAP

THE CITY OF COLORADO SPRINGS

The City of Colorado Springs hereby solicits Fixed Unit Price (FUP) Bids, as detailed in this Invitation For Bids (IFB), for Tutt Blvd Extension: Dublin to Templeton Gap.

This IFB is posted to BidNet Direct and the City of Colorado Springs' Procurement Services Website. It is available for all vendors free of charge, following free registration, at the BidNet Direct website.

SUBMITTALS FOR THIS PROJECT WILL ONLY BE ACCEPTED ON THE BIDNET DIRECT PLATFORM.

Please login to the following website to register (Free Registration) to submit a bid for this project. All required documents will be uploaded to the BidNet website. The City of Colorado Springs belongs to BidNet's Rocky Mountain e-Purchasing Group within BidNet.

<https://www.bidnetdirect.com/>

BIDNET Direct Support

800-835-4603

Estimated Project Magnitude: \$1,500,000.00 - \$2,500,000.00

SECTION I – BID INFORMATION

1.0 BID INFORMATION

Section I provides general information to potential Bidders, such as bid submission instructions and other similar administrative elements. This Invitation for Bid (IFB) is available on BidNet (www.bidnetdirect.com). All addenda or amendments shall be issued through BidNet and may not be available through any other source.

1.1 SPECIAL TERMS

Please note the following definitions of terms as used herein:

The term “City” means the City of Colorado Springs.

The term “Contractor” or “Consultant” means the Bidder whose offer is accepted and is awarded the contract to provide the products or services specified in the IFB.

The term “Offer” or “Bid” means a bid submitted in response to this IFB.

The term “Offeror” or “Bidder” means the person, firm, or corporation that submits a formal bid or offer and that may or may not be successful in being awarded the contract.

The term “Project” refers to Tutt Blvd Extension: Dublin to Templeton Gap Project.

The term “Invitation for Bid” or “IFB” means this solicitation of formal, competitive, sealed bids from prospective bidders in which the intent is to award a contract to the resultant lowest responsible and responsive bidder.

1.2 BID ISSUE DATE

Invitation for Bid (IFB) Number B24-T012 is being issued and posted on www.bidnetdirect.com on January 17, 2024.

1.3 SUBMISSION OF BIDS

- A. Bids are to be submitted electronically on BidNet Direct (www.bidnetdirect.com). Please review the submission requirements **well in advance** of submission date and time, and allow for ample time to upload each required document. It is recommended that Offerors begin the submission process at least one (1) day in advance of the proposal deadline.

Offerors are solely responsible to ensure all required bid documents are uploaded and submitted correctly, and that a **confirmation number** is obtained upon successful submission. Customer support for BidNet Direct may be reached at (800) 835-4603.

- B. Bids shall be received on or before: 2:00PM February 16, 2024. A public opening will be held via Microsoft Teams at that time. Web access and dial in information is below:

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 259 713 389 63

Passcode: CYtrBR

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

Or call in (audio only)

[+1 720-617-3426,,205059647#](#) United States, Denver

Phone Conference ID: 205 059 647#

- C. Bid bond is required if total bid exceeds \$50,000.00. (Also see 1.22)
- D. The cost of Bid preparation is not a reimbursable cost. Bid preparation shall be at the Bidder's sole expense and is the Bidder's total and sole responsibility.

1.4 PRE-BID CONFERENCE

A pre-bid meeting will be held via Microsoft Teams on January 25, 2024 at 10:00AM. This meeting is highly encouraged but not mandatory.

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 225 396 090 597

Passcode: poto67

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

Or call in (audio only)

[+1 720-617-3426,,140067444#](#) United States, Denver

Phone Conference ID: 140 067 444#

1.5 LATE BIDS/LATE MODIFICATIONS OF BIDS

Bids, withdrawals or modifications of Bids received after the time set for opening, as designated in 1.3 above, are considered "late bids", and will not be accepted by the City, except as provided for in the City of Colorado Springs Procurement Rules and Regulations and approved by the Procurement Services Manager. Bidders are solely responsible for insuring their bids arrive on time and to the place specified in this Invitation for Bid.

1.6 MISTAKES IN BIDS - CONFIRMATION OF BID

If it appears from a review of a Bid that a mistake has been made, the Bidder may be requested to confirm its Bid in writing. Situations in which the confirmation may be requested include obvious, apparent errors on the face of a Bid or a Bid unreasonably lower than the other Bids submitted. All mistakes in Bids will be handled in accordance with the City of Colorado Springs Procurement Rules and Regulations.

1.7 PROCUREMENT RULES AND REGULATIONS

All formal IFBs advertised by the City of Colorado Springs are solicited in accordance with the City's Procurement Rules and Regulations. The City's Procurement Rules and Regulations can be reviewed and/or downloaded from the City's Procurement Services Division website at www.coloradosprings.gov. Any discrepancies or conflicting statements, decisions regarding bidding irregularities, or clarifications regarding clauses or specifications will be rectified utilizing the City's Procurement Rules and Regulations, when applicable. It is the Bidder's responsibility

to advise the Contracts Specialist listed in this IFB of any perceived discrepancies, conflicting statements, or problems with clauses or specifications prior to the Bid opening date and time.

1.8 MINOR INFORMALITIES/IRREGULARITIES IN BIDS

- A. A minor informality or irregularity is one that is merely a matter of form and not of substance. It also pertains to some immaterial defect in a Bid or variation of a Bid from the exact requirements of the invitation that can be corrected or waived without being prejudicial to other Bidders. The defect or variation is considered immaterial when the effect on price, quantity, quality, or delivery is negligible when contrasted with the total cost or scope of the goods and/or services being acquired.
- B. If the City Procurement Services Division determines that a Bid submitted contains a minor informality or irregularity, then the Procurement Services Manager shall either give the Bidder an opportunity to cure any deficiency resulting from the minor informality or irregularity or waive the deficiency, whichever is to the advantage of the City. In no event will the Bidder be allowed to change the Bid amount. Examples of minor informalities or irregularities include but are not limited to the following:
 - 1. Bidder fails to sign the Bid, but only if the unsigned Bid is accompanied by other material evidence, which indicates the Bidder's intention to be bound by the unsigned Bid (such as Bid security, or signed cover letter which references the Bid Number and amount of Bid).
 - 2. Bidder fails to acknowledge an Amendment, although this may be considered a minor informality only if the Amendment, which was not acknowledged, involves only a matter of form or has either no effect or merely a negligible effect on price, quantity, quality, or delivery of the item or services bid upon.

1.9 REJECTION OF BIDS

The Procurement Services Manager has the authority to reject any Bid based on, but not limited to, the following:

- A. Any Bid that fails to conform to the essential requirements of the Invitation for Bids shall be rejected.
- B. Any Bid that does not conform to the applicable specifications shall be rejected unless the IFB authorizes the submission of alternate bids and the items or services offered as alternates meet the requirements specified in the IFB.
- C. A Bid that fails to conform to the specified delivery schedule.
- D. A Bid shall be rejected when the Bidder imposes conditions that would modify requirements of the IFB or limit the Bidder's liability to the City, since to allow the Bidder to impose such conditions would be prejudicial to other Bidders.

For example, Bids shall be rejected in which the Bidder:

- 1. Protects against future changes in conditions, such as increased costs, if total possible costs to the City cannot be determined. This includes failure to completely fill out required bid schedule.
- 2. Fails to state a price and indicates that price shall be "price in effect at time delivery".

3. States a price but qualifies it as being subject to "price in effect at time of delivery".
 4. Takes exceptions to the IFB terms and conditions.
 5. Inserts the Bidder's terms and conditions.
 6. Limits the rights of the City under any Contract/Invitation for Bid clause.
- E. Any Bid in which the price is considered to be unreasonable or is over budget.
- F. Any Bid if the prices are determined to be unbalanced.
- G. Bids received from any person or contractor that is suspended, debarred, proposed for debarment, or under investigation for fraud, including failure to pay federal, state, local or city taxes.
- H. When a bid guarantee is required and the bidder fails to furnish the guarantee in accordance with the requirements of the IFB.
- I. Low Bids received from bidders who are determined to be non-responsible in accordance with the City's Procurement Rules and Regulations.
- J. Any Bid that was prepared and submitted by a vendor who has been determined by the Procurement Services Manager to have an unfair advantage over other Bidders. Examples of an unfair advantage include, but are not limited to, the following:
1. A previous or prior employee who in the last six (6) months was directly involved in the design or specification preparation of the competed procurement.
 2. A vendor who was directly involved in design or specification preparation of the competed project either for pay or voluntarily.

1.10 ESTIMATED QUANTITIES

If the Bid Form (Schedule A) herein contains estimated quantities, this provision is applicable. The quantities listed for each of the items in the Bid Form are only estimated quantities. Contractors are required to bid a firm unit price for each item specified. The actual quantities ordered may fluctuate up or down. The unit prices proposed by each Bidder will remain firm and will not be re-negotiated if the estimated quantities are not met or are exceeded. This clause will take precedence over any/all other estimated quantity clauses that conflict with this clause.

For bidding purposes, if there is a conflict between the extended total of an item and the unit price, the unit price shall prevail and be considered as the amount of the Bid. All unit prices shall include all necessary overhead and profit. Items not listed in the Bid Form such as overhead, profit, mobilization, de-mobilization, bonding, etc. shall be distributed throughout the Bidder's Unit Prices for the items listed on the Bid Form.

1.11 NUMBER OF COPIES

Bidders shall submit one electronic copy of each required document on the BidNet Direct Procurement Platform (www.bidnetdirect.com). Upon submission, all Bid documents shall become and remain the property of the City.

1.12 IDENTIFICATION OF BID

Bids must be submitted to the BidNet Direct Procurement Platform (www.bidnetdirect.com). The solicitation number and Offeror name must be clearly marked within the Bid.

Bid No.: B24-T012MZ

Due Date and Time: February 16, 2024 2:00PM

1.13 SALES TAX

The successful Offeror, if awarded a contract, shall apply to the Colorado Department of Revenue for a tax-exempt certificate for this project. The certificate does not apply to City of Colorado Springs Sales and Use Tax which shall be applicable and should be included in all bids and proposals. The tax exempt project number and the exemption certificate only apply to County, PPRTA (Pikes Peak Rural Transportation Authority), and State taxes when purchasing construction and building materials **to be incorporated into this project**.

Furthermore, the exemption **does not** include or apply to the purchase or rental of equipment, supplies or materials that **do not become a part of the completed project or structure**. In these instances, the purchase or rental is subject to full taxation at the current taxation rate.

The Offeror and all subcontractors shall include in their Offer City of Colorado Springs Sales and Use Tax on the work covered by the offer, and all other applicable taxes. Any increase in applicable sales or use tax occurring after the contract has been let shall be borne by the contractor and not passed through to the City.

Forms and instructions can be downloaded at the City of Colorado Springs Website: <https://coloradosprings.gov/sales-tax/page/additional-sales-tax-forms?mlid=30771>. Questions can be directed to the City Sales Tax Division at (719) 385-5903 or Construction_SalesTax@ColoradoSprings.gov.

Our Registration Numbers are as follows:

City of Colorado Springs

Federal I.D.: 84-6000573

Federal Excise: A-138557

State Sales Tax: 98-03479

1.14 PREPARATION OF BID OFFER

- A. Bidders are expected to examine the drawings, specifications, bid documents, proposed contract forms, terms and conditions, and all other instructions and solicitation documents. Bidders are expected to visit the job-site to determine all requirements and conditions that will affect the work. Failure to do so will not relieve a Bidder from their responsibility to know what is contained in this Invitation for Bid, or site conditions affecting the work.
- B. The Bidder certifies that it has checked all of its figures and understands that the City will not be responsible for any errors or omissions on the part of the Bidders in preparing its Bid.
- C. All items, (unless the invitation specifically states otherwise) including any additive or deductive alternates on the Bid Form, must be completely filled out or the Bid will be determined non-responsive and ineligible for consideration for award.

- D. The Bidder declares that the person or persons signing this Bid is/are authorized to sign on behalf of the firm listed and to fully bind the Bidder to all the requirements of the IFB.
- E. The Bidder certifies that no person or firm other than the Bidder or as otherwise indicated has any interest whatsoever in the Bid or the contract that may be entered into as a result of the Bid and that in all respects the Bid is legal and firm, submitted in good faith without collusion or fraud.
- F. By submitting a Bid the Bidder certifies that it has complied and will comply with all requirements of local, state, and federal laws, and that no legal requirements have been or will be violated in making or accepting this Bid. Bidders are expected to review the City's Procurement Rules and Regulations, which will be used when determining whether a Bidder is responsive and responsible and awarding contracts in the best interest of the City.
- G. If there is a discrepancy between the unit price and the total price, the unit price shall be used to determine the applicable total price. Bidders are responsible for including profit and overhead associated with the project when determining their unit prices.

1.15 BASIS OF AWARD

- A. The City of Colorado Springs intends to award a contract to the lowest responsive and responsible Bidder whose Bid meets the requirements and the criteria set forth in the Invitation for Bids and is determined to be in the best interest of the City.
- B. The City reserves the right to reject any or all Bids and to waive informalities and/or irregularities in a Bid. Whether or not a contract is awarded as a result of this Invitation for Bid, as stated above, Bid preparation costs are not reimbursable.
- C. Total Bid will be evaluated and awarded as follows: It is the City's intent to award this bid based on the TOTAL BASE BID, not on a line item by line item basis.

1.16 PERIOD OF ACCEPTANCE

The Bidder agrees that its Bid shall remain open for acceptance by the City for a period of sixty (60) calendar days from the date specified in the IFB for receipt of Bids.

1.17 CONTRACT AWARD

The signature of the Bidder indicates that within ten (10) calendar days from acceptance of its Bid, it will execute a contract with the City and, if indicated in this IFB, furnish a project specific Certificate of Insurance naming the City as Additional Insured, furnish Performance, Labor and Materials, Payment and Maintenance Bonds and any other documents required by the Specifications or Contract Documents.

1.18 NOTICE TO PROCEED

Work may not start under any awarded contract until a written notice to proceed is issued by the City. The City may issue the Notice to Proceed any time after the contract is signed and, if required, insurance and bonds have been provided in accordance with 1.22 below.

1.19 AMENDMENTS TO THE SOLICITATION

Amendments are also referred to as addendum or addenda; and these terms shall be considered synonymous. It is the Bidder's responsibility to contact the Contracts Specialist listed in 1.21 below to confirm the number of Amendments which have been issued.

- A. If this solicitation is amended, then all specifications, terms and conditions, which are not specifically amended, remain unchanged.
- B. Bidders shall acknowledge receipt of any amendment to this solicitation by signing and returning the amendment and by identifying the amendment number and date in the space provided on the form for submitting a Bid.
- C. Acknowledged amendments must be received prior to Bid opening. Bidders are encouraged to include signed addenda or initialed acknowledgment with returned Bids.

1.20 EXPLANATIONS TO PROSPECTIVE OFFERORS

Any prospective Bidder desiring an explanation or interpretation of the IFB documents, drawings, specifications, etc., must request it in writing within ten days of the Bid due date to allow enough time for a reply to reach all prospective offerors before the time for submission of offers. Oral explanations or instructions given before the opening of Bids will not be binding. Any information provided to a prospective Bidder during the Bid preparation stage will be promptly furnished to all other prospective Bidders as an amendment to the solicitation, if that information is necessary in submitting Bids or if the lack of it would be prejudicial to other prospective Bidders.

1.21 QUESTIONS AND OTHER REQUESTS FOR INFORMATION

All questions must be submitted in writing to the following Contracts Specialist. All questions must be submitted via email and must be received no later than **1:00PM February 2, 2024.**

Requests for Information, support and questions shall be directed to:

CONTRACT SPECIALIST Mike Zeller
CONTRACT SPECIALIST michael.zeller@coloradosprings.gov

DO NOT CONTACT ANY OTHER INDIVIDUAL AT THE CITY OF COLORADO SPRINGS
REGARDING THIS SOLICITATION.

1.22 SECURITY REQUIREMENTS

A. Bid Security

1. If the total amount of the accumulative Bid is more than \$50,000, or a bond is required elsewhere in this IFB, the Bidder is required to furnish with their Bid a bid security in the form of a bank certified check, bank cashier's check or a one-time bid bond underwritten by a company licensed to issue bonds in the State of Colorado and acceptable to the City in an amount equal to at least 5% of the total amount of the Bid payable without condition to the City.
2. The Bid security shall guarantee that the Bid will not be withdrawn or modified for a period

of sixty (60) calendar days after the time set for the receipt of Bids, and, if the Bid is accepted within those sixty (60) calendar days, that the person, firm or corporation submitting same shall within ten (10) calendar days after being notified of the acceptance of its Bid, enter into a Contract and furnish the required bonds and all insurance certificates called for under this Invitation for Bid.

3. The Bid bonds of unsuccessful Bidders will not be returned to the respective Bidders unless a self-addressed, stamped envelope is provided along with a written request for bid bond return. However, if a certified check or a cashier's check is submitted as Bid security, it will be returned as soon as possible after the lowest responsive and responsible Bidder is determined and a contract is executed.
4. In the event the Bidder whose Bid is accepted fails to enter into the contract and/or furnish the required contract bonds, its certified check, cashier's check or bid bond will be forfeited in full to the City.

B. Performance, Labor and Materials Payment, and Maintenance Bonds

1. For contracts in excess of \$50,000, the Contractor shall furnish to the City each of the following: a Performance Bond, a Labor and Materials Payment Bond, and a Maintenance Bond. Each such bond shall be in the amount of one hundred percent (100%) of the contract price. Bonds shall be submitted within ten (10) calendar days after notification of award of a Contract. The cost of all bonds shall be included in Contractor's Bid.
2. Bonds shall:
 - a. Be for the full amount of the Contract price.
 - b. Guarantee the Contractor's faithful performance of the work under the Contract, and the prompt and full payment for all labor and materials involved therein.
 - c. Guarantee protection to the City against liens of any kind.
 - d. Be from a surety company operating lawfully in the state of Colorado and accompanied by an acceptable "Power-of-Attorney" form attached to each bond copy.
 - e. Be issued from a surety company that is acceptable to the City.
 - f. Be submitted using the forms in the Exhibit section of this IFB or such forms as are approved by the City Attorney's Office.

1.23 SPECIFICATIONS AND DRAWINGS

No Fee solicitations: Specifications and Drawings are normally included in the IFB. If Specifications and Drawings are too large to be included in the IFB, all interested Bidders may obtain one copy of the Project Specifications and a set of the Project Drawings for use in preparing Bids from the City Procurement Services Division office. If the Bidder requires additional sets, it is the Bidder's responsibility to duplicate any additional copies, at its own expense.

1.24 TYPE OF CONTRACT

As a result of this Invitation for Bids, it is the City's intention to award a fixed unit price Contract based on the prices offered by the lowest responsive and responsible bidder. Contract prices shall remain firm and fixed throughout the Contract performance period.

1.25 F.O.B. DESTINATION

Unless otherwise specified in the Invitation for Bid, all goods, materials, supplies, equipment or services covered by this IFB shall be delivered F.O.B. Destination shall be the location indicated in the awarded Contract or Purchase Order.

1.26 BID RESULTS

The City does not mail Bid results or tabulations. However, Bid tabulations are posted and can be downloaded from BidNet. Bidders submitting Bids in response to this solicitation may also request the Bid tabulation for this solicitation via email to the Contracts Specialist indicated as the point of contact for this solicitation.

1.27 APPROPRIATION OF FUNDS

- A. In the event funds are not appropriated in whole or in part sufficient for performance of the City's obligations under this IFB, or appropriated funds may not be expended due the City Charter spending limitations, then the City, without compensation to Bidders, may terminate or cancel this IFB or not award any contracts under this IFB.
- B. In accordance with the Colorado Constitution and City Charter, performance of the City's obligations under any resultant Contract will be expressly subject to appropriations of funds by the City Council, and, in the event the budget or other means of appropriation for any year of the Contract fails to provide funds in sufficient amounts to discharge such obligations, such failure (i) shall act to terminate the Contract at such time as the then-existing and available appropriations are depleted, and (ii) neither such failure nor termination shall constitute a default or breach of the Contract, including any sub-agreement, attachment, schedule, or exhibit thereto, by the City.

1.28 PERIOD OF PERFORMANCE

The Contractor shall complete all work within **180 CALENDAR DAYS FROM NOTICE TO PROCEED**. The Contractor shall start work promptly after receipt of the Notice to Proceed and Pre-Construction Meeting and continue to work diligently until all work is completed and accepted by the City.

1.29 BID DOCUMENTS

The following comprise this Invitation for Bid.

Schedule A – Bid Form
Schedule B – General Construction Terms and Conditions
Schedule C – Standard Specifications
Schedule D – Technical Specifications
Schedule E – Measurement & Payment
Schedule F – PPRTA Special Provisions
Schedule G – Insurance Requirements
Schedule H – Construction Plan Set
Schedule I - Exhibits

The following listed documents must be included with your Bid in order for your Bid submittal to be considered responsive.

Schedule A – Bid Form

Schedule G – Minimum Insurance Requirements Form

Exhibit 3 – Qualification Statement

Exhibit 4 – Bid Certification and Representations and Certifications

Exhibit 5 – Bid Bond if applicable (see 1.23)
Acknowledged Addenda, if issued

SECTION II – SCHEDULES

Schedule A – Bid Form
Schedule B – General Construction Terms and Conditions
Schedule C – Standard Specifications
Schedule D – Technical Specifications
Schedule E – Measurement & Payment
Schedule F – PPRTA Special Provisions
Schedule G – Insurance Requirements
Schedule H – Construction Plan Set
Schedule I – Exhibits

SCHEDULE A – BID TAB

Please complete Schedule A – Bid Tab and submit in EXCEL FORMAT

Please enter total base bid in Bidnet Bid Form

SCHEDULE B – GENERAL CONSTRUCTION TERMS AND CONDITIONS

Schedule B -- General Construction Terms and Conditions, Version 100316 are hereby incorporated by reference, with the same force and effect as if they were given in full text. Upon request, the City will make their full text available. Also, the full text of a clause may be accessed electronically at this address:

<https://www.coloradosprings.gov/finance/page/procurement-regulations-and-documents>

The referenced General Construction Terms and Conditions will be incorporated in the resultant Contract.

SCHEDULE C – STANDARD SPECIFICATIONS
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SCHEDULE C - STANDARD SPECIFICATIONS

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SCHEDULE C. STANDARD SPECIFICATIONS - SECTION I SPECIAL PROVISIONS

This section contains any Special Provisions that are applicable on the subject project. If none are listed, then none are applicable. In the event there are Special Provisions listed herein, and the terminology of the Special Provisions conflicts with the terminology, per Section 101.01 of the "CITY OF COLORADO SPRINGS GENERAL CONSTRUCTION TERMS AND CONDITIONS", the Special Provisions listed herein will take precedence. In addition, when the terminology of the Special Provisions conflicts with the terminology "CITY OF COLORADO SPRINGS ENGINEERING DIVISIONS STANDARD SPECIFICATIONS", latest revision, the Special Provisions listed herein will also take precedence.

1.0 SPECIFICATIONS

The Technical Specifications for the project are contained in Schedule D. Any item not covered by the Schedule D Technical Specifications shall be constructed in accordance with the City of Colorado Springs Standard Specifications, Colorado Springs Utilities Utility Specifications, or CDOT Standard Specifications for Road and Bridge Construction as listed below upon direction from the Engineer.

STANDARD SPECIFICATIONS

The City of Colorado Springs Standard Specifications are the "CITY OF COLORADO SPRINGS ENGINEERING DIVISIONS STANDARD SPECIFICATIONS". Copies are available on line through the City of Colorado Springs internet site at <https://coloradosprings.gov/public-works/page/standard-specifications-manual>.

UTILITY SPECIFICATIONS

Listed below are the Colorado Springs Utilities specifications. Hard copies of these specifications are available at Colorado Springs Utilities Development Services, 111 S. Cascade Avenue, Suite 105, Colorado Springs, Colorado 80903. The specifications can also be accessed online at www.csu.org/pages/standards-bulletins.aspx.

UTILITY SPECIFICATIONS

Colorado Springs Utilities Wastewater Line Extension And Service Standards

Colorado Springs Utilities Water Line Extension And Service Standards

Colorado Springs Utilities Natural Gas Line Extension And Service Standards

Colorado Springs Utilities Electric Line Extension And Service Standards

1.01 DESCRIPTION OF WORK

The primary work of the project is the extension and connection of Tutt Boulevard south of Vickie Lane with Templeton Gap Road/ Tutt Boulevard to the north. Work entails grading, installing storm sewer facilities, relocating an 8 inch sanitary main, pavement preparation, asphalt paving, curb and gutter, sidewalk and pedestrian ramp installation. Storm sewer outfall work will traverse the old Templeton Gap Road ROW and Church for All Nations property. Restoration of these areas are included in the work and involves parking lot asphalt repair, streetlight and streetlight wiring repair, sprinkler line repair, curb repair and striping. The work shall include the disposal of all surplus or waste materials and all traffic control/ barricading required. Full restoration of all areas disturbed by the construction activities shall be returned to a condition better than the pre-construction condition.

The Contractor shall obtain all permits and furnish all transportation, materials, tools, equipment, labor and supplies necessary to complete in a workmanlike manner the improvements as shown and specified in these documents.

The Contractor shall be responsible for verification and acceptance of the existing site conditions prior to proposing on the project. The Contractor shall notify the engineer 48 hours prior to the commencement of construction activities.

The Contractor shall be responsible for all work, whether it be performed by himself or by others under a subcontract agreement.

All work required to construct the items in this contract shall be performed in a careful and orderly manner with due consideration given to protection of all adjoining property, the public and workmen. Any damage to streets, utilities, public or private property, or the survey bench marks and construction staking due to the negligence of the Contractor, shall be repaired and restored to its original condition by the Contractor at his expense to the satisfaction of the Engineer. It will be the Contractor's responsibility to ensure that areas not in conflict with new work are not disturbed or damaged during the construction process. Miscellaneous excavation shall not be paid for separately but shall be included in the unit price of the work.

1.02 PRECONSTRUCTION CONFERENCE

Within 10 calendar days after issuance of the Notice of Award, or as otherwise established by the Owner and Engineer, a preconstruction conference shall be held for review of the permit requirements, construction schedule, Contractor's list of Subcontractors and suppliers, project contracts, Traffic Control Plan with Supervisor name and telephone number and certifications, procedures for handling shop drawings, processing Applications for Payment, and other pertinent items. The Contractor (and Subcontractor) should address any construction problems which may be foreseen in the execution of the project work at the preconstruction conference.

1.03 EROSION AND DRAINAGE CONTROL

The Contractor shall be required to perform drainage control, erosion control and implement construction water quality control measures meeting the City of Colorado Springs MS4 permit and the requirements of CDPHE. See the project plans and specifications related to these items for more information.

As part of this effort the Contractor shall provide for the drainage of stormwater and such water as may be applied or discharged on the site in performance of the work. Drainage facilities shall be adequate to prevent damage to the work, the site and adjacent property.

The Contractor shall prevent the pollution of drains and watercourses by sanitary waste, sediment, debris or other substances resulting from this work. He shall be required to clean up and isolate

such materials on a continuing basis to prevent risk of washing into such drainage ways. This work shall not be paid for separately but shall be included in the unit price of the work being performed.

Illicit discharges to the MS4 (Municipal Separate Storm Sewer System) are prohibited unless permitted through the Colorado Discharge Permitting System. It is the Contractor's responsibility to maintain necessary protective measures. Contractors must also maintain compliance with the City's Drainage Criteria Manual, Volume II. This manual can be found in the following website:

<https://coloradosprings.gov/stormwater-enterprise/page/stormwater-criteria>

The Contractor shall provide for the drainage of storm water and such water as may be applied or discharged on the site in performance of the work. Drainage facilities shall be adequate to prevent damage to the Work, the site, and adjacent property. Any damage done during storm flows or snow melt to temporary or partially completed work or resulting from the Contractor's operations shall be repaired at the Contractor's expense.

The Contractor shall prevent the pollution of drains and watercourses by sanitary waste, sediment, debris, or other substances resulting from this Work through the use of construction best management practices (BMPs) or other approved methods. Contractor shall clean up and isolate such materials on a continuing basis to prevent risk of washing into drainage ways. Contractor is also responsible for routine maintenance of all construction BMPs.

Contractor shall obtain a copy of and follow the stipulations of the City of Colorado Springs MS4 permit and all other state and local permits. Contractor shall be responsible for obtaining all state and local storm water discharge permits required for the Work.

Installation and maintenance of proper BMPs and work methods to ensure compliance with the City of Colorado Springs MS4 permit and the City of Colorado Springs Drainage Criteria Manual, Volume II shall be paid for per Schedule H. This shall include but not be limited to appointing a GEC administrator who is certified in the City-sponsored Stormwater Management and Erosion Control During Construction class, or equivalent, and CCMs such as concrete washouts (setup, maintenance, disposal, etc.), inlet protection, stockpile management, erosion control, vehicle tracking pads, sweeping and revegetation. If any work area is deemed to be in violation of the City's MS4 permit, all work shall be stopped at the discretion of the Project Manager and the Contractor shall take all necessary measures to bring the site within compliance immediately at no additional cost to the City

1.04 CONSTRUCTION PHOTOGRAPHS

The Contractor shall be required to take construction photographs on a weekly basis. The photographs shall be to document the progress on the improvements in this project, underground installations and utilities, existing conditions prior to removal (where appropriate) and other construction features.

The photographs shall be stored in an electronic format, preferably .jpeg files, and placed in directories dated for the week of construction. CD's or DVD's containing these photographs shall be provided to the Engineer prior to project closeout.

1.05 PROJECT INFORMATION SIGNS

The Contractor shall be responsible for installing and maintaining all project signs throughout the duration of the project. This City will furnish project signs with the PPRTA Logo for placement within the project by the Contractor. The Contractor shall be responsible for moving project signs and for installing completion signs after completion of the project. Project signs will not be paid for separately but will be incidental to the work.

1.06 WORK HOURS

The Contractor shall conduct normal activities between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday. Work outside that time shall be considered night work and the Contractor shall notify the City's delegated Project Manager seven working days in advance of any night work. All requests will require pre-approval in writing by the City.

Regardless of pre-approvals, all work done between 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. Monday through Friday, shall be outside of the area used by the traveling public. All work shall be done behind the protection of temporary guardrail or other adequate protection as shown on the approved traffic control plans.

1.07 WORK SITE RESTRICTIONS

The Contractor shall confine the work activities to the area shown in the construction drawings. Any additional work area required within adjoining private properties must be acquired by the Contractor by written permission from the property owner. The Contractor shall restore any damage or disruption to other properties utilized in the performance of this project to an equal or better than pre-construction condition at no cost to the City. The Contractor shall hold the City harmless from any claims to damage or disruption of private property.

Contractor personnel shall not unnecessarily enter upon private property without the express written consent of the landowner. The Contractor shall provide the Engineer with a copy of the written permission. The City will be held harmless of Contractor negligence in matters of trespassing.

1.08 COORDINATION WITH PROPERTY OWNERS

The Contractor shall be responsible for notifying the Property Owners at least 48 hours in advance of any construction that may affect access, parking and/or existing structures, including fences, adjacent to that property.

Suitable access will be maintained at all times. Contractor will maintain driveway access every night with trench plates or backfill, the cost of which will be included with the work.

The Contractor shall coordinate the relocation of fencing, landscaping, sprinklers, control boxes, utility services, street signs and mail boxes and the salvaging of any materials suitable for re-use with the City Inspector and, if on private property, with the respective property owners. Pay items have been included in the Contract to provide for this work, as coordinated with the property owners and as approved by the Engineer.

The Contractor shall notify and coordinate the closing and construction of the curb, gutter and sidewalks with the Project Engineer and the adjoining property owners in advance of work in writing. Any restrictions on street parking or traffic movement shall be coordinated with the City Traffic Engineer. The Contractor shall make every effort to minimize the inconvenience to the traveling and pedestrian public.

1.09 CONSTRUCTION TRAFFIC RESTRICTIONS

Construction shall conform to Section 800 of the City of Colorado Springs Standard Specifications and the City of Colorado Springs Supplement to the Manual on Uniform Traffic Control devices.

All traffic lanes shall be a minimum of 10 feet wide. An additional 2 feet of clearance shall also be provided between any travel lane and temporary concrete barrier.

Maintain access to all private and business properties at all times during the project. Exceptions will be allowed for short term work providing there is close coordination with the owners to plan for the temporary disturbances to complete the work. When temporary closures of driveways are necessary, the contractor shall ensure that all labor, materials, and equipment is readily available to minimize delays. All exceptions will require approval by the Engineer, at the Engineer's discretion. The Contractor shall be responsible for coordinating with the access owner and provide written acceptance by the owner of the access closure prior to making a request for an exception.

See Section 1.07 Work Site Restrictions for additional requirements that may create Construction Traffic Restrictions.

1.10 SOIL CONDITIONS

The Contractor assumes all risks connected with the surface and subsurface conditions encountered by him in performing the work, even though such actual conditions may result in the Contractor performing more or less work than he originally estimated.

The Contractor shall perform whatever exploratory excavations and tests he deems necessary to determine the site conditions.

The Contractor shall utilize all suitable excavated material as approved by the Engineer for raising grades and backfilling the new construction. Additional imported material shall be a well graded non-expansive inorganic soil with a minimum R Value of 40 or as herein after specified.

1.11 INSPECTION

At all times, representatives of the **Owner or Owner's Representative** and representatives of other agencies affected by the construction work, and the **Owner or Owner's Representative** shall have the right to enter and inspect any and all parts of the work for compliance with the Drawings and Specifications.

The **Owner or Owner's Representative** shall decide any and all questions that may arise as to the quality and acceptability of the materials furnished, the work performed, the manner of performance, and the progress of the work. He shall decide all questions that may arise as to the acceptable fulfillment of the contract. The decision of the **Owner or Owner's Representative** shall be final.

The **Contractor** shall give inspection personnel a minimum of forty-eight (48) hours' notice prior to needing inspection.

1.12 MATERIAL TESTING

The **Contractor** shall give the **Engineer** two (2) days' advanced notice before placing concrete, asphalt paving, trench fill or earthen fill so that the **Engineer** may arrange for material tests. The **Engineer** reserves the right to reject any request for placing concrete, or fill with less than two (2) days' notice. The **Contractor** agrees to pay any minimum call-out charges or standby time for the Tester due to his failure to pour or place on schedule for any reason except by the action of the **Engineer**. **The City shall pay for tests done for quality control purposes with the exception that the Contractor shall pay for retesting if deficiencies are identified by the City's testing. This section is supplemental to the General Construction Terms and Conditions (Schedule B), Section 107.26.**

1.13 UTILITIES

Any contractor or subcontractor performing work on the waterline must be approved by CSU Water prior to any work commencing on the waterline. Any firm not found to be acceptable by CSU Water will not be allowed perform any of the Contract work associated with the waterline.

The size and location of all existing utilities as known to the Engineer have been noted on the plans for the information and guidance of the Contractor. The Contractor shall be responsible for the location and protection of all utilities located within his working area regardless of whether or not their existence or location is shown or noted on the drawings.

All overtime costs for inspection by City Utilities shall be the Contractor's expense.

It is the Contractor's responsibility to complete required work and to schedule inspections during normal working hours. The Contractor is responsible for contacting each affected utility for their inspectors' working hours. The Contractor is responsible to request an inspection two (2) working days in advance of the inspection. In the case of an overtime inspection, the request must be in writing. The City will not entertain any requests for time extensions for delays caused by the Contractor's failure to properly notify the affected utility of a required inspection or the Contractor's failure to complete the required work by the time of the scheduled inspection.

The accuracy of information furnished with respect to underground utilities is not guaranteed. The Contractor shall make his own investigations, including exploratory excavations, to determine the locations and type of existing mains and service laterals or appurtenances.

The Contractor shall notify all Public Utility companies who may have installations in the area where the work is to be performed and solicit their aid in locating horizontally and vertically utilities prior to any excavation. All utilities encountered must be kept in operation by the Contractor and must be protected and/or repaired at his own expense.

The Contractor shall notify all utility companies who may have installations in the area where the work is to be performed and solicit their aid in locating horizontally and vertically utilities prior to any excavation. All utilities encountered must be kept in operation by the Contractor and shall be protected and/or repaired at Contractor's expense.

MISCELLANEOUS UTILITY SERVICES – CITY OF COLORADO SPRINGS UTILITIES

| | |
|------------------------------------------------|--------------|
| Utility Problems or Questions | 719-448-4800 |
| Utility Notification Center of Colorado (UNCC) | 811 |
| Engineering Division for Inquiries | 719-385-5918 |

At least forty-eight (48) hours prior to commencing excavation, the Contractor shall call UNCC at 1-800-922-1987 between the hours of 7:30 A.M. and 4:30 P.M., Monday through Friday, for information concerning the location of buried utilities in the area of construction.

Below is a Pre-Excavation Checklist which the Contractor shall follow prior to commencing construction on the project.

PRE-EXCAVATION LIST

_____ Utility Notification Center of Colorado (UNCC) Called at Least Two (2)
_____ Business Days Prior to Construction Telephone Number: 1-800-922-1987

_____ Utilities Marked and Located on the Ground

_____ Employees Briefed and Knowledgeable on Marking and Color Codes*

_____ Employees Trained on Excavation and Safety Procedure for Natural Gas Lines

_____ When Excavation Approaches Gas Lines, Employees Expose Lines by
Careful Probing and Hand Digging

STANDARD UTILITY MARKING COLOR CODE

| | |
|-------------|--------|
| Natural Gas | Yellow |
| Electric | Red |
| Water | Blue` |
| Wastewater | Green |

“The Contractor shall be responsible for coordination and cost of all utility relocations indicated on the plans and not specified to be done by others. Utility locations shown on the plans are approximate.”

The contractor shall coordinate work with various Utility companies and other construction taking place within project limits. Notify applicable Utility companies and other Contractors prior to commencing work, if damage occurs, or if conflicts or emergencies arise during work. The following utility companies are believed to have facilities within or near the project limits:

| City of Colorado Springs- Tutt Boulevard Extension- Utility Contact List | | | | |
|--------------------------------------------------------------------------|-----------------------|-------------------|----------------------------------------------|------------------------------------------------------------------------------|
| Utility Owner | Type | Contact | Phone | Email |
| CenturyLink (Lumen) | Fiber Optic | William Landavazo | | William.Landavazo@lumen.com |
| Colorado Springs Utilities (CSU) | Water/ Sanitary Sewer | Rockie Wiley | Office: 719-668-4675 Mobile: 719-641-0988 | rwiley@csu.org |
| Colorado Springs Utilities (CSU) | Electric | Joe Reuter | Office: Mobile: | jreuter@csu.org |
| Colorado Springs Utilities (CSU) | Gas | Ryan Pogue | Mobile: | rpogue@csu.org |
| Comcast | Fiber/ Television | Stephen Baca | | stephen_baca@comcast.com |
| Zayo | Fiber Optic | James Black | | Zayo.Relo.Colorado@zayo.com |

The work described in the plans and specifications will require full coordination between the Contractor and Utility Companies and while performing their respective operations, so the utility work can be completed with minimum delays to all parties concerned.

The Contractor shall coordinate with businesses affected by any water service shut downs at least 48 hours prior to shut down.

The Contractor shall be responsible for coordinating the adjustment of all utilities on this project. The Contractor shall keep each utility company advised of any work being done to their facilities, so that each utility company can coordinate their inspections for final acceptance with the Engineer.

For utility work that is to be performed by a utility company, Contractor shall provide notice to the utility company that the site is ready for the utility work. The written notice, with a copy to the Engineer, shall be given a minimum of three weeks prior to the requested start of the utility work.

If needed, or as directed by the Engineer, the Contractor shall provide traffic control for any utility work to be coordinated with the project's construction.

1.14 TEMPORARY ASPHALT PATCHES

Cold or wet weather conditions that do not permit a permanent asphalt pavement replacement will require a minimum 2" bituminous pavement patch prior to opening the area to traffic as a temporary measure until the permanent asphalt pavement replacement can be installed. This item shall be incidental to any work requiring such removal or asphalt and will be considered to be included in the unit price of the related item of work.

1.15 REMOVAL AND DISPOSAL OF EXISTING ELEMENTS

The Contractor shall remove from the project site all conflicting, or as otherwise directed, existing construction elements such as sidewalks, curb and gutter, asphalt pavement, concrete rubble, landscape timbers and elements, abandoned utilities, trees, fencing, stumps, unsuitable backfill material and other debris.

The Contractor shall use appropriately designed and sized equipment to remove and haul disposal materials so as to maintain safe conditions for the general public and public and private property.

The disposal materials shall be hauled to a legal disposal site. The contractor shall abide by all Federal, State, and local government requirements for hauling and disposal of materials.

The cost of all removal items shall include hauling and disposal and not paid for separately but shall be included in the unit prices of work being performed.

1.16 PROTECTING AND REMOVING PLANTINGS

The Contractor shall protect all existing trees, shrubs and other plantings above ground and from root structure damage during the construction activities. Plantings, which are considered to be slightly damaged, shall be properly pruned and sealed according to accepted nursery practices. Unnecessary damage to plants or trees will subject the Contractor to cash penalties as determined by the Program Manager. Where plantings are in conflict with new work, as determined by the inspector or owner (plantings on private property), the Contractor, shall hire a locally licensed tree trimming service to perform this work as necessary. Prior to performing any trimming or removal operations the Contractor shall notify the City Forester's office at (719-385-6541) (Denise Sherwood). **Trimming or removal of all vegetation and trees shall not be paid for separately but shall be included in the unit price of work being performed.**

In all cases, the proper planting season shall be observed to assure proper establishment and growth of the plantings.

Tree branches shall be trimmed back to the trunk, all around, to a minimum height of 8' above the adjacent walkway. **This work shall be done only by a licensed Tree Service.**

This work shall not be paid for separately but shall be included in the unit price of the work being performed.

1.17 REMOVAL AND REPLACEMENT OF SPRINKLER SYSTEM

Where required by the construction activity, existing sprinkler heads and related fittings and tubing shall be removed, reset and maintained (during construction), and then replaced as close as possible to the original locations upon overall project completion. This requirement preserves existing vegetation or landscapes during summer construction and returns landscapes back to their original condition upon completion of the work, thus minimizing grass and vegetation impacts during construction as much as possible.

All sprinkler heads and fittings shall be salvaged and reused unless damaged. It is the Contractor's responsibility to coordinate with each owner to determine the pre-construction condition of the system and maintain owner's landscapes during construction while limiting impacts. Damaged items shall be replaced with the same type and quality, or better, as the original item. After assembly, the sprinkler system shall be tested for leakage and proper operation during both construction activities affecting the owner's landscape, and upon completion of the project. The system shall be drained after testing if work is performed beyond the irrigation season.

This work shall not be paid for separately but shall be included in the Force Account Landscape work being performed.

1.18 CONCRETE FORM INSPECTIONS

The City requires a Concrete Form Inspection prior to placing concrete to help ensure proper line and grade of new work. This in no way relieves the Contractor of responsibility to construct work in accordance with the Contract Documents. It is the Contractor's responsibility to complete required work and to schedule inspections during normal working hours Monday through Friday. Any work that is approved by the Project Manager to be performed on Saturdays, Sundays, or holidays, shall be requested at least 48 hours in advance. This work can only occur if an Engineer is available for those days requested. There is no guarantee that an inspector would be available.

The City will not entertain any requests for time extensions for delays caused by the Contractor's failure to properly notify the Engineer of a required inspection or the Contractor's failure to complete the required work by the time of the scheduled inspection.

It is the Contractor's responsibility to adhere to the grade and line requirements set forth in the Contract Documents for all concrete installations. Inspection and approval of form work shall not relieve the Contractor from achieving these requirements. The Contractor shall be responsible to remove and replace any work installed not meeting required line, grade and specifications. There will be no additional payment for this removal and replacement work. It is recommended that Contractor personnel should have a two (2) foot smart level onsite to verify grades of all work being performed.

1.19 CONCRETE CONSTRUCTION REQUIREMENTS

All concrete mix designs shall be approved in writing by the City Construction Manager prior to starting work for this City Program. Any other City-approved mix designs shall not be used without written approval of the Project Manager.

Any loads of concrete delivered without batch mix data printed on the delivery ticket shall be rejected and not paid for by the City.

All curb faces shall be constructed with forms and never hand-poured or hand-formed without formwork. All stakes shall be removed after completing the pour, including portions of the stakes that break off below the finished surface. All curb faces, top of curb and back of curb faces shall be straight and true. Any deviations in these alignments greater than three-eighths (3/8) inch in ten (10) feet will be removed and replaced at the Contractor's expense.

All curb and gutter shall be poured separately (cold joint) from all sidewalks, pedestrian ramps, and driveways.

ADA Standards: It is a requirement of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design Professional shall design the project so it both conforms to the 2010 ADA Standards, as applicable and as amended, and is readily accessible to and usable by individuals with disabilities. The selected Contractor shall build the project so it both conforms to the 2010 ADA Standards, as applicable and as amended, and is readily accessible to and usable by individuals with disabilities. Facilities that are designed, constructed, and/or altered facilities that meet or exceed the IBC 2015/ANSI A117.1 2009, used by Pikes Peak Regional Building Department, will be accepted as meeting or exceeding the 2010 ADA Standards.

The Contractor shall adhere to "Revisions to Section 509.03" of the City of Colorado Springs Standard Specifications dated 07-11-2018. The Contractor shall also follow the following City of Colorado Springs Curb Ramp Acceptance Policy:

CURB RAMP ACCEPTANCE POLICY

The City has implemented a new curb ramp acceptance policy. Below is a brief summary of the program as currently implemented. Be advised this is an evolving process and there will be changes in the future.

It will be the responsibility of the assigned inspector to call the Curb Ramp Acceptance Team.

To schedule an inspection please call (719) 385-6828, a minimum of 24 hours before the needed inspection time.

- 1) **Form Inspection:** City/Consultant Inspector and the Curb Ramp Assessment Team. The Curb Ramp Assessment Team shall inspect and approve the forms prior to placement of concrete for the curb ramp. Additionally, if you are at a signalized intersection please contact your assigned traffic technician, prior to concrete placement, to evaluate the location of the turning space relative to the pedestrian pole.
- 2) **Placement Inspection: City/Consultant Inspector**
- 3) **Acceptance Inspection:** Must be completed by the Curb Ramp Assessment Team. No projects can be considered complete (issuing a completion letter, CO, etc.) until the Curb Ramp Assessment Team has accepted the curb ramp(s).

CURB RAMP INSPECTION TABLE

| Inspection Type | Responsible Inspector |
|-------------------------------|---------------------------------------------------------|
| <i>Form Inspection</i> | |
| Curb Opening | City/Consultant Inspector and Curb Ramp Acceptance Team |

| | |
|-------------------------------------|------------------------------------------------------------|
| Curb Ramp/Landing | City/Consultant Inspector and Curb Ramp Acceptance Team |
| <i>Placement Inspection</i> | |
| Curb Opening | City/Consultant Inspector and/or Curb Ramp Acceptance Team |
| Curb Ramp/Landing | City/Consultant Inspector and/or Curb Ramp Acceptance Team |
| <i>Acceptance Inspection</i> | Curb Ramp Acceptance Team |

All truncated dome warning panels shall be pre-approved by the City Construction Manager prior to use. A current list of approved truncated dome warning panels can be found on the City's web site: <https://coloradosprings.gov/public-works/page/standard-specifications-manual>. Cast iron truncated dome panels shall be required in the Greater Downtown Business Improvement District (BID) area unless otherwise approved by the City Construction Manager.

All concrete, prior to completion of the final punchlist for the segment, shall be protected from foreign markings or graffiti. Examples include, but are not limited to scrapes, writings, bike tires, foot traffic, and any heavy object that would create an imperfection. In the event of foreign markings or graffiti the replacement or repairs shall be made by the Contractor at no additional cost unless otherwise determined by the Project Manager.

Work that deviates from the Contract Document requirements will require removal and replacement of affected work, as determined by the Project Manager. No additional payment shall be made for this replacement work.

1.20 PROTECTION OF SUBGRADE AND CONCRETE IN COLD WEATHER

The Contractor is responsible for the strength and quality of the concrete placed during cold weather.

Cold Weather: Is defined by ACI 306 as a period of more than three successive days where the average daily outdoor temperature drops below 40 degrees F. The average daily temperature is determined by averaging the highest and lowest temperature during the day (midnight to midnight).

Subgrade shall be unfrozen (above 32 degrees F), free of snow, ice, and standing water before placement. Metal form work shall not be less the 35 degrees F.

Protection of concrete in cold weather shall meet the requirements of Section 500 of the City Standards.

Any and all cold weather protection required to perform work shall not be paid for separately but shall be included in the unit price of the work being performed.

1.21 CONSTRUCTION DOCUMENTATION

Aurigo Masterworks will be utilized for all project documentation. This includes photos, submittals, inspection reports, RFI's, and all other documentation. Anyone working on the project will utilize Masterworks for document control.

PHOTOGRAPHS

1. Construction photographs will be required on the project.
2. The photos shall be digital, color, of good quality, and shall be a minimum size of 4" x 6" placed and labeled on letter sized pages and provided in pdf format.
3. Each photograph shall be labeled with the date, description, and plan station reference.
4. The preconstruction photographs shall be delivered to and approved by the **Owner or Owner's Representative**, prior to the beginning of construction.
5. Include progress photographs with each pay request. The photos will be a requirement for payment.

RED-LINE DRAWINGS

The **Contractor** shall maintain a **red-line set of drawings indicating field changes** to the design, existing facilities not shown, pertinent construction data, etc. The **Contractor** shall make the current set of red-line plans available for the **Owner** to review at the time of each payment request submittal. The **Contractor** shall submit a complete set of red-line plans to the **Owner** at the completion of the project.

Construction photographs and red-line drawings will not be paid for separately but will be considered incidental to the work.

1.22 SPILL KIT

The **Contractor** shall supply and maintain a spill kit on-site. The spill kit shall contain any and all necessary devices to be used in the event of a spill on-site during construction activities. The **Contractor** shall coordinate with the **Owner's** stormwater inspector regarding the site specific contents of the spill kit. The spill kit shall remain on-site and be available at all times for the **Contractor's** crew. A meeting shall be set up by the **Contractor's** Stormwater Supervisor prior to any construction activities to clarify the uses and implementation of the spill kit.

The spill kit will not be paid for separately, but will be considered incidental to the bid item for Temporary Erosion and Sediment Control.

1.23 CONSTRUCTION METHOD AND PHASING PLAN

The Contractor shall submit a construction method and phasing plan detailing the methods and sequence to be utilized in construction of the proposed facilities. The plan is to include but not be limited to the following items:

1. Pedestrian, bicycle, and motorized vehicle Traffic Control as it relates to work phasing
2. Waterline work including temporary services
3. Control of groundwater
4. Excavation, demolition, diversions, material stockpiling, embankment, and export
5. Box culvert, wingwall, and foundation construction
6. Temporary shoring construction
7. Seeding and landscape restoration
8. Curb & gutter, sidewalks
9. Contractor plan for Quality Control

The **Owner** is to review the construction method and phasing plan and have all questions and issues addressed before construction can proceed. All costs associated with preparation and potential revisions to the method and phasing plan will be considered incidental to the price bid for associated items and no separate payment will be provided.

1.24 REQUESTS FOR INFORMATION (RFI)

“Requests for Information” (RFI) sheets shall be completed by the **Contractor** if additional information of clarification is required. The **RFI** shall be submitted to the **Owner** for processing. Any changes to the plans, specifications, and construction requirements are to be made in writing. No changes will be permitted based on verbal agreements.

1.25 CONSTRUCTION COORDINATION MEETINGS AND PUBLIC INFORMATION

The **Contractor will conduct weekly construction progress meetings** with the attendance of all pertinent project related personnel. The **Contractor** shall coordinate with the **Owner** as to the location where the meetings are to be held.

Contractor shall provide public information materials as requested for example: project schedule, traffic changes, and other tasks for the City led public information effort. The contractor shall plan to attend and participate in up to three (3) public information meetings upon request by the City.

1.26 CONSTRUCTION STAKING AND SURVEY MONUMENTATION

Both Construction Staking and Survey Monumentation are important elements of this project. The City has further defined the Construction Staking requirements and has added the Survey Monumentation requirements to better address these items during construction. The requirements are intended to help both the City and the Contractor address these issues in a more proactive way for which the Contractor is paid.

The **Contractor** shall be responsible for providing vertical and horizontal control and staking for all of the project elements. The **Contractor** shall protect all existing control points, property corners and monuments, unless identified and measures are in place to reset the monument before they are disturbed. The **Contractor** shall be responsible for replacing any damaged or destroyed monument, property corner or control point that is not identified and reported to the City before they are disturbed. Any cost associated with providing surveying or grade control for project construction is to be included in the bid item for construction staking. Additional requirements of the technical specification is for the Contractor to perform effort to locate, document, and coordinate with the City and Engineer before, during and after construction around existing monuments.

The Survey Monumentation requirements by the City for the Contractor are to address issues the City and other governmental agencies has had with lost monuments and compliance with Federal, State, County, and Municipal laws. All of these monuments are important and may also be unique. The City's 5x5 and 5 off's, that are located in some parts of the City are an example of unique monuments. Many have been lost since they are often located in the concrete sidewalks, and other similar features, and may not have been recognized as monuments.

See the 825 Construction Survey and 826 Survey Monumentation technical specifications for additional information. The Contractor shall meet the requirements of these specifications during the performance of this contract.

1.27 CLEAN UP AND REMOVAL OF SEDIMENT DEPOSITS

The **Contractor** shall implement stabilization measures within the project area to control erosion to the extent practical. If sediment or other material from the site migrates downstream of the project area during construction, it shall be removed and disposed of by the **Contractor** without any additional compensation. The **Contractor** is advised to document the existing conditions in the channel and to provide a copy of the documentation to the **Owner** prior to beginning construction.

1.28 MEASUREMENTS AND PAYMENT

Payment for work performed by the Contractor under these Contract Documents will be made at the approved unit price or lump sum price for each of the several items as listed in the bid proposal

and paid at the plan and bid form quantity as hereinafter specified. Such payment shall compensate the Contractor for all costs in connection with furnishing all labor, equipment and material required and performing the operations necessary to complete the item in accordance with the contract documents.

Any items of work which may or may not be called out in the plans and/or the specifications and do not have a specific line item in the bid proposal, but which are necessary to complete the work in accordance with good and standard practice, such as clearing, subgrade preparation, saw cutting, complete removal of conflicting elements, minor utility relocation and/or adjustment, minor fence relocation, straightening and plumbing, tree and bush trimming or removal, plant material removal, other landscaping element removal or relocation, street and mailbox relocation, form work, Public Notification, cold weather protection, etc. **are to be considered as incidental to the construction of the project and the Contractors cost for such work shall be included in the bid unit price with the related item of work.**

The Contractor shall accomplish all incidental work essential to the completion of the project in a workmanlike manner, including cleanup and disposal of waste or surplus material without additional cost to the Owner (See Subsection 103.01 of General Provisions). The cleanup and disposal of waste, trash or surplus material shall be performed every day or as soon after as is reasonably possible (48 hours maximum) in order to better maintain the safety and aesthetics of the construction area.

Demolition, removal and disposal or salvage of materials in actual or close conflict with new work shall be complete including legal disposal, backfill and compaction of voids with suitable materials, fine grading, and topping material to match adjacent surfaces and will be incidental to other work items. This includes pipe or utility facilities under proposed new work, as directed by the Program Manager.

The quantities listed in the bid are estimated quantities and are listed only for convenience in comparing bids. Payment will be made for the actual quantities constructed or installed, unless otherwise noted in these contract documents. However, any changes to plan quantity must be approved through proper change order procedures.

Partial payments of work shall not be allowed. Only completed work shall be considered for payment. Completed work is defined as concrete work that has forms stripped, backfill completed, cure applied and asphalt patching complete in place when working in the street. Removals shall be paid for if excavated materials are no longer onsite and have been disposed of properly.

1.29 FINAL INSPECTION AND ACCEPTANCE

General provision 109.04 shall be supplemented by the following:

Upon written notice that the Contractor considers all work complete, the Engineer shall make a final inspection with the Owner and Contractor and shall notify the Contractor in writing of incomplete or defective work revealed by the inspection. The Contractor shall promptly remedy such deficiencies.

After the Contractor has remedied all deficiencies to the satisfaction of the Engineer and delivered all construction records (except preparation of record drawings which will be provided by the Inspector), maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection and other documents (all as required by the Contract Documents), the Owner and Contractor shall be promptly notified in writing by the Engineer that the work is acceptable.

1.30 POTENTIAL PERMITS

The table below is a list of potential permits or submittals required for the project. The contractor shall be responsible to verify this list and add any additional permits needed to construct the project.

Copies of any permits already obtained by the City of Colorado Springs are available for review by all proposers. Contractors are responsible for compliance with all permits obtained by others for this project.

The Contractor shall be responsible to investigate and assess the requirements for all necessary environmental/drainage/construction permits. The Contractor shall furnish in the proposal a written list of all permits required for the proper completion of the Contract. The list shall clearly identify the type of permit or permits that must be obtained before work on any particular phase or phases of work can be started. Copies of permits obtained shall be submitted to the Project Manager. The Contractor shall comply with all conditions of the permits during the course of the construction. Permit fees for the City of Colorado Springs permits are waived for this project. The Contractor shall pay the fees for all other permits. City and/or other agency fines are the sole responsibility of the Contractor.

All water used shall be potable and free of dissolved ingredients that may prove harmful. If water is acquired from a City hydrant, the Contractor shall use a proper water meter equipped with a backflow preventer, as required by Colorado Springs Utilities (719) 668-7420. Contractor shall contact Colorado Springs Utilities Mesa Laboratory at (719) 668-4560 for direction and authorization of which fire hydrants can be used during construction to avoid damages to CSU waterlines and CSU customer lines and appliances. Contractor shall be responsible for any damages to CSU waterlines or CSU customer property related to waterlines. Water shall be included in the contract unit price and shall not be paid for separately.

| Permit | Permitting Agency | Responsibility to Obtain Permit |
|---------------------------------------------|---------------------------------------------------------------------|----------------------------------------|
| Air Quality Permit | El Paso County/Colorado Department of Public Health and Environment | Contractor |
| CDPHE Stormwater Construction Permit | Colorado Department of Public Health and Environment | Contractor |
| Construction Dewatering Permit | Colorado Department of Public Health and Environment | Contractor |
| Excavation Permit | City of Colorado Springs | Contractor |
| Concrete Permit | City of Colorado Springs | Contractor |
| City Forester's Permit | City of Colorado Springs | Contractor |
| Traffic Control Permit | City of Colorado Springs | Contractor |
| Grading and Erosion Stormwater Quality Plan | City of Colorado Springs | Contractor |
| CDOT Special Use Permit | Colorado Department of Transportation | Contractor |
| Hot Work Permit | Colorado Springs Fire Department | Contractor |

The excavation permit may be obtained at:

Regional Development Center 2880 International Circle
Suite 200-1
Colorado Springs, CO. 80910

Contact: Robin Tisdale

(719) 385-5052

1.31 SHOP DRAWINGS AND SUBMITTALS

General provision 109.23 shall be supplemented by the following:

The selected contractor will participate in utilizing Aurigo Masterworks Project for project management and collaboration effort with City and consultant staff. The City will provide user access to the selected contractor during the construction contract award process.

The City of Colorado Springs will require the use of this web-based project management tool in order to streamline project management, facilitate the appropriate distribution of information, and manage the communication needs of the project between participating City, contractor and consultant staff.

At a minimum this system will be used by the selected contractor, consultant and City staff to post, review, track, and approve items such as:

- Schedules
- Requests for Information (RFI's),
- Submittals
- Shop drawings
- Change orders
- Materials testing data
- Project pay estimates
- Project photos
- Meeting agenda and minutes

All documents submitted by the contractor shall be submitted in electronic format.

Contractor shall submit all required **Shop Drawings and Product Submittals** in pdf format via the project Masterworks program to the **Owner or Owner's Representative** for review. These include, at a minimum, the following:

1. Test results for any imported topsoil, base course and aggregate material
2. Concrete mix designs
3. Concrete additives, curing and reinforcement materials
4. Mix design for asphalt pavement materials
5. Steel reinforcement schedule and layout for all reinforced concrete structures and pavement
6. Geotextiles

7. Seed, mulch, erosion control blanket and TRM
8. All contractor provided pipe, fittings, and inlets and accessories
9. Sign posts
10. Pavement marking materials

1.32 WORKPLACE VIOLENCE

If a representative or employee of the Contractor, or a subcontractor, commits an act of workplace violence on the project, he shall be sanctioned as provided by the Contractor's employment policies and, where appropriate, shall be reported to law enforcement authorities. At the request of either the Contractor or the City, the City and the Contractor shall meet to discuss appropriate actions to be taken against the representative or employee. Appropriate action may include removing the representative or employee from the project. If removal is warranted and the Contractor fails to remove the representative or employee, the City may suspend the work by written notice until compliance is achieved

1.33 LIMITATION OF OPERATIONS

The Limitation of Operations will be focused on the way the Contractor is issued Notice to Proceed(s) for the project. The City encourages the contractor to order materials and schedule specialized equipment needed for the project as early as possible. The goal is to enable the Contractor to obtain materials and equipment necessary for the project. In the past few years this has been an issue for delivery of the City projects.

1.34 FORCE ACCOUNT ITEMS

DESCRIPTION

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

BASIS OF PAYMENT

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

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

| <u>Estimated Force Account Item</u> | <u>Quantity</u> | <u>Amount</u> |
|-------------------------------------|-----------------|---------------|
| F/A Dewatering | F.A. | \$15,000 |
| F/A Minor Contract Revisions | F.A. | \$15,000 |

This work consists of minor work authorized and approved by the Engineer, which is not included in the contract plans or specifications and is necessary to accomplish the scope of work for this contract.

1.35 BUY AMERICA REQUIREMENTS

Since there is no Federal funding for this project, the Buy America Requirements in the City General Provisions, Section 107.25, are deleted.

1.36 COMMENCEMENT

The Contractor shall commence work under the Contract on or before the 15th day following Contract execution or the 30th day following the date of award, whichever comes later, unless such time for beginning the work is changed by the Chief Engineer in the "Notice to Proceed." The Contractor shall complete all work within **120 Calendar Days** after the Full Notice to Proceed. The Contractor shall start work promptly after receipt of the Notice's to Proceed and Pre-Construction Meeting and continue to work diligently until all work is completed and accepted by the City.

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

Subsection 108.03 shall include the following:

The Contractor's progress schedule shall be a Critical Path Method.

Salient features to be shown on the Contractor's Progress Schedule are:

1. Limited Notice to Proceed
2. Mobilization and Construction Traffic Control
3. Temporary Waterline Diversions (Coordinate with CSU Water)
4. Delivery of pipe
5. Work authorized by the LNTP
6. Full Notice to Proceed
7. Utility Notifications and Property Notifications
8. Construction Surveying
9. Erosion, Sediment, and Water Control
10. Clearing and Grubbing
11. Earthwork
12. Box demolition
13. Box construction
14. Channel Grading, Stilling Basin, and Installation of Riprap
15. Final Grading and Cleanup
16. Soil Preparation, Seeding and Mulching
17. Final Paving – Removals and 2C
18. Landscape Restoration
19. Punchlist

1.37 MIGRATORY BIRD ACT COMPLIANCE

The contractor is responsible for compliance with the Migratory Bird Treaty Act (MBTA)

Tree Trimming/Removal – The Contractor shall complete all required tree trimming and/or removal activities shall be completed before birds begin to nest or after the young have fledged. In Colorado, most nesting and rearing activities occur between April 1 and August 31. However, since some birds nest as early as February, a nesting bird survey will be conducted by the Engineer's biologist before any tree trimming or removal activities begin.

Clearing/Grubbing Activities - The Contractor shall complete all required clearing and grubbing of vegetation that may disturb ground nesting birds shall be completed before birds begin to nest or after the young have fledged. If work activities are planned between April 1 and August 31,

vegetation shall be removed and/or trimmed to a height of six (6) inches or less prior to April 1. Once vegetation has been removed and/or trimmed, appropriate measures, i.e. repeated mowing/trimming, shall be implemented to assure vegetation does not grow more than six (6) inches. Failure to maintain vegetation height of six (6) inches or less may postpone project construction.

Birds of Prey – For birds of prey that could potentially nest near the project site, refer to the Colorado Division of Wildlife's "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors" guidelines available at Colorado Division of Wildlife district offices. The nesting bird survey will be conducted by the Engineers Representative. If an active migratory bird nest is observed within or up to 50 feet outside the project area or an active raptor nest is observed within ½ mile of the project, the bird and/or nest shall be documented and the USFWS and CPW contacted for the recommended action. The scheduled implications, and activities required to follow the Migratory Bird Treaty Act herein shall be considered incidental to the work and not paid for separately.

1.38 FIELD OFFICE

The **Contractor** will not need to provide a field office for this project but will need to provide or have the items noted below:

Contractor will need to have the capability to join virtual project meetings via *Microsoft Teams*. with a dependable high speed internet connection and a secured wireless router.

The contractor may provide a field office or office space at their expense.

1.39 MEASUREMENT AND PAYMENT

The majority of the measurement and payment for work under this contract shall be done using plan quantities. This provision shall take precedence over language in the General Provisions that state payment is for actual quantities or units installed.

Payment for work performed by the **Contractor** under these Contract Documents will be made at the approved unit price or lump sum price for each of the items as listed in the bid proposal and measured as specified in Schedule E. Such payment shall compensate the **Contractor** for all costs in connection with furnishing all labor, equipment and material required and performing the operations necessary to complete the item in accordance with the contract documents.

`type of construction being accomplished and do not have a specific line item in the bid proposal but which are necessary to complete the work in accordance with the requirements of good and standard practice, such as sub-grade preparation and grading are to be considered as incidental

SCHEDULE D – TECHNICAL SPECIFICATIONS
FOLLOWS THIS PAGE

SCHEDULE D

TECHNICAL SPECIFICATIONS For the Construction of the Tutt Boulevard Extension

INDEX OF TECHNICAL SPECIFICATIONS

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SECTION 220 REMOVAL OF AND OR ABANDONMENT OF STRUCTURES AND OBSTRUCTIONS

220.01 Description

This work shall consist of the demolition, removal, wholly or in part, and satisfactory disposal or resetting of underground water lines, sewer lines, gas lines; grouted boulder channel lining, concrete box culvert, wing walls, asphalt paving, sidewalk, curb and gutter, guardrail, signs, trees any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the contract. It shall also include the salvaging or resetting of designated materials and backfilling the resulting trenches, holes and pits as designated on the plans.

This work shall include saw cutting in reasonably close conformity with the dimensions and details on the plans or as directed, to create planes of weakness in order to facilitate controlled breaking for removal.

220.02 Construction Requirements

The Contractor shall demolish, remove and dispose of items shown on the project demolition plans. All salvageable material shown on the plans shall be removed, without damage, in sections or pieces which may be readily transported, and shall be stored by the Contractor as directed within the project limits. The Contractor shall be held responsible for the safekeeping of all material designated to be salvaged during the period of the contract. The Contractor shall make good or replace at his own expense any such materials damaged, stolen or otherwise lost prior to receipt by the City.

Cavities, trenches or pits left by structure, pavement or pipe removals shall be filled with suitable material acceptable to the Engineer to the level of the surrounding ground and shall be compacted as designated.

Where portions of structures are to be removed, the remaining portions shall be prepared to fit new construction. The work shall be done in accordance with plan details, and in such manner that materials to be left in place shall be protected from damage. All damage to portions of structure to remain in place shall be repaired by the Contractor at his expense. Reinforcing steel projecting from the remaining structure shall be cleaned and aligned to provide bond with new extension. Dowels, as required by the plans, are to be securely grouted with approved grout.

The saw cutting of concrete and asphalt shall be done carefully, and all damages to concrete and asphalt to remain in place, due to Contractor's operations, shall be repaired by the Contractor at his expense.

The minimum depth of saw cut in concrete and asphalt shall be full depth unless the reinforcing steel is to be salvaged and connected to new improvements in which case the depth to reinforcing steel.

Operations that may damage or constitute a hazard to the public will not be permitted.

220.03 Removal of Abandoned Utility Pipe and Fittings

The contractor shall secure written approval from the Colorado Springs Utilities Inspector prior to proceeding with work to remove any abandoned utility pipe.

Unless otherwise provided, all pipe which is removed shall be hauled from the site and properly disposed of as called for in the Project Special Provisions.

If voids are present in portions of the abandoned utility piping to remain in place, they shall be filled with flow fill before covering them.

Any sewage present in the sewer line to be removed shall be removed in a contained and controlled manner and disposed of at an appropriate facility.

Any excavation resulting from removal of the piping, shall be backfilled and compacted per the project plans and specifications.

Contractor is to coordinate disposal of the pipe material and fittings with Colorado Springs Utilities. They may require some material to be salvaged and hauled to their facilities at the contractor's expense. All other materials are to be hauled and disposed of at the contractor's expense.

220.04 Removal of Pavements, Sidewalks, Curbs, Cross Pans, etc.

All concrete or asphalt pavement designated for removal, shall be broken into pieces and disposed of.

Where old pavement construction abuts new pavement construction, edges of pavement to be left in place shall be sawn to a true line with a vertical face.

220.05 Removal of Trees

Large trees identified for removal on the plans shall be carefully removed along with their roots and disposed of off-site. Much care shall be taken to protect infrastructure to remain in place from damage during the removal.

220.06 Removal and Resetting of Signs

Where designated on the plans, signs shall be removed and stored prior to construction by the contractor for resetting with a new post after construction is complete in the area of the sign. The removed posts shall be disposed of off-site. Sign resetting shall be in accordance to Section 627.

220.07 Removal of Asphalt Mat, Planing (Milling)

Where designated on the plans, the contractor shall remove the top portion of the existing asphalt pavement with appropriate planning equipment. The planning equipment shall be capable of picking up the removed asphalt in a single operation. A self-loading conveyor shall be an integral part of the planer. Windrows shall not be allowed.

If traffic is required to be restored to the planed roadway prior to resurfacing, the following requirements apply.

- a. All planed areas shall be broomed with a pickup broom to pick up all loose debris prior to restoring traffic.
- b. Vertical edges over 1 inch in height shall be: Longitudinal-tapered to not less than 3:1 slope, Transverse-tapered to not less than 50:1 slope.
- c. Removed pavement markings shall be restored prior to restoring traffic.
- d. The roadway shall be in a safe and usable condition prior to restoring traffic.

Removed material shall be disposed of off-site at a suitable location in conformance with all applicable regulations.

SECTION 300 AGGREGATE BASE COURSE

301 DESCRIPTION

The work to be performed under this section shall consist of furnishing, placing and compacting one or more courses of base or sub-base material as indicated on the plans. The Class 6 base course material will be used as road base in the pavement section of the roadway.

302 MATERIAL

The aggregate for the base or sub-base course material shall be composed of crushed stone, crushed slag, crushed gravel, or natural gravel which conforms to the quality requirements of AASHTO M-147 (latest revision). This material shall also conform to the following gradation requirements:

| % BY WEIGHT PASSING | | | |
|---------------------------------|--|-------------|---------|
| Sieve Size | | Base Course | |
| | | | Class 6 |
| 4" | | | -- |
| 3" | | | -- |
| 1-1/2" | | | -- |
| 1" | | | -- |
| 3/4" | | | 100 |
| No. 4 | | | 30 - 65 |
| No. 8 | | | 25 - 55 |
| *No.200 | | | 3-12 |
| Liquid Limit AASHTO T-89 | | | 30 MAX |
| Plasticity Index AASHTO T-90 | | | 6 MAX |
| * AASHTO T-11 | | | |

The aggregate shall have a Los Angeles Abrasion Test (AASHTO T-96) percentage of wear not exceeding 45% (excluding Class 2). Class 2 material shall have a minimum "R" value of (69), or a minimum CBR of (40), when tested in accordance with AASHTO T-190 or T-193, respectively. Class 5 and 6 material shall have a minimum "R" value of (77), or a minimum CBR of (60).

303 CONSTRUCTION METHODS

303.1 Hauling and Placing

Care shall be exercised in the hauling and placing of base/sub-base course materials so as to avoid segregation of the coarse and fine materials. The base/sub-base course material shall be placed on the previously prepared subgrade in lifts of sufficient quantity to conform to the thickness specified on the

approved plan and profile. If the required compacted depth of the base/sub-base course material exceeds eight (8) inches, it shall be constructed in two (2) or more layers of approximately equal thickness. The maximum compacted thickness of any one layer shall not exceed eight (8) inches.

All base and sub-base course material shall be mechanically compacted to a minimum of 95% of its maximum Modified Proctor dry density (AASHTO T-180, ASTM D-1557), or 100% of its maximum Standard Proctor dry density (AASHTO T-99, ASTM D-698). Water shall be uniformly applied during placement, in an amount necessary to achieve proper compaction.

The final subgrade surface should be scarified to a depth of 12 inches, moisture conditioned within +/-2% of the optimum water content and recompact to 95% of its maximum Modified Proctor dry density, ASTM D1557. The compacted surface below pavements should be proof-rolled with a fully loaded, tandem-axle, 10-yard dump truck or equivalent. Any areas that are delineated to be soft, loose, or yielding during proof-rolling should be removed and reconditioned, or replaced.

303.2 Surface and Thickness Tolerances

The surface of the prepared base course material shall be free from depressions exceeding one-quarter (1/4) inch in ten (10) feet when measured with a straight edge. The surface shall be smooth and true to the established crown and grade. Any areas not complying with these tolerances shall be reworked. Blue top staking shall be required for all crowns as designated by the Engineer. The required compacted thickness shall be as specified on the construction drawings.

304 QUALITY CONTROL

304.1 Plant Site Testing

All samples and tests described herein shall be made in accordance with approved ASTM/AASHTO procedures. The owner/developer shall provide for all testing laboratory services in connection with tests verifying conformance of proposed materials with project requirements. The owner/developer shall also provide for testing laboratory services in connection with tests on materials after incorporation into the project, on a first time basis only. The costs of any retesting, as required, shall be borne by the Contractor. Prior to installation of base or sub-base course materials, the Contractor shall provide the Engineer with a copy of the R-value test results, gradation analysis, Atterberg Limits (LL/PI), and moisture/density curve for the proposed base or sub-base course materials. Laboratory testing should be completed on samples taken from the plant site or proposed borrow. Testing should be completed on a monthly basis during the construction season. If, in the opinion of the Engineer, the material being used on the jobsite is not at any time in conformance with approved laboratory mix designs or test reports, conformance tests shall be run. If this material does not meet the specifications, the Contractor shall pay for such testing and remedy the problem at his expense.

302.1 Minimum Project Testing

During placement of aggregate base and/or sub-base, testing shall be completed on a regular basis to verify specification compliance. Required laboratory testing shall be completed on samples secured from the jobsite.

1. Gradation Analysis 1/4000 Tons or 1 /project site
2. Atterberg Limits (LL/PI)..... 1/4000 Tons or 1 /project site
3. Moisture/Density Curve 1 /source per month
4. In-place density tests for pavement base ...1/2000 Tons or 1/500 L.F. of paving (AASHTO T-191, 205, 238) Includes thickness measurement
In-place density tests for pipe bedding shall be in accordance with Section 962

303 MEASUREMENT AND PAYMENT

Measurement and payment shall be as outlined in Schedule E.

SECTION 400 ASPHALT CONCRETE PAVEMENT

400.1 Description

This work shall consist of the construction of asphalt concrete pavement in areas as designated on the project plans.

400.2 Construction Requirements

The materials, work, and testing for the construction of asphalt concrete pavement shall be in accordance with the "Pikes Peak Region Asphalt Paving Specifications", Version 5, dated March, 2020.

400.3 Measurement and Payment

Measurement and payment shall be as outlined in Schedule E.

SECTION 500 CONCRETE SIDEWALKS, CURB AND GUTTER, CROSS PANS AND MEDIAN COVER

500.01 GENERAL

This section shall apply to construction of sidewalks curb and gutter, cross pans and median pavement as called for on the plans

500.02 CONCRETE MATERIALS

A. Cement

Portland Cement shall be Type II conforming to ASTM C-150. In addition to the standard chemical requirements for Portland cement in ASTM C-150, the maximum percent of alkalis shall be as specified in Table 2 of ASTM C-150 for low alkali cement. Fly Ash used as a partial substitute for Portland Cement shall conform to the requirements of ASTM C 618 Class F. The amount of Fly Ash in the mix shall be a minimum of 20% of the Portland Cement/Fly Ash blend. The cement shall have a tricalcium aluminate content that is not greater than 8 percent.

B. Aggregates

The amounts and proportions of fine and coarse aggregates shall be such as to produce a plastic, workable mix which can be readily placed into the corners and angles of the forms and around reinforcement and other embedded fixtures without undue accumulation of water or laitance on the surface, and such that there will be no honeycombing in the structure.

Proportions of fine and coarse aggregates shall be such that the ratio of the coarse to the fine aggregate shall not be less than one (1) nor more than two (2).

If in the judgment of the Owner's Representative, based on laboratory tests, concrete aggregates from a given source are detrimentally reactive with alkalis in Portland Cement, they shall be used in concrete in combination with low-alkali cement only.

Concrete aggregates shall consist of sand-gravel, gravel, crushed stone, or limestone; the particles shall be clean, hard, tough, and durable, of uniform quality, free of any

soft, thin, or elongated pieces, disintegrated stone, dirt, organic or other injurious materials occurring either free or as a coating. All aggregate must be supplied from a source approved by the Owner's Representative. Aggregate shall be made of the following sub sections:

Fine Aggregate: Fine aggregate shall conform to ASTM C-33. Fine aggregate shall consist of sand or other inert materials, or combinations thereof approved by the Owner's Representative, and having hard, strong, durable particles, free from adherent coating. Fine aggregate shall be thoroughly washed to remove shale, coal, mica, clay, loam, alkali, organic matter or other deleterious matter.

1. **Deleterious Substances:** The amount of deleterious substances in the washed aggregate shall not exceed the following values:
 - a. Clay Lumps & Friable Particles, % by weight 3.0 MAX
 - b. Coal & Lignites, % by weight 1.0 MAX
 - c. Friable Particles, % by weight 1.0 MAX
 - d. Sand Equivalent 75 MAX
 - e. Fineness Modulus 2.3-3.1 MAX
 - f. Sodium Sulfate Soundness, % by weight 10 MAX
2. **Grading:** Fine aggregate shall be regularly graded from coarse to fine in two (2) sizes and when tested by means of the U.S. Standard, sieves shall conform to the following requirements expressed as percentages by weight:

| Sieve Size or Test Procedure | Percent Passing or Test Requirement *(Concrete Sand) |
|------------------------------|---------------------------------------------------------|
| 3/8" | 100 |
| No. 4 | 95-100 |
| No. 8 | 80-100 |
| No. 16 | 50-85 |
| No. 30 | 25-60 |
| No. 50 | 5-30 |
| No. 100 | 0-10 |
| No. 200 | **0-3 |

**The fine aggregate shall have not more than 45% passing any sieve and retained on the next consecutive sieve.

Coarse Aggregate: Gravel and crushed stone shall conform to ASTM C-33. Coarse aggregate shall consist of gravel, crushed stone, or other inert material or combinations thereof approved by the Owner's Representative, and having hard, strong, durable pieces free from adherent coating. Coarse aggregate shall be thoroughly washed of clay, loam, bark, sticks, alkali, organic matter, shale, coal, mica, or other deleterious material.

1. **Deleterious Substances.** The amount of deleterious substances in the washed aggregate shall not exceed the following values:
 - a. Clay Lumps & Friable Particles, % by weight 3.0 MAX
 - b. Coal & Lignites, % by weight 0.5 MAX
 - c. Sum of Clay Lumps, Friable Particles and 5.0
MAX Chert, % by weight
 - d. Abrasion, % by weight 50 MAX
 - e. Sodium Sulfate Soundness, % by weight 12 MAX
2. **Grading.** Coarse aggregate, when tested in conformity with ASTM C-136 shall

conform to the No. 57 gradation shown in the table below.

| Sieve size or Test Procedure | Percent Passing (by weight) | | |
|------------------------------|-----------------------------|----------|----------|
| | No. 357 | No. 467 | No. 57 |
| 2 1/2" | 100 | --- | --- |
| 2" | 95-100 | 100 | --- |
| 1 1/2" | --- | 95-100 | 100 |
| 1" | 35-70 | --- | 95-100 |
| 3/4" | --- | 35-70 | --- |
| 1/2" | 10-30 | --- | 25-60 |
| 3/8" | --- | 10-30 | --- |
| No. 4 | 0-5 | 0-5 | 0-10 |
| No. 8 | --- | --- | 0-5 |
| No. 200 | *1.0 MAX | *1.0 MAX | *1.0 MAX |

C. WATER

Water used in concrete shall be potable, clean, and free from deleterious amounts of acids, alkalis, or any organic materials.

D. ADMIIXTURES

1. General: Admixtures certified by manufacturer to contain no more than 0.1 percent water- soluble chloride ions by mass of cement and to be compatible with other admixtures. Calcium Chloride shall not be used as an antifreeze agent. Calcium Chloride as an accelerating agent in amounts not to exceed 1.5% by weight of cement may be used upon the approval of the Owner's Representative.
2. Air-Entraining Admixture: ASTM C260.
3. Water-Reducing Admixture: ASTM C 494, Type A.
4. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
5. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
6. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

E. FIBER REINFORCEMENT

1. Synthetic Fiber: Fibrillated polypropylene fibers engineered and designed for use in concrete pavement, complying with ASTM C 1116, Type III ½ to 1-1/2 inches long.
2. Synthetic Fiber: Fibrillated or monofilament polypropylene fibers engineered and designed for use in concrete payment, complying with ASTM C 1116, Type III, ½ to 1-1/2 inches long.
3. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fibrillated Fibers:
 - Fibrasol F; Axim Concrete Technologies.
 - Fibermesh; Fibermesh, Div. Of Synthetic Technologies.
 - Forta; Forta Corporation.
 - Grace Fibers: W.R. Grace & Co., Construction Products Div.
 - b. Monofilament Fibers:
 - Fibrasol IIP; Axim Concrete Technologies.
 - Fiberstrand 100; Euelid Chemical Co.
 - Fibermix Stealth; Fibermesh, Div. Of Synthetic Industries.
 - Forta Mono; Forta Corporation.
 - Grace MicroFiber; W.R. Grace & Co., Construction Products Div.
 - Polystrand 1000; Metalcrete Industries.

F. STEEL REINFORCEMENT

Where called for on the plans reinforcement bars shall be in conformance with ASTM A-615 Grade 40

G. CURING MATERIALS

- a. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. Dry.
- b. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- c. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- d. White Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.

H. RELATED MATERIALS

- a. Expansion- and Isolation-Joint Filler Strips: ASTM D 1751, asphalt-saturated cellulose fiber.
- b. Chemical Surface Retarder: Water-soluble, liquid set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch.

500.03 CONCRETE MIXES

- A. Concrete mixes used on the project shall be from the Current City of Colorado Springs Pre-Approved Concrete Mix Design and appropriate for the application.
- B. Prepare design mixes, proportioned according to ACI211.1 and ACI301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.
- C. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the trial batch method.
 - 1. Do not use Owner's field quality-control testing agency as the independent testing agency.
- D. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at a point of placement having an air content of 4 to 6 percent.
- E. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1.5 lb./cu. Yd.

500.04 QUALITY OF CONCRETE

- A. The quality of concrete shall meet or exceed the following:

| | |
|------------------------------------------------------------|-------------------------------------------|
| Specified Compressive Strength at 28 Days 4000 psi | Maximum Water/Cement Ratio by Weight 0.45 |
| Minimum Cement Content per Cubic Yard of Concrete 564 lbs. | |

- B. The proportioning of aggregate to cement shall be such as to produce a good workable mix and the slump shall be a maximum of four inches (4") as per ASTM C-143. The equipment for batching of the aggregates, cement, water, and air-entraining agent shall be such that

accurate control can be held over the various constituents.

C. Concrete shall comply with ASTM C-94 for ready-mixed concrete and the following specifications:

- a. Time of Haul: Concrete transportation in truck mixers or truck agitators shall be delivered to the site of work and completely discharged within a period of ninety (90) minutes after the cement comes in contact with the mixing water or with the combined aggregates when the combined aggregates contain free moisture in excess of 2% by weight. If hot weather exists causing the temperature of the concrete to rise above 90 degrees Fahrenheit, then the time of haul shall be within a period of sixty (60) minutes.
- b. Production and Delivery: The production and the delivery of ready-mixed concrete shall be such that placing and finishing shall be continuous in so far as the operations require.
- c. No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point, unless approved by ENGINEER. If additional water is to be incorporated into the concrete at the site, the drum shall be revolved not less than thirty (30) revolutions at mixing speed after the water is added and before discharge is commenced. One (1) addition of water at the site to adjust mix workability is permitted but the maximum water cement ratio shall not be exceeded.
- d. CONTRACTOR shall furnish a water-measuring device in good working condition, mounted on each transit mix truck, for measuring the water added to the mix on the site. All water tanks on transit mix trucks shall be filled prior to being batched and arrive at the construction site one hundred percent (100%) full.
- e. Each load of ready mixed concrete delivered at the job shall be accompanied by a batch ticket to be provided to the Engineer at the time of delivery. The ticket shall summarize the following information legibly in an easily discernable table:
 1. Weight in pounds of all materials, excepting the water reducing and air-entraining agents which shall be in ounces.
 2. Cubic yards batched.
 3. The ratio of water to cementitious (W/C) materials ratio.
 4. Temperature of the concrete at the time it was batched.
 5. Time of batching.
 6. Free moisture in the fine and coarse aggregates in percent of weight of aggregate.
 7. Gallons of water that may be added at the site without exceeding the permissible W/C ratio.
 8. Concrete Mix Design Number.

501.00 CONSTRUCTION

501.01 EDGE FORMS AND SCREED

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces. Use flexible or curved forms for curves of a radius 100 feet or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

- C. Forms shall be cleaned and oiled before concrete is placed against them. The alignment and grade of forms shall be checked and approved immediately before placing the concrete.
- D. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

501.02 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement and with recommendations in CRSI's "Placing Reinforcing Bars" for placing and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover of 2" to reinforcement.
- D. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap to adjacent mats.

501.03 JOINTS

- A. General: Construct construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
 - 1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour, unless pavement terminates at isolation joints.
 - 1. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
 - 2. Provide tie bars at sides of pavement strips where indicated.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting catch basins, manholes, inlets, structures, walks, ends of curb returns, and other fixed objects, and where indicated on the plans and standard details.
 - 1. Locate expansion joints at intervals of 50 feet, unless otherwise indicated.
 - 2. Extend joint fillers full width and depth of joint.
 - 3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface and seal joints with a gray high quality polyurethane concrete joint sealant.
 - 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.

5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Install dowel bars and support assemblies at joints where indicated. Use 5/8 inch cardboard tube or PVC. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.
 - E. Contraction Control Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to a least one fourth of the concrete thickness at 5 foot spacing for sidewalks and 1" depth at 10 foot spacing for curb and gutter as follows:
 1. Grooved Joints: Form contraction joints after floating by grooving and finishing each edge of joint with groover tool with a ½ inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8 inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks. Within 24 hours of initial pour.
 - F. Edging: Tool edges of pavement, gutters, curbs and joints in concrete after initial floating with an edging tool to a ½ inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

501.04 CONCRETE PLACEMENT

- A. If noted on the plans Class 6 base course is to be placed as indicated on drawings over prepared and compacted subgrade. Where base course is not indicated moisture condition, grade and compact subgrade in accordance with Specification Section 930 prior to setting forms.
- B. Inspection: Before placing concrete, inspect subgrade, inspect and complete formwork installation, reinforcement steel, and items to be embedded or cast in. Notify other trades to permit installation of their work. Owner's Representative needs to be notified 24 hours to inspect forms prior to pouring concrete.
- C. Remove snow, ice, or frost from sub-base surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- D. Moisten sub-base to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.
- E. Comply with requirements and with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.
- F. Do not add water to concrete during delivery, at Project site, or during placement.
- G. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

- H. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI309R.
 - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- I. If noted on the plans Class 6 base course is to be placed as indicated on drawings over prepared and compacted subgrade.
- J. Any sleeving under concrete surfaces shall be stamped into surfaced with an "S" on each end of the sleeve.
- K. Screed pavement surfaces with a straightedge and strike off. Commence initial floating using bull floats or darbies to form an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing
- L. Cold-Weather Placement: Comply with ACI306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. Concrete shall not be placed in cold weather unless the ambient temperature has reached 40 degrees Fahrenheit by 9:00 a.m., and the temperature is rising. In freezing weather, suitable means must be provided to maintain the temperature of the concrete at 50 degrees Fahrenheit or above for 7 days after placement. Uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees F and not more than 80 deg F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow. All reinforcement, forms, fillers, and ground that the concrete will come in contact with shall be free of ice and snow.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- M. Hot-Weather Placement: Place concrete according to recommendations in ACI305R and as follows when hot-weather conditions exist:
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Cover reinforcement steel with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 - 3. Fog-spray forms, reinforcement steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.
- N. Backfill around concrete immediately after concrete is cured to sufficient strength to resist damage. Backfill behind curbs shall be placed and compacted prior to placing adjacent street pavement. Placement of adjacent street pavement shall not be sooner than 7 days after concrete placement except as otherwise authorized by the Engineer.

501.05 CONCRETE FINISHING

- A. General: Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots, and fill low spots. Refloat surface immediately to uniform granular texture.
- C. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic for sidewalks, cross pans and driveways and parallel to flow for curb and gutter, to provide a uniform, fine-line texture. Or as otherwise indicated on drawings.

501.06 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI306.1 for cold-weather protection and follow recommendations in ACI305R for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb./sq. ft x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.
- D. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination to these as follows:
 - 1. Keep surfaces continuously moist for not less than seven days with the following materials and methods:
 - a. Continuous water-fog spray.
 - b. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - c. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - d. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

501.07 CONCRETE CONSTRUCTION TOLERANCES

Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/4 inch
2. Thickness: Plus 3/8 inch minus 1/4 inch.
3. Surface: Gap below 10-foot-long, unlevelled straightedge not to exceed 1/4 inch.
4. Lateral Alignment and Spacing of Tie Bars and Dowels; 1 inch.
5. Vertical Alignment of Tie-Bars and Dowels: 1/4 inch.
6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2 inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches.
8. Joint Spacing: 3 inches.
9. Contraction Joint Depth: Plus 1/4 inch, no minus.
10. Joint Width: Plus 1/8 inch, no minus.
11. Horizontal alignment of curbs shall not deviate more than 3/8 inch in 10 feet.

502.00 FIELD QUALITY CONTROL

A. Testing shall be performed according to the following requirements:

1. Sampling Fresh Concrete: Representative samples of fresh concrete shall be obtained according to ASTM C172, except modified for slump to comply with ASTM C94.
2. Slump: ASTM C 143; one test at point of placement for each compressive-strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
3. Air Content: ASTM C231, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air-entrained concrete.
4. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40 degrees F and below and 80 degrees F and above, and one test for each set of compressive-strength specimens.
5. Compression Test Specimens: ASTM C31/C 31M; one set of six standard cylinders for each compressive-strength test, unless otherwise indicated. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.
6. Compressive-Strength Tests: ASTM C39; one set for each day's pour of each concrete class exceeding 5 cu. Yd, but less than 25 cu. Yd., plus one set for each additional 50 cu. Yd. One specimen shall be tested at 7 days and three specimens at 28 days; two specimens shall be retained in reserve for later testing if required.
7. When frequency of testing will provide fewer than five compressive-strength tests for a given class of concrete, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, current operations shall be evaluated and corrective procedures shall be provided for protecting and curing in-place concrete.
9. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive compressive-strength test results equal or exceed specified compressive strength and no individual compressive-strength test result falls below specified compressive-strength by more than 500 psi

10. In the event the initial 28 day cylinder should fail, the remaining two cylinders should be strength tested after 45 days of curing time.
11. Samples for slump and air-content testing should be taken for each truck delivery or not less than each 12 cubic yards where site batching is performed. The Owner's Representative may vary the frequency of sampling and testing depending on site conditions. The preparation, handling, storage and testing procedures of all samples shall be in conformance with the applicable ASTM and AASHTO standards.
- B. Test results shall be reported in writing to the Engineer, concrete manufacturer, and Contractor within 24 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in pavement, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28 day tests.
- C. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Owner's Representative but will not be used as the sole basis for approval or rejection.
- D. Additional Tests: Testing agency shall make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by Owner's Representative. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

503.0 Acceptance and Pay Factors. These provisions apply to all concrete.

A. Air Content.

At any time during the placement of the concrete, when a test on a batch deviates from the minimum or maximum percent of total air content specified, the following procedure will be used to analyze the acceptability of the concrete.

1. When a batch of concrete delivered to the site does not conform to the minimum specified air content, an approved air entraining admixture may be added and the concrete shall be re-mixed a minimum of 20 revolutions of the mixer drum at mixing speeds before retesting.
2. A batch that deviates from the specified air content by more than 1 percent after adjustments will be rejected. Portions of loads incorporated into structures prior to determining test results which indicate rejection as the correct course of action shall be subject to acceptance at reduced price, no payment, or removal as determined by the Engineer.
3. A batch that deviates from the specified air content by 1 percent or less may be accepted at a reduced price using the pay factor table included in this Section 503.0.

B. Slump.

Slump acceptance, but not rejection, may be visually determined by the Engineer. Any batch that exceeds the slump of the approved concrete mix design by more than 2.0 inches will be retested. If the mix design slump is exceeded by more than 2.0 inches a second time, that load will be rejected. If the slump is greater than 2 inches lower than the approved concrete mix design, the load may be adjusted by adding a water reducer or by adding water (if the water cement ratio allows) and retested.

Portions of loads incorporated into structures prior to determining test results which indicate rejection as the correct course of action shall be subject to reduced payment or removal as determined by the Engineer.

C. Strength.

The concrete will be considered acceptable when the running average of three consecutive strength tests per mix design for an individual structure is equal to or greater than the specified strength and no single test falls below the specified strength by more than 500 psi. A test is defined as the average strength of three test cylinders cast in plastic molds from a single sample of concrete and cured under standard laboratory conditions prior to testing. If the compressive strength of any one test cylinder differs from the average by more than 10 percent that compressive strength will be deleted and the average strength will be determined using the compressive strength of the remaining two test cylinders.

When the average of three consecutive strength tests is below the specified strength, the individual low tests will be used to determine the pay factor in accordance with the Pay Factor Table. If less than three strength tests are available the individual low tests, if any, will be used to determine the pay factor in accordance with Table 503. The pay factor will be applied to the quantity of concrete represented by the individual low test. When the test results show that the concrete compressive strength is below the specified strength by more than 500 psi, the concrete represented will be rejected. When the test results show that the concrete compressive strength is below the specified strength by less than 500 psi, the concrete represented will be evaluated by the Engineer for removal, corrective action, or acceptance at a reduced price. All costs of the evaluation shall be at the Contractor's expense.

D. Pay Factors.

The pay factor for concrete which is allowed to remain in place at a reduced price shall be determined according to Table 503 and shall be applied to the contract unit bid price for the applicable concrete item.

If deviations occur in air content and strength within the same batch, the pay factor for the batch shall be the product of the individual pay factors.

PAY FACTOR TABLE 503

| Percent Total Air | | Strength | | |
|-----------------------------------|----------------|-----------------------------------------|----------------|-----------------------------------------|
| Deviations From Specified Air (%) | Pay Factor (%) | Below Specified Strength (psi) [< 4500 | Pay Factor (%) | Below Specified Strength (psi) [≥ 4500 |
| 0.0-0.2 | 98 | 1-100 | 98 | 1-100 |
| 0.3-0.4 | 96 | 101-200 | 96 | 101-200 |
| 0.5-0.6 | 92 | 201-300 | 92 | 201-300 |
| 0.7-0.8 | 84 | 301-400 | 84 | 301-400 |
| 0.9-1.0 | 75 | 401-500 | 75 | 401-500 |
| Over 1.0 | Reject | Over 500 | Reject | |

504.0 REPAIRS AND PROTECTION

A. The Contractor is to remove and replace concrete pavement that is broken, damaged, or defective, or otherwise does not meet requirements in this Section. Contractor is required to repair or replace any defects that occur during the contract period as set forth in the contract documents.

B. Work showing: a patch, chips, cracking appearance, spalling, significant settling, or other

finish blemishes or apparent “lap” marks of improper troweling will be rejected, removed and replaced at the Contractor’s expense.

- C. The Contractor shall erect barricades, snow fencing, or take appropriate measures to totally protect concrete until it has gained enough strength that it is not easily damaged or defaced. Any area marked or defaced in any manner shall be removed to the nearest expansion or contraction joint and be replaced at no additional costs to the Owner.
- D. No patched or cover materials will be accepted on a new pour, to hide any defects in original surface. Only with prior approval from Owner’s Representative.
- E. Drill test cores where directed by Owner’s Representative when necessary to determine magnitude of cracks of defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.
- F. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- G. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

505.0 REQUIRED SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- A. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
- B. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with the project requirements for the following materials:
 - 1. Cementitious materials and aggregates.
 - 2. Steel reinforcement and reinforcement accessories.
 - 3. Fiber reinforcement.
 - 4. Admixtures.
 - 5. Curing Compounds.
 - 6. Joint fillers.
 - 7. Joint Sealers

506.0 Measurement and Payment

Measurement and payment shall be as outlined in Schedule E.

- a. ASTM D4873 – Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples.
 - b. ASTM D6241 – Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe.
2. Soils
- a. AASHTO M 145 – AASHTO Soil Classification System.
 - b. AASHTO T 104 – Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate.
 - c. AASHTO T 267 – Standard Method of Test for Determination of Organic Content in Soils by Loss of Ignition.
 - d. ASTM C33 – Standard Specification for Concrete Aggregates.
 - e. ASTM D422 – Standard Test Method for Particle-Size Analysis of Soils.
 - f. ASTM D448 – Standard Classification for Sizes of Aggregates for Road and Bridge Construction.
 - g. ASTM D698 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. (12,400 ft-lbf/ft (2,700 kN-m/m)).
 - h. ASTM D1241 – Standard Specification for Materials for Soil-Aggregate Subbase, Base and Surface Courses.
 - i. ASTM D1556 – Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method.
 - j. ASTM D1557 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort. (56,000 ft-lbf/ft (2,700 kN-m/m)).
 - k. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
 - l. ASTM D2488 – Standard Practice for Description and Identification of Soils (Visual- Manual Procedure).
 - m. ASTM D3080 – Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions.
 - n. ASTM D4254 – Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
 - o. ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 - p. ASTM D4767- Test Method for Consolidated-Undrained Triaxial Compression Test for Cohesive Soils.
 - q. ASTM D4972 – Standard Test Method for pH of Soils.
 - r. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Aggregate by Nuclear Methods (Shallow Depth).
 - s. ASTM G51 – Standard Test Method for Measuring pH of Soil for Use in Corrosion Testing.
 - t. ASTM G57 – Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method.
3. Drainage Pipe
- a. ASTM D3034 – Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
 - b. ASTM F2648 – Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications.

SECTION 625 DEWATERING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Section includes specifications for temporary dewatering systems.

1.2 SYSTEM DESCRIPTION

- A. Remove water to allow excavation and work with the excavations to be done in dry conditions, unless otherwise approved by the Engineer. Keep excavated areas free from water while underground utilities or structures are constructed, while concrete is setting and until backfill or elements of the structure have been placed to a sufficient height to anchor the work against possible leakage or buoyant uplift forces. A height to anchor the work against buoyant uplift forces shall be considered sufficient when the dead load weight of the backfill or elements of the structure exceeds the uplift forces by a minimum factor-of-safety of 1.5.
- B. In addition to the other requirements specified herein, design the dewatering systems to perform as follows:
 - 1. Prevent damage to adjacent properties, buildings, structures, utilities, and other work as a result of settlement or other groundwater-related effects.
 - 2. At all times, maintain groundwater levels over the entire excavation a minimum of 1 foot below the bottom of trenches and excavation grade.
- C. At all times, have on the work site sufficient pumping equipment for immediate use, including standby pumps for use in case other pumps become inoperable. Dispose of water in accordance with the detailed requirements specified herein and so as to cause no injury to personnel or the public, damage to public or private property, nor menace to the public health.
- D. Design dewatering system to prevent pumping fines from below grade or disturbing materials exposed at the excavation bottom. Wells shall be cased, and filter(s) shall be provided to prevent such pumping of fines.
- E. Provide a sufficient number of monitoring wells to confirm the following:
 - 1. The dewatering system is performing as intended and is achieving the specified reduction in groundwater levels.
 - 2. Construction site groundwater levels inside and outside dewatered excavations to determine the acceptability of removing the dewatering system from operation.

It may be possible to utilize some of the existing wells installed by the owner to satisfy a portion of this requirement. The Contractor is responsible for determining the feasibility and adequacy of using the existing wells for this purpose. The existing well locations are shown in the Geotechnical Report and the Boring Summary sheet included in the plans.

- F. Unless another adequate and accepted filtering method is provided, furnish a

container or containers for construction dewatering complete with baffles for the purpose of filtering silt prior to discharge of water. Size container or containers to suit dewatering and storage demands.

- G. Obtain CDPHE and the Owner's specific discharge requirements prior to commencement of dewatering.

1.3 SUBMITTALS

- A. Submit dewatering plan including shop drawings and design data including the following elements:
 - 1. The proposed type of dewatering system.
 - 2. Arrangement, location, and depths of system components including wells piping and discharge points.
 - 3. Complete description of equipment and instrumentation to be used, with installation, operation and maintenance procedures.
 - 4. Types and sizes of filters.
 - 5. Design calculations demonstrating adequacy of the proposed system and equipment.
 - 6. Methods of disposal of pumped water.
 - 7. Method of water quality monitoring.
 - 8. Type of filtration and chemical treatment of contaminated water, as applicable.
 - 9. Well point system design, if proposed: Submit design complete with calculations and shop drawings.
 - 10. Method for establishing and monitoring construction site groundwater levels.
 - 11. Criteria for determining the acceptability of removing the dewatering system from operation.
- B. Prior to removing the dewatering system from operation, submit documentation and calculations verifying that the approved criteria for determining the acceptability of removing the system from operation have been met.

1.4 DELIVERABLES

- A. Submit copies of permits required for work of this Section.

1.5 QUALITY ASSURANCE

- A. Well point design, if applicable, shall be prepared, signed, and sealed by a geotechnical engineer registered in the State of Colorado who is experienced and qualified to perform such design.

PART 2 - EXECUTION

2.1 DEWATERING

- A. Except as otherwise indicated in the Contract Documents, perform dewatering to accomplish a lowering of measured static ground water level to an elevation which is suitable for the construction of trenches, bedding, piping and structures below grade.
- B. When pumping is required to reduce groundwater levels, accomplish pumping in a manner that will not disrupt the surrounding environment.
- C. Dewatering pumps and generators that may be utilized in the work shall meet all City of Colorado Springs noise control requirements.
- D. If any dewatering well pumps fines, terminate pumping and construct new well at a different location with a revised design which eliminates the pumping of fines.
- E. Do not turn off the dewatering system in a manner that the upsurge in water weakens the subgrade for completed work.
- F. Remove storage containers, including those cleaned, and other dewatering facilities from the site at the completion of dewatering operations.

2.2 CONTAINMENT, ANALYSIS, AND DISCHARGE OF GROUNDWATER EXTRACTED

- A. Containment: Upon extraction, store groundwater extracted in the process of construction dewatering in containers prior to discharge or disposal of water, as applicable. Keep containers locked to prevent accidental or purposeful discharge of the water. Contain and store the water on-site and in such a manner that it will not interfere with the Contractor's existing or continued construction operations.
- B. Analysis: Collect and analyze water samples taken directly from each storage container to verify that the extracted groundwater meets applicable discharge requirements. Number of samples taken per container shall be at the sole discretion of the Engineer.
- C. Discharge Requirements: Discharge no water which exceeds regulatory requirements or the jurisdictional authority's discharge requirements.
- D. Discharge points and methods of discharge shall be in accordance with the Contractor's approved de-watering plans and associated permitting.
- E. Disposal: In the event that extracted groundwater does not meet the discharge requirements criteria, provide for the treatment or disposal of the extracted groundwater in accordance with all applicable regulatory requirements.. Clean dewatering containers, piping, pumps, and other dewatering facilities contaminated as a result of the Work.

3.1 MEASUREMENT AND PAYMENT

Measurement and payment shall be as outlined in Schedule E.

SECTION 626 SURFACE WATER CONTROL DURING CONSTRUCTION

General

Scope of Work:

The work of this section consists of controlling groundwater, channel flows, pipe outlet flows, and any other flow of water that may impact the work during construction.

Materials:

Onsite materials may be used within the limits of construction to construct temporary dams and berms. Other materials such as plastic sheeting, sandbags, jersey barriers, storm sewer pipe, pump and discharge piping and well points may also be used if desired by the Contractor.

Submittals

The Contractor is required to submit a detailed water control and dewatering plan for review prior to installing any components of the plan.

Construction Requirements:

- A. General: For all excavations and work within the excavations, the Contractor shall provide suitable materials, equipment and labor to remove or bypass water and ice so that construction can be completed in dry conditions. Water control shall be accomplished such that no damage is done to adjacent channel banks, structures, or adjacent private and public properties. The Contractor is responsible for investigating and familiarizing himself with all site conditions that may affect the work including surface water; level of groundwater and the time of year the work is to be done. All excavations or fills or other materials placed for the water control work shall be satisfactorily removed and the site shall be restored unless otherwise agreed to by the Owner.
- B. Surface Water Control: Surface water control generally falls in to the following categories:
 - 1. Normal low flows along the channel;
 - 2. Storm/flood flows along the channel;
 - 3. Flows from existing storm drain pipelines and other flows entering the channel; and,
 - 4. Local surface inflows not conveyed by pipelines.

The Contractor shall coordinate, evaluate, design, construct, and maintain temporary water conveyance systems. 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.

At a minimum, the Contractor will be responsible for diverting surface flow around the active construction areas so that the excavations for placement of: earthen fill;; waterlines and all other components of the project remain free of surface water and ice for the time it takes to install these materials, and the time required for curing of any concrete, or grout. It shall be the Contractor's responsibility to determine the quantity of water which shall be diverted to protect all work from damage caused by stormwater. The Contractor will be responsible for all repairs required due to flood damage.

Measurement and Payment

Measurement and payment shall be as outlined in Schedule E.

SECTION 627 PAVEMENT MARKINGS AND SIGNAGE

627.1 Description

This work shall consist of the construction of pavement markings, signage and associated work as designated on the project construction plans.

627.2 Construction Requirements

The materials, work, and testing for the construction of pavement markings and signage shall be in accordance with the project construction plans and the City of Colorado Springs Traffic Engineering, Signage and Pavement Marking Guidelines, Revised 11/16. Where the City's guidelines do not include specific requirements, CDOT Standard Specifications for Road and Bridge Construction, Sections 627, 708 and 713 shall govern except for measurement and payment.

627.3 Measurement and Payment

Measurement and payment shall be as outlined in Schedule E.

SECTION 630 STORM DRAINS

631 SCOPE OF WORK

The work covered by this specification consists of furnishing all materials, labor, tools and equipment necessary to install storm drain pipe, and appurtenances as shown on the plans and as herein specified.

632 GENERAL

Storm drain pipe, and appurtenances shall conform with all additional standard specifications references and applicable documents as noted herein unless otherwise superseded by the exceptions noted. All reference specifications shall be the current revision. Standard manufactured pipe or culvert materials acceptable for installation on this project are:

A. Reinforced Concrete Pipe (RCP)

Standard Specification References

| | | |
|---------------------|---|----------------------------------------------------------|
| AASHTO | - | American Association of State Highway and Transportation |
| Officials ACI | - | American Concrete Institute |
| ASTM - | | American Society for Testing and Materials |
| CDOT- | | Colorado Department of |
| Transportation SS-S | - | Federal Specification |
| OSHA- | | Occupational Safety and Health Administration |

633 MATERIALS

633.01 Precast Concrete Pipe

ASTM C-76 "Reinforced Concrete Culvert, Storm Drain and Sewer Pipe". Class III shall be the minimum allowed for storm drain systems

Joints for all pipe may be bell and spigot or tongue and groove according to the supplier's preference.

633.02 Not Utilized

633.03 Joint Materials – Precast Concrete Pipe

- A. AASHTO M-198 "Joints for Circular Concrete Sewer and Culvert Pipe using Flexible Watertight Gaskets" for bell and spigot or tongue and groove pipe. Also, ASTM C-433 "Joints for circular concrete sewer and culvert pipe, using rubber gaskets".

633.04 Frame, Cover, and Accessories

ASTM A-48 "Gray Iron Castings for Frames, Covers and Grates". Class should be a minimum of No. 30B unless, malleable iron castings conforming to ASTM A-47 are specified for heavier loadings.

Cast iron manhole steps shall have a minimum tensile strength of 35,000 psi and shall be asphalt coated.

Extruded aluminum alloy steps shall conform with ASTM B-221 and be either 6005-T5 or 6005-T6 extrusions.

Polypropylene coated steel steps shall conform to ASTM 2146 Type II Grade 43758 with grade 60 steel conforming to ASTM A-615.

All steps and installation shall conform to OSHA Standard 29 CFR 1910.27 "Fixed Ladders".

633.05 Structural Concrete

All cast in place reinforced portland cement structural concrete for drainage structures shall be in accordance with the plans and Section 600 of these Specifications.

633.06 Structural Steel

Structural carbon steel for bolted or welded construction shall conform to ASTM A-36 "Structural Steel". Where specified, structural steel shall be galvanized in conformance with ASTM A-123 "Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed and Forged Steel Shapes, Plates, Bars and Strip".

633.07 Bedding Material - Granular

Bedding material for pipe and culvert shall consist of clean, granular material meeting the requirements for structural backfill. Use the following bedding materials unless otherwise specified by the Engineer.

For the AASHTO classification system, granular materials shall be defined as cohesionless sands and gravel of A-1, A-2 and A-3 group classification having 35% or less passing the No. 200 sieve. Maximum particle size shall not exceed 1-1/2 inches.

The material shall have a liquid limit not exceeding 35 and a plasticity index not over 6 when tested in accordance with AASHTO T-89 and T-90 respectively.

For the unified soil classification system, granular materials shall be defined as sands and gravels in soil groups GW, GP, GM, GC, SW, SP, SM and SC having more than 50% retained on the No. 200 sieve.

Granular bedding material for pipe installation may be native trench material or imported material providing the materials are in conformance with the above soil classifications.

634 CONSTRUCTION REQUIREMENTS FOR CAST IN PLACE REINFORCED CONCRETE INLETS, PIPE END FINISH AND FITTINGS

634.01 Inlets

Cast in place inlets shall be constructed in conformance with the applicable CDOT of City of Colorado Springs Standard Plan as called for in the Construction plans except for the following:

1. Concrete shall conform to Section 600 of these specifications

4. Structural steel shall conform to Section 633.06 of these specifications.

634.02 Special Fittings and Connections.

All mitered bends for concrete pipe shall be shop fabricated. Where field connections are required, the connection shall be designed and constructed so as to maintain the structural integrity and load carrying capability and to prevent leakage of the storm drain.

635 ACCEPTANCE, HANDLING, INSTALLATION, EXCAVATION, BEDDING AND BACKFILL

635.01 Acceptance.

All precast pipe and culvert materials and appurtenances shall be subject to inspection at the shop and at the job delivery point by the Engineer.

All site constructed work shall conform with the specified materials, workmanship and tolerance noted herein or be subject to rejection by the Engineer and removal from the job site.

Where required, testing of all materials to determine compliance with the specifications shall be the responsibility of the Contractor. Shop, laboratory or field tests in addition to the normal production or construction requirement shall be performed where and when requested by the Engineer. Copies of all certified test results shall be provided to the Engineer at the time of shipment and prior to the installation of the materials. Materials failing to meet the minimum specifications will be sufficient cause for rejection of materials by the Engineer. Additional testing requirements shall be noted in the General Provisions Section and Section 700 "Control of Materials".

Upon request, the Contractor shall provide the Engineer with shipping or delivery slips of all materials indicating compliance with the Standard Specifications (or Supplemental Specifications). Materials found to be defective or damaged will be subject to rejection and are to be promptly removed from the project site.

All manufactured or prefabricated materials delivered to the site shall be properly identified by the manufacturer or the fabricator with legible stamping on the materials or containers.

Acceptance of the work by the City shall be subject to the requirements as noted in the Project Special Provisions

635.02 Handling.

The handling and shipping of all materials shall be performed in a manner so as to prevent damage and maintain suitability for installation within the limits of the Specifications. Material and accessories shall be loaded and unloaded by means of adequate lifting lugs, slings and equipment. Materials shall not be dropped or improperly stacked. All OSHA Safety Requirements shall be observed.

635.03 Storage

Pipe materials, accessories and construction materials shall be stored at the construction site in a manner that will protect the materials from damage, movement, or vandalism. Storage methods employed by the Contractor or the Contractor's agent shall assure that hazards to the general public, workmen, public and private property are eliminated. All OSHA Safety Requirements shall be observed. Approval of the City Engineer shall be obtained for storage on public property or in a public right-of-way. Written permission shall be obtained from the owner or lessee prior to storage on private property. All storage areas are to be restored to their original condition upon completion of the project.

635.04 Installation

- A. General. Pipe shall not be placed in the trench until excavation has proceeded well beyond the point of installation, proper line and grade has been established and all bedding preparation has been completed. The pipe shall be laid upgrade beginning at the lower end of the pipeline. The bell or groove shall point upslope in all cases. Where pipe with bells is installed, additional excavation shall be provided beneath the bell to properly bed the pipe. Proper facilities and equipment shall be provided for constructing the bedding and lowering the pipe sections into the trench.

Where groundwater exists, dewatering shall be maintained and the trench stabilized prior to placement of the bedding material. Pipe shall not be installed where frost, debris or other unsuitable materials are encountered in the trench foundation or bedding materials. All unsuitable materials shall be removed and replaced with acceptable bedding materials. Any section of installed pipe which is found to be out of alignment, defective or damaged, shall be taken up and relayed, replaced or rejected as directed by the Engineer.

- B. Precast Concrete Pipe sections. Precast concrete pipe sections shall be installed with gaskets or sealants as specified in Section 633.03. Gaskets and sealants for bell and spigot or tongue and groove joints shall be installed according to the manufacturer's recommendations.

The gasket or sealant shall be properly installed with care taken in fitting the pipe sections together to avoid displacing or damaging the gasket or sealant. Gaskets shall be installed with the manufacturer's recommended lubricant. The joint shall be cleaned of any foreign material which would prevent proper sealing or closure of the joints. As necessary, the pipe sections shall be shoved home by mechanical means, such as jacks, wedge puller, and cable winch without disturbing previously placed pipe and without damaging joints.

For pipe, the maximum joint opening for straight alignment shall not exceed one (1) inch or one and one-half (1-1/2) inch on curved alignment. Where this maximum tolerance cannot be maintained for curved alignment, shop fabricated mitered bends or a special joint design shall be provided.

Where called for on the plans, the new pipe shall be joined to existing pipe through the installation of a minimum 3 foot wide, 8 inch thick reinforced concrete collar. The concrete shall meet the quality requirements of Specification Section 600.

- E. Inlets. The base for structures shall be constructed on undisturbed material or on fill material compacted to a minimum of 95% maximum dry density (ASTM D698).

Where precast structures are approved for construction, a minimum of 4 inch thick gravel bedding material shall be provided as a leveling course over the compacted subgrade.

Backfill and compaction around the structures shall be performed in uniform lifts not to exceed 12 inches un-compacted thickness. The material shall be compacted a minimum of 95% maximum dry density (ASTM D698).

Heavy mechanized equipment shall not be used for compaction within three feet of the structure unless otherwise allowed by the Engineer.

635.05 Trench Excavation - General

Trench excavation shall be open cut to the depth shown on the plans, unless over-excavation is required as determined by the Engineer. The length of trench to be opened at one time may be limited when, in the opinion of the Engineer, such limitation is necessary. The amount of open or unfilled trench shall not exceed 500 lineal feet, unless allowed by the Engineer.

Trenches shall be excavated only to a width sufficient to provide a free working space on each side of the pipe to adequately compact backfill. Maximum trench width shall not exceed the specified design width measured at top of pipe.

Where possible, the trench walls in the area of the pipe should be constructed vertical to a point 12 inches over the pipe. Above this point, the trench may be sloped to the safe angle of repose. Where this criteria cannot be maintained, the pipe will be installed under positive projecting embankment conditions instead of trench conditions, the pipe and bedding classifications may have to be redesigned as determined by the Engineer. The Contractor will provide the necessary shoring and/or trench side sloping to comply with the OSHA Safety Requirements.

Trenches shall be kept free from water by dewatering methods acceptable to the Engineer.

All excavations for drainage structures or pipe trenches which extend down to or below the water-table shall be dewatered by lowering and keeping the groundwater level 12 inches or more below the bottom of the excavation. Water shall not be allowed to rise until all cast in place concrete has set and the forms have been removed. The dewatering shall continue until such time as it is safe to allow the water table to rise in the excavations. Where bedrock prevents dewatering below the finished grade of the structure, the excavation shall be pumped dry immediately preceding the placement of concrete, and any concrete shall be placed in such a way so as to displace the water remaining in the excavation. Pipe trenches shall contain enough backfill to prevent pipe floatation. All water shall be disposed of in a suitable manner without being a menace to public health or causing public inconvenience. No water shall drain into other work being completed or under construction. The Contractor will be held responsible for the condition of any pipe or conduit which may be used for drainage purposes, and all such pipes or conduits shall be kept clean and free of sediment. Prior to commencement of construction, the Contractor shall submit to the Engineer a plan for handling ground and surface waters during construction.

Trenches will be sheeted and braced as soil conditions indicate. Such sheeting shall not be removed until backfilling has progressed to a stage that no damage to pipe lines, utilities or structures will result from its removal.

The excavation material shall be maintained a sufficient distance back from the edge of the trench to avoid overloading and to prevent slides or caving. The excavated material shall be kept trimmed in such a manner as to minimize inconvenience to traffic, to pedestrians and to adjoining property owners. Barricades and/or fencing required to protect the public shall be installed and meet with the approval of the Engineer. At street crossings, sidewalks, and other points where the Engineer deems necessary, the trenches shall be bridged and shored in a secure manner so as to prevent serious interruption of travel and to provide access to fire hydrants, public land, and private premises. Such bridging or shoring shall be approved by the Engineer.

PROTECTION OF EXISTING UTILITIES. It shall be the responsibility of the Contractor to verify the existence and location of all underground utilities along the route of the work. The omission of utility locations on the plans is not to be considered as the nonexistence of underground utilities. The Contractor will take the necessary precautions to protect existing utilities from damage due to construction activities. Any damage to the utilities will be repaired at the Contractor's expense, and any service disruption will be scheduled and restored by the Contractor.

Additional requirements shall be as noted in the Project Special Provisions.

635.06 Bedding

- A. FOUNDATION PREPARATIONS. The pipe and culvert installation shall be founded on suitable supporting material to assure that the conduit will maintain its alignment and integrity at the joints.

The conduit shall not be installed directly on muck, rock, large stones, uncontrolled fill, debris or other unsuitable materials as determined by the Engineer. Where these conditions exist the trench shall be over-excavated below and either side of the conduit to a dimension as directed by the Engineer and suitable granular backfill material shall be installed as specified. If over-excavation occurs below the established grade, the area so excavated shall be backfilled with granular material and compacted to a minimum of 95% standard Proctor (ASTM D 698) at 2%± optimum moisture content. The minimum over-excavation below the conduit shall be 6 inches in rock and all other unsuitable materials.

All bedding or backfill against the pipe shall be free from stones with a dimension greater than 3 inches for rigid pipe. Where select granular bedding material is required, the material shall conform to Section 633.07.

Where free flowing ground water is encountered in the trench, a subdrain may be required to prevent "piping" along the conduit. The subdrain requirements shall be as determined by the Engineer.

- B. BEDDING FOR REINFORCED CONCRETE PIPE. Bedding shall be Class B (first class) Bedding in the pipe zone shall be granular as specified in Section 633.07. All bedding material shall be carefully tamped as required by the bedding class.

635.07 Backfilling

Storm drain trench backfill shall be in accordance with Section 930.2 of these specifications. Backfill material shall be placed in the trench in lifts of a maximum 8 inch un-compacted thickness. Each lift shall be compacted not less than the requirements of Section 930.8 of these specifications.

Frequency of density testing for trenches shall be: A minimum of 1 set of tests for each storm sewer constructed at horizontal intervals not exceeding 100 feet. Sets of tests will consist of tests taken at the same approximate horizontal locations at various levels of the backfill. Tests shall be taken at maximum foot vertical intervals.

Where a sheepsfoot or vibratory roller is employed, a minimum of 3 feet of material must be provided over the pipe. No stones larger than 6 inches shall be allowed within 2 feet of the pipe.

The depth and location of compaction tests shall be as determined by the Engineer to assure conformance of these specifications throughout the work.

636 MEASUREMENT AND PAYMENT

Measurement and payment shall be as outlined in Schedule E.

SECTION 690 MOBILIZATION

690.01 Description

Mobilization shall consist of the preparatory work and operations in mobilizing for beginning work on the Project. This work shall include, but not be limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the Project Site, and for the establishment of temporary offices, building facilities, utilities, testing laboratories, safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications, and State and local laws and regulations. The costs of bonds, permits and any required insurance and other pre-construction expense necessary for the start of the work, excluding the cost of construction materials, shall also be included in this item.

690.02 Basis of Payment

Measurement and payment shall be as outlined in Schedule E.

SECTION 700 CONTROL OF MATERIALS

701 APPROVAL OF SOURCES OF SUPPLY OF MATERIALS

The source of supply of each of the materials required shall be approved by the Engineer before delivery is started. Representatives of preliminary samples shall be submitted by the Contractor, Producer, or Owner of the supply for inspection or tests. The results obtained from testing such samples may be used for preliminary approval but will not be used as a final acceptance of the materials. All materials proposed to be used may be tested at any time during their preparation and use. If, after trial, it is found that sources of supply which have been approved do not furnish a product of uniform quality, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from another source.

702 APPROVAL AND ACCEPTANCE OF MATERIALS

Samples of all materials for testing upon which acceptance or rejection is to be based, shall be taken by the Engineer at the discretion of the Engineer. Materials may be sampled either prior to shipment or after being received at the place of construction. All sampling, inspection, and testing shall be done in accordance with the methods herein prescribed. The Contractor shall make no charge to the Engineer or City of Colorado Springs for sample of materials used in said tests.

The Contractor shall make arrangements for the required tests and/or samples to be performed or taken by or to an approved testing laboratory as specified elsewhere within these Specifications. Only materials conforming to the requirements of these specifications and which have been approved by the Engineer shall be used in the work. Any material which, after approval, has for any reason become unfit for use, shall not be incorporated into the work.

703 METHODS OF SAMPLING AND TESTING

Where not otherwise provided, sampling and testing of all materials, and the laboratory methods and testing equipment required under these specifications shall be in accordance with the "Standard Specifications for Highway Materials and Methods of Sampling and Testing" of AASHTO or with the Standards and Tentative Methods of the ASTM using the latest editions.

All sampling and testing shall be performed by a laboratory and personnel approved by the City Engineer. All testing laboratories must comply with ASTM E-329 standard practices for inspection and testing.

SECTION 800 WORK ZONE TRAFFIC CONTROL

GENERAL

Traffic control shall conform to the ordinances and regulations of the City of Colorado Springs and in particular to Section 22-1-315 of the City Code, "Work Zone Traffic Control".

Construction signing and marking shall conform to the Manual of Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation, latest edition and revisions thereto, City of Colorado Springs Supplement to MUTCD for Traffic Control for Street Construction Utility Work and Maintenance Operations and the State of Colorado Department of Highways Standard Specifications for Road and Bridge Construction (latest edition), Section 614, "Traffic Control Devices", and Section 713, "Traffic Control Materials".

801 SCOPE

This work shall consist of furnishing and maintaining in place all barricades, warning signs, lights, and other safety devices required to protect the work, divert traffic, and warn pedestrians of open excavations, unfilled trenches, and other areas or conditions which might be hazardous or dangerous during daylight or darkness.

The Contractor shall plan and execute the project work in such a manner as to provide the least amount of disruption to normal motorized vehicle, bicycle, and pedestrian traffic flow.

The Contractor shall strictly adhere to all time limits and other restrictions as specified by the City of Colorado Springs in the approval of the Traffic Control Plan.

All signs and barricades shall conform to the Manual of Uniform Traffic Control Devices.

802 MATERIALS

All Traffic Control Devices shall conform to Section 614, "Traffic Control Devices", and Section 713, "Traffic Control Materials", of the State of Colorado Department of Highways Standard Specification for Road and Bridge Construction (latest edition), unless variations are authorized by the City of Colorado Springs.

803 CONSTRUCTION COORDINATION

Portions of the work under this contract will overlap work performed under separate contracts and will also include some work adjacent to and within an operating Golf Course. The Contractor is required to coordinate their work activities and plan for traffic control and project access with the Golf Course Superintendent, the contractors working on the other projects as well as Fire Station 8 for activities that may impact their respective access and operations.

804 CONSTRUCTION REQUIREMENTS

The Contractor shall maintain a twenty-four (24) hour, seven (7) days a week (including weekends and holidays) emergency service to remove, install, relocate, and maintain warning devices. The Contractor shall furnish to the City the name and telephone number of the Traffic Control Supervisor responsible for emergency service.

In the event the Traffic Control Supervisor does not respond within two (2) hours, or the City deems it necessary to call out other forces to accomplish emergency services, the Contractor will be held responsible for the cost of such emergency services, without reimbursement.

805 EXISTING TRAFFIC CONTROL DEVICES

Prior to commencing work in the vicinity of any existing Traffic Control Devices, the Contractor shall coordinate with the City Traffic Engineering Division in the removal of devices which need to be removed or relocated to accommodate the work. The Contractor shall store all devices in a safe and secure manner throughout the period of work and assume responsibility for temporary devices if necessary.

The contractor shall make any required temporary modifications to the traffic signal at Marjorie Lee Drive to accommodate lane shifts at their own expense.

Upon completion of the work in the vicinity of the previously removed Traffic Control Devices, the Contractor shall reinstall the devices as directed by the City Traffic Engineering Division. Any Traffic Control Devices damaged during removal, relocation storage, or reinstallation shall be repaired or replaced by the Contractor at their expense.

Except as otherwise specified, the removal relocations, storage, and reinstallation of existing devices shall not be paid for separately, but shall be considered as incidental to the project.

Any signs damaged as a result of the Contractor's work shall be repaired or replaced to the requirements of the City Traffic Engineering Division; said repair or replacement shall be at the Contractor's expense.

806 TRAFFIC CONTROL PLANS

- A. Submittal. The Contractor shall prepare and submit Traffic Control Plans in drawing form for the review and approval of the City Traffic Engineering Division. A Traffic Control Plan Submittal Form shall accompany each submittal. The Submittal Form shall be completed in its entirety (blank spaces, "same", and "ditto" shall not be accepted). The Traffic Control Supervisor shall provide a night telephone number to assure twenty-four (24) hour availability.

Traffic Control Plans for street closure and major detours of local and/or through traffic shall be submitted to the City Traffic Engineering Division at least ten (10) calendar days in advance of the closure or detouring.

Traffic Control Plans not involving closures or major detours shall be submitted a minimum of seventy-two (72) hours (three City business days) prior to implementation.

No phase of construction shall commence until the Traffic Control Plan has been approved. Approved Traffic Control Plans shall not be revised without prior approval of the City Traffic Engineering Division. Revisions shall be submitted in accordance with the above requirements.

- B. Format. Traffic Control Plans shall include detailed signing, barricading, and traffic detouring information for each phase or stage of construction including as a minimum: type and number of devices, working hours, number and location of flaggers, and time restrictions, if any. The Contractor shall the Traffic Control Plan to City Traffic Engineering for review through the City's on-line permit application system. This plan must provide traffic control at all access points, and when loading and unloading equipment and material in public street right-of -ways.
- C. Copies of Approved Plan. Copies of the approved Traffic Control Plans shall be available on-site at all times; the Contractor shall provide copies to the Engineer, Traffic Engineer, and Project Inspector.

806.1 TRAFFIC CONTROL SUPERVISOR

- A. Qualifications. The Contractor shall designate a Traffic Control Supervisor who shall perform the Traffic Control Management and shall be responsible for maintaining all

Traffic Control Devices in compliance with the approved Traffic Control Plan.

The Traffic Control Supervisor shall be either an employee of the Contractor, other than the Superintendent, or an employee of a firm which has a subcontract for the overall Traffic Control Management for the project. The Traffic Control Supervisor shall be currently certified by the American Traffic Safety Services Association or Colorado Contractors Association as a Worksite Traffic Control Supervisor.

The name and qualifications, including a copy of the American Traffic Safety Services Association certification, of the Traffic Control Supervisor shall be submitted to the Engineer and the Engineer's approval shall be obtained prior to commencing construction. The Traffic Control Supervisor shall have an up-to-date copy of part VI of the Manual of Uniform Traffic Control Devices (and revisions thereof) and City of Colorado Springs Supplement to MUTCD for Traffic Control for Construction, Utility Work and Maintenance Operations available on-site at all times.

- B. Duties. The Traffic Control Supervisor duties shall include, but not be limited to:
1. Preparing, revising, and submitting the Traffic Control Plan as required.
 2. Direct supervision of project flaggers.
 3. Coordinating all Traffic Control operations, including those of subcontractors and suppliers.
 4. Coordinating project activities with appropriate police and fire control agencies.
 5. Maintaining a project Traffic Control diary which shall become a part of the City's project records.
 6. Inspecting Traffic Control Devices on every calendar day that Traffic Control Devices are in use. (By the Traffic Control Supervisor or his approved representative).
 7. Insuring that Traffic Control Devices are functioning as required.
 8. Overseeing all requirements covered by the plans and specifications which contribute to the convenience, safety and orderly movement of traffic.
- C. Working Hours. The Traffic Control Supervisor shall be available on a twenty-four (24) hour per day basis. The Contractor shall make arrangements so that the Traffic Control Supervisor, or his representative as approved by the City, will be available on every working day and upon the request of the Engineer.

807 IMPLEMENTATION

- A. Detours. Unless otherwise specified in the contract documents, the construction, signing, striping, maintenance, and removal of all detours shall be by the Contractor at his expense.
- B. Temporary Surface. Before directing vehicular traffic onto an area, the Contractor shall install a temporary asphalt surface and pavement markings. All conflicting pavement markings shall be completely removed by grinding before the street is opened to traffic. Unless otherwise specified in the contract documents, the removal of conflicting pavement markings, the temporary asphalt surfaces, and the temporary pavement markings shall be installed by the Contractor at his expense.
- C. Work Limits. The Contractor shall not exceed the work limits specified for each phase or stage of construction designated on their plan, unless approval to do so is granted by the Engineer and the City Traffic Engineering Division. Any work beyond the limits of public right-of-way and/or easements shall be approved in writing by the property owner and approved by the Engineer and the City Traffic Engineering Division.

Should the Contractor fail to maintain the work within the specified limits, the Engineer or the City Traffic Engineering Division shall direct that all operations be suspended until the work is returned to the specified limits.

Any costs incurred by the Contractor due to such suspension shall be at the Contractor's expense and no additional compensation or time extensions shall be made therefor.

- D. Public Notification. The Contractor shall provide updated information to the Engineer on a daily basis, and if required by the approved Traffic Control Plan, shall also provide news release and/or public contact.

808 ACCESS TO ADJACENT PROPERTIES AND STREET CLOSURES

The Contractor will not be allowed to restrict normal access from public streets to adjacent properties except as noted below.

809 MEASUREMENT AND PAYMENT

Measurement and payment for this item shall be as outlined in Schedule E.

810 INCIDENTAL TO PROJECT

The payment shall be reduced by an amount equal to one (1) percent of the contract lump sum price for traffic control for each day that the Contractor is not in compliance with the approved Traffic Control Plan and/or the requirements of this section.

SECTION 825 CONSTRUCTION SURVEYING

DESCRIPTION This work consists of the construction surveying, calculating, and staking necessary for the construction of all elements of the project. The work shall be done under the supervision of a Professional Land Surveyor (PLS) who is experienced and competent in road and bridge construction surveying and licensed in the State of Colorado.

Locating, preserving, referencing, installing and restoring land monuments such as Primary Control monuments from which the right of way or any land boundary will be calculated, described or monumented, Public Land Survey System (PLSS) monuments, General Land Office (GLO) monuments, Bureau of Land Management (BLM) monuments, Mineral Survey (MS) monuments, Right-of-way (ROW) monuments, property boundary monuments, easement monuments, Block Corner Reference monuments (5x5's and 5 off's) and other monuments that are required by law or regulation to be established by a PLS, and the determination of any land boundary, shall be done in, under the supervision of a Professional Land Surveyor (PLS) who is experienced and competent in Right of Way and boundary surveying and licensed in the State of Colorado.

The intent of the above description is:

- (1) Locate and document all monuments within the construction project limits and provide the information to the City Engineering prior to commencement of construction activities.
- (2) Identify monuments which will be impacted by construction activities, reference these monuments for replacement after construction completion.
- (3) Provide construction survey for the construction of the project including horizontal and vertical control.
- 4) Verify after the completion of construction, -monuments identified prior to construction either remained or were replaced.
- 5) Document final conditions, submit required documentation to the State for reset monuments, and submit data to City staff.

The PLS shall be available to review work, resolve problems, and make decisions in a timely manner.

MATERIALS AND EQUIPMENT

The Contractor shall furnish all personnel, survey equipment, safety equipment, materials, and traffic

control necessary to perform the required construction surveying and staking. All surveying equipment shall be in good working condition.

If any survey equipment is found to be functioning outside the manufacturer's specified tolerance, certification from an approved repair facility showing that the instruments have been repaired, properly adjusted, or both, if necessary, shall be included in the survey records and submitted to the Engineer before being used.

CONSTRUCTION REQUIREMENTS

Construction Survey meeting shall be held prior to performing surveying work under this section. The Engineer, City Surveyor, City Project Manager, Construction Project Manager, Contractor's Superintendent, Contractor's Surveyor (PLS) shall attend. A surveying work schedule shall be submitted to the Construction Project Manager for review prior to the presurvey conference.

Contractor Surveying. The Contractor shall be responsible for hiring a licensed Professional Land Surveyor to perform all construction surveying and staking necessary for construction of the project and documentation for monuments.

Accuracy and Tolerances. Horizontal and vertical accuracy tolerances for Secondary Control surveys and monuments, and for each construction item being staked shall be as specified in the Contract.

If a discrepancy should occur, the higher degree of accuracy or the more restrictive tolerance shall apply. Horizontal accuracy tolerances for Primary Control surveys and monuments. Vertical accuracy tolerances for Primary Control surveys and monuments. Horizontal accuracy tolerances for Secondary Control surveys and monuments. Vertical accuracy tolerances for Secondary control surveys, monuments, and/or Secondary benchmarks. Engineered surveying accuracy and tolerances shall be the same as the staking accuracy and tolerances.

Responsibility and Inspection. Supervision and coordination of construction surveying and staking is the Contractor's responsibility. The Engineer may inspect the Contractor's surveying; however, such inspection will not relieve the Contractor of any responsibility for accuracy or completeness of work. The Contractor shall check the work to verify the accuracy and include documentation of this check in the Survey Records. All Contractor surveying inaccuracies, errors, or omissions shall be corrected at the Contractor's expense. Inspection of the Contractor's corrections shall not entitle the Contractor to additional payment or contract time extension.

Reset Monuments and Stakes. Primary and Secondary Control monuments, benchmarks, and other significant stakes that are damaged, destroyed, or made inaccessible by the progress of construction shall be replaced, transferred, or re-established at the Contractor's expense. A supplemental or amended Project Control Diagram shall be submitted to the City for any replaced, transferred, or re-established Primary Control monuments.

Locating, preserving, referencing, installing and restoring land monuments such as Primary Control monuments from which the right of way or any land boundary will be calculated, described or monumented, PLSS monuments, GLO monuments, BLM monuments, MS monuments, ROW monuments, property boundary monuments, easement monuments, Block Corner Reference monuments (5x5's and 5 off s), NGS horizontal stations and Vertical benchmarks, and other monuments that are required by law or regulation to be established by a PLS, under the supervision of a PLS who is experienced and competent in Right of Way and boundary surveying and licensed in the State of Colorado.

Changes. All changes in lines and grades required by field conditions and all discrepancies in grades, alignment, location, or dimensions detected by the Contractor shall be immediately submitted to the Engineer in writing. No changes in given data or plans will be allowed unless approved by the Engineer in writing. All changes shall be documented in the survey records.

Measurements. The Engineer will perform all interim and final measurements deemed necessary by the City, to determine contract pay quantities. The Contractor shall establish and maintain Primary and Secondary Control points and stationing as required for these measurements.

Survey Records. Survey records shall be completed as the work is done. Field survey notes for construction surveying and checking by the Contractor. The Contractor shall make all survey records generated available to the Engineer for inspection or reproduction at all times. The Contractor shall submit all survey records to the Engineer before final project acceptance. All survey records are considered property of the Department. The responsible PLS identified shall electronically seal all survey records. The electronic format shall contain stakeout data and the raw data from the actual placement of stakes. The records shall be electronically sealed by the PLS in responsible charge. Initial staking for major structures (overhead signs, concrete box culverts, bridges, and all other structures assigned a structure number) shall be done.

METHOD OF MEASUREMENT

Construction surveying will not be measured but will be paid for on a lump sum basis.

Payment for construction surveying will be the contract lump sum bid and will be full compensation for all

surveying work necessary to complete the project as shown on the plans, identification of monumentation within the project limits, determining the monumentation conflicts with the construction, to include all resetting of stakes, marks, monuments Secondary and Primary Control points, and preparing supplemental or amended Project Control Diagrams.

Construction surveying required by plan force account or by additional work beyond the scope of the original Contract will be paid for at a negotiated rate. That rate shall also apply to reductions in construction surveying as impacted by reductions or deletions to the original contract work.

Survey work not performed to the contract requirements shall be subject to price reduction or rejection. Partial payment for construction surveying, as determined by the Engineer, will be made as the work progresses.

The Contractor shall submit a schedule of estimated contractor construction surveying time as required on the Survey Tabulation Sheet before the first partial payment is made. Copies of the Survey Records for all completed survey work shall be submitted to the Engineer prior to payment of the monthly estimate.

Before final payment is made, the Contractor's responsible P.L.S. shall complete and seal all survey records and the Project Control Diagram (supplemental or amended). Submit the survey records and the supplement or amended Project Control Diagram to the Engineer and the Region Survey Coordinator for review. Payment will be made under:

| Pay Item | Pay Unit |
|------------------------|----------|
| Construction Surveying | Lump Sum |

SECTION 6 SURVEY MONUMENTATION

DESCRIPTION This work consists of locating, preserving, referencing, installing and restoring land monuments, such as Primary Control monuments from which the right of way or any land boundary will be calculated, described or monumented, Public Land Survey System (PLSS) monuments, General Land Office (GLO) monuments, Bureau of Land Management (BLM) monuments, Mineral Survey (MS) monuments, Right-of-way (ROW) monuments, property boundary monuments, easement monuments, Block Corner Reference monuments (5x5's and 5 off' s), NGS horizontal stations and Vertical benchmarks,, and other monuments that are required by law or regulation to be established and recorded by a Professional Land Surveyor (PLS), along with installing or adjusting monument boxes as listed on the Survey Tabulation Sheet or as shown on the plans.

Monuments included in this section shall be established in accordance with the applicable and most recent editions of the Department of Interior's Manual of Surveying Instructions (BLM Manual), Colorado Revised Statutes (CRS), Colorado State Board of Licensure for Professional Engineers and Land Surveyors (State Board) Rules and Policies, under the supervision of a City approved PLS experienced and competent in Right of Way and boundary surveying and licensed in the State of Colorado.

The PLS shall be available to review work, resolve problems, and make decisions in a timely manner.

MATERIALS AND EQUIPMENT

The Contractor shall furnish all personnel, survey equipment, safety equipment, materials, and traffic control necessary to perform the required monumentation and related surveying.

The various types of monuments and monument boxes shall be constructed according to the details shown on CDOT Standard Plan M-629-1.

The Contractor shall furnish all labor, survey tools, equipment, and incidental materials such as but not limited to concrete, grout, asphalt caulk, glue, epoxy, nails, stakes, lath, and replacement monuments.

All surveying equipment, including Electronic Distance Meters (EDM), total stations, theodolites, levels, rods, tapes, tripods, tribrachs, and Global Positioning System (GPS) receivers and equipment, shall be in good working condition.

If any survey equipment is found to be functioning outside the manufacturer's specified tolerance, certification from an approved repair facility showing that the instruments have been repaired, properly adjusted, or both if needed shall be included in the survey records and submitted to the Engineer before being used.

The Contractor will provide Traffic Control as needed to complete the survey.

CONSTRUCTION REQUIREMENTS

Construction Survey meeting shall be held prior to performing any surveying work under this section. The Engineer, City Surveyor, City Project Manager, Construction Project Manager Contractor's Superintendent, Contractor's Surveyor (PLS) shall attend. A surveying work schedule shall be submitted to the Construction Project Manager for review prior to the presurvey conference.

The Contractor shall check all established Primary horizontal and vertical control and verify and document in the survey records their horizontal and vertical accuracy tolerance.

Survey records shall be completed as the work is done. Field survey notes for monumentation, surveying

and checking by the Contractor shall be recorded. The Contractor shall make all survey records generated available to the Construction Project Manager for inspection or reproduction at all times. The Contractor shall submit all survey records to the City Surveyor before Final Acceptance. All survey records are considered property of the City. The responsible PLS identified shall electronically seal all survey records. Copies of any new Monument Records filed by the PLS with the State Board of Registration, shall be submitted prior to filing.

Locating Monuments: This work consists of field locating all survey monumentation that is in place because of a Government (Federal, State, County or Municipal) survey or resurvey as shown on original PLSS, GLO, BLM, or MS plats, notes, or other survey monumentation documented in the public record. A diligent search of construction zones and project limits shall be performed by the PLS, to locate any survey monumentation of the public record. An electronic magnetic field sensor or locator shall be used in this search. The responsible PLS shall document the search, and time spent searching, in the survey records. The survey records shall include the procedures used to make the diligent search, a description of each monument searched for, and the actions taken to reference and preserve the location of the monument

Preserving and Referencing Monuments. This work consists of field surveying, establishing, installing, and making measurements to reference monuments that will facilitate the installation of a replacement monument in the event the construction activity disturbs a monument of the public record.

Referencing of monuments for possible replacement requires the use of correct replacement methods so the stated precision of the monument in question is not degraded. When a construction activity is planned which will disturb an existing PLSS, GLO, B.L.M., or MS monument, the monument shall be referenced and the survey records and the monument shall be upgraded by the PLS and a new Monument Record filed with the State Board, when the following conditions are met:

- (1) No boundary survey was done for the project.
- (2) A Monument Record has been filed with the State Board and there are no Monument Records that indicate conflicting locations.
- (3) The existing monument does not meet the physical standards set by the State Board.

A new monument record shall be filed with the State Board in accordance with Title 38 CRS and State Board Rules and Policies, a disclaimer should be written on the new Monument Record stating, "the new monument was set in the same location as described by the previous monument record". 629.06 629-3 When conflicting evidence of the location of an existing PLSS, GLO, BLM, or MS monument is encountered and construction activity is planned which will alter the evidence, the monument shall be referenced, and the survey records shall include the information required.

A minimum of two permanent reference monuments shall be installed to reference the location of all existing found monuments. Reference monuments must meet the required physical standards of the actual monument for the type of monument being referenced. These references shall be set when the following conditions are met:

- (1) No boundary survey was done for the project.
- (2) No monument record or conflicting monument records are filed with the State Board.

The reference monuments shall be set and stamped in accordance with Title 38 CRS and State Board Rules and Policies, a new monument record should be marked "Other" for "Type of Monument" and a full explanation given on the monument record as to why the presumed monument was not upgraded, the monument record shall be filed with the State Board in accordance with Title 38 CRS.

Copies of all new Monument Records filed by the PLS with the State Board shall be submitted to the City Surveyor prior to filing.

The equipment used in referencing or replacing the monument shall be able to produce the stated accuracies as specified by the owner of the monument. For example, the Colorado High Accuracy Reference Network (HARN) and CDOT HARN Densification (HARND) monuments shall be referenced or replaced using Dual Frequency survey grade GPS equipment in accordance with the procedures set forth under the most recent Policy of the National Ocean Service Regarding the Incorporation of Geodetic Data of Other Organizations into the National Geodetic Survey Data Base, standards of accuracy are given in the Standards and Specifications for Geodetic Control Networks and Geometric Geodetic Accuracy Standards and Specifications for using GPS Relative Positioning Techniques (as amended).

National Geodetic Survey (NGS), U.S. Coast and Geodetic (USCG), and U.S. Geological Survey (USGS) benchmarks shall be referenced by setting a minimum of 3 temporary benchmarks in accordance with the procedures set forth under the most recent edition of the NGS Benchmark Reset Procedures. The temporary benchmarks shall be set outside the construction area so a permanent monument can be reset upon completion of the construction.

Prior to referencing, moving, or replacing the monument the NGS State Geodetic Advisor and the City Surveyor is to be notified, Survey records for referencing, moving, or replacing a federal or local government agency monument shall include documentation of the work. The survey records shall be

submitted to the Engineer, for review by the City Surveyor, before payment is made and shall include the following:

- (1) Description of the original monument and two sets of close-up photographs.\
- (2) Two sets of labeled color photographs showing a close up of the replaced monument, and a view of the monument looking toward the horizon in each of the cardinal directions.
- (3) A complete description of the reference monuments and replacement monument with a "to- reach" description.
- (4) A signed and sealed statement by the responsible PLS that states the replacement monument's positional tolerance has not been degraded. The documentation shall conform to the owner of the monument's specifications that control the work.

Before Survey Monumentation payment is made, the Contractor's surveyor shall submit legible electronically sealed copies of the survey records. Before final Survey Monumentation payment and prior to depositing with the county, in accordance with Title 38 CRS, Property — Real and Personal, State Board Rules and Policies, MOU, the Contractor shall complete and electronically seal all survey records, the ROW Plans, and the Project Control Diagram (new, supplemental or amended) and submit copies the Engineer.

Installing Monuments. This survey work consists of installing Primary Control monuments, benchmarks, ROW monuments, property boundary monuments, easement monuments, PLSS, GLO, BLM, or MS monuments, and other monuments included on the plans. The work shall include determining the location of the monuments, installing the monuments, and verifying the positional accuracy of the monument is correct.

A Primary Control survey, when not furnished, shall be meeting the horizontal and vertical accuracy tolerances -A Project Control Diagram shall be submitted to the Engineer and the City Surveyor for all new Primary Control monuments and surveys.

Vertical accuracy tolerances for Primary Control monuments and surveys shall be as specified.

Unless stated otherwise in the contract, if construction activity disturbs a Primary Control monument (or benchmark) a new Primary Control monument (or benchmark) shall be installed by the Contractor. Primary Control monuments shall be set so they are intervisible from at least two adjacent Primary Control monuments and shall not exceed 0.2 mile between adjacent intervisible Primary Control monuments. Primary Control monuments set by the Contractor shall not conflict with construction activities. The Primary Control survey shall consist of a closed loop network and have adequate redundancy, precision, and accuracy to prove that all the monuments included in the network are within the horizontal and vertical accuracy tolerance.

Survey records shall include documentation of Primary Control monuments and a supplemental or amended Project Control Diagram shall be submitted to the Engineer and the City Surveyor for all replaced, transferred or re-established Primary Control monuments

ROW monuments, property boundary monuments, and easement monuments shall be installed

Secondary Control monuments may be required, meeting the horizontal accuracy tolerance. The procedures used to set ROW monuments shall include an independent check of the installation. Survey records shall include documentation of the survey performed to establish the monuments. The independent check shall be documented in the survey records and the field measured differences calculated or reduced to show the work is within the specified horizontal accuracy tolerance for the PLSS, GLO, BLM, or MS monuments, The independent check shall be documented in the survey records and the field measured differences calculated or reduced to show the work is within the specified horizontal accuracy tolerance. The installation of ROW, property boundary, easement, PLSS, GLO, BLM, or MS monuments installed at a different location than the data shown on the Monumentation sheet of the ROW plans shall be submitted to the Engineer and the City Surveyor along with the monument's description and horizontal data in order that the new monument can be revised on the Land Survey Control Diagram and ROW plan sheets. Copies of all new Monument Records filed by the PLS with the State Board for the installation of new PLSS, GLO, BLM, or MS monuments shall be submitted to the Engineer prior to filing.

Monument Box. This survey work shall consist of installing or adjusting monument boxes included on the plans. When it is necessary set a monument within a monument box in accordance with Title 38 CRS and State Board Rules and Policies. If the monument meets the physical standard as stated by the State Board and is situated within the finished roadway, a monument box shall be installed. When an existing monument box, due to construction, will no longer meet the physical standard set by the State Board, the box shall be replaced or adjusted to meet those standards.

MEASUREMENT: Survey Monuments, Monument Boxes, and Adjust Monument Boxes will be measured by the actual number of the various types installed and accepted by the Engineer. Measurement for locating survey monuments will be by the hour as approved by the Engineer.

Scope of Block Corner Reference Monumentation To reference and replace the block corner reference monuments commonly known as 5x5's or 5 offs within the City of Colorado Springs in advance

of proposed removal and replacement of sidewalks and pedestrian ramps.

The locations of Block Corner Reference monuments can be aided using the City Springs View Website or contacting City survey staff.

Method of Survey: Conventional Survey practices (Total Station and Steel Tape) shall be used in lieu or GPS. A minimum of three (3) substantial ties are to be set for each block corner reference to be rehabilitated. Set tie locations shall not be in the vicinity of similar materials of property corners to avoid confusing the tie with the property corner. Ties shall be removed after monument rehabilitation. Required tolerance of set monuments shall be +/- 0.02 of a foot of original monument location.

Surveyor is responsible for coordination with contractor and City of Colorado Springs staff on scheduling and preservation of reference ties during and after construction. Block corner reference monuments shall be set within 30 days of concrete placement. A Referenced Monument Restoration Record shall be recorded at the El Paso County Clerk and Recorder (Record form available from City of Colorado Springs Survey Staff).

Monuments (supplied by contracted surveyor) to be set are countersunk flush with concrete surface using a Berntsen 1.17" copper concrete markers (BP2) imprinted with the PLS number of the Surveyor in responsible charge and "5x5" or "5 OFF" as required. The referenced location to be punched on survey cap in field.

PAYMENT The accepted quantities will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule. No payments will be made before the proposed work schedule is submitted. Legible signed and sealed copies of survey records shall be submitted on a monthly basis to the Engineer for completed work before payment is made for that pay item.

Before final payment is made, the following three items shall be completed, bear the seal and signature of the responsible PLS and have copies submitted to the Construction Project Manager for review prior to being deposited with the county in accordance with Title 38 CRS, Property — Real and Personal, State Board Rules and Policies and MOU:

- (1) All survey records.
- (2) The Project Control Diagram (new, supplemental or amended).

The Presurvey Conference — Construction Surveys, equipment calibrations, and survey records will not be paid for separately but shall be included in the work. Payment will be made under:

| Pay Item | Pay Unit |
|----------------------|----------|
| Survey Monumentation | Lump Sum |

Traffic control for monumentation and related surveying will be under traffic control.

SECTION 901-TOPSOIL,SOIL AMENDMENT,EROSION CONTROL BLANKET, NATIVE SEEDING

PART 1 – GENERAL

1.1 Description

- A. This work includes soil preparation, seeding and mulching to restore vegetation disturbed or removed by the project construction activities. The limits of this work are shown on the plans.

1.2 Related Documents

- B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Schedule E, Project Special Provisions, apply to this Section.

1.3 SUMMARY

- A. This Section includes the following:
 - 1. Soil Preparation
 - 2. Native Grass Seeding

1.4 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
- D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
 - 1. Certification of seed mixture, identifying source, including name and telephone number of supplier.
- C. Product Certificates: For soil amendments and fertilizers, signed by product manufacturer.
- D. Qualification Data: For landscape installer.
- E. Material Test Reports: For existing surface soil and imported topsoil
- F. Maintenance Instructions: Upon completion of all seeding operations, the Contractor shall notify the Owner's Representative to inspect the work. Upon inspection, if all work is acceptable, the Owner's Representative shall record that date and shall issue a "Conditional Acceptance" letter which shall state that the Contractor shall maintain all seeded areas as specified in section 3.6.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: All work specified herein shall be performed under the direct supervision of a Superintendent thoroughly familiar with the work of this section who shall be at the project site for the duration of the work in this section.
 - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

- D. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of topsoil.
 - 1. Report suitability of topsoil for Native grass growth. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.
- E. Pre-installation Conference: Conduct conference at site with Project with the Engineer.

1.6 DELIVER, STORAGE, AND HANDLING

- A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

1.7 SCHEDULING

- A. Planting Restrictions: Plant during one of the following periods unless otherwise approved by Owner's Representative. Coordinate plating periods with maintenance periods to provide required maintenance from date of Substantial Completion.
 - 1. Spring Thaw to June 1.
 - 2. September 15 until consistent ground freeze
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit. No seeding shall take place when the site is wet or during freezing temperatures.

PART 2 - PRODUCTS

2.1 SEED

- A. Seed Species: As specified on drawings.
- B. Seed Carrier: Inert material, sharp clean sand or perlite, mixed with seed at a ratio of not less than two parts seed carrier to one part seed.

2.2 TOPSOIL

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4-percent organic material content; free of stones 3/4 inch or larger in any dimension and other extraneous materials harmful to plant growth.
 - 1. Native Topsoil Source: When available, reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
 - 2. Imported Topsoil Source: Import topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from agricultural land, bogs or marshes.

2.3 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
 - 1. Organic Matter Content: 50 percent of dry weight.
 - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated compostable mixed solid waste.

2.4 PLANTING ACCESSORIES

- A. Selective herbicides: EPA registered and approved, of type recommended by manufacturer for application.

2.5 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew-and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not to exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
 - 1. Organic Matter Content: 50 percent of dry weight.
 - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- C. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic; free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- D. Non-asphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

2.6 EROSION-CONTROL MATERIALS

- A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in biodegradable jute netting that is not hazardous to native snakes. Include manufacturer's recommended steel wire or biodegradable staples, 4 or 6 inches long as appropriate for the type of soil being covered.
- B. Turf Reinforcement Mat shall be as called for on the plans.

PART 3 - EXECUTION

1.1 EXAMINATION

- A. Examine areas to topsoil, soil amendment and seed for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations. Reference trail plans for exclusion of seed within trail surface.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 SOIL PREPARATION

- A. Limit subgrade preparation to areas to be planted within forty eight hours. Installation of seed shall not be undertaken until adjacent site improvements and pavement is complete. No trucking or moving of equipment or materials will be permitted upon completed seed.
- B. All irrigation and utility facilities within the area to be seeded shall be flagged prior to seeding operations.
- C. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 -5 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off-site.
 - 1. Spread approximately 2" thick layer of topsoil and 1.5" thick (4.6 CY/1,000sf) layer of compost over loosened subgrade. Incorporate thoroughly into top 5-6 inches of subgrade.
 - 2. The soil layer should be placed without large voids but should not be firmly compacted.
 - 3. Planting soil mix shall be spread to a minimum depth of 4 inches, but not less than required to meet finish grades plus natural settlement. Do not spread if planting soil

or subgrade is frozen, muddy, or excessively wet.

- D. Finish Grading: Finished grading and preparation of the entire seeded bed areas shall be achieved by disc-harrow or other approved method to a depth of six-inches (6"), or determined by Owner's Representative), fine ranking and/or light dragging until the surface is smooth, friable, and of uniform fine texture and compaction, having no lumps or stones over ¾" inch. Obtain the Owner's Representative's approval of prepared areas prior to seeding.
- E. Finish grades shall be as indicated on the drawing, subject to minor adjustments, as may be directed by the Owner's Representative. Tops and toes of slopes shall be rounded, and the necessary swales for the run-off of surface water shall be carefully maintained with sufficient slope.
- F. Moisten prepared Seed areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- G. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.4 SEEDING

- A. Plant seed with drill seeding machine or other Engineer approved method appropriate for the seed type. Do not seed when wind velocity exceeds 5 mph. Evenly distribute seeds.
 - 1. Do not use wet seed or seed that is moldy or otherwise damaged.
- B. Plant seed at the rate: 3 pls/1000sf
- C. If broadcast seeding is approved and utilized, double seed rate and seed shall be raked in or covered with soil to a minimum depth of ¼".
- D. Roll lightly, and water with fine spray.
- E. Protect seeded areas with slopes exceeding 3:1 or greater, or as indicated on the drawings with erosion-control blankets installed and stapled according to manufacturer's written instructions.
- F. Apply mulch within 24 hours after completing seeding operations.
- G. Water newly planted areas and keep moist until meadow is established.

3.5 HYDROMULCH

- A. Hydromulching: Mix specified fiber mulch in water, using equipment specifically designed for hydromulch application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
 - 1. Mix slurry with non-asphaltic tackifier.
 - 2. Apply slurry uniformly to all seeded areas in a one-step process. Apply mulch at a minimum rate of 1500-lb/acre dry weight but not less than the rate required to obtain soil stabilization.
- B. Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or strained areas

3.6 SATISFACTORY SEEDED AREA STANDARDS, NATIVE SEEDING ESTABLISHMENT, MAINTENANCE AND INSPECTIONS

- A. Satisfactory Seeded Meadow Standard:
 - 1. At end of "Seeded Area Maintenance Period," a healthy, uniform, close stand of grass has been established that is: free of weeds, bare spots over 8-inch diameter and surface irregularities.
- B. Native Seeding Establishment, Maintenance and Inspections:
 - 1. Seeding area maintenance shall begin immediately after all areas are seeded and hydromulched and shall continue in accordance with the following requirements until "Final Acceptance of the Seeding Work."
 - 2. All seeded areas shall have suitable signs erected at important points, notifying the public to keep off.
 - 3. Upon completion of all seeding operations, the Contractor will notify the Owner's Representative to inspect the work. Upon inspection, if all work is acceptable, the Owner's Representative shall record that date and shall issue a "Conditional Acceptance of the Seeding Work" letter that shall state that the Contractor shall

- maintain all seeded areas as specified according to the following length of time.
4. Seed Establishment Period: Seed establishment period shall begin upon notice of "Conditional Acceptance" given by the Owner's Representative in writing.
 - i. Maintenance during the "Seed Establishment Period" shall be 60-calendar days minimum for all seeded areas and shall be referred to as the "Seeded Area Maintenance Period."

Maintenance shall include and not be limited to

 - a. Maintain and establish Native grass by watering, weeding, mowing, trimming, replanting, and other operations.
 - b. Turf Establishment and Coverage:
 - Roll, regrade and replant bare or eroded areas and remulch.
 - Bare areas larger than an 8-inch diameter shall be re-seeded as soon as identified and prior to final inspection.
 - c. Mowing:
 - Mowing shall be conducted when grass achieves a maximum height of six inches (6"), and mowed down to a height of four inches (4").
 - Mowing shall be conducted only by equipment with sharp blades.
 - No more than (1/3) of top growth shall be cut off at any one time.
 - d. Watering:
 - Provide irrigation as may be needed for germination and establishment of turf.
5. Final Acceptance of the Seeding Work
- i. At the end of the Seed Establishment Period, the seeded areas shall be reviewed for "Final Acceptance" if the seed has germinated and there are no bare areas larger than an 8-inch diameter.
 - ii. Areas seeded in the spring shall be inspected for required coverage the following Fall not later than October 1st. Areas seeded in the fall shall be inspected for required coverage the following late spring not later than June 15th.
 - iii. Required coverage for native grass seed areas shall be ten (10) viable live seedlings of the species specified per square foot, or 70% foliage cover as measured from 5 feet directly overhead, with no bare spots larger than 8" diameter.
 - a. Determination of required coverage will be based on a random sampling of the entire project area, and shall consist of a minimum of five samples, each nine square feet in area. Bare spots are defined as those areas larger than 8" diameter, which do not meet the required coverage.
 - iv. After the inspections it is the Contractor's responsibility to perform the required maintenance within one week to insure a healthy established seeded condition.
 - a. Re-establish seed areas that does not comply with requirements and continue maintenance until meadow is satisfactory.
 - v. Once the maintenance periods are completed and seed establishment is accepted, the Owner's Representative shall issue a "Final Acceptance of the Seeding Work".
 - vi. Upon Final Acceptance of the seeding Work, the Contract shall be relieved from further obligations for seeding work only. Final acceptance of seeding work may be given independently of final acceptance of all work under this contract.
- C. The Contractor shall be responsible for maintaining, watering, reseeding and mowing the seeded areas only until Final Acceptance.

3.7 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after Seed is

established. Remove Erosion-control measures after grass establishment period.

4.3 MEASUREMENT AND PAYMENT

Measurement and payment for this item shall be as outlined in Schedule E.

SECTION 903 – LANDSCAPING ROCK RESTORATION

903.1 DESCRIPTION

This work consists of the construction of landscape rock cover in areas designated on the plans

903.1 MATERIALS

Landscape Rock shall be river rock of a size, color and texture approximately matching the adjacent existing landscape rock unless otherwise noted on the plans. It shall be hard, durable stone, washed free of loam, sand, clay, and other foreign substances. Contractor shall submit a five-gallon bucket sample prior to ordering for approval by the Engineer.

903.2 CONSTRUCTION

Prior to placing the Landscape Rock, a heavy duty weed barrier shall be installed. Landscape Rock shall be placed to a minimum thickness of 4 inches over the weed barrier (filter fabric), with a uniform top surface graded to the requirements of the plans. Rock greater than nominal 2" in size shall be placed to a minimum thickness of 2 x the nominal size

903.2 MEASUREMENT AND PAYMENT

Measurement and payment for this item shall be as outlined in Schedule E.

SECTION 910 - EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION

910.1 GENERAL

910.1.1 Scope of Work:

- A. This work shall consist of temporary measures needed to control erosion and water pollution. These temporary measures shall include, but not be limited to, berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains and other erosion control devices or methods. These temporary measures shall be installed at the locations where needed to control erosion and water pollution during the construction of the project, and as directed by the Engineer.
- B. The work shall conform to the City of Colorado Springs Stormwater Construction Manual and all other applicable rules and regulations.
- C. The Grading and Erosion Control Plan (GEC Plan) included in the project plans represent potential minimum contractor requirements for erosion control during construction. The Contractor shall review and revise that plan or create a separate plan to provide adequate erosion control for the Contractor's means and methods of construction. The Contractor shall also prepare an adequate City Storm Water Management Plan (CSWMP). The Contractor shall submit an adequate GEC Plan and CSWMP for the project for review and approval by the City. The Contractor has the ultimate responsibility for providing adequate erosion control and water quality throughout the duration of the project. Therefore, if the plan is not working sufficiently to protect the project areas, then Contractor shall provide additional measures as required to obtain the required protection. Contractor shall include in his bid price for erosion control any and all items that may be needed to control erosion and water pollution through the duration of the project as well as costs to prepare and process the GEC and CSWMP.

910.1.2 Submittals:

- A. The contractor will be required to obtain a Stormwater Construction Permit from the Colorado Department of Public Health and Environment. Areas of construction activity includes, but is not limited to clearing, grading, excavation, demolition, installation of new or improved haul and access roads, staging areas, stockpiling of fill materials, and borrow areas.
- B. The Contractor shall also submit the GEC Plans and CSWMP with the required signature blocks and signatures to the City in application of the Grading and Erosion Control Permit. The CSWMP and GEC Plans shall indicate that they have been prepared for the City. Permits/approvals must be obtained prior to construction. The Contractor is responsible for implementing the plan and compliance with the conditions of the GEC and Storm Water Construction Permits. The Contractor shall note changes on the GEC plan immediately as it must reflect current site conditions.

910.1.3 Materials:

- A. Materials may include hay bales, straw, fiber mats, fiber netting, wood cellulose, fiber fabric, gravel and other suitable materials, and shall be reasonably clean, free of deleterious materials, and certified weed free. All materials shall be submitted to the Engineer for approval prior to installation.
- B. Temporary grass cover (if required) shall be a quick growing species suitable to the area, which will provide temporary cover and will not later compete with the grasses sown for permanent cover. All grass seed shall be approved by the Owner prior to installation.

- C. Fertilizer and soil conditioners shall be approved by the Owner prior to installation. See Section 901.
- D. Miscellaneous: All other material used by the Contractor for water diversion and erosion control shall be specified on a detailed Erosion and Sediment Control Plan to be completed by the Contractor and reviewed by the Engineer prior to starting work.

910.1.4 Construction Requirements:

- A. All materials for erosion and sediment control shall be installed in accordance with these Specifications. To the extent possible, movement of construction equipment within the flowing portions of waterways should be minimized. Frequent fording of the channel should be avoided. The Contractor shall isolate or divert flows so construction equipment, materials, and earthwork are not exposed to flow.
- B. The erosion and sediment control facilities shall be installed prior to construction and shall remain in place throughout. The Contractor will be required to clean sediment from upstream of the rock silt dikes and provide other maintenance as required to the erosion and sediment control facilities during construction.

910.2 PERMITS AND COMPLIANCE

- A. Contractor must apply for and obtain a Construction Dewatering Permit (Colorado Wastewater Discharge Permit), and a Grading, Erosion and Stormwater Quality Control Permit from the City of Colorado Springs. The Contractor shall obtain a Construction Activity Permit (AKA Fugitive Dust Permit) through El Paso County and any other required permits not listed. The contractor shall obtain a Stormwater Construction Permit from the Colorado Department of Health and Environment. All costs for these permits shall be the responsibility of Contractor. These permits require that specific actions be performed at designated times. Contractor is legally obligated to comply with all terms and conditions of the permits including testing for effluent limitations if required by the terms of the permits.
- B. Contractor shall allow the Colorado Department of Health or other representatives to enter the site to test for compliance with the permit. Non compliance with the permit can result in stoppage of all work.
- C. In addition to permit requirements, Engineer shall also monitor Contractor's erosion control and work methods. If the overall function and intent of erosion control is not being met, then Engineer shall require Contractor to provide additional measures as required to obtain the desired results. Costs for any additional erosion control measures shall be the responsibility of Contractor, since he has the ultimate responsibility for providing adequate erosion control and water quality for the duration of the project.

910.3 STABILIZATION OF DISTURBED AREAS

Erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within twenty-one (21) calendar days after final grading or final land disturbance has been completed. Disturbed areas which are not at final grade but will remain dormant for longer than twenty-one (21) days shall be roughened, mulched, or tackified within twenty-one (21) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded. Stockpiles on sites which are not at final grade but will remain dormant for an extended period of time may require additional stabilization measures at the inspector's discretion.

910.4 PROTECTION OF ADJACENT PROPERTIES

Properties adjacent to the site of a land disturbance shall be protected from sediment deposition. In addition to the erosion control measures required on the Drawings, perimeter controls may be required if damage to adjacent properties is likely. Perimeter controls include, but are not limited to, a vegetated buffer strip around the lower perimeter of the land disturbance, sediment barriers such as straw bales and silt fences; sediment basins; or a combination of such measures. Vegetated buffer strips may be used only where runoff in sheet flow is expected and should be at least 20 feet in width.

910.5 TIMING AND STABILIZATION OF SEDIMENT AND EROSION CONTROL MEASURES

Sediment barriers, perimeter dikes, and other measures intended to either trap sediment or prevent runoff from flowing over disturbed areas must be constructed as a first step in grading and be made functional before land disturbance takes place. Earthen structures such as dams, dikes, and diversions must be stabilized within 5 days of installation. Stormwater outlets must also be stabilized prior to any upstream land disturbing activities.

910.6 STABILIZATION OF WATERWAYS AND OUTLETS

All on-site stormwater conveyance channels used by Contractor for temporary erosion control purposes shall be designed and constructed with adequate capacity and protection to prevent erosion during storm and runoff events. Stabilization adequate to prevent erosion shall also be provided at the outlets of all pipes and channels.

910.7 STORM SEWER INLET PROTECTION

All storm sewer inlets which are made operable during construction or which drain stormwater runoff from a construction site shall be protected from sediment deposition by the use of filters.

910.8 WORKING IN OR CROSSING WATERCOURSES AND WETLANDS

- A. Construction vehicles should be kept out of active watercourses to the extent possible. Where in-channel work is necessary, precautions must be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) must always be restabilized immediately after in-channel work is completed.
- B. Where a live (wet) watercourse must be crossed by construction vehicles during construction, a Temporary Stream Crossing must be provided for this purpose.

910.9 CONSTRUCTION ACCESS ROUTES

Wherever construction vehicles enter or leave a construction site, a Stabilized Construction Entrance is required. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day. Any private accesses utilized via an easement or other agreement shall also be likewise cleaned thoroughly daily after use. Sediment shall be removed from roads by shoveling or sweeping and be transported to a sediment controlled disposal area. Street washing shall be allowed only after sediment is removed in this manner.

910.10 DISPOSITION OF TEMPORARY MEASURES

All temporary erosion and sediment control measures shall be disposed of within 30 days after final site stabilization is achieved or after the temporary measures are no

longer needed as determined by Engineer. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion.

910.11 MAINTENANCE

All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure continued performance of their intended function.

910.12 MEASUREMENT AND PAYMENT

Measurement and payment for this item shall be as outlined in Schedule E.

SECTION 925 – CLEARING AND GRUBBING

925.01 Description

This work consists of clearing, grubbing, removing, and disposing of vegetation and debris within the grading limits of the project site as shown on the Drawings and as required by the Work. Vegetation and objects designated to remain shall be preserved free from injury or defacement.

925.02 Construction Requirements

All trees and shrubs located within the limits of disturbance as shown on the plans are to be removed, unless otherwise specified on the plans or by the owner or the Contractor's plan for the work does not require their removal and replacement. Trees to be removed shall be marked by the contractor and approved by the owner and the Golf Course Superintendent prior to removal. Any object including trees, shrubs, plants, not designated for removal by the Owner, that are damaged shall be repaired or replaced as directed by the Owner, at the Contractor's expense.

Clearing and grubbing shall extend to the toe of fill or the top of cut slopes, unless otherwise designated. All surface objects, trees, stumps, roots, and other protruding obstructions not designated to remain shall be cleared and grubbed, including mowing, as required. Undisturbed stumps, roots, and nonperishable solid objects located two feet or more below sub grade or embankment slope may remain in place. In areas to be rounded at the tops of back slopes, stumps shall be removed to at least two feet below the surface of the final slope line.

Except in areas to be excavated, all holes resulting from the removal of obstructions shall be backfilled with suitable material and compacted in accordance with the Standard Specifications.

No organic material or debris, shall be disposed of within the project limits. All cleared timber shall be removed from the project and shall become the property of the Contractor. Branches on trees or shrubs shall be removed as directed. All trimming shall be done in accordance with good tree surgery practices as recommended by City Parks and Recreation Department.

The Contractor shall scalp the areas within the excavation or embankment grading limits. Scalping shall include the removal from the ground surface of sawdust, and other vegetation matter.

925.03 Measurement and Payment

Measurement and payment for this item shall be as outlined in Schedule E.

SECTION 930 – EARTHWORK

930.1 Description

This work consists of performing: excavation; preparing sub-grades; blending, conditioning, placing and compacting earthen fill material; and finish grading required to construct the project to the lines and grades as shown in the construction plans.

930.2 Materials

All fill materials except as otherwise shown on the plans shall be obtained from: the onsite excavations; on-site excavated material blended with imported material; or imported material; meeting the project requirements. Except as noted on the plans and in these specifications, the fill material shall be granular materials meeting the requirements of AASHTO, A-2-4 or A-2-5 soils. In paved areas of the street the backfill of the subgrade within 2' of the bottom of the base course shall have a minimum R value of 60. It is advised that this material be kept separate and retained on-site during excavation operations to minimize the potential volume of imported material by the contractor to meet the R value requirement.

Fill materials shall contain no frozen soil, sod, brush, roots, or other perishable material. Rock particles larger than 3 inches nominal diameter shall be removed from the fill material prior to compaction of the fill.

The excavated on-site clay and sand materials shall be dried or wetted as needed to achieve the required moisture content. The most suitable materials obtained from the on-site excavations shall be utilized for required on-site backfill and embankment. Other excess or unsuitable material shall be exported. Most of the on-site materials will require blending with imported material to make them suitable for use. Blending shall be thorough resulting in a homogenous soil meeting the specified requirements.

930.3 Excavation

Excavations shall be to the lines and grades shown on the plans and shall be finished to reasonably smooth and uniform surfaces. All clearing, grubbing and stripping of the project area within the limits grading shall be completed before excavation operations begins.

Waste: All excess and/or unsuitable material shall be hauled from the site at the Contractor's expense, unless otherwise specified in the approved contract documents. However the contractor shall utilize the most suitable excavated material for construction of the project embankments and backfilling trenches and around structures.

930.6 Embankment and Backfill Construction

1. Earthfill shall not be placed until the required subgrade preparation has been completed and the subgrade has been inspected and approved by the engineer.
2. Earthfill shall not be placed upon a frozen surface nor shall snow, ice, or frozen material be incorporated in the earthfill matrix.
3. Earthfill areas should be kept free of excess water by using adequate water control and de- watering techniques.
4. Earthfill shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed 8 inches where heavy self-propelled compaction equipment is used or 4 to 6 inches where hand guided equipment is used. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than the specified thickness before being compacted. If testing reveals that inadequate compaction is being achieved lift thickness shall be reduced to achieve the required standard.
5. Earth backfill shall be placed in a manner that prevents damage to the structures and allows the structures to assume the loads from the earth backfill gradually and uniformly. The height of the earth backfill adjacent to a structure shall be increased at approximately the same rate on all sides of the structure.
6. When earthfill is to be placed and compacted on side slopes, or when new earthfill is to be compacted against existing earthfill, the slopes that are steeper than 4:1 when measured longitudinally or at right angles to the adjacent ground shall be continuously benched over those areas where it is required as the work is brought up in layers. Benching shall be well keyed and where practical a minimum of 8 feet wide. Each horizontal cut shall begin at the intersection of the original ground and the vertical sides of the previous cuts. Material thus cut out shall be re- compacted along with the new earthfill material at Contractor's expense. An exception to this provision will be made for areas where the total depth of earthfill will be less than 6" thick. In these areas, the earthfill can be compacted on the slope provided that the foundation material is roughened and moisture conditioned prior to placement of the earthfill material and the compaction standards are met.
7. Excavation or Earthfill work either completed or in a stage of completion that is either eroded or washed away or becomes unstable due to either rains, snow, snow melt, channel flows or lack of proper water control shall be either removed and replaced, re- compacted or reshaped as directed by the Engineer and in accordance with the Drawings and Specifications at Contractor's sole expense. Removed unsuitable materials shall be hauled away and disposed of at Contractor's expense. Placing of replacement materials for removed unsuitable materials shall be purchased, placed and compacted at Contractor's expense
8. No earthfill placement or compaction activities adjacent to concrete structures shall take place for a minimum of 6 days or the structure concrete has reached 75 percent of its required 28 day design strength.

930.7 Control of Moisture Content

During placement and compaction of earthfill, the moisture content of the material being placed shall be maintained within the specified range.

The application of water or drying to the earthfill material shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the material after placement on the earthfill, if necessary as long as mechanical processing is used to achieve uniform moisture distribution throughout the un-compacted lift. Material that is too wet when deposited on the earthfill shall either be removed or be dried to the specified moisture content prior to compaction.

The water content of the earthfill material shall be within the range of two percent below to two percent above optimum water content..

930.8 Compaction Requirements

Subgrades and earthfill for embankments, trench backfill, and structure backfill shall be compacted according to the following requirements:

- A minimum of 95% maximum dry density (ASTM D698) for on-site clay soils
- A minimum of 100% maximum dry density (ASTM D698) for on-site or imported granular soils including class I structural backfill.

Class 6 Aggregate Base Course shall be compacted according to the following requirements:

- A minimum of 95% maximum dry density (ASTM D698) where it is utilized for pipe bedding and embedment.
- A minimum of 100% maximum dry density (ASTM D698) where it is utilized as road base for the roadway pavement section.

930.9 Foundation Zone Stabilization

Where excavation to the finished grade or subgrade results in a subgrade consisting of unsuitable saturated soil, the Engineer may require the Contractor to remove and replace the unsuitable material with approved material compacted in a maximum of 8 inch loose lifts to a minimum of 95% maximum dry density Standard Proctor (ASTM D698) at ± 3 optimum moisture content to re-establish the finished grade or sub-grade. Approved replacement material on this site is expected to be 3 to 6" angular stone pushed into the soft soils to achieve stability. Unstable/unsuitable material shall be removed from the project site and disposed of by the Contractor. Removal and replacement of unstable material shall only be completed at the direction of the Engineer and shall be paid for under Foundation Zone Stabilization only if approved by the Engineer in writing prior to the work taking place.

The contractor shall not be paid for Foundation Zone Stabilization that is required due to inadequate dewatering or excavation practices.

930.10 Testing

The Owner's geotechnical engineer shall perform observation and testing as required to verify that the specified quality standards of the project are being met. If tests indicate that less than the required compaction has been achieved, additional material conditioning and compaction efforts shall be made and the material retested until the required standard is achieved.

The minimum rates of compaction testing are as follows:

Embankment Including Backfill of the Structures

- One field density test for each 5 0 0 cubic yards of fill placed or at least one test for each layer of fill placed in each work area, whichever is the greater number of tests

Water and Storm Sewer Trench Bedding and Backfill

- Field density tests shall be taken at minimum 2 foot vertical intervals with a minimum of 1 test per line segment. Maximum horizontal spacing of field density tests shall be 100 feet.

Roadway Subgrade and Base Course

- One test per each 100 LF

930.11 MEASUREMENT AND PAYMENT

Measurement and payment for this item shall be as outlined in Schedule E.

SECTION 950– AGGREGATE STABILIZATION MATERIAL AND DRAINS

950.1 GENERAL

This section shall apply to the construction of: Angular Aggregate placed as stabilization material under concrete structures and drains adjacent to structures.

950.2 MATERIALS

A. Aggregates

Aggregates used to construct the various components shall be as specified in the plans and shall conform to the following requirements for the specified material.

No. 57 Aggregate shall conform to ASTM C-33 and shall consist of gravel or crushed stone having hard, strong, durable pieces free from adherent coating and thoroughly washed of clay, loam, bark, sticks, alkali, organic matter, shale, coal, mica, or other deleterious material. It shall conform to the following gradation.

| Sieve size or Test Procedure | Percent Passing (by weight) |
|------------------------------|-----------------------------|
| 2 1/2" | --- |
| 2" | --- |
| 1 1/2" | 100 |
| 1" | 95-100 |
| 3/4" | --- |
| 1/2" | 25-60 |
| 3/8" | --- |
| No. 4 | 0-10 |
| No. 8 | 0-5 |
| No. 200 | *1.0 MAX |

B. Pipe

1. All pipe and fittings utilized in the drains shall be Schedule 40 PVC conforming to ASTM D- 1785 and ASTM D-2466 respectively. Pipe size and type shall be as called for in the plans for the facility being constructed.
2. Pipe may be joined with solvent or gasketed joints conforming to the applicable ASDTM standard. Where solvent weld joints are used special precautions shall be taken to avoid thermal contraction stresses being induced in the construction process.
3. Perforated pipe shall be 6" diameter and factory perforated with 2 rows of ½ inch diameter holes 5" center to center at the 4 and 8 o'clock positions when installed.

C. Geotextile Fabric

1. Geotextile fabric for the drains behind walls shall be Mirafi 140N or equivalent.
2. Geotextile fabric for stabilization below No. 57 stone stabilization and drainage layers shall be Mirifi 600X or equivalent.
3. The fabric shall have complete resistance to deterioration from ambient temperatures, acid, and alkaline conditions, and shall be indestructible to microorganisms and insects. The material shall be resistant to short-term (until placement) deterioration by ultraviolet light or protected until placement, as recommended by the manufacturer, such that no deterioration occurs.
4. Fibers used in the manufacture of geotextiles, and the threads used in joining geotextiles by sewing, shall consist of long chain synthetic polymers composed of

at least eighty five. percent (85%) by weight polyolefins, polyesters, or polyamides. They shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including selvages.

5. The property values shown below are not design values, but represent the minimum accepted physical characteristics of the geotextile required. The number represents a value to be confirmed by the manufacturer. These values represent minimum average roll values (for example, any roll tested shall meet or exceed the minimum values in the table).

Geotextile Fabric Requirements

| Property | Value 140N | Value 600X | Test Method |
|----------------------------|--------------------------------|------------------------------|-------------|
| Grab Strength | 120 | 315 lbs. | ASTM D4632 |
| Grab Tensile Elongation | 50 | 12% | ASTM D4632 |
| CBR Puncture Strength | 310 | 1,000 lbs. | ASTM D4833 |
| Trapezoid Tear Strength | 50 | 113 lbs. | ASTM D4533 |
| Apparent Opening Size | 70, U.S. Standard Sieve | 40, U.S. Standard Sieve | ASTM D4751 |
| Permittivity | 1.7 sec. ⁻¹ | 0.05 sec. ⁻¹ | ASTM D4491 |
| Water Flow Rate | 135 gal./min./ft. ² | 4 gal./min./ft. ² | ASTM D4491 |

950.3 CONSTRUCTION REQUIREMENTS

- A. The various facilities shall be constructed in conformance with lines and grades indicated in the construction plans.
- B. If solvent weld joints are utilized special care must be used during construction to avoid inducing thermal contraction stress on the pipe. This shall include cooling the pipe to the temperature of adjacent soils prior to covering it with backfill.
- C. All pipe shall be placed on a firm foundation and bedded properly before backfill.
- D. The filter aggregate shall be compacted to a minimum of 95 percent density in accordance with ASTM 698 for coarse grained soils.
- E. Where No. 57 aggregate is required by the plans it shall be wrapped with the specified geotextile fabric at all aggregate soil interfaces with a minimum overlap of 12 inches.

950.4 INSPECTION

- A. During construction observation shall be done to assure that the materials as specified are being installed per plan and specifications and where applicable pipe is being bedded properly and compaction to the appropriate standard is being achieved.

950.5 MEASUREMENT AND PAYMENT

Measurement and payment for this item shall be as outlined in Schedule E.

SECTION 962 – SANITARY SEWER CONSTRUCTION

962.01 General

The sanitary sewer (Wastewater Main) realignment is to be installed with conventional technology. All sanitary sewer workmanship and materials to be in compliance with these Specifications and shall for also be in compliance with “*Colorado Springs Utilities Wastewater Line Extension & Service Standards – 2019* ” Where there is a conflict between these specifications and the CSU standards the most restrictive shall govern.

All waster main work shall be done by CSU approved contractors. The following contractors have been approved by CSU.

| | |
|-----------------------------------------------|------------------------------------------------------------------------|
| ASI Construction LLC | Dean Dibert (304)291-0175 ddibert@asidams.com |
| Garney Construction | John Miller (970)443-8969 jmiller@garney.com |
| Glacier Construction Co., Inc. | Taylor Pearson (303)221-5383 tpearson@gcci.com |
| <i>Pate Construction Co., Inc</i> | Bret Sutton (719)647-0463 bret@pateconstruction.net |
| <i>Holcim (creek work and coffer dams)</i> | Daniel E. Tezak (719)269-1148 |
| <i>Beers Construction LLC</i> | Mark Heim (719)495-3372 mark@beersconstruction.com |
| <i>K.R. Swerdfeger Construction, Inc.</i> | Jimmy Walker (719)568-2638 jimmyw@krswerd.com |
| <i>T. Lowell Construction, Inc.</i> | Levi Lowell (303)688-2330 EXT 4 levi@tlowellconstruction.com |
| <i>J.R. Filanc Construction Company, Inc.</i> | Dennis Van Auken dvanauken@filanc.com |
| <i>MWH Constructors</i> | Michael Haarmann (720)441-8068 Michael.haarmann@mwhconstructors.com |

Contractors that desire to get approved to self-preform the installation of Water and Wastewater infrastructure will be required to follow the following procedure:

- Provide a resume of current and past similar projects in the last 5 years, to include:
 - Detailed description of the Work performed.
 - Total contract cost including any change orders and the amounts, along with a description of the reason for the change orders;
 - Original schedule for substantial completion and actual completion date, including an explanation of any delays;
 - Project References (Name, Title, Contact Information)
 - Describe the success and failures experienced, and include any lessons learned.
- Provide a resume of all top-level project personnel, to include Project Manager, Project Superintendent, Crew Forman etc...
 - This shall include the experience, in years, of each person that will be involved in the project.

Once received, the information will be reviewed by a select committee. The review committee will have fourteen (14) calendar days to review and respond to the contractor with an Approved or Not Approved status of the request to self-perform future work.

If a contractor is given an **Approved** status, they will be approved for 3 years to self-perform the Water and Wastewater infrastructure work they are awarded. CSU reserves the right to revoke the approval at any time including but not limited to poor workmanship, system damage, and safety issues. The approved contractor will be required to provide a detailed project schedule, to include all shutdowns and flushes required for each project. This will be used by CSU to schedule the shutdowns and fill and flushes for the duration of the project. If a date must be changed for any reason CSU will need a minimum of two (2) weeks' notice to do so.

If a contractor is given a **Not Approved** status, they will then select a contractor from the Approved Contractor list to use as a subcontractor on the proposed and future project to install the required Water and Wastewater infrastructure. Once the subcontractor is selected, the contractor will be required to provide a detailed project schedule, to include all shutdowns and flushes required for the project. This will be used by CSU to schedule the shutdowns and fill and flushes for the duration of the project. If a date must be changed for any reason CSU will need a minimum of two (2) weeks' notice to do so.

If the contractor is given a **Not Approved** status and desires to reapply for an **Approved** status, the contractor may reapply to self-perform future work prior to issuance of future project work that is not already under contract.

962.02 Safety & Health

The Contractor shall comply fully with all applicable federal, regional, and local safety & health regulations.

962.03 Surveying and Construction Staking for the Sanitary Sewer Main

All control points, hubs and stakes shall be set by a Professional Land Surveyor licensed to practice in the State of Colorado, or their authorized representative, and reviewed by the Inspector. Review of the staked alignment and elevations by the Inspector does not relieve the Owner/Developer from the responsibility for staking or installation errors. Offset hubs and stakes must be set and in visible evidence before Construction can proceed.

Normal practice is to set offset hubs and stakes 5 feet to 20 feet off the centerline of the proposed facilities. Offset stakes must be marked with an identification of the item being staked. Centerline hubs and stakes may be used in addition to the offset hubs and stakes; however, they may not be set in place of the offset hubs and stakes.

All hubs and stakes shall be flagged to increase their visibility. Staking shall be scheduled to ensure continual work progress. Any replacement of hubs or stakes shall be at the expense of the Contractor.

The following shall be identified with offset hubs and stakes with stationing per the Approved Construction Plans:

- Wastewater Main centerline (a maximum distance of 20 feet apart on straight lines and 10 feet apart on curvilinear sections),
- Grade to the pipe flow line elevation,
- Manholes (location, rim, and inverts),
- Any other appurtenance necessary for Construction as identified by the Inspector.

962.04 Inspection

All work on the Wastewater Main shall be inspected by a Colorado Springs Utilities' Inspector who shall have the authority to halt Construction if, in their opinion, these specifications are not being followed. Whenever any portion of these specifications related to the Wastewater Main is violated, Colorado Springs Utilities shall order further Construction to cease until all deficiencies, including the removal of non-compliant completed work, are corrected.

All materials used shall be subject to the inspection and approval of the Inspector. The Inspector has the right to perform any testing deemed necessary to ensure compliance of the material with these Specifications. No material shall be used before being inspected and approved by the Inspector. Failure or neglect on the part of the Inspector to condemn or reject non-compliant materials or construction, shall not be construed to imply their acceptance should non-compliance become evident. Materials rejected by the Inspector shall be immediately removed from the job site.

962.05 Inspector Overtime (N.A)

962.06 Bypass System Requirements

The contractor shall maintain uninterrupted operation of the Sanitary Sewer Main impacted by the project. The contractor shall provide a satisfactory plan to accomplish the work without interruption of the Sanitary Sewer main which will need to include a bypass system or systems. Bypass systems for the various locations of the project may include the use of pumps with piping or hauling or gravity piping. The contractor shall submit the bypass plan to the Engineer and Colorado Springs Utilities Wastewater Planning and Design, for review and approval, a minimum of 10 days prior to construction of any bypass.

At a minimum, the contractor's bypass plan shall address maintaining sewer system operation during construction.

The Contractor shall have a copy of the approved Bypass System Plan on the construction site at all times and shall provide a copy to the Engineer and CSU Inspector.

All aspects of the bypass system shall be in accordance with the Colorado Springs Utilities Wastewater Line Extension and Service Standards. Bypass piping shall accommodate motorized, bicycle and pedestrian traffic common to the locations that it is placed in.

The Contractor shall be responsible for protecting the bypass system throughout the duration of the Project. The Contractor shall be responsible for any damage caused by their failure to provide adequate protection to the bypass system. Bypass pumps and piping shall be attended at all times while operating.

962.07 Excavation & Trenching

This section sets forth the requirements for excavation and trenching operations and is not intended to outline or review excavation and trenching safety.

A. Locates

The Contractor is responsible for calling the Utility Notification Center of Colorado (UNCC) at 811 for locations of utility infrastructure prior to excavation.

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of underground utility infrastructure both known and unknown, may be determined, and shall be held responsible for the repair of such Structures when broken or otherwise damaged. The Contractor is required to notify Colorado Springs Utilities prior to excavation around its infrastructure.

B. Exploratory Excavation

Whenever, in the opinion of the Colorado Springs Utilities, it is necessary to explore and excavate to determine the location of underground utility infrastructure that may interfere with Construction, the Contractor shall make the explorations and excavations for such purposes at the Contractor's expense.

C. Excavation to Line and Grade

All excavations shall be made to the lines and grades as established by the Approved Construction Plans. Pipe trenches shall be excavated to the depth required to provide a uniform and continuous bearing and support for the pipe utilizing appropriate bedding. Any part of the bottom of the trench excavated below the specified grade shall be corrected with approved material and thoroughly compacted in accordance with these specifications.

D. Excavation & Trenching

Trenches should only be excavated a distance far enough ahead of the pipe installation as required to expedite Construction. The Inspector may limit the length of open trench based on site conditions, environmental conditions, and potential safety concerns.

1. Trench Width

Ledge rock, boulders and large stones shall be removed to provide a clearance of at least 6 inches below and on each side of all pipes and appurtenances.

The minimum bottom of trench width shall be 12" wider than the outside of the pipe at springline on both sides of the pipe, to allow for the placement of pipe, placement of an adequate width of embedment material and proper compaction of the pipe embedment zone.

2. Trench Stability

The trench shall be dug under the direction of a Competent Person; the Competent Person is responsible to ensure the stability of the trench, and nearby surface encumbrances. The use of shoring or shielding may be required to limit the size of the excavation or the width of the trench, to protect workers, to protect existing and/or new infrastructure, and/or to provide stability to adjacent surface encumbrances.

All excavation and trenching support is the sole responsibility of the Contractor.

3. Excavated Material

All excavated material shall be piled and equipment placed and used in a manner that will not endanger Construction and that will avoid obstructing traffic. Hydrants, Vault covers, manholes, valve boxes, and other utility infrastructure controls shall be left unobstructed and accessible during Construction.

4. Frost

No pipe or appurtenance shall be installed upon the bottom of the trench into which frost has penetrated, or at any time when the Inspector deems there is danger of ice formation or frost penetration at the bottom of the excavation. No pipe or appurtenance shall be installed unless backfilling can be completed before the formation of ice and frost.

E. Excavation for Structures

Except as otherwise dictated by construction conditions, the excavation shall be of such dimensions as to allow for the proper installation and removal of concrete forms, placement of precast Structures, and to permit the Construction of the necessary pipe connections. Care shall be taken to ensure that the excavation does not extend below established grades. Should an area be "over excavated", the excavated area shall be filled in with approved material deposited in horizontal lifts not more than 6 inches in thickness and compacted in accordance with these Specifications.

F. Excavation in Poor Soil

If the bottom of the excavation is found to be unstable material that, in the opinion of the Inspector, cannot satisfactorily support the pipe or Structure, the Contractor shall further excavate and remove such unsuitable material to the width and depth specified by the Inspector. It must be removed and replaced with an approved material, which will support the pipe or Structure properly. The Contractor may be required to construct a special foundation or support for the pipe or Structure, consisting of pilings, or other materials as detailed in the plans.

G. Protection of Existing Structures and Utilities

Adequate protection, temporary support, and maintenance of all underground structures and surface encumbrances, utilities and other obstructions encountered in the process of Construction shall be furnished by the Contractor at their expense. Any Structures, utility infrastructure or obstructions disturbed or damaged shall be restored or replaced at the direction of the Inspector at Contractor's expense.

H. Surplus Excavation Material

All surplus excavation material shall be removed from the job site and disposed of properly.

I. Dewatering

All pipe trenches and structural excavations shall be kept free from water during pipe laying, construction of structures, and bedding and backfilling and other related work. Pre-drainage methods shall be utilized where the estimated seepage rates exceed 20 gallons per day per linear foot of trench. Pre-drainage methods are those that lower and maintain ground water to the required level in advance of excavation. The excavation shall be dewatered so that any water is below the foundation level of the excavations. Care shall be taken to prevent water, dirt, and other material from entering the pipeline.

Whenever groundwater needs to be discharged to groundwater or surface water, a certification under the Construction Dewatering (CDW) General Permit is required from the CDPHE Water Quality Control Division (Division) before discharge can occur. If the site is covered by a Permit for Discharge of Stormwater Associated with Construction permit and the conditions in Section I.C.3.c of the permit are met, a separate CDW permit will not be required for a discharge to the ground.

If the discharge will be injected into the ground via an injection well, this would not require a CDW Permit from the Division, as the EPA would have regulatory authority. Reference EPS Region 8 - Underground Injection Control (UIC) Program for permitting information.

If contaminated groundwater or soils are present the Division may require sampling of parameters reflective of the groundwater contamination prior to issuing the permit. Either a Remediation Activities Discharging to Surface Water Permit or a Remediation Activities Discharging to Ground Water Permit may be required by the Division to manage contaminated waters.

A copy of all dewatering permits or approvals from the Division shall be presented to the Engineer prior to dewatering activities. Refer to Sections 965 and 966 for additional requirements.

The Contractor shall not allow water to rise until any concrete has set and the forms have been removed or until all embedment and enough backfill has been placed to resist buoyant forces. The Contractor shall not allow water to rise unequally against unsupported structural walls.

Internal sump pumps (within Structures) that are used to discharge ground water are not permitted to be connected to the Wastewater System.

Refer to Section 624 for additional requirements.

962.08 Trench Backfill

Trench backfill in Zones 1, 2, and 3 as described below shall be in accordance with the following:

A. Foundation (Zone 1)

The normal trench bottom shall be 6" below the bottom of the pipe and shall be firm, stable and uniform. The foundation zone is below the normal trench bottom and if stable and uniform will not require further work or materials. If unstable conditions are encountered in the trench bottom, the trench shall be over-excavated by up to 10" and filled with 3 to 6" angular rock firmly pushed into the soft bottom material in order to achieve a firm foundation with no significant voids. Unstable conditions include the presence of muck, peat, high plasticity clays, inorganic silts, and other ASTM D2321 Class V materials. When directed by the Inspector, the Contractor shall increase the depth of the over- excavation and foundation material. The bottom of the excavation shall be free of water prior to placement of the foundation material.

B. Pipe Bedding and Embedment (Zone 2)

The limits of Zone 2 (bedding) shall be from 6 inches below the bottom of the pipe to 12 inches above the top of the pipe. The standard material for Zone 2 bedding for the 18" and 42" pipe shall be Class 6 Aggregate Base Course conforming the requirement of Section 300. Material derived from recycled concrete will not be allowed.

In areas of the trench that the Inspector deems unsuitable for the use of the standard material, at the Inspectors direction or authorization the Zone 2 material may be changed to CSU select bedding conforming to the gradation in the table below. A minimum of 80% of the particles shall have at least 2 fractured faces and the weight loss of the material when tested for resistance to abrasion in accordance with ASTM C 131 shall be 40% or less. Use of this material will require the entire Zone 2 to be wrapped in Mirafi 140 N filter fabric or approved equal with a minimum 12" overlapping closure at the top. Payment for this alternative bedding material and filter fabric shall only be made if the Inspector pre-authorizes its use in writing.

| Sieve Size | Total Percent Passing by Weight |
|------------|---------------------------------|
| 1" | 100 |
| 3/4" | 90-100 |
| 3/8" | 20-55 |
| #4 | 0-10 |
| #200 | 0-5 |

Alternative Bedding Material Gradation 1

Hand tamping of bedding is required from 6 inches below the pipe to 12 inches above the top of the pipe. Hand tamping may be jumping jack or plate tamped. Tamped lifts shall not exceed 6 inches. Contractor shall simultaneously deposit bedding material on each side of the pipe, fittings, and appurtenances for its full width of the trench to avoid lateral pipe movement. Compaction shall be a minimum of 95% of maximum proctor density (ASTM 698) for course grained soils.

After completion of the trench excavation and proper preparation of the foundation, a minimum of 6 inches of bedding material shall be placed on the trench bottom for support under the pipe. Bell holes shall be dug deep enough to provide a minimum of 2 inches of clearance between the bell and bedding material. All pipes shall be installed in such a manner as to ensure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade, and the joint is made, the bedding material shall be carefully placed and tamped under the haunches of the pipe and in the previously dug bell holes.

C. Backfill (Zone 3)

Using approved mechanical methods and materials, the Contactor shall backfill the trench from 12 inches above the pipe to the proposed grade shown on the plans in accordance with the plans and specifications. Refer to Section 930 for additional backfill requirements.

962.09 Pipe and Fittings

A. Materials

Pipe and fittings used to construct the proposed sewer lines shall be as called for on the plans and further specified here. Materials shall be in accordance with the list of CSU approved material included in Chapter 4 of *"Colorado Springs Utilities Wastewater Line Extension & Service Standards – 2019"* unless otherwise noted in these specifications.

The 18" diameter SDR 26 and Schedule 40 fittings specified for the connection of the existing sewer to Manhole 9 shall conform to the requirements of ASTM D3034, ASTM D 1784 and D-1785 and other applicable standards.

The PS-46 PVC called for on the plans shall be in accordance with the CSU approved product and specification.

The 18" diameter pipe penetration into Manhole 9 shall be secured and sealed to the manhole riser with an 18" diameter rubber seal as manufactured by ADS-INSERTA fitting Company or equivalent.

The 42" diameter sewer main shall be constructed of Centrifugally Cast Fiberglass Reinforced Polymer Mortar Pipe (CCFRMP) Class SN 72, dyed green as manufactured by HOBAS Pipe USA as further specified in Section 963 of these specifications. Mitered fittings to be used for manhole bases will also be of this material. HOBAS Pipe USA will provide fabrication of the mitered fittings from the pipe material. The pipe and fittings for manhole bases will be supplied by the owner and delivered to the site. The contractor will be responsible for unloading the pipe shall be responsible for it from the time that it arrives to the contractor's staging area until the installation is complete and final acceptance is provided by the owner. The Contractor shall return any unused materials to Colorado Springs Utilities at their supply yard.

B. Hauling, Handling and Storage of Materials

All material handling equipment and material handling methods shall be in accordance with the manufacturer's recommendations.

The Contractor shall be responsible for the safe storage of materials until they have been incorporated in the Project. Stored materials shall be kept safe from damage.

C. Inspection of Materials

All materials furnished shall be new and undamaged. Everything necessary to complete all installations in accordance with these specifications shall be furnished and installed whether shown on Approved Construction Plans or not. Only the materials specifically indicated to be provided by the Owner will be provided by the owner. The contractor is responsible for providing all other material.

The Contractor and Inspector shall mutually inspect the materials provided by the owner upon delivery to the Contractor's staging area and shall complete and sign a report indicating the condition of the materials as satisfactory or identifying any defects.

Acceptance of materials, or the waiving of inspection thereof, shall in no way relieve the Contractor of the responsibility for furnishing materials meeting the requirements of these Specifications. Each pipe or fitting shall be thoroughly examined for cracks and other defects before installation. Any observed gouge or scratch that extends 10 percent or more into the pipe side wall thickness shall be rejected. PVC pipe, more than 1 year old from the date of manufacture, as indicated on the print line, may be rejected at the discretion of the Inspector. Bell ends and spigot ends are to be examined with particular care. Defective pipe or fittings shall be laid aside for inspection by the Inspector who will prescribe corrective repairs or rejection. Rejected materials shall be removed from the job site immediately.

D. Plugging Wastewater Mains During Construction

The Contractor shall prevent dirt and debris from entering active systems by means of a watertight plug. The Contractor shall mark all watertight plugs and tools used in the active manhole with the Contractor's name on a waterproof tag or label. The Inspector must approve all temporary plugs and verify the Contractor's tag prior to installation. The Contractor shall provide all temporary plugs and tags. Plugs must be secured and anchored to prevent them from coming out. The Contractor shall remove all temporary plugs upon completion of the Wastewater Main and prior to the CCTV.

E. Installation of Pipe

1. Sanitary Requirements

The Contractor shall prevent environmental contamination (e.g., ground water, storm water, animals, insects, etc.) from entering the Wastewater System and Wastewater Service Lines. Precautions shall be taken to protect the interior of pipes, fittings, and manholes from foreign materials and contaminants.

Installed pipe shall be sealed or closed at the end of work each day or when the pipe is left unattended.

2. Lowering of Material into the Trench

Proper equipment and tools, as specified by the manufacturer of the material, shall be provided and used by the Contractor when unloading, handling, and lowering the materials into the trench. Under no circumstances shall Wastewater Main materials be dropped or dumped into the trench. The HOBAS CCFRMP shall be handled with textile slings or forklifts.

If damage occurs to any pipe, manhole, or Wastewater Main appurtenance during handling, the damage shall be immediately brought to the attention of the Inspector. The Inspector shall have the discretion to require removal and inspection of any material believed to be damaged or defective at any time during Construction. The Inspector shall prescribe corrective repairs or rejection of the damaged items.

3. Laying of Pipe

As each length of pipe is placed in the trench, it shall be brought to correct line and grade. The pipe shall be secured in place with approved bedding material and tamped. No blocking shall be left at any point under the pipeline.

The pipe shall be laid according to the manufacturer's specifications and the following criteria:

a. Pipe Alignment and Grade

Pipe, manholes and appurtenances shall be installed at staked locations and elevations per the Approved Construction Plans. Pipe shall be laid with the bell ends facing upstream in the direction of laying unless directed otherwise by Colorado Springs Utilities. The Contractor

shall inspect pipe for any bowing that may impact the design grade of the Wastewater Main. Pipes with bowing shall be installed to allow the straightest grade along each section of pipe. Pipe with excessive bowing may be rejected by the Inspector.

Any field changes in alignment and/or grade must be authorized by Colorado Springs Utilities and coordinated with the Contractor and Engineer.

Each joint of the 42" diameter sewer pipe shall be verified to be within ± 0.01 of the design elevation and within 0.1' of the horizontal alignment by or someone under the direction of a Professional Land Surveyor licensed to practice in the state of Colorado. This verification shall be made after the embedment material has been installed and compacted to the top of the pipe. The surveyed invert elevation of each joint shall be recorded by the surveyor along with the station that it occurs at and submitted to CSU at the completion of construction as a PLS certified report. The Contractor shall correct deficiencies in the vertical and horizontal alignment at their own expense.

b. Assembly of Slip Joint Pipe

Since different brands of pipe require different types of gaskets, the Contractor shall exercise caution to ensure that the correct type of gasket is used.

The gasket, bell, and spigot end of the pipe shall be cleaned so that no foreign material interferes with the proper seating of the gasket. Lubricate the spigot end of the pipe with manufacturer approved lubricant only. Joint and gasket lubricant shall be per the pipe manufacturer's specifications. Joint lubricant must be non-toxic, and water-soluble.

The spigot end of the pipe shall be placed in the bell end with care to prevent the spigot from contacting the ground. Pipe that is not furnished with a depth mark shall be marked before assembly to assure that the spigot end of the pipe is inserted to the full depth of the joint.

Insert the beveled spigot end of the pipe into the bell so that it is in contact with the gasket. Hold the pipe close to the ground to keep the lengths in proper alignment. Brace the bell while inserting the spigot end of the pipe to prevent previously completed joints from becoming over-inserted. Push the spigot end of the pipe until the reference mark on the spigot end is flush with the end of the bell. The pipe shall be kept in straight alignment and the joint shall be completed by pushing the pipe home with a slow, steady pressure, per industry standards. If the pipe is pushed home with a backhoe bucket, a wooden shield or other manufacturer approved devices must be placed between the backhoe bucket and the end of the pipe. Stabbing is not recommended and should be avoided to prevent damage to the gasket and joint.

Care must be taken to not exceed manufacturer recommended maximum forces in coupling the pipe. If the joint is over-inserted or pushed past the reference mark causing the spigot end of the pipe to jam into the neck of the bell, flexibility of the joint is lost. Uneven settlement of the trench may cause the joint to leak or crack. If a spigot is over-inserted the joint must be disassembled and the gasket checked. If the gasket is twisted or pushed out of the seat, the pipe must be replaced and the joint re-assembled.

Upon completion of joining slip joint pipe, an inspection shall be made to assure that the gasket is correctly aligned and not twisted or turned in the gasket recess of the bell socket prior to backfilling.

c. Joint Deflection

No joint deflection is allowed.

d. Cutting and Fitting of Pipe

Whenever necessary, to conform to location of fittings, line or grade, pipe cutting shall be in strict accordance with the manufacture's specifications and recommendations. All cuts shall be straight and true, and in a workmanlike manner so as to leave a smooth end without damaging the pipe or its cement lining. All burrs shall be removed from the ends of cut pipe, and the end lightly rasped or filed. All cuts shall be in accordance with the manufacturer's recommendations with regard to "cut" and "do not cut" zones for the various materials and sizes of pipes. All tools used in cutting pipe shall meet manufacturers' specifications.

The spigot end of field-cut pipe lengths shall be filed or ground to resemble the spigot end of such pipe as manufactured. A new depth mark shall be measured and marked before assembly to ensure insertion to full depth of the joint.

962.10 Manholes

A. Materials and Installation

Manhole materials and configurations vary between locations and shall be as shown in the plans for individual locations.

Tee Base manholes shall be constructed in accordance with the details and other information contained in the plans and specifications. The 42" HOBAS Tee bases as shown in the manhole details shall be provided by the owner and delivered to the Contractors staging area. All other manhole materials and installation including the fiberglass manhole risers shall be by the Contractor. The fiberglass manhole risers shall be in accordance with Section 964 of these specifications.

Concrete encasements for the Tee Base Manholes shall be constructed in accordance to Section 600 of these specifications. Much care shall be taken to assure that the top of the encasements are constructed to the plan elevations and the surface that will bear the manhole riser are flat and level. Care shall also be taken to assure that the upper end of the Tee Base vertical pipe is at the proper elevation and is in a horizontal plane.

Manhole bases for 5' diameter concrete manholes shall be precast or cast in place per attached Detail Drawing C3-1.

The Contractor shall construct manholes to the elevations and grades indicated on the Approved Construction Plan. When placing manholes, the trench should be over-excavated a minimum of 3 feet in each direction from the barrel sections to allow for proper placement and alignment of the manholes. The trench bottom shall be firm, stable and uniform.

The material for all manhole foundations shall be select bedding as specified in Section 962.08 B of these specifications. The minimum thickness of foundation material shall be 6 inches. The foundation shall be compacted with appropriate methods.

The manholes shall be watertight.

Concrete and reinforcement steel shall conform to the requirements of Section 600, Structural Concrete.

Where called for on the plans, Flow Fill shall conform to Section 206.02 (a) 2. of the CDOT Standard Specifications for Road and Bridge Construction.

The concrete manholes and concrete encased bases shall be backfilled with earthen material from the site in accordance with Section 930 of these specifications. Backfill shall be in lifts not to exceed 6 inches. Backfill material shall be non-swelling, well graded, and free from stones larger than 3 inches. The backfill shall be placed along the full height of the manhole. The Contractor may use material excavated from the job that meets the specifications described above.

The fiberglass manhole risers for Tee Base manholes shall be backfilled in accordance with Section 964.8f

The Contractor shall not backfill in freezing weather unless authorized by the Inspector. The Contractor shall not use additional backfill over any frozen backfill material already in the trench.

During backfill, the Contractor shall not place any detrimental substance, rock, or stone larger than that allowed by the sieve analysis, within 3 feet of the manhole. The manhole shall be rotated such that the opening is centered above the outlet pipe of the manhole.

Manhole covers outside of Airport Road shall be constructed per attached Detail Drawing C3-11 with their rims flush to the finished grade. The contractor shall provide an acceptable watertight method of anchoring these manhole frames to the fiberglass manhole risers that is acceptable to the riser manufacturer and CSU or shall pour a minimum 6 inch thick x 12" wide concrete collar around them.

Manhole covers within Airport Road shall be constructed per attached detail drawing C3-10. Manhole rims and covers shall be placed at the elevations as indicated on the Approved Construction Plans. Manhole covers that are not at the proper grade after final pavement is placed will need to be adjusted.

Adjustment rings for manhole frame and covers shall be a CSU approved concrete product.

B. Manhole Channels in Concrete Manholes

The completed flow channel shall be U-shaped coming up as high as the crown of the largest pipe. The flow channels shall be shaped with a smooth curve to minimize turbulence of the wastewater, see attached Detail Drawing C3-2 and the project plan manhole details. Except where specifically noted, the invert and bench material shall conform to the requirements of structural concrete as specified in Section 600 of these specifications.

The flow channel through a cast-in-place manhole base shall conform shape to that of the inlet and outlet Wastewater Main. The slope of the channel shall be as shown on the plans or shall be a best fit between the inlet and outlet pipes. In no case shall the slope of the channel be flatter than the flattest adjacent pipe.

C. Connecting into Existing Mainlines

The Contractor shall take extreme care when connecting to existing mainlines to preserve the integrity of the existing facilities, ensure correct alignment and grade for the proposed Wastewater Main connection, and ensure watertight construction of the facility is maintained.

A Bypass System(s) will be required to accommodate existing wastewater flow during the time that the connections are being accomplished. See Section 962.06 for Bypass System requirements.

962.11 Tracer Wire for Wastewater Mains

Tracer wire shall be installed on all PVC and CCFRPMP Wastewater Mains. Insulated tracer wire shall be securely taped every 10 feet to the top center of the pipe. A 1 lb pound anode shall be attached to the end of the tracer wire for new Wastewater Mains. For long runs of pipe, a 1 lb pound anode shall be attached to the tracer wire a minimum of every 1,000 feet. Any exposed wire shall be wrapped with corrosion tape.

Tracer wire shall be #8 conforming to the CSU approved product list. Two wires shall be installed on the top center of the 42" diameter pipe. Wire is to be terminated in manholes by running it up the outsides of the manholes and under their lid rings. A small groove in the adjustment rings shall be made to accommodate this. Any opening around the wire at this penetration shall be sealed with Ram Neck or a similar product.

962.12 Backfill and Compaction

Trench shall be backfilled to finished grade in accordance with Section 962.08 and as shown on the Approved Construction Plans. No section of Wastewater Main, Wastewater Main appurtenance or Wastewater Main Structure shall be backfilled until the Inspector has examined and approved that section of the installation.

Wet, soft or frozen material, asphalt and concrete chunks, cinders, ashes, refuse, plant or organic material, boulders, rocks or other deleterious substances shall not be used for backfill. If the excavated material is not suitable for backfill, as determined by the Inspector it shall be replaced with suitable material.

No backfilling will be allowed in freezing weather except by permission of the Inspector. No additional backfill will be allowed over any frozen material already in the trench.

Compaction tests should be taken at a minimum of every 250 feet or at least 1 per location for sanitary sewer trenches in 2 foot vertical increments. Satisfactory compaction reports shall be submitted to the Engineer.

962.13 Cleaning

Prior to preliminary CCTV inspection of the Wastewater Main, the Contractor shall clean the Wastewater Main and manholes of all dirt and debris by approved methods including jetting and bailing the Wastewater Main.

Dirt and debris shall be captured and removed at the next downstream manhole. The manhole must be plugged per Section 962.09 D to ensure dirt or debris does not migrate downstream into the existing Wastewater Collection System.

962.14 Vacuum Testing for Wastewater Manholes

All manholes shall be vacuum tested prior to CCTV inspection operation and acceptance by the Colorado Springs Utilities Inspector. The Contractor shall notify the Inspector 1 working day in advance of testing.

This test method covers procedures for testing proposed and existing pre-cast concrete manhole sections using the vacuum test method, to demonstrate the integrity and condition of the manhole as installed. This test method is used for testing concrete manhole sections with mortar, mastic or gasketed joints.

Each manhole shall be vacuum tested after backfilling according to the following procedure:

- (1) All lift holes and any pipes entering the manhole are to be plugged and sealed.
- (2) Care shall be taken to create a seal between the vacuum base and the manhole rim.
- (3) All pipes entering the manhole shall be temporally plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
- (4) The test head gauge shall be placed at the top of the manhole or in accordance with the manufacturer's recommendations.
- (5) A vacuum of 10 in. of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.

- (6) The manhole shall pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values (in seconds) indicated in the table below.
- (7) If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested until a satisfactory test result is obtained.

| Depth of Manhole (feet) | Diameter of Manhole (feet) | | |
|-------------------------|----------------------------|----|-----|
| | 4 | 5 | 6 |
| Up to 8 | 20 | 26 | 33 |
| 10 | 25 | 33 | 41 |
| 12 | 30 | 39 | 49 |
| 14 | 35 | 46 | 57 |
| 16 | 40 | 52 | 67 |
| 18 | 45 | 59 | 73 |
| 20 | 50 | 65 | 81 |
| 22 | 55 | 72 | 89 |
| 24 | 59 | 78 | 97 |
| 26 | 64 | 85 | 105 |
| 28 | 69 | 91 | 113 |
| 30+ | 74 | 98 | 121 |

962.15 Air Testing

For sanitary sewer mains 18" or smaller an air test shall be performed after the Wastewater Main has been cleaned according to Section 962.13 and prior to CCTV inspection. The Contractor shall notify the Inspector 1 working day in advance of testing. The Contractor shall perform the test with equipment specifically designed for air testing Wastewater Mains. The pressure gauge shall be suitable for air pressure with a 15 P.S.I.G. maximum reading. The gauge shall be located at the surface.

Each Wastewater Main section shall be air tested after backfilling according to the following procedure:

- (1) The pipe or section of pipe to be tested may be wetted before the air test.
- (2) The line shall be plugged at each manhole with pneumatic plugs.
- (3) Low pressure air shall be introduced into the plugged line until the internal air pressure reaches

4.0 P.S.I.G.

- (4) At least 2 minutes shall be allowed for the air temperature to stabilize before readings are taken and the timing started.
- (5) The portion of main, including stubs, being tested shall pass if it does not lose air at a rate to cause the pressure to drop from 3.6 to 3.0 P.S.I.G. (greater than the average back pressure of any ground water that may submerge the pipe) in less time than listed in the table below.
- (6) If the installation fails this test, the testing equipment may be used to determine the location of the pipe leak. All service line plugs shall be secured in place to prevent displacement during testing operations.

| Pipe Diameter (inches) | Minimum Allowable Time (Minutes:Seconds) 3.6-3.0 P.S.I.G. |
|------------------------|-----------------------------------------------------------|
| 4 | 0:50 |
| 6 | 1:10 |
| 8 | 1:40 |

| | |
|----|------|
| 10 | 2:00 |
| 12 | 2:20 |
| 15 | 3:00 |
| 18 | 3:40 |
| 21 | 4:10 |

Individual Joint Testing

Each joint of the 42" diameter sewer main shall be tested with a portable tester specifically manufactured for the purpose of testing the integrity and air tightness of individual pipe joints. The joints shall be tested after embedment material is compacted and before backfilling takes place and again after all backfill has been placed before the line is put into service. The tests shall demonstrate that the joint will hold a minimum of 4psi of pressure for 5 minutes.

If results of these tests are not satisfactory, the Contractor shall make the necessary repairs or pipe replacement until the installation passes the individual joint or segment air test.

962.16 CCTV Inspection

Colorado Springs Utilities requires inspection of the Wastewater Main and appurtenances with closed circuit television (CCTV) prior to preliminary acceptance and prior to final acceptance of the Wastewater Main. Colorado Springs Utilities will schedule the CCTV inspection within 10 working days after the following have been completed by the Contractor:

- All manholes are raised,
- All Wastewater Mains and manholes are cleaned in accordance with Section 962.13
- Performance testing is completed, and
- Completion is noted by the Inspector.

At their option Colorado Springs Utilities may choose to perform the CCTV inspections on each section as they are completed.

Colorado Springs Utilities shall schedule the CCTV inspection and shall notify the Contractor of the CCTV inspection date and time no less than 48 hours in advance of the inspection. The Contractor shall meet Colorado Springs Utilities at the site and shall provide and introduce water into the pipeline at the time of the CCTV inspection.

Colorado Springs Utilities will provide the CCTV results within 5 working days of the successful completion of the CCTV inspection. If the pipeline is not ready for the CCTV inspection or if the Contractor misses their scheduled appointment the CCTV inspection shall be rescheduled by the Inspector after the necessary work has been completed.

The CCTV is Colorado Springs Utilities means for assessing Wastewater Mains for pipe deflections, deformations and deficiencies. The following shall be considered deficiencies that shall be corrected by the Contractor prior to preliminary and final acceptance:

- Any connection intrusions (service taps) where the connection or gasket extends past the inside diameter of the pipe
- Connections that are drilled larger than the required hole size
- Over Insertion of the bell
- Due to unacceptably high operation and maintenance costs and poor system reliability, pipelines 12 inches in diameter or less with sags exceeding ½-inch in depth will not be accepted. Pipeline Sags that are less than ½-inch in depth shall be noted at time of preliminary acceptance and if at the time of CCTV for final acceptance the sag has

increased in size the contractor shall repair the sag. This determination shall be made solely by Colorado Springs Utilities wastewater engineering staff.

- Any debris in the system
- Out of round more than 4% of the pipe diameter
- Any Deformations such as rock dimples, pipe kinks, etc.
- Any joint defects such as rolled or improperly compressed gaskets and joint gaps
- Any material damage such as cracks or gouges
- Any other defect as identified by Colorado Springs Utilities that may cause future operation and maintenance issues

Any necessary repairs shall be completed and shall be inspected, tested and CCTV'd by Colorado Springs Utilities. Time and Materials shall be charged to the Contractor for expenses incurred by Colorado Springs Utilities if more than 2 CCTV inspections are required to be scheduled per inspection request.

Any pavement or surface improvements installed over the Wastewater Main before the issuance of preliminary and final acceptance are subject to removal if deficiencies are found in the Wastewater System that require open cut repair. The Contractor shall be responsible for the removal and restoration of improvements.

962.17 Manhole Adjustments before Paving and Final Grading

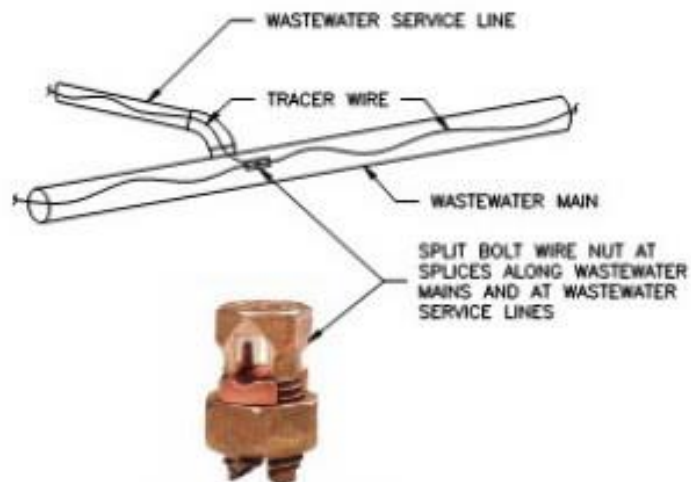
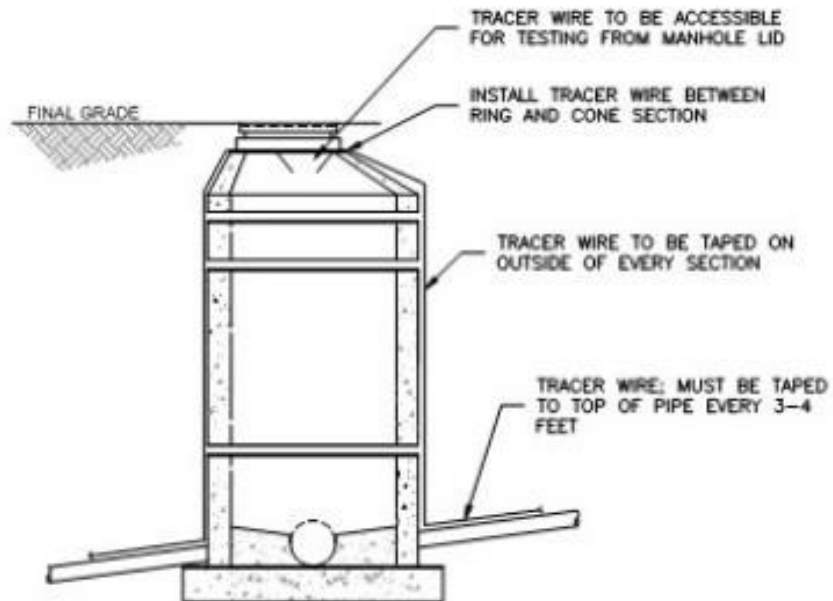
The Contractor shall promptly adjust any manhole rims that do not meet proper grade. At no time shall the total height of grade adjustment rings exceed 8 inches. If grade adjustments exceed 8 inches an additional barrel shall be installed.

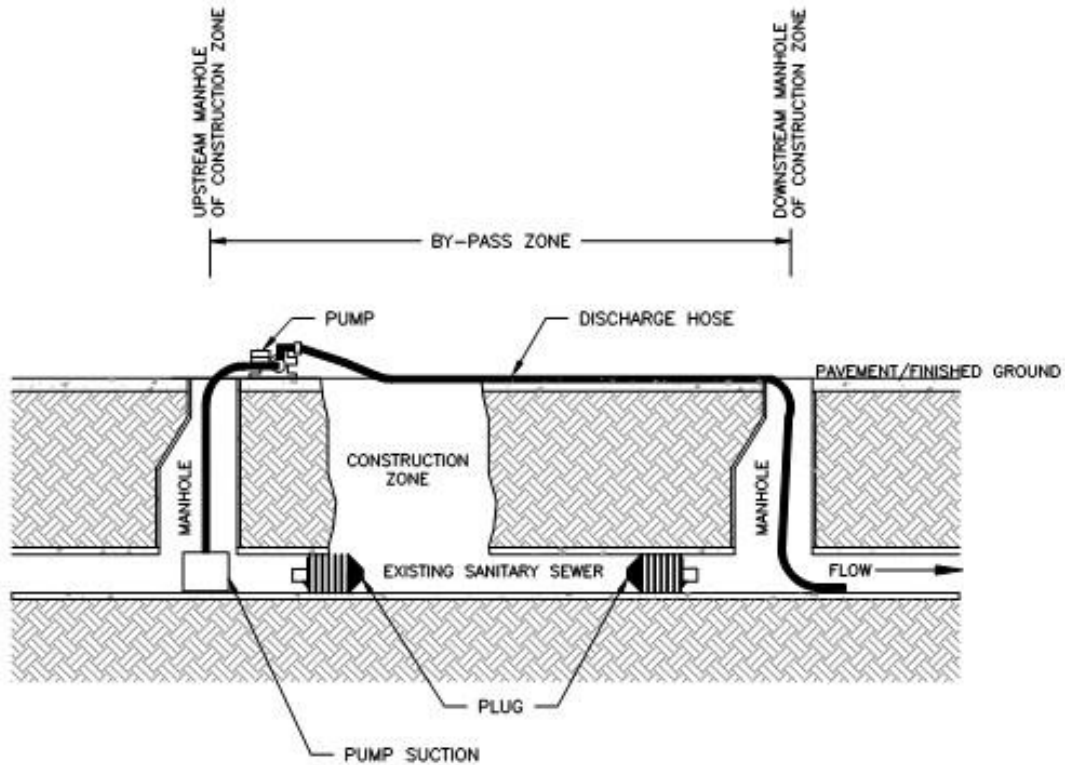
962.18 Spill Prevention Plan

The contractor shall prepare a spill prevention and response plan that is in accordance with the Colorado Springs Utilities Wastewater Line Extension and Service Standards

962.25 Measurement and Payment

Measurement and payment for this item shall be as outlined in the Project Special Provisions.





NOTES:

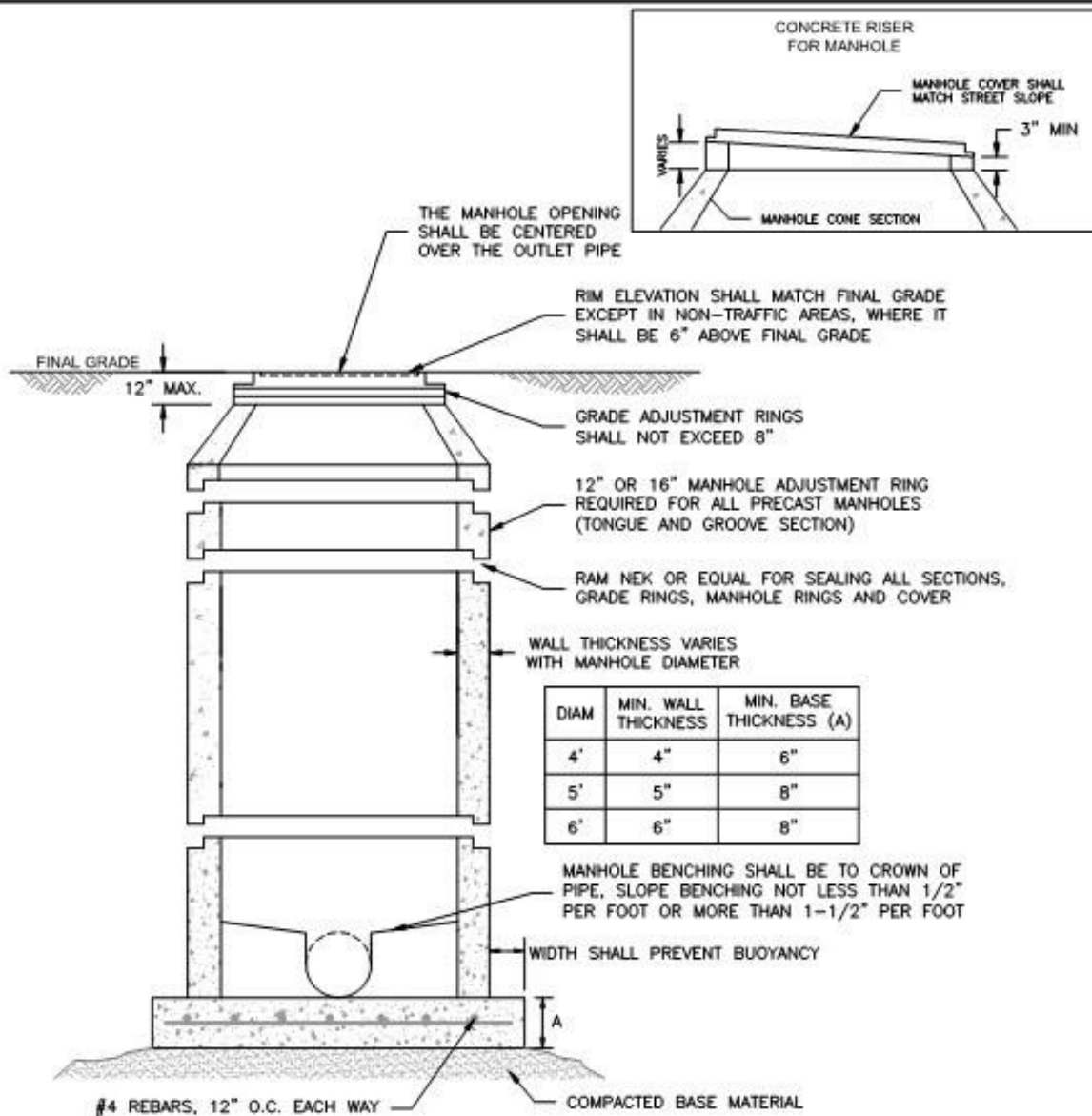
1. EXAMPLE CAN VARY DUE TO SITE CONDITIONS AND COLORADO SPRINGS UTILITIES INSPECTORS' DIRECTIONS.
2. IF A BY-PASS SYSTEM PLAN OR FLOW MANAGEMENT PLAN IS NEEDED, IT SHALL BE REVIEWED AND APPROVED BY COLORADO SPRINGS UTILITIES, PRIOR TO DESIGN APPROVAL. THE CONTRACTOR SHALL HAVE 100% REDUNDANT PUMPING CAPACITY WITH 24 HOUR SUPERVISION DURING ALL PUMPING OPERATIONS.
3. SEE CHAPTER 5 FOR ADDITIONAL INFORMATION ON BYPASS SYSTEM REQUIREMENTS



SCHEMATIC OF TYPICAL BY-PASS SYSTEM

C2-12

DATED 5/2015



NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI @ 28 DAYS AND DESIGNED FOR HS-20 LOADING CONDITIONS.
2. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
3. FOR CAST IN PLACE MANHOLES, DO NOT DROP CONCRETE A DISTANCE OF MORE THAN 5' UNLESS APPROVED BY COLORADO SPRINGS UTILITIES.
4. 3/4" CRUSHED ROCK REQUIRED UNDER BASE TO A DEPTH OF 6" UP TO SPRINGLINE OF PIPE, 2'-3' RADIUS AROUND BASE.
5. ALL STEPS SHALL BE REMOVED FOLLOWING CONSTRUCTION.
6. STRUCTURAL REINFORCEMENT SHALL COMPLY TO ASTM C-478. ASTM C-478 SHALL BE STAMPED ON THE OUTSIDE OF THE MANHOLE.

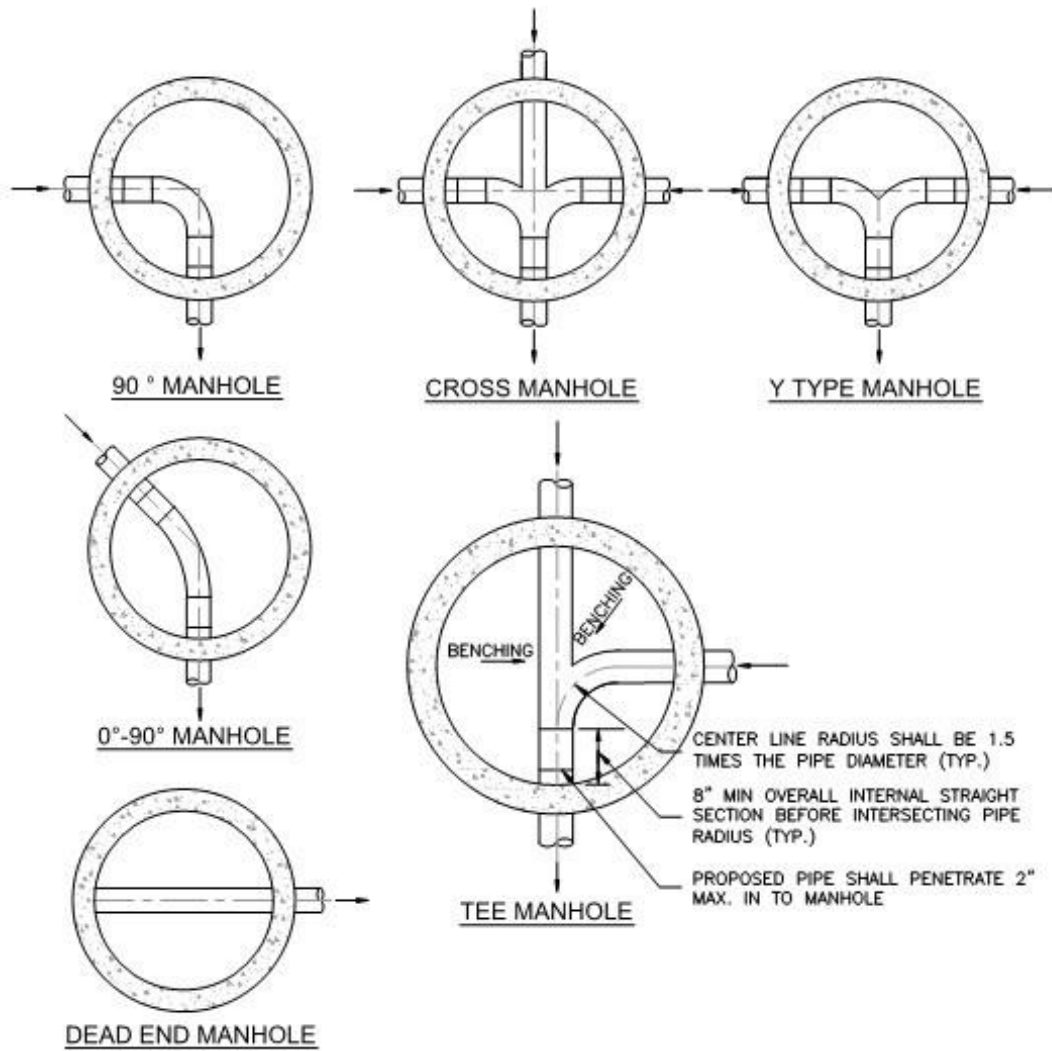


STANDARD CONCRETE MANHOLE

C3-1

DATED 5/2015

TYPICAL INTERSECTING PIPE MANHOLE LAYOUTS



NOTES:

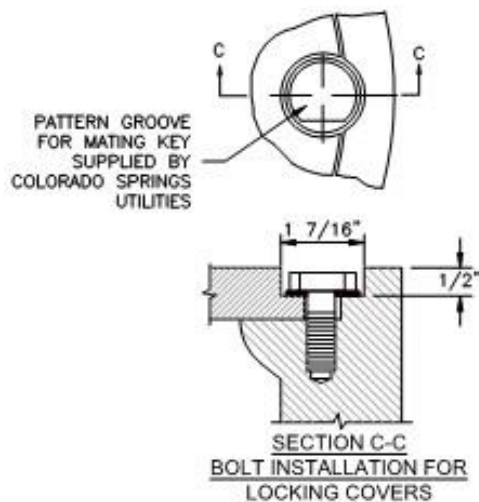
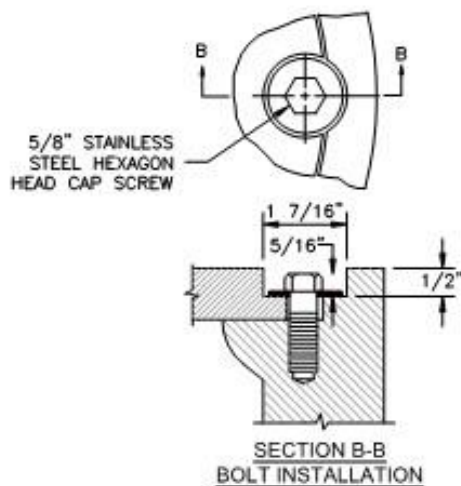
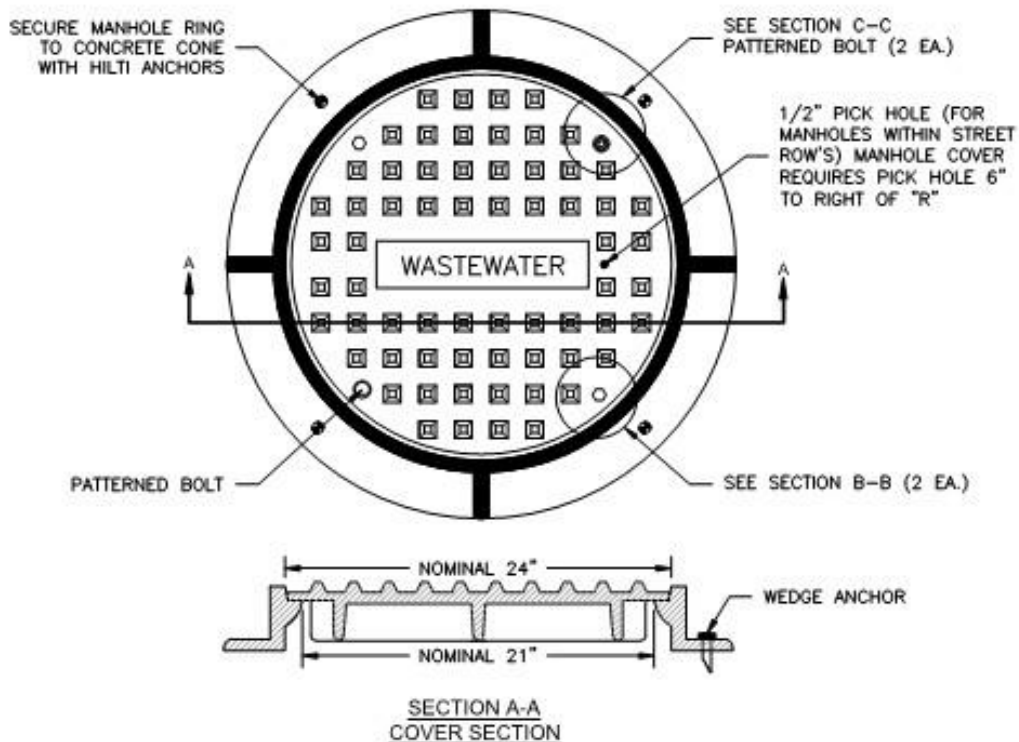
1. SEE DETAIL DRAWING **C3-1** FOR MANHOLE REQUIREMENTS.
2. LAYOUTS SHOWN ARE FOR 8"-12" PIPES; LAYOUTS FOR LARGER DIAMETER PIPELINES AND MANHOLES SHALL BE DESIGNED BY THE DESIGN ENGINEER AND APPROVED BY COLORADO SPRINGS UTILITIES.
3. TO BE READ IN CONJUNCTION WITH CHAPTER **2**, MANHOLE SIZES.



TYPICAL MANHOLE LAYOUTS
AND INTERSECTIONS

C3-2

DATED 5/2015



NOTES:

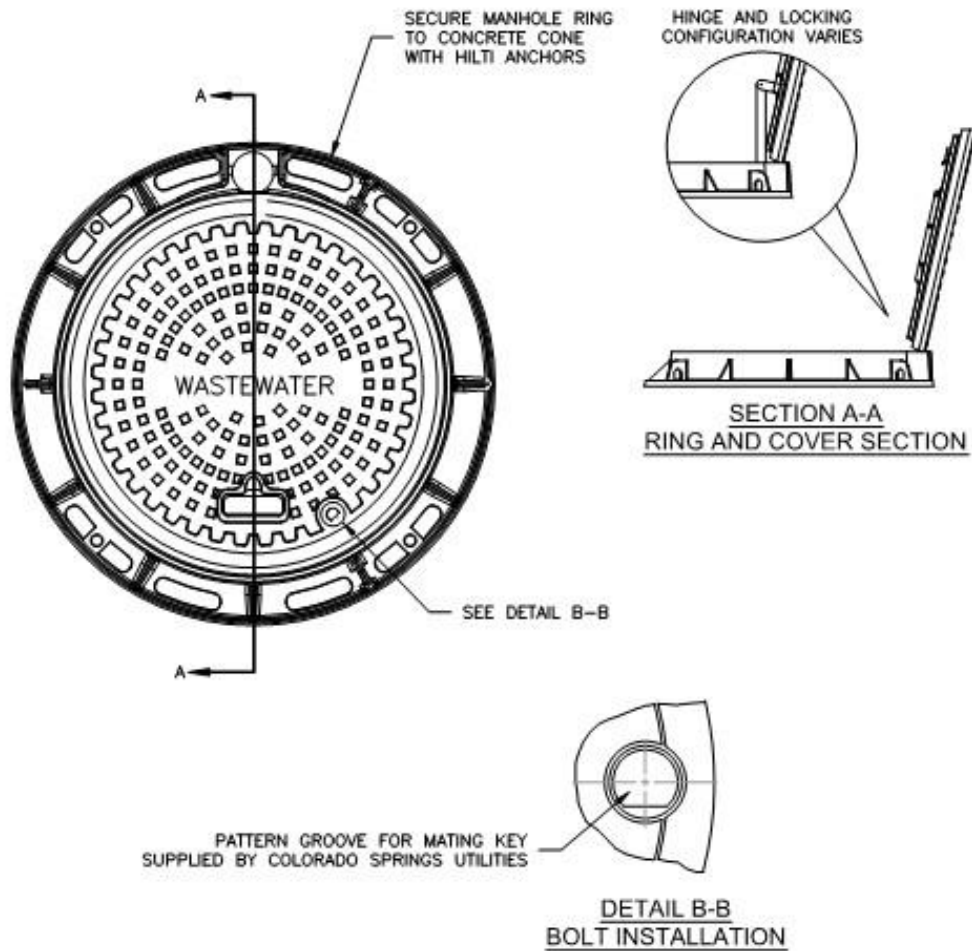
1. SEE CHAPTER 4 FOR ADDITIONAL INFORMATION AND SPECIFIC DIMENSIONS.
2. BOLT DOWN AND LOCKING MANHOLE RING AND COVERS SHALL ONLY BE INSTALLED IN LOCATIONS APPROVED BY COLORADO SPRINGS UTILITIES.
3. LOCKDOWN BOLTS PROVIDED BY COLORADO SPRINGS UTILITIES.



**BOLT DOWN AND LOCKING
MANHOLE RING AND COVER
IN TRAFFIC AREAS**

C3-10

DATED 5/2015



NOTES:

1. SEE CHAPTER 4 FOR ADDITIONAL INFORMATION AND SPECIFIC DIMENSIONS.
2. COVER TO BE MARKED WITH THE WORD "WASTEWATER".
3. HINGED MANHOLE RING AND COVER MAY VARY FROM DETAIL DRAWING, REFERENCE APPROVED MANUFACTURER'S SPECIFICATIONS.



HINGED MANHOLE RING AND COVER
IN NON TRAFFIC AREAS

C3-11

DATED 5/2015

SCHEDULE E – MEASUREMENT AND PAYMENT
FOLLOWS THIS PAGE

SCHEDULE E

MEASUREMENT AND PAYMENT

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Payment for work performed by the **Contractor** under these Contract Documents will be made at the approved unit price or lump sum price for each of the items as listed in the bid proposal and measured as hereinafter specified. Such payment shall compensate the **Contractor** for all costs in connection with furnishing all labor, equipment and material required and performing the operations necessary to complete the item in accordance with the contract documents.

Any items of work which are called out in the plans and/or the specifications or are typical for the type of construction being accomplished and do not have a specific line item in the bid proposal but which are necessary to complete the work in accordance with the requirements of good and standard practice, such as sub-grade preparation and grading are to be considered as incidental to the construction of the project and the **Contractor's** cost for such work shall be included in the bid price for the related item of work.

The **Contractor** shall accomplish all incidental work essential to the completion of the project, including cleanup and disposal of waste or surplus material without additional cost to the **Owner**. The cleanup and disposal of waste or surplus material shall be performed during construction or as soon after as is reasonably possible in order to better maintain the safety and aesthetics of the construction area.

The estimated quantities shown in the bid form are estimates only, being given only as the basis for comparison of the bids, and the City does not warrant, expressly or by implication, that the actual amount of work will correspond therewith. The right to increase or decrease the amount of any class or portion of the work, or to make changes in the work required as may be deemed necessary is reserved by the City as provided elsewhere in these specifications. The basis of payment will be the actual unit bid items of work performed and measured in accordance with the contract. All prospective bidders should note that certain bid items may be included in the Bid Form to establish a unit price should the use of those items become necessary during construction. Allowance will not be made for loss of anticipated profits should the use of these items be deemed unnecessary.

The Contractor shall make all measurements and determine all quantities and amounts of work done under the Contract subject to approval by the Engineer. At the time measurements are made for quantity determinations, the Engineer or his authorized assistant shall be present to verify such measurements. From quantity figures so ascertained, it will be the Contractor's responsibility to prepare a monthly periodical estimate of the work accomplished to date. This estimate shall be submitted to the Engineer each month for his review and check not later than the date established at the pre-construction conference. The form of such monthly estimates is to be subject to the approval of the Engineer.

No measurement or payment will be made for:

- Work performed or materials placed outside of lines indicated in the plans or established by the Engineer.
- Materials wasted, used, or disposed of in a manner not called for under the contract.
- Rejected materials (including material rejected after it has been placed, if the rejection is due to the Contractor's failure to comply with the provisions of the contract).
- Hauling and disposing of rejected materials.
- Materials on hand after completion of the work.
- Any other work or material when payment is contrary to any provision of the contract.
- All incidental costs necessary for proper performance of the work.

The "Method of Measurement" sections included with these specifications for each Contract item detail how each item shall be measured for payment and take precedence over any conflicting forms of measurement in referenced standard specifications.

BID ITEMS DESCRIPTIONS:

Bid Item No. 1: Mobilization (LS)

a. Item Description

Mobilization shall consist of the preparatory work and operations in mobilizing for beginning work on the Project. This work shall include, but not be limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the Project Site, and for the establishment of temporary offices safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications, and State and local laws and regulations. The costs of bonds, permits and any required insurance and other pre-construction expense necessary for the start of the work, excluding the cost of construction materials, shall also be included in this item.

b. Payment

Payment will be according to the following schedule:

When 5% of the original contract amount is earned, 20% of the amount bid for mobilization will be paid.

When 20% of the original contract amount is earned, 50% of the amount bid for mobilization will be paid.

When 35% of the original contract amount is earned, 60% of the amount bid for mobilization will be paid.

When 75% of the original contract amount is earned, 100% of the amount bid for mobilization will be paid.

Bid Item No. 2: Clearing & Grubbing (LS)

a. Item Description

This item is for Clearing and Grubbing within the limits of disturbance as shown on the plans. The item shall include all scalping, sawing, removal, hauling, and off-site disposal of small trees, brush, bushes, stumps, roots, branches, trunks, shrubs, sod and debris that requires removal within the limits of the project. All holes left behind shall be filled with earthen material and compaction appropriate for the location. Removal of large trees as specifically called for by the Plans are excluded from this item and will be measured and paid under bid item 18. The work shall be in accordance with the plans and Section 925 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at the lump sum bid price for the item. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 3: Erosion Control (LS)**a. Item Description**

This item is for temporary measures needed to control erosion and prevent water pollution during construction of the project and comply with the requirement of the affected governing agencies. This bid item includes all the costs associated with, but not limited to, all of the following: the creation of a storm-water management plan; creation of a grading, erosion, and stormwater quality control plan and narrative; City and State permits; management by a certified erosion control supervisor; vehicle tracking mats; adequate temporary BMPs; and maintenance of temporary BMPs until final stabilization of areas disturbed by the project has been achieved. Erosion and Sediment Control shall be in accordance with Section 910 of the Technical Specifications, Schedule D.

b. Payment

Payment for this item will be based on the lump sum bid price and will be in accordance with the following schedule:

One-third of the lump sum price shall be paid after satisfactory completion of one-quarter of the total project work.

The second one-third of the lump sum price shall be paid after satisfactory completion of one-half of the total project work.

The final one-third of the lump sum price shall be paid after satisfactory completion of the total project work.

Bid Item No. 4: Construction Staking, Monumentation (LS)**a. Item Description**

This item is for all labor and materials required to provide horizontal and vertical staking for the construction of all of the work detailed in the Plans and Specifications. Horizontal and vertical control for the project will be based on the local monuments shown on the survey control diagram included in the plans. This item shall conform to Section 825 and 826 of the Project Technical Specifications.

b. Payment

This item will be paid at the lump sum bid price for the entire project. This item includes all staking and surveying necessary to construct the project in conformance to the lines and grades indicated by the construction plans for the project. Incremental Payments will be made for this item proportional to the level of completion of the overall project at the time that incremental pay applications are submitted.

Bid Item No. 5: Traffic Control (LS)**a. Item Description**

This item includes preparation of an adequate plan for Construction Phasing/Maintenance of Traffic (MOT) including motorized, pedestrian and bicycle traffic and adequate implementation of the same during construction of the project.

Traffic Control shall be in accordance with the Section 2.18 of the Project Specific Special Provisions and Section 800 of the Technical Specifications, Schedule D.

b. Payment

All work under this item shall be performed for the bid lump sum price. Payments for the item shall be made in increments as the project progresses. The amount of the incremental payments (as a percentage of the lump sum price) shall be proportional to the percentage of the value of the overall project completed during the invoice period.

Bid Item No. 6: Remove, Topsoil Stockpile (CY)**a. Item Description**

This item is for the removal and stockpiling of topsoil from vacant land to be used to restore the

abandoned Templeton Gap Road. The Contractor shall reserve and stockpile the most suitable soils for use in landscaped areas. Included in this item is excavation, loading, hauling, storing and placement of topsoil at the appropriate locations. The item shall be performed in accordance with the plans and Section 930 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 7: Unclassified Excavation (CY)

a. Item Description

This item is for the excavation and export of soil material to a site to be determined by the **contractor**. This item is for soil material that is excavated to facilitate performance of the project work and is either not suitable for backfill or embankment or is in excess of: what is needed for backfill and embankment. The Contractor shall reserve and stockpile the most suitable soils for use on the project. Included in this item is excavation, loading, hauling, and disposal of the earth at an appropriate location. The item shall be performed in accordance with the plans and Section 930 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per cubic yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities

Bid Item No. 8: Embankment (CY)

a. Item Description

This item is for the excavation, stockpiling and placement as backfill or embankment of suitable soil material that is excavated to facilitate performance of the work and is not in excess of the quantity needed for fills with on-site material. Included in this item is the loading, hauling, stockpiling, subgrade preparation, blending, drying, wetting, conditioning, placement, spreading, compaction, grading, testing and any other labor, material and equipment required to complete the item. The item shall be performed in accordance with the plans and Section 930 of the Technical Specifications, Schedule D.

The Contractor shall reserve the excavated on-site soils meeting the requirements for minimum R-60 subgrade and shall place them in the 2-foot-thick zone below the roadway pavement section or shall import suitable soil for that 2-foot-thick zone at no additional cost to the Owner.

The payment quantity for this item shall be the plan and bid form quantity and is based on the neat line in place quantity of the backfill and embankment. No field measurement for this item will be made unless the Engineer requires significant changes in the design that have significant impacts to earthwork quantities. In such a case, payment for any quantities in excess of the bid form quantity shall be pre-approved in writing prior to beginning the work.

b. Payment

Payment shall be made at contract unit price per cubic yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 9: Removal of Tree (EA)

a. Item Description

This item is for the removal of the existing trees that are specifically called out as "Remove Tree". This item shall include all sawing, removal, scalping, hauling and offsite disposal of trees, stumps, roots, branches, trunks and debris. All holes left behind shall be filled with earthen material and compaction appropriate for the location. The item shall be performed in accordance with the plans and Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 10: Abandon Sanitary Manhole (EA)

a. Item Description

This item is for abandoning existing sanitary manholes. This item includes all work necessary to plug entrance and exit inverts, remove and dispose cone sections, remove ring and cover and return to Colorado Springs Utilities, and fill the manhole with approved material. The work shall be done in accordance with Sections 220, 962 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 11: Removal & Disposal of Curb & Gutter (LF)

a. Item Description

This item is for the removal of the existing curb and gutter as shown on the plans. The work includes the removal, hauling and disposal of curb and gutter. The work shall be done in accordance with Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payments shall be made at contract unit price per linear foot for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 12: Removal & Disposal of Barricade Type 3 (EA)

a. Item Description

This item is for the removal of the existing type 3 barricades on site as shown on the plans. Work included the removal, hauling and disposal of the barricades. The work shall be done in accordance with Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payments shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 13: Removal & Disposal of Concrete Barricade (EA)

a. Item Description

This item is for the removal of the existing concrete barricades on site as shown on the plans. Work included the removal, hauling and disposal of the barricades. The work shall be done in accordance with Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payments shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 14: Removal of Asphalt Mat (SY)

a. Item Description

This item is for the saw cut, removal and disposal of existing asphalt as shown on the plans. It includes saw cutting, break-up and removal of the pavement, and hauling and disposal of waste material off-site as required. The work shall be done in accordance with Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per square yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 15: Remove Ground Sign (EA)

a. Item Description

This item is for the removal of existing signs as called for on the plans. It includes sign and post removal; disposal of the post and hardware; protective storage of the sign and returning to the City Traffic Department at the Fontanero Street facility. The work shall be done in accordance with Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 16: Aggregate Base Course 6 inch thick (SY)

a. Item Description

This item is for preparing the subgrade and placing and compacting aggregate base course prior to placement of asphalt pavement in pavement areas removed for full depth pavement reconstruction. It includes all labor, materials and equipment required to complete the work in accordance with the plans and specifications. The work shall be done in accordance with the Sections 300 and 930 of the Technical Specifications.

b. Payment

Payment shall be made at contract unit price per square yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 17: Asphalt Concrete Pavement (Grading S) (4") (TON)

a. Item Description

This item is for paving the new section of Tutt Boulevard and the tie ins to the existing roads. The work shall be done in accordance with the plans and the *Pikes Peak Region Asphalt Paving Specifications Version 5*. The payment shall be full compensation for all preparation, labor, equipment, and materials including prime and for tack coats applied in accordance with the specification.

b. Payment

Payment shall be made at bid unit price per ton for the respective items multiplied by the quantity successfully completed. The total quantity of these items to be paid for will be the plan and bid form quantities unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 18: Asphalt Concrete Pavement (Grading SX) (2") (TON)

c. Item Description

This item is for paving the new section of Tutt Boulevard and the tie ins to the existing roads. The work shall be done in accordance with the plans and the *Pikes Peak Region Asphalt Paving Specifications Version 5*. The payment shall be full compensation for all preparation, labor, equipment, and materials including prime and for tack coats applied in accordance with the specification.

d. Payment

Payment shall be made at bid unit price per ton for the respective items multiplied by the quantity successfully completed. The total quantity of these items to be paid for will be the plan and bid form quantities unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 19: Concrete Pedestrian Ramp (SY)

a. Item Description

This item is for construction of concrete pedestrian ramps as called for on the plans. The pay quantity for this item excludes the adjacent variable height curb and gutter which is paid for under the Item for the specified curb and gutter type at the location. This item includes subgrade preparation, forming, furnishing material, hauling, placement, finishing, stripping and any other labor, material, and equipment required to complete the installation. The item shall be in accordance with the plans and Section 500 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per square yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 20: Concrete Pavement (6") (SY)

a. Item Description

This item is for construction of the 6" thick concrete driveway including a sidewalk crossing as called for on the plans. This item includes subgrade preparation, forming, stripping, furnishing material, hauling, placement, finishing and any other labor, material, and equipment required to complete the installation. The pay quantity for this item excludes the adjacent variable height curb and thickened and reinforced gutter which is paid under Item 22. The item shall be in accordance with the plans and Section 500 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per square yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 21: Concrete Sidewalk (4") (SY)

a. Item Description

This item is for construction of 4" thick concrete sidewalk as called for on the plans. This item includes: subgrade preparation, forming, furnishing material, hauling, placement, finishing, stripping and any other labor, material, and equipment required to complete the installation. The item shall be in accordance with the plans and Section 500 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per square yard for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 22: Concrete Cross Pan (SY)

a. Item Description

This item is for construction of concrete cross pan as called for on the plans. The pay quantity for this item excludes the curb which is paid for under the Item for the specified curb and gutter type at the location. This item includes: subgrade preparation, forming, stripping, furnishing material, hauling, placement, finishing, and any other labor, material, and equipment required to complete the installation. The item shall be in accordance with the plans and Section 500 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per square yard for the item multiplied by the quantity

successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 23: Type 1 Curb & Gutter (LF)

a. Item Description

This item is for construction of Type 1 curb & gutter as called for on the plans. The pay quantity for this item includes the variable height curb, various thicknesses, widths and sometimes reinforced gutter adjacent to pedestrian ramps, cross pans, driveways and inlets. Where transitions to another curb type exist, the pay quantity is measured to the midpoint of the transition. This item includes: subgrade preparation, forming, stripping, furnishing material, hauling, placement, finishing, and any other labor, material, and equipment required to complete the installation. The item shall be in accordance with the plans and Section 500 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per linear foot for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 24: 6" Passive Underdrain (LF)

a. Measurement

The quantity of 6-Inch Solid Pipe Underdrain to be paid for will be determined by measurement of the number of linear feet actually constructed and accepted by the Engineer as complying with the plans and specifications. Work includes all labor, materials to install the pipe as required by the plans. The work shall be done in accordance with the plans and Section 962 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards.

b. Payment

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

Bid Item No. 25: 18" Reinforced Concrete Pipe (LF)

a. Item Description

This item is for 18" reinforced concrete pipe included in the construction of the new storm sewer system. The items shall include all materials, hauling, excavation, bedding, backfill, compaction, cutting, fabrication, and placement required to complete the installation of the pipe including pre-cast bends, plug and concrete collars as required by the plans. The work shall be done in accordance with the plans and Section 630 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at the bid price for the applicable size per linear foot as measured along the centerline of the pipes from end to end multiplied by the linear feet of pipe satisfactorily completed. The total quantity of these items to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 26: 24" Reinforced Concrete Pipe (LF)

a. Item Description

This item is for 24" reinforced concrete pipe included in the construction of the new storm sewer system. The items shall include all materials, hauling, excavation, bedding, backfill, compaction, cutting, fabrication, and placement required to complete the installation of the pipe including pre-cast bends, plug and concrete collars as required by the plans. The work shall be done in accordance with the plans and Section 630 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at the bid price for the applicable size per linear foot as measured along the centerline of the pipes from end to end multiplied by the linear feet of pipe satisfactorily completed. The total quantity of these items to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 27: Type R Curb Inlet (L=15') (EA)

a. Item Description

This item is for the proposed CDOT Standard Type R drainage inlet to be located and constructed as called for on the plans. The pay quantity for this item excludes the reinforced apron/gutter which is paid for under the Item for the specified curb and gutter type at the location. The item shall include: excavation, subgrade prep, bedding, backfill, concrete, reinforcement, structural steel, manhole ring and cover, forming, stripping, painting and all other labor, equipment and materials for a complete installation of the curb inlet. The inlet shall be constructed in conformance with the plans, the CDOT standard plan and **Section 630** of the Technical Specifications.

b. Payment

Payment shall be made at the applicable contract unit price per each for the item multiplied by the quantity successfully completed.

Bid Item No. 28: Type II Storm Sewer Manhole (5' Dia) (EA)

a. Item Description

Payment shall be made at the applicable contract unit price for the Bid Item and shall include full compensation for all labor, equipment, off-site disposal of excess material, excavation, concrete adjustment grade rings, tools, placement, bolting, backfill, compaction, tracer wire and all other items of work necessary to complete the work. The item shall be in accordance with the plans and Sections 630 and 930 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that impact quantities.

Bid Item No. 29: Type II Manhole (4' Dia) (EA)

a. Item Description

Payment shall be made at the applicable contract unit price for the Bid Item and shall include full compensation for all labor, equipment, off-site disposal of excess material, excavation, concrete adjustment grade rings, tools, placement, bolting, backfill, compaction, tracer wire and all other items of work necessary to complete the work. The item shall be in accordance with the plans and Sections 630 and 930 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that impact quantities.

Bid Item No. 30: Adjust Manhole (EA)

a. Item Description

Adjust Manhole to be paid for will be determined by measurement of the number of manholes reset and accepted by the Engineer as complying with the plans and specifications. Payment shall be made at the applicable contract unit price for the Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment for resetting manholes includes excavation, lowering, moving, removing masonry or concrete, adding brickwork, resetting frames or rings and all other items of work involved in construction of the adjustment of a manhole. The item shall be in accordance with the plans and Sections 630 and 930 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that impact quantities.

Bid Item No. 31: Tie new 8 inch sanitary to existing line (EA)

a. Item Description

This item is for the connection of the new sanitary line to the existing at an existing stub out as called out in the plans. This item includes: excavation, hauling, placement, finishing, and any other labor, material, and equipment required to complete the installation. The item shall be in accordance with the plans and Sections 630 and 930 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that impact quantities.

Bid Item No. 32: Install 8" PVC Sanitary Sewer Main (LF)

a. Item Description

This item is for furnishing and installation of SDR 35 sanitary sewer pipe as required by the plans. The item shall include all materials, labor and equipment required to complete the work as shown in the plans, including all excavation, shoring, backfill, tracer wire and compaction required to prepare the trench for pipe bedding and pipe placement as well as backfill up to finished grade elevations after bedding is in place. The work shall be done in accordance with the plans and Sections 930 and 962 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that impact quantities.

Bid Item No. 33: Install Sanitary Sewer Manhole 5' Dia. (EA)

a. Item Description

This item is for new precast concrete sanitary sewer manhole that will be constructed with the project as shown in the plans. This item includes excavation, grading, bedding, all manhole materials, placement, backfill, compaction, invert channel shaping, sealing between the manhole and mainline pipe, plugging un-needed holes, epoxy lining, cleaning, testing, tracer wire and any other labor, material, and equipment required to complete required work in accordance with the plans and specifications. The item shall be in accordance with the plans and Section 962 of the Technical Specifications and Colorado Springs Utilities Standards.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that impact quantities.

Bid Item No. 34: Sanitary Sewer Bi-Pass Pumping During Construction (Day)

a. Item Description

This item includes all labor, materials, and equipment required to prepare an adequate bi-pass plan and all labor materials and equipment required for proper implementation of the plan as required to assure safe and continuous sewer system operation throughout construction of the entire proposed sanitary sewer system construction. Sewer Bi-pass for the project shall conform to Section 962.06 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards

b. Payment

Payment shall be made at the bid unit price per day. The quantity of calendar days to be paid for will be the plan and bid form quantity unless the Engineer directs significant changes be made to the design that affects this work.

Bid Item No. 35: New Ground Sign with New Post (EA)

a. Item Description

This item is for providing and setting of new ground signs as called for on the plans. It includes: a new sign and setting the sign with a new post and hardware furnished by the contractor after construction in the area of the sign is complete. The work shall be done in accordance with Section 220 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per each for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 36: Epoxy Pavement Marking (SF)

a. Item Description

This item is for traffic striping in Airport Road as called for on the plans. This item includes layout and pavement preparation, furnishing material, placement of the markings and any other labor, material, and equipment required to complete the markings. The item shall be in accordance with the plans and Section 627 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at contract unit price per square foot for the item multiplied by the quantity successfully completed. The total quantity of this item to be paid for will be the plan and bid form quantity unless the Engineer makes significant design changes that significantly impact quantities.

Bid Item No. 37: Abandon 8" sanitary Line (LS)

a. Item Description

This item is for the preparation to abandon approximately 400 LF of 8" sanitary main. This item includes all work necessary to locate, expose, cut, drain and cap or seal the exposed ends of the pipe remain in accordance with CSU standards, if voids exist at the end of the pipes. The work shall also include removal and proper disposal of any sewage that may be present in the sewer line to be removed. The work shall be done in accordance with Sections 220, 962 of the Technical Specifications, Schedule D and Colorado Springs Utilities Standards.

b. Payment

Payment shall be made at the bid lump sum unit price of pipe to be abandoned. The quantity of removal to be paid for will be the plan and bid form quantity unless the Engineer directs significant changes be made to the design that affects this work.

Bid Item No. 38: Restoration of Vacated Roadway (LS)

a. Item Description

This item is for the preparation, restoration and seeding of the vacated section of Vickie Lane and Templeton Gap Road. This item is for placing of stockpiled topsoil to be placed a minimum of 2" thick and tilled into soil over disturbed areas or as otherwise indicated on the plans that are to be seeded within the project area. The item shall include grading, subgrade preparation, soil costs, hauling, stockpiling, placement, spreading, tilling, wetting, compaction, and all other items of work and materials involved in successful completion of the item. Work includes adding soil amendment as needed to be furnished and placed at a minimum rate of 4.6cy/1,000 sf over all disturbed areas to be seeded or sodded. The item shall include amendment costs, hauling, stockpiling, placement, spreading, tilling, wetting and all other items of work involved in successfully completing the item.

Additional work includes native grass seeding and mulching over all disturbed areas to be shaped and seeded as called for in the plans. The item shall include all seed and mulch costs, seed bed preparation, seeding, mulch application, maintenance until successful growth and coverage is achieved and any other material, equipment, labor or other costs required to successfully completing the item. The Item shall be completed in conformance with the plans and Section 901 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at the bid lump sum unit price of restoration of vacated roadway to be paid for will be the plan and bid form quantity unless the Engineer directs significant changes be made to the design that affects this work.

Bid Item No. 39: Restoration of Adjacent Private Property (LS)

a. Item Description

This item is for the preparation, restoration and seeding of the property along project. This item is for placing of stockpiled topsoil to be placed a minimum of 2" thick and tilled into soil over disturbed areas or as otherwise indicated on the plans that are to be seeded within the project area. The item shall include grading, subgrade preparation, soil costs, hauling, stockpiling, placement, spreading, tilling, wetting, compaction, and all other items of work and materials involved in successful completion of the item. Work includes adding soil amendment as needed to be furnished and placed at a minimum rate of 4.6cy/1,000 sf over all disturbed areas to be seeded or sodded. The item shall include amendment costs, hauling, stockpiling, placement, spreading, tilling, wetting and all other items of work involved in successfully completing the item. Additional work includes native grass seeding and mulching over all disturbed areas to be shaped and seeded as called for in the plans. The item shall include all seed and mulch costs, seed bed preparation, seeding, mulch application, maintenance until successful growth and coverage is achieved and any other material, equipment, labor or other costs required to successfully completing the item. The Item shall be completed in conformance with the plans and Section 901 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at the bid lump sum unit price of restoration of vacated roadway to be paid for will be the plan and bid form quantity unless the Engineer directs significant changes be made to the design that affects this work.

Bid Item No. 40: Restoration of Church for All Nations (CFAN) Private Property (LS)

a. Item Description

This item is for the preparation, restoration of Church for All Nations property. Restoration includes asphalt parking areas and vegetated areas.

Work in the paved areas includes removing asphalt for storm drain work, prepping and repaving subgrade with 4 inches of asphalt, restriping disturbed parking area and replacing curb and gutter removed. Trench backfill and compaction will be paid for by items 24 and 25, 18 and 24 inch RCP placement. Work also includes repairing any street lights, street light feeds or irrigation lines disturbed during construction.

Restoration of vegetated areas will include placing of stockpiled topsoil to be placed a minimum of 2" thick and tilled into soil over disturbed areas or as otherwise indicated on the plans that are to be seeded within the project area. The item shall include grading, subgrade preparation, soil costs, hauling, stockpiling, placement, spreading, tilling, wetting, compaction, and all other items of work and materials involved in successful completion of the item. Work includes adding soil amendment as needed to be furnished and placed at a minimum rate of 4.6cy/1,000 sf over all disturbed areas to be seeded or sodded. The item shall include amendment costs, hauling, stockpiling, placement, spreading, tilling, wetting and all other items of work involved in successfully completing the item. Additional work includes native grass seeding and mulching over all disturbed areas to be shaped and seeded as called for in the plans. The item shall include all seed and mulch costs, seed bed preparation, seeding, mulch application, maintenance until successful growth and coverage is achieved and any other material, equipment, labor or other costs required to successfully completing the item. Trench backfill and compaction will be paid for by items 24 and

25, 18 and 24 inch RCP placement. Work also includes repairing any street lights, street light feeds or irrigation lines disturbed during construction

The Item shall be completed in conformance with the plans and Sections 400 and 901 of the Technical Specifications, Schedule D.

b. Payment

Payment shall be made at the bid lump sum unit price of restoration of vacated roadway to be paid for will be the plan and bid form quantity unless the Engineer directs significant changes be made to the design that affects this work.

Bid Item No. 41: Dewatering During Construction (FA)

a. Item Description

This item includes all labor, materials, and equipment required to prepare an adequate dewatering plan and proper implementation of the plan as required to construct all of the proposed waterlines, box culvert, wingwalls, concrete and boulder channel pavement, and cutoff walls in a dry condition. Dewatering for the project shall conform to Section 2.19 of the Project Specific Special Provisions and Sections 625 and 961.6 I of the Technical Specifications, Schedule D.

b. Payment

This item will be paid on a Lump Sum (LS) basis for the entire project. Incremental Payments will be made for this item proportional to the level of completion of the overall project at the time that incremental pay applications are submitted.

Bid Item No. 42: Force Account for Minor Contract Revisions (FA)

a. Item Description

For minor work items that may be determined to be required as a result of design changes implemented by the **Engineer** during construction, a minor contract revision may be initiated by and at the sole discretion of the **Engineer**. The intent of the F/A Minor Contract Revisions is to provide a mechanism for payment for minor work required to complete the project which is not identified elsewhere in the contract documents. If not deemed minor by the **Engineer**, the **contractor** may be required to prepare a formal change order through the city process identified in the contract documents. **Contractor** may not submit minor contract revisions without prior approval of the **Engineer**. The minor contract revision shall be completed and signed by the **contractor** and **Engineer** prior to the start of the added or changed work. The **Engineer** is responsible for approving or denying all change orders.

b. Payment

Payment will be made for minor contract revisions at the negotiated and agreed upon measurement and price for the work completed and shall include full compensation for all labor, equipment, tools, materials, and warranty necessary to complete the work.

SCHEDULE F – PPRTA SPECIAL PROVISIONS

PPRTA FUNDED PROJECTS SPECIAL PROVISIONS

(Revised August 17, 2016)

PPRTA Funding Special Provision: Joint Contracts – City of Colorado Springs (the “City”) and the Pikes Peak Rural Transportation Authority (the “PPRTA”).

This Contract is a joint contract between the Contractor/Consultant (hereinafter the “Contractor”), the City, and the PPRTA. The parties therefore agree to the following:

1. Conflicts: This PPRTA Special Provision shall supersede any contrary provision of this Contract.
2. Parties: The Contractor acknowledges and understands that this Contract is funded in whole or in part by the PPRTA and administered by the City. Both the City and the PPRTA are Parties to this Contract.
3. Payments: The Contractor acknowledges and understands that all payments under this Contract shall be made to the Contractor by the PPRTA. PPRTA funding obligations shall be paid by PPRTA warrants. In the event there is joint City / PPRTA funding, then payment to the Contractor shall consist of warrants from the City and warrants from the PPRTA. The Contractor agrees to accept all payments made or proffered by the PPRTA under this Contract.
4. Bonds: All bonds under this Contract shall include the City and the PPRTA as Obligees.
5. Insurance: All insurance policies provided by the Contractor or by any sub-contractor for any work pursuant to contracts with the Contractor pursuant to this Contract shall name both the City and the PPRTA as additional insureds and shall waive all rights of subrogation, in accord with the terms of this Contract, against both the City and the PPRTA.
6. Law: This Contract is subject to and shall be interpreted under the law of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Home Rule City; the Resolutions and Rules and Regulations of the PPRTA. Court venue and jurisdiction shall exclusively be in the Colorado District Court for El Paso County, Colorado. The Parties agree that this Contract shall be deemed to have been made in, and the place of performance is deemed to be in, the City of Colorado Springs, El Paso County, State of Colorado. The Contractor shall ensure that the Contractor and the Contractor’s employees, agents, officers and subcontractors are familiar with, and comply with, applicable Federal, State, and Local laws and regulations as now written or hereafter amended.
7. Appropriation and availability of funds: In accord with the Colorado Constitution, Article X, Section 20, and the City Charter, performance of the City’s obligations under

this Contract is expressly subject to appropriation of funds by the City Council for this Contract and the availability of those appropriated funds for expenditure. Further, in the event that funds are not appropriated in whole or in part sufficient for performance of the City's obligations under this Contract, or appropriated funds may not be expended due to Constitutional or City Charter spending limitations, then the City and the PPRTA may terminate this Contract without compensation to the Contractor. Performance of the PPRTA's obligations under this Contract is expressly subject to appropriation of funds by the PPRTA and the availability of those funds for the payment of obligations incurred under this Contract. Further, in the event that PPRTA funds are not appropriated in whole or in part sufficient for performance of the PPRTA's obligations under this Contract, or appropriated funds may not be expended due to legal limitations or non-availability, then the City and the PPRTA may terminate this Contract without compensation to the Contractor.

8. Indemnification: Subject to the provisions of Section 13-50.5-102(8), C.R.S., to the extent applicable to this Contract, the Contractor agrees that the Contractor shall indemnify, defend and hold harmless the PPRTA, its officers, employees and agents, from and against any and all loss, damage, injuries, claims, cause or causes of action, or any liability whatsoever resulting from, or arising out of, or in connection with the Contractor's obligations or actions under this Contract. To the extent the terms of Section 13-50.5-102(8), C.R.S., are applicable to this Contract, the Contractor and the PPRTA hereby agree for the purposes of this Section that: (i) "the degree or percentage of negligence or fault attributable" to the Contractor as used in Section 13-50.5-102(8)(a), C.R.S., shall be conclusively determined by a trial court at the state or federal level and (ii) the term "adjudication" used in Section 13-50.5-102(8)(c), C.R.S., shall mean a trial court order at the state or a federal level.

9. Governmental Immunity: Nothing in this Contract or in any actions taken by the PPRTA pursuant to this Contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions of the Colorado Governmental Immunity Act, Sections 24-10-101, et seq., C.R.S.

10. Warranties: All warranties provided by the Contractor under or pursuant to this Contract to the City shall also apply to the PPRTA.

11. Final Payment: Final payment under this Contract shall be made in accord with the terms of this Contract, except that final payment shall be made by the PPRTA, and the making and acceptance of final payment shall constitute a waiver of all claims by the Contractor against the City and the PPRTA.

12. Termination or default of Contract: In all Contract provisions giving the City the right to terminate, for convenience or otherwise, or giving the City rights in the event of default by the Contractor, the term City shall also apply to the PPRTA.

13. Contract Changes: Any changes to the Contract, including but not limited to additions and/or deletions, which are not insignificant to the scope, design and requirements of the Contract shall be subject to prior approval of the PPRTA.

SCHEDULE G – INSURANCE REQUIREMENTS

The following listed minimum insurance requirements shall be carried by all contractors and consultants unless otherwise specified in the City's solicitation package, Special Provisions, or Standard Specifications.

| | | |
|----|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | X | Workers' Compensation and Employers Liability as required by statute. Employers Liability coverage is to be carried for a minimum limit of \$100,000. |
| 2. | X | Automobile Liability covering any auto (including owned, hired, and non-owned autos) with a minimum of \$1,000,000 each accident combined single limit. |
| 3. | X | Commercial General Liability for limits not less than \$1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include blanket contractual, broad form property damage, products and completed operations and contractors protective endorsements. |

Except for workers' compensation and employer's liability insurance, the **City of Colorado Springs must be named as an additional insured**. Certificates of Insurance must be submitted before commencing the work and provide 30 days' notice prior to any cancellation, non-renewal, or material changes to policies required under the contract.

All coverage furnished by contractor is primary, and any insurance held by the City of Colorado Springs is excess and non-contributory.

The undersigned certifies and agrees to carry and maintain the insurance requirements indicated above throughout the contract Period of Performance.

(Name of Company)

(Signature) (Date)

SCHEDULE H – CONSTRUCTION PLAN SET
FOLLOWS THIS PAGE

TUTT BLVD EXTENSION - PHASE 2

CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO

CONSTRUCTION DOCUMENTS

MAY 2023

AGENCIES

| | | | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CITY ENGINEERING: | CITY OF COLORADO SPRINGS PUBLIC WORKS DEPARTMENT 30 S. NEVADA AVENUE, SUITE 403 COLORADO SPRINGS, CO 80903 MR. MIKE CHAVES, P.E. (719) 385-5408 | FIELD ENGINEERING GAS: | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE COLORADO SPRINGS, COLORADO 80903 MR. TIM BENEDICT, (719) 668-4985 |
| CIVIL ENGINEER: | CLASSIC CONSULTING ENGINEERS & SURVEYORS 6385 CORPORATE DRIVE, SUITE 101 COLORADO SPRINGS, CO 80919 MR. MARC A. WHORTON, P.E. (719) 785-0790 | FIELD ENGINEERING ELEC: | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE COLORADO SPRINGS, COLORADO 80920 MR. TIM BENEDICT, (719) 668-4985 |
| TRAFFIC ENGINEERING: | CITY OF COLORADO SPRINGS 30 S. NEVADA AVENUE COLORADO SPRINGS, COLORADO 80903 MR. TODD FRISBIE P.E. P.T.O.E. (719) 385-7628 | FIRE DEPARTMENT: | CITY OF COLORADO SPRINGS FIRE PREVENTION DIVISION 2880 INTERNATIONAL CIRCLE - SUITE 200 COLORADO SPRINGS, COLORADO 80910 MS. DEE WITHEE (719) 385-7361 |
| EDRD ENGINEERING: | CITY OF COLORADO SPRINGS 30 S. NEVADA AVENUE, SUITE 401 COLORADO SPRINGS, COLORADO 80903 MS. ERIN POWERS, (719) 385-5852 | TELEPHONE COMPANY: | CENTURY LINK COMMUNICATIONS (LOCATORS) (800) 922-1987 |
| COLORADO SPRINGS UTILITIES | PLANNING & ENGINEERING 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, COLORADO 80910 MR. DREW MAKINGS, (719) 668-8127 (WATER) AND (WASTEWATER) | | |

GENERAL NOTES

- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH THE CITY OF COLORADO SPRINGS, DEPARTMENT OF PUBLIC WORKS, SUBDIVISION POLICY MANUAL AND STANDARD SPECIFICATIONS, AS WELL AS THE CITY OF COLORADO SPRINGS WASTEWATER DIVISION "RULES FOR THE INSTALLATION OF SEWER MAINS AND SERVICES".
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- CONCRETE USED IN CURB AND GUTTER, SIDEWALK, AND CROSSSPAN CONSTRUCTION WILL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- ALL CURB RETURNS AND 10' EITHER SIDE OF CURB RETURNS SHALL BE 8" VERTICAL CURB, CITY OF COLORADO SPRINGS TYPE I CURB WITH AN ADDITIONAL 10' OF TRANSITION TO 6" RAMP CURB. CITY OF COLORADO SPRINGS MODIFIED TYPE 5 CURB, UNLESS OTHERWISE INDICATED.
- PEDESTRIAN RAMPS SHALL BE INSTALLED AT INTERSECTIONS AS SHOWN AND CONFORM TO THE CITY OF COLORADO SPRINGS, DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS (SEE DETAIL SHEET). NOTE: WIDTH OF PEDESTRIAN RAMPS MUST MATCH WIDTH OF SIDEWALK.
- IF A DISCREPANCY OCCURS BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS, THE ENGINEER WILL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.
- THE CONTRACTOR SHALL SECURE ALL APPLICABLE LICENSES AND PERMITS TO COMPLETE THE CONSTRUCTION IN COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- CONTRACTOR TO OBTAIN COPIES OF THE SOILS REPORT FROM THE GEOTECHNICAL ENGINEER AND TO BE KEPT ON-SITE DURING ALL EARTHWORK OPERATIONS.

CONCRETE: CONCRETE REINFORCEMENT:

- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE YIELD STRENGTH OF 4,000 PSI UNLESS OTHERWISE NOTED. HIGHER COMPRESSIVE STRENGTH CONCRETE IS ACCESSIBLE TO ACHIEVE EARLY CONCRETE STRENGTH THAT MAY BE DEEMED NECESSARY TO MEET CONSTRUCTION SCHEDULING PRIORITIES.
- ALL CAST IN PLACE CONCRETE REINFORCEMENT SHALL HAVE A MINIMUM TENSILE YIELD STRENGTH OF 60,000 PSI UNLESS OTHERWISE NOTED, AND CONFORMANCE WITH CITY OF COLORADO SPRINGS SPECIFICATIONS, SECTION 603.
- CONCRETE TESTING SHALL BE IN CONFORMANCE WITH CITY OF COLORADO SPRINGS SPECIFICATIONS, SECTION 506.

TRAFFIC ENGINEERING GENERAL NOTES:

- BEFORE EXCAVATING, CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING.
- APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK TO BE PERFORMED UNTIL A PERMIT HAS BEEN ISSUED.
- THE APPROVAL OF THESE PLANS OR ISSUANCE OF A PERMIT BY THE CITY OF COLORADO SPRINGS DOES NOT AUTHORIZE THE SUBDIVIDER AND OWNER TO VIOLATE ANY FEDERAL, STATE OR CITY LAWS, ORDINANCES, REGULATIONS OR POLICIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW, TEMPORARY AND EXISTING TRAFFIC SIGNS FROM THE START OF THE CONSTRUCTION PROJECT UNTIL ACCEPTANCE BY CITY TRAFFIC ENGINEERING.
- ALL TRAFFIC SIGNS, PAVEMENT MARKINGS, AND TRAFFIC SIGNALS SHALL MEET OR EXCEED M.U.T.C.D. STANDARDS.
- THE CONTRACTOR SHALL NOT REMOVE ANY EXISTING SIGNS, PAVEMENT MARKINGS OR TRAFFIC SIGNALS DURING THE PROJECT WITHOUT SIGNED AUTHORIZATION OF THE CITY ENGINEERING INSPECTOR ASSIGNED TO THE PROJECT.
- CONTRACTOR SHALL PREPARE A DETAILED TRAFFIC CONTROL PLAN, SUBMIT TO CITY TRAFFIC ENGINEERING FOR APPROVAL, AND OBTAIN APPROPRIATE PERMITS IN ACCORDANCE WITH THE "TRAFFIC CONTROLS FOR STREET CONSTRUCTION, UTILITY WORK AND MAINTENANCE OPERATIONS", MUTCD SUPPLEMENT FOR THE CITY OF COLORADO SPRINGS, AUGUST 1992.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND MAINTAINING THE TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW, TEMPORARY, AND EXISTING TRAFFIC SIGNAL MODIFICATIONS.

ADDITIONAL NOTES:

REFERENCE TO FOLLOWING DOCUMENTS FOR ADDITIONAL INFORMATION PERTAINING TO THIS PROJECT:

SEE FOR ADDENDUM 2 "MIDTOWN COLLECTION AT PATHWAYS FILING NO. 2 (TUTT BLVD. EXTENSION - PHASE 2 BY CITY PUBLIC WORKS)", PREPARED BY CLASSIC CONSULTING, APPROVED 2/20/23

SEE CSWMP FOR "TUTT BLVD. EXTENSION - PHASE 2 (CITY PUBLIC WORKS PROJECT)"

SEE TUTT BLVD EXTENSION - PHASE 1 CONSTRUCTION PLANS FOR EXISTING ROAD CONNECTION TO SOUTH

STRIPING AND SIGNAGE GENERAL NOTES:

- INSTALLATION OF ALL STRIPING, SIGNS AND PAVEMENT MARKERS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMOVAL OF EXISTING PAVEMENT MARKINGS (SCARRING OF PAVEMENT IS NOT PERMITTED). AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OVERLAYING OR CHIP SEALING ROADWAY, IF SCARRING OCCURS DURING REMOVAL OF EXISTING OR TEMPORARY PAVEMENT MARKINGS. THE CITY TRAFFIC ENGINEER WILL DETERMINE METHOD OF PAVEMENT REPAIR.
- ALL STRIPING AND SIGNING SHALL CONFORM TO THE MOST RECENT ADOPTED EDITION OF THE FOLLOWING MANUALS AND THEIR SUPPLEMENTAL AMENDMENTS:
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
CITY OF COLORADO SPRINGS SIGNS AND MARKINGS GUIDELINES
CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS
CITY OF COLORADO SPRINGS PUBLIC WORKS DESIGN MANUAL
- ALL SIGNING AND STRIPING IS SUBJECT TO THE APPROVAL OF THE CITY TRAFFIC ENGINEER PRIOR TO INSTALLATION AND/OR REMOVAL.
- CONTRACTOR SHALL REMOVE ALL CONFLICTING STRIPING, PAVEMENT MARKINGS AND LEGENDS BY HYDROBLASTING, SANDBLASTING AND/OR GRINDING. ANY DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- SIGN POSTS SHALL BE INSTALLED WITH A MINIMUM OF 1 3/4" X 10' SQUARE PERFORATED STEEL TUBING WITH SLEEVE PER CITY OF COLORADO SPRINGS STANDARD.
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM OF HIGH INTENSITY GRADE SHEETING.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLANS SHALL BE APPROVED BY THE ENGINEER OF WORK AND THE CITY TRAFFIC ENGINEER PRIOR TO ANY CHANGES BEING MADE IN THE FIELD.
- ALL SIGNS SHOWN ON THE STRIPING AND SIGNING PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR EXISTING SIGNS SPECIFICALLY INDICATED TO BE RELOCATED OR TO REMAIN.
- STRIPED CROSSWALKS SHALL HAVE AN INSIDE DIMENSION OF 10 FEET AND CONTINENTAL CROSSWALKS SHALL HAVE A MINIMUM WIDTH OF 9 FEET UNLESS INDICATED OTHERWISE.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS (EXCEPT WITHIN BIKE LANES) SHALL BE A MINIMUM OF 90ML THICKNESS THERMOPLASTIC OR PREFORM PLASTIC TAPE.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM OF 15 MIL THICKNESS EPOXY.
- CONTRACTOR TO DELIVER ALL REMOVED SIGNS TO THE CITY OF COLORADO SPRINGS SIGNS/MARKINGS SHOP AT 404 FONTANERO STREET, (719)385-6721.
- CONTRACTOR SHALL NOTIFY CITY TRAFFIC ENGINEER (719) 385-5907 A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO AND UPON COMPLETION OF STRIPING AND SIGNAGE.

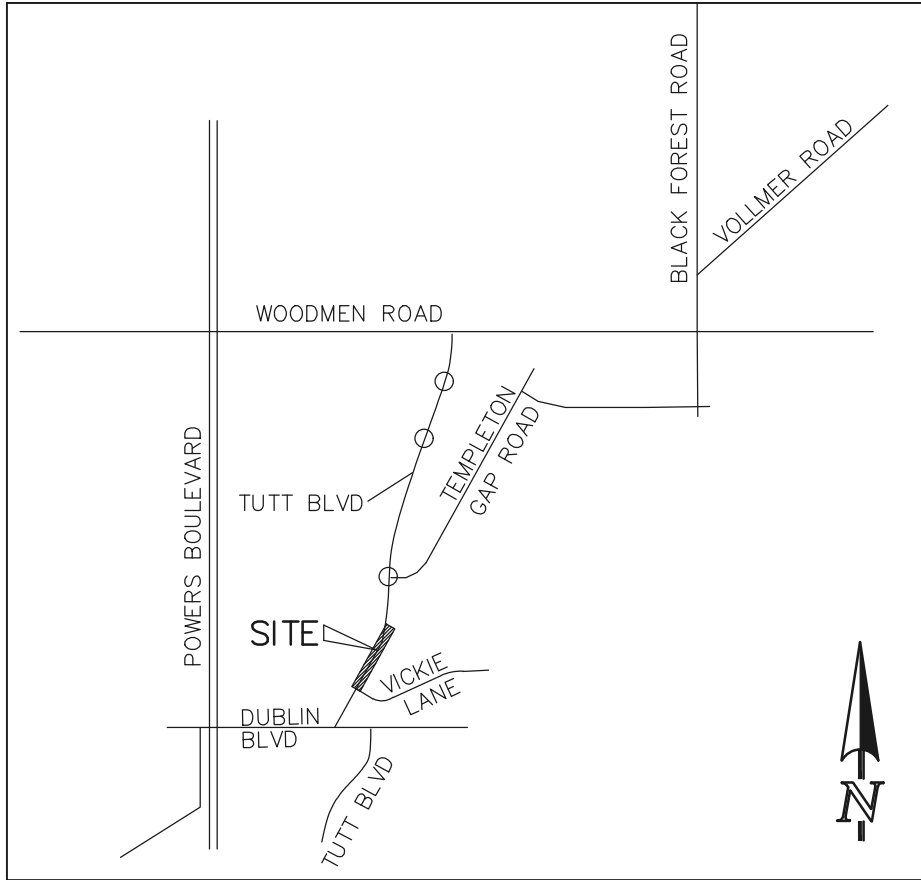
BASIS OF BEARINGS:

A PORTION OF THE NORTHERLY BOUNDARY OF LOT 2 AS PLATTED IN A.A. SUBDIVISION RECORDED IN PLAT BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE NORTHWESTERLY END BY 1" WASHER AND NAIL STAMPED "2692" AND AT THE SOUTHEASTERLY END BY A 1" YELLOW PLASTIC CAP STAMPED "LDC 18465" IS ASSUMED TO BEAR S60°02'31"E, A DISTANCE OF 268.19 FEET.

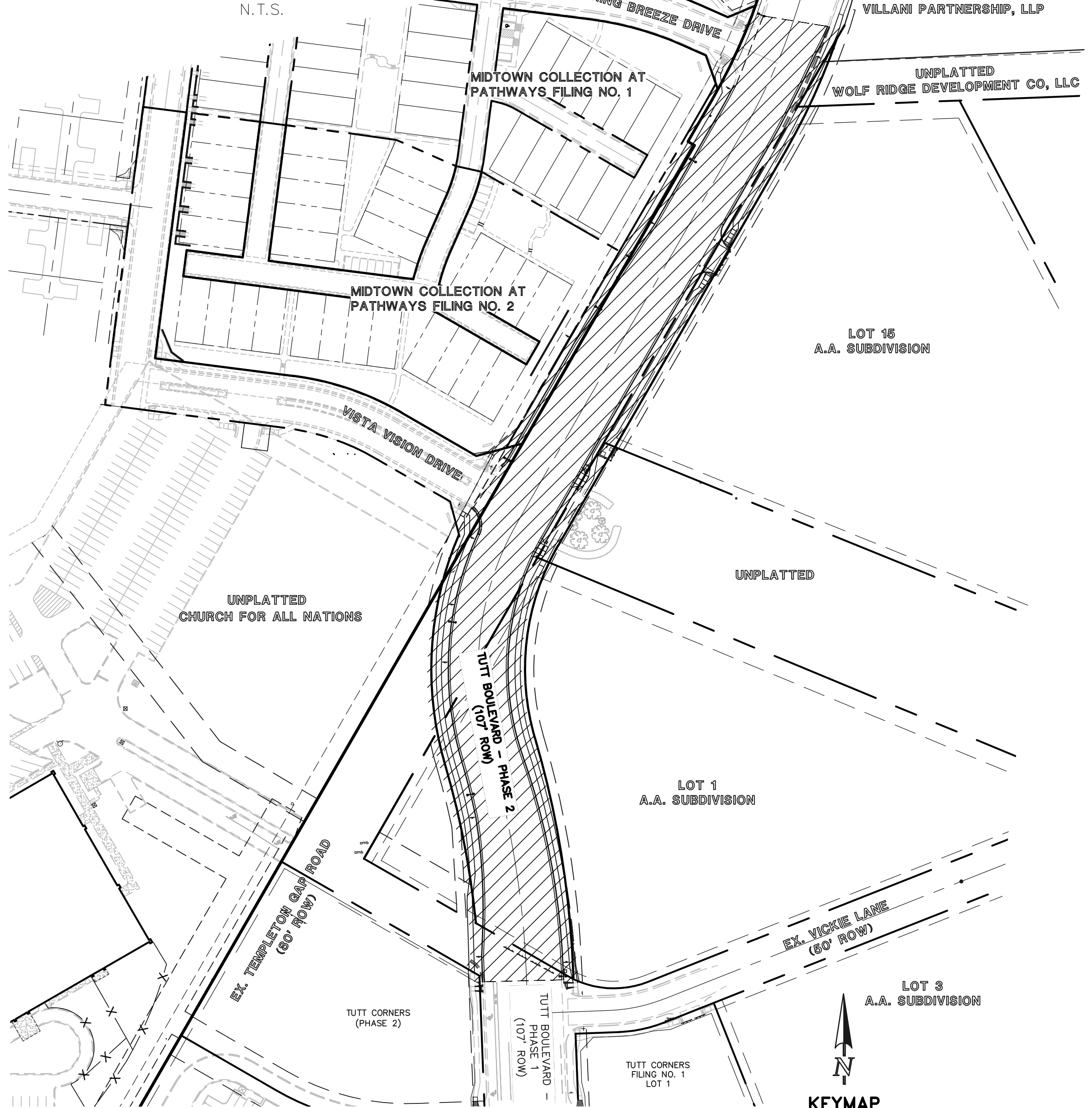
BENCHMARKS:

1. A RECOVERED 1" YELLOW PLASTIC CAP STAMPED "18465" LOCATED AT THE NORTHEASTERLY CORNER OF LOT 2 AS PLATTED IN "A A SUBDIVISION" RECORDED IN BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO LOCATED ON THE SOUTHERLY RIGHT OF WAY LINE OF VICKIE LANE. EL:6837.13

2. A RECOVERED 1" RED PLASTIC CAP STAMPED "19586" LOCATED AT THE SOUTHWESTERLY CORNER OF TUTT BOULEVARD AS PLATTED IN "TUSCANY PLAZA SUBDIVISION FILING NO. 1" RECORDED UNDER RECEPTION NO. 209712964, RECORDS OF EL PASO COUNTY, COLORADO. EL:6862.30



VICINITY MAP



KEYMAP
SCALE: 1"=100'

SHEET INDEX:

SHEET 1 OF 20 - COVER SHEET

SUBSURFACE UTILITY INVESTIGATION PLANS

SHEET 1 OF 4 - TITLE SHEET
SHEET 2 OF 4 - GENERAL NOTES
SHEET 3 OF 4 - UTILITY PLAN SHEET
SHEET 4 OF 4 - TEST HOLE DATA

GRADING AND EROSION CONTROL PLANS

SHEET 1 OF 4 - TITLE SHEET
SHEET 2 OF 4 - GEC - INITIAL PHASE
SHEET 3 OF 4 - GEC - FINAL PHASE
SHEET 4 OF 4 - EROSION CONTROL DETAILS

STREET IMPROVEMENT PLANS

SHEET 1 OF 5 - TITLE SHEET
SHEET 2 OF 5 - HORIZONTAL CONTROL AND TYPICAL ROADWAY SECTIONS
SHEET 3 OF 5 - DEMOLITION PLAN
SHEET 4 OF 5 - STREET IMPROVEMENT PLAN & PROFILE
SHEET 5 OF 5 - SIGNAGE, STRIPING & LIGHTING PLAN

STORM SEWER PLANS

SHEET 1 OF 4 - TITLE SHEET
SHEET 2 OF 4 - PLAN AND PROFILE SHEET
SHEET 3 OF 4 - DETAIL SHEET
SHEET 4 OF 4 - DETAIL SHEET

SANITARY SEWER PLANS

SHEET 1 OF 2 - TITLE SHEET
SHEET 2 OF 2 - PLAN AND PROFILE SHEET

REVIEWED BY:

| | |
|--------------------------------------------------|------|
| CITY ENGINEERING | DATE |
| CITY TRAFFIC ENGINEERING | DATE |
| SWENT MANAGER | DATE |
| OPERATIONS AND MAINTENANCE | DATE |
| COLORADO SPRINGS UTILITIES WATER & WASTEWATER | DATE |
| COLORADO SPRINGS UTILITIES ELECTRIC | DATE |
| COLORADO SPRINGS UTILITIES GAS | DATE |
| COMCAST | DATE |
| LUMEN | DATE |
| MOUNTAIN VIEW ELECTRIC ASSOCIATION | DATE |

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811

UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NO. REVISION

DATE

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC

MARC A. WHORTON, P.E.
#37155

9/28/2023

DATE

CLASSIC
CONSULTING
ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

TUTT BLVD EXTENSION - PHASE 2
CONSTRUCTION DOCUMENTS

COVER SHEET

| | | | | |
|-------------|-----|-------------|---------|-----------|
| DESIGNED BY | MAW | SCALE | DATE | 4/28/2023 |
| DRAWN BY | MAW | (H) 1"= N/A | SHEET | 1 OF 20 |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2467.16 |

CLASSIC
ENGINEERS & SURVEYORS

GENERAL NOTES:

1. PURPOSE: TO SEARCH, INTERPRET, AND DEPICT SPECIFIC EXISTING UNDERGROUND UTILITIES AS PER THE SCOPE OF WORK NEGOTIATED BETWEEN SAM AND THE CLIENT, WITHIN CLIENT SPECIFIC CORRIDORS.
2. THE SUBSURFACE UTILITIES SHOWN ON THE SUBSURFACE UTILITY INVESTIGATION WERE IDENTIFIED USING APPROPRIATE INDUSTRY STANDARD DETECTION METHODOLOGIES IN ACCORDANCE WITH THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA. QUALITY LEVELS AND DEFINITIONS PER CI/ASCE STANDARD NO. 38-22
3. QUALITY LEVEL "D" - QL-D - DEPICTED ACCORDING TO UTILITY RECORD INFORMATION AND IN-FIELD VISUAL INSPECTION. NO ELECTRONIC DESIGNATING INFORMATION WAS OBTAINED. UTILITIES WITH A QL-D LABEL ARE DEPICTED ON THE PLANS USING PROFESSIONAL JUDGMENT IN INTERPRETING THIRD-PARTY RECORDS OR OTHER INFORMATION.
4. QUALITY LEVEL "C" - QL-C - EXISTING UTILITY STRUCTURES HAVE BEEN FIELD LOCATED AND SURVEYED TO ASSIST IN THE DEPICTING OF THE UTILITIES SHOWN ON THE RECORDS. NO ELECTRONIC DESIGNATING INFORMATION WAS OBTAINED. UTILITIES WITH A QL-C LABEL ARE DEPICTED ON THE PLANS USING PROFESSIONAL JUDGMENT IN INTERPRETING AND CORRELATING THE SURVEYED UTILITY APPURTENANCES, THIRD-PARTY RECORDS INFORMATION.
5. QUALITY LEVEL "B" - QL-B - INFORMATION WAS OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF THE SUBSURFACE UTILITIES. QL-B DATA SHOULD BE REPRODUCIBLE BY SURFACE GEOPHYSICS AT ANY POINT OF THEIR DEPICTION. UTILITIES WITH A QL-B LABEL ARE DEPICTED ON THE PLANS USING PROFESSIONAL JUDGMENT IN SELECTING AND INTERPRETING APPROPRIATE GEOPHYSICAL DATA, SURVEYING TO APPROPRIATE PROJECT ACCURACIES, AND USING PROFESSIONAL JUDGMENT TO CORRELATE THIRD-PARTY RECORDS OR OTHER INFORMATION, IF AVAILABLE, TO THESE QL-B DEPICTIONS.
6. QUALITY LEVEL "A" - QL-A - OBTAIN PRECISE HORIZONTAL AND VERTICAL POSITION OF THE UTILITY LINE BY EXCAVATING A TEST HOLE. THE TEST HOLE SHALL BE DONE USING VACUUM EXCAVATION OR COMPARABLE NON-DESTRUCTIVE EQUIPMENT IN A MANNER AS TO CAUSE NO DAMAGE TO UTILITY LINE. UNLESS OTHERWISE NOTED, ALL SIZES OF QL-A PIPES AND CONDUITS WILL BE PROVIDED AS OUTER DIAMETER (O.D.) RATHER THAN NOMINAL SIZE OR INSIDE DIAMETER.
7. RELIANCE UPON THIS DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES, POLICIES, AND/OR PROCEDURES DURING EXCAVATION.
8. IT IS IMPORTANT THAT THE CONTRACTOR INVESTIGATES AND UNDERSTANDS THE SCOPE OF WORK BETWEEN THE PROJECT OWNER AND THEIR ENGINEER REGARDING THE SCOPE AND LIMITS OF THE UTILITY INVESTIGATIONS LEADING TO THESE UTILITY DEPICTIONS.
9. EDGES OF DUCT BANK SHOWN ARE APPARENT BASED ON INTERPRETATION OF ELECTROMAGNETIC READINGS. ACTUAL DUCT BANK MAY BE LARGER DUE TO POSSIBLE CONCRETE ENCASEMENT NOT ABLE TO BE DETECTED BY ELECTROMAGNETIC METHODS. TEST HOLES REQUIRED FOR POSITIVE VERIFICATION OF ACTUAL EDGES.
10. UTILITIES SHOWN OUTSIDE OF PROJECT LIMITS ARE FOR REFERENCE ONLY. THESE UTILITIES ARE SHOWN FOR GENERAL INFORMATION USE DURING UTILITY COORDINATION, BUT THEY HAVE NOT BEEN VERIFIED AS BEING COMPLETE OR ACCURATE.
11. UTILITY SIZE AND TYPE ARE DETERMINED THROUGH AVAILABLE UTILITY OWNER INFORMATION OR FIELD OBSERVATIONS; UTILITIES LABELED AS UNKNOWN HAVE NO CORRELATED RECORDS OR VISIBLE APPURTENANCES TO DETERMINE FUNCTION OR TYPE.
12. UTILITY MAPPING WAS COMPLETED IN THE FIELD 11/16/2022. UTILITIES MAY HAVE BEEN CHANGED OR ADDED AFTER THIS DATE.
13. "END OF INFORMATION" (EOI) SIGNIFIES GEOPHYSICAL EQUIPMENT LOST THE SIGNAL OF THE TARGET UTILITY AND THE LINE WAS UNABLE TO BE DESIGNATED ANY FURTHER. LINES SHOWING AN EOI SYMBOL CONTINUE ON OR MAY STOP. POSITIVE VERIFICATION BY EXCAVATION IS REQUIRED TO CONFIRM PRESENCE BEYOND END OF SIGNAL.

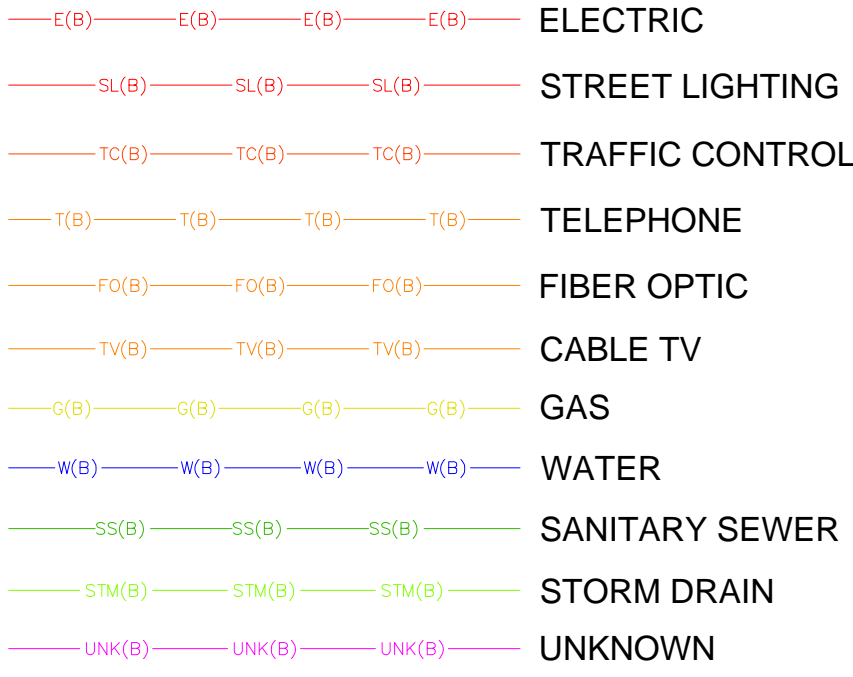
14. HORIZONTAL COORDINATE SYSTEM

NAD83 COLORADO STATE PLANES, CENTRAL ZONE, US FOOT

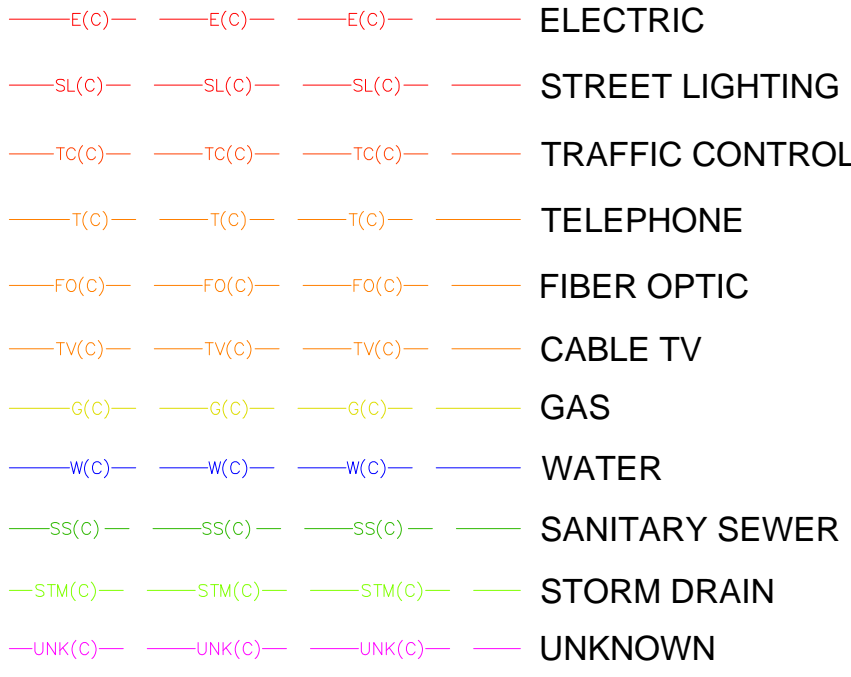
15. SAM, LLC. SUBMITTED THE FOLLOWING SUBSURFACE UTILITY ENGINEERING NOTIFICATION TICKETS:
A231300351-00A, A231300478-00A

16. UNLESS OTHERWISE NOTED THE FOLLOWING UTILITIES ARE OWNED AS SHOWN:

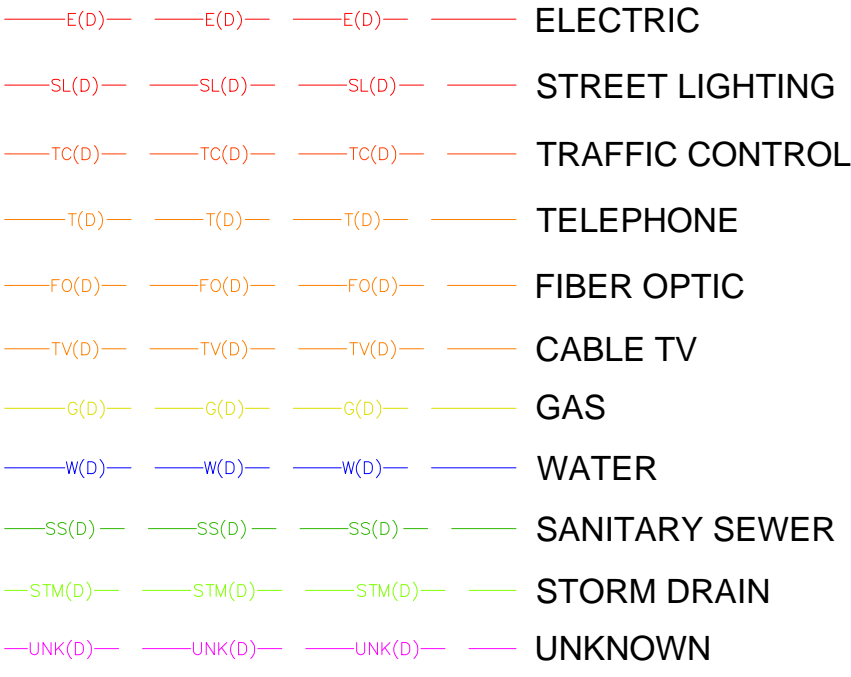
QUALITY LEVEL "B"



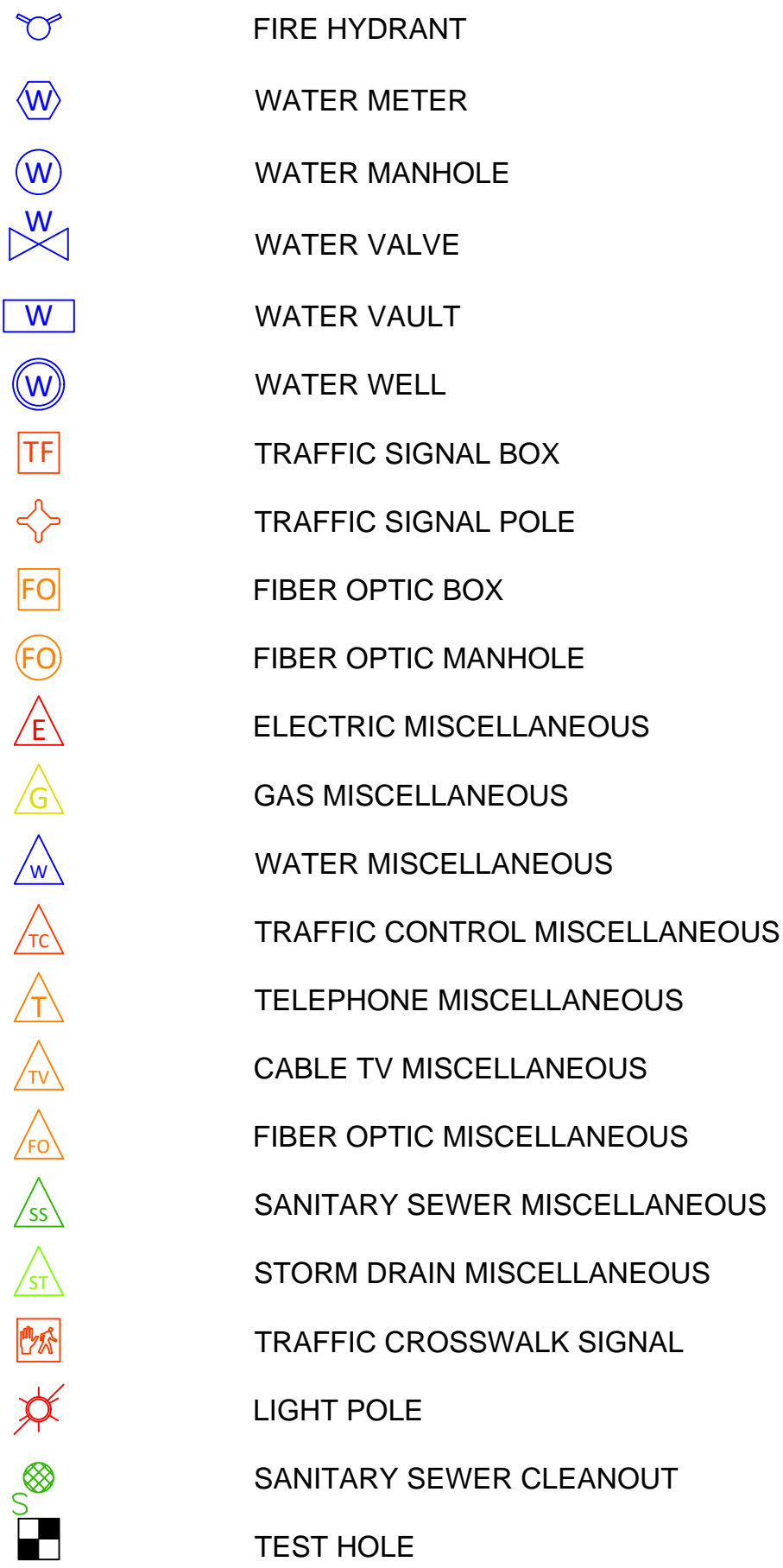
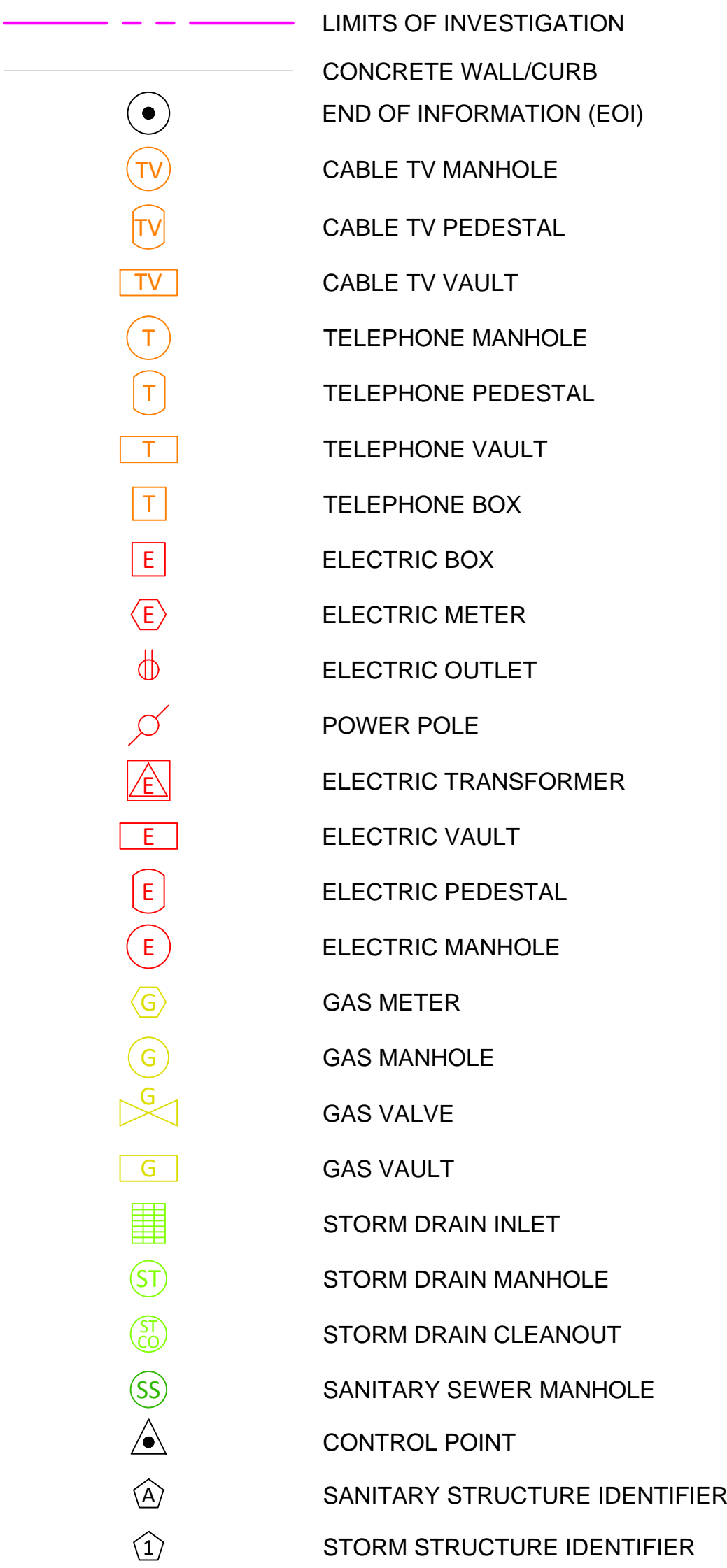
QUALITY LEVEL "C"



QUALITY LEVEL "D"



LEGEND



LIST OF ACRONYMS:

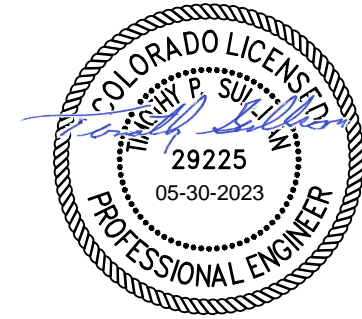
| | |
|------|-----------------------------|
| AC | ASBESTOS CEMENT |
| CIP | CAST IRON PIPE |
| CIPP | CURED-IN-PLACE PIPE |
| CMP | CORRUGATED METAL PIPE |
| COAX | COAXIAL CABLE |
| COND | CONDUIT |
| CSU | COLORADO SPRINGS UTILITIES |
| DBC | DIRECT BURIED CABLE |
| DIP | DUCTILE IRON PIPE |
| FBE | FUSION BONDED EPOXY |
| HDPE | HIGH DENSITY POLYETHYLENE |
| MATL | MATERIAL |
| MVEA | MOUNTAIN VIEW ELECTRIC ASSN |
| PE | POLYETHYLENE |
| PVC | POLYVINYL CHLORIDE |
| PR | PAIR |
| RCP | REINFORCED CONCRETE PIPE |
| SAMH | SANITARY SEWER MANHOLE |
| STL | STEEL |
| STMH | STORM SEWER MANHOLE |
| UNK | UNKNOWN |
| VCP | VITRIFIED CLAY PIPE |

Contact Sheet & Record Collection Status

73280 - Tutt Blvd. QL-B

| Utility Type | Utility Owner | Contact | Phone | E-mail |
|--------------------------------------------|--------------------------------|------------------|----------------|-------------------------------------|
| FIBER, TELCO | CENTURYLINK | Tammy Williams | (303) 332-4379 | Tammy.Williams@centurylink.com |
| FIBER, TELCO | WINDSTREAM/PAETEC | Brandi Stafford | (501) 351-0067 | brandi.stafford@windstream.com |
| FIBER, ELECTRIC, WATER, STORM SEWER, SEWER | CITY OF COLORADO SPRINGS - PUB | Susanna Dalsing | (719) 385-2207 | Susanna.Dalsing@ColoradoSprings.gov |
| ALL TYPE OF FACILITY POSSIBLE | COLORADO SPRINGS UTILITIES | Dustan F. | (719) 661-0397 | FIMSMRequest@csu.org |
| CATV & FIBER | COMCAST | Dale Stewart | (719) 306-2767 | Dale_Stewart@cable.comcast.com |
| STORM SEWER, ELECTRIC, DITCH WATER | EL PASO CO. DEPT. PUBLIC WORKS | Kevin Mastin | (719) 520-6460 | dotweb@elpasoco.com |
| CATV & FIBER | FALCON BROADBAND DBA STRATUSIQ | Sebastian Nutter | (719) 726-1064 | snutter@stratusiq.com |
| FIBER OPTIC | LEVEL 3 NOW CENTURYLINK | Ryan Rhodes | (866) 998-6688 | ryan.rhodes@centurylink.com |
| FIBER OPTIC | MCI | Lane Grady | (303) 827-9756 | lane.grady@verizon.com |
| FIBER OPTIC | PCI BROADBAND | N/A | (719) 264-1111 | uce@pcibroadband.net |
| FIBER OPTIC | ZAYO BANDWIDTH | James R. Black | (719) 216-8508 | jamesr.black@zayo.com |
| ELECTRIC & IRRIGATION | STETSON HILLS MASTER HOA | N/A | (719) 389-0700 | StetsonHillsMaster@eHammersmith.com |
| ELECTRIC | MOUNTAIN VIEW ELECTRIC | N/A | (719) 495-2283 | engineering@mvfa.coop |

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-22



TIMOTHY P. SULLIVAN, P.E. 29225
FOR AND ON BEHALF OF SAM, LLC

DATE

PROJECT: CLASSIC CONSULTING
TUTT BOULEVARD EXTENSION

| |
|----------------------------|
| JOB NUMBER: 1022073280 |
| DATE: 05/25/2023 |
| SCALE: NONE |
| ENGINEER: T. SULLIVAN |
| TECHNICIAN: D. BURTON |
| DRAWING: 73280_SUE_QLB.DWG |
| FIELD TECH: R. EMBORSKY |
| PARTY CHIEF: - |
| FIELD BOOKS: - |

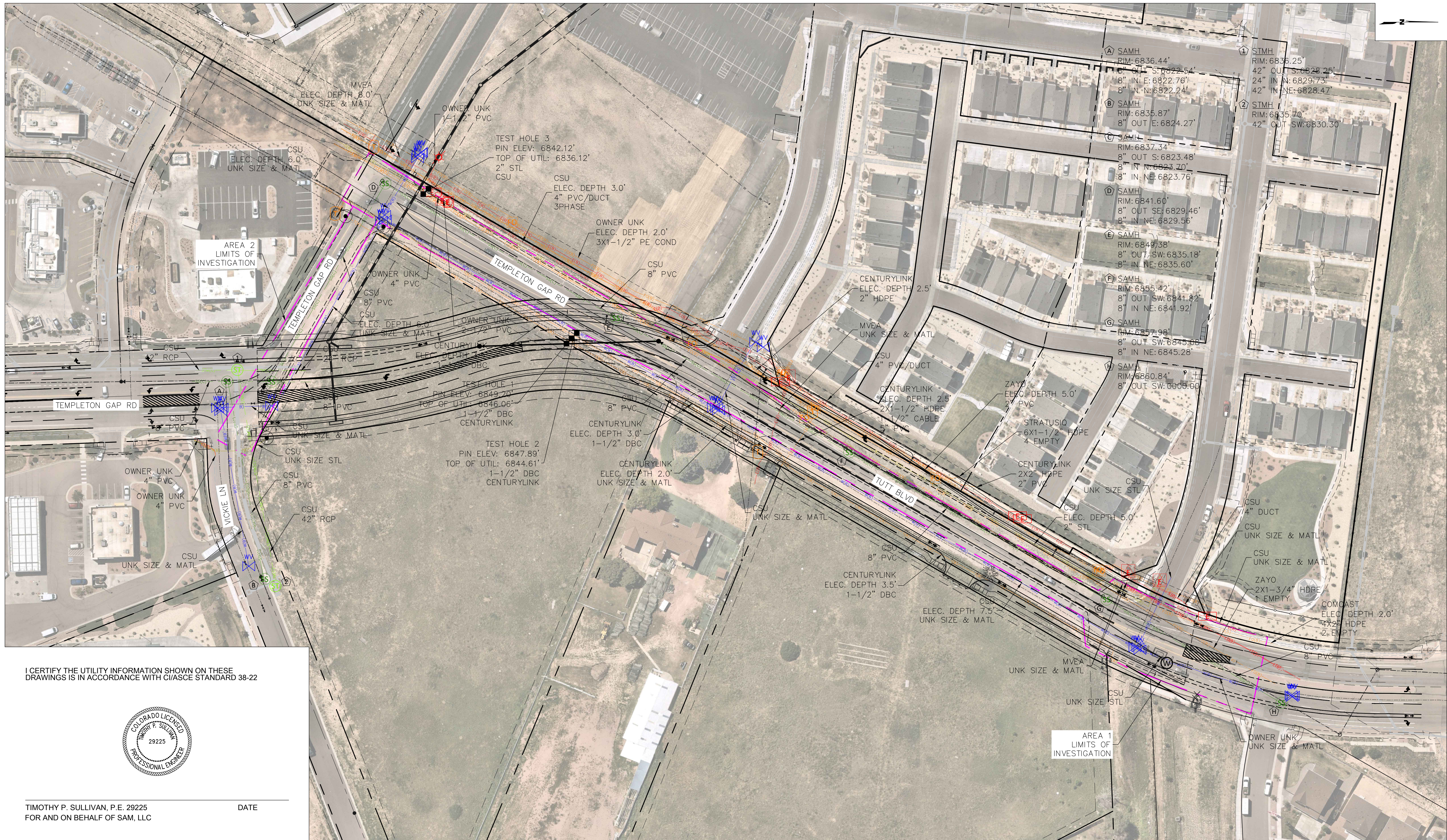
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| NO. | REVISIONS | BY | DATE |
|-----|-----------|----|------|

GENERAL NOTES AND LEGEND

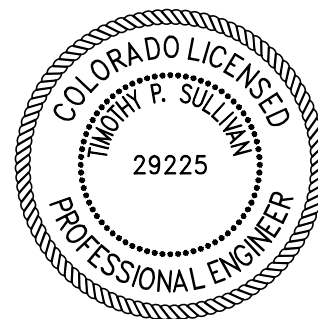
SHEET 2
OF 4



8300 E. Maplewood Ave.,
Suite 300
Greenwood Village, CO 80111
Ofc: 303.988.5852
Fax: 844.273.6169
Email: info@sam.biz



I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH C/ASCE STANDARD 38-22



TIMOTHY P. SULLIVAN, P.E. 29225
FOR AND ON BEHALF OF SAM, LLC

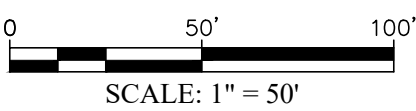
DATE



8300 E. Maplewood Ave.,
Suite 300
Greenwood Village, CO 80111
Ofc: 303.988.5852
Fax: 844.273.6169
Email: info@sam.biz

PROJECT: CLASSIC CONSULTING
TUTTLE BOULEVARD EXTENSION

JOB NUMBER: 1022073280
DATE: 05/25/2023
SCALE: 1"=50'
ENGINEER: T. SULLIVAN
TECHNICIAN: D. BURTON
DRAWING: 73280_SUE_QLB.DWG
FIELD TECH: R. EMBORSKY
PARTY CHIEF: -
FIELD BOOKS: -



| NO. | REVISIONS | BY | DATE |
|-----|-----------|----|------|
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PLAN SHEET

SHEET 3
OF 4



SURVEYING AND MAPPING LLC
8300 E. Maplewood Ave. Suite 300
Greenwood Village 80111
PH. 303-988-5852

Test Hole Summary

Project: Tutt Blvd. Extension
SAM, LLC Project # 1022073280 Prepared By:
Client: Classic Consulting Checked By: Tim Sullivan

State

COLORADO

City: Colorado Springs

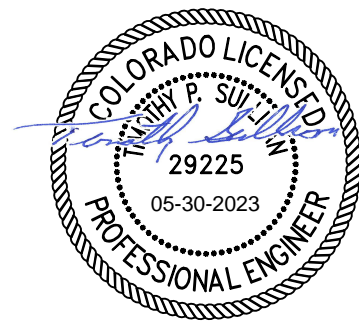
Client: Classic Consulting

Checked By: Tim Sullivan

| TH# | Utility Expected | Utility Found | Utility Owner | Northing | Easting | Elev. Existing Ground | Elev. Top of Utility | Depth of Cover | NOTES |
|-----|------------------|--------------------|---------------|-------------|-------------|-----------------------|----------------------|----------------|-------|
| 1 | COMMUNICATION | 1.5" DBC TELEPHONE | CENTURYLINK | 1399597.511 | 3223263.565 | 6849.198' | 6846.06 | 3.14' | |
| 2 | COMMUNICATION | 1.5" DBC TELEPHONE | CENTURYLINK | 1399603.426 | 3223257.466 | 6847.894' | 6844.61 | 3.28' | |
| 3 | GAS | 2" STL GAS | CSU | 1399429.157 | 3223087.756 | 6842.117' | 6836.12 | 6.00' | |

*Note
Unit of Measurement is US FOOT
See General Notes for Coordinate Information
CSU - Colorado Springs Utilities
DBC - Direct Buried Cable
STL - Steel

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE
DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-22



TIMOTHY P. SULLIVAN, P.E. 29225
FOR AND ON BEHALF OF SAM, LLC

DATE

PROJECT: CLASSIC CONSULTING
TUTT BOULEVARD EXTENSION

JOB NUMBER: 1022073280
DATE: 05/25/2023
SCALE: NONE
ENGINEER: T. SULLIVAN
TECHNICIAN: D. BURTON
DRAWING: 73280_SUE_QLB.DWG
FIELD TECH: R. EMBORSKY
PARTY CHIEF: -
FIELD BOOKS: -

| | | | |
|-----|-----------|----|------|
| NO. | REVISIONS | BY | DATE |
|-----|-----------|----|------|

TEST HOLE DATA

SHEET 4
OF 4



8300 E. Maplewood Ave.,
Suite 300
Greenwood Village, CO 80111
Ofc: 303.988.5852
Fax: 844.273.6169
Email: info@sam.biz

TUTT BLVD EXTENSION - PHASE 2

CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO

GRADING AND EROSION CONTROL PLAN

AUGUST 2022

GENERAL NOTES:

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE SITE. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NON-EXISTENCE OF OR A DEFINITE LOCATION OF THE EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES, BUILDINGS, FENCES AND ROADWAYS FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE ABOVE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- GRADING SHALL BE COMPLETED TO A SUBGRADE TOLERANCE OF PLUS OR MINUS 0.2'.
- CONTRACTOR SHALL OBTAIN COPIES OF THE SOILS REPORT FROM THE GEOTECHNICAL ENGINEER AND THEY SHALL BE KEPT ON-SITE DURING ALL EARTHWORK OPERATIONS.
- THE SITE SHALL BE STRIPPED A MINIMUM OF 0.5' BELOW EXISTING GRADE, OR AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ONLY APPLICABLE IN PREVIOUSLY UNDISTURBED AREAS. AREA OF PROPOSED DETAILED GRADING HAS ALREADY BEEN DISTURBED.
- MAXIMUM CUT/FILL SLOPES SHALL NOT EXCEED 3:1, UNLESS OTHERWISE NOTED.
- DUST CONTROL SHALL BE SUPPLIED BY THE GRADING CONTRACTOR THROUGH THE DURATION OF OVERLOT GRADING ACTIVITIES PER THE COUNTY HEALTH DEPARTMENT SPECIFICATIONS.

EROSION CONTROL CRITERIA

- EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT PROPERTIES AND PUBIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES WITHIN THE PROJECT AREA.
- UPON COMPLETION OF GRADING OPERATIONS, LOCATE AND SET THE SILT FENCES AS SHOWN ON THE EROSION CONTROL PLAN. AT THIS TIME, RESEED ALL DISTURBED AREAS WITH AN ACCEPTABLE SEED MIX.
- THE SILT FENCES SHALL BE KEPT IN PLACE AND MAINTAINED UNTIL EROSION AND SEDIMENTATION POTENTIAL IS MITIGATED. REMOVAL OF SILT AND SEDIMENT COLLECTED BY THE SILT FENCES IS REQUIRED ONCE IT REACHES HALF THE HEIGHT OF THE SILT FENCES.
- EROSION CONTROL DEVICES SHOULD BE CHECKED AFTER EVERY STORM, REPAIRS OR REPLACEMENT SHOULD BE MADE AS NECESSARY TO MAINTAIN PROPER PROTECTION.

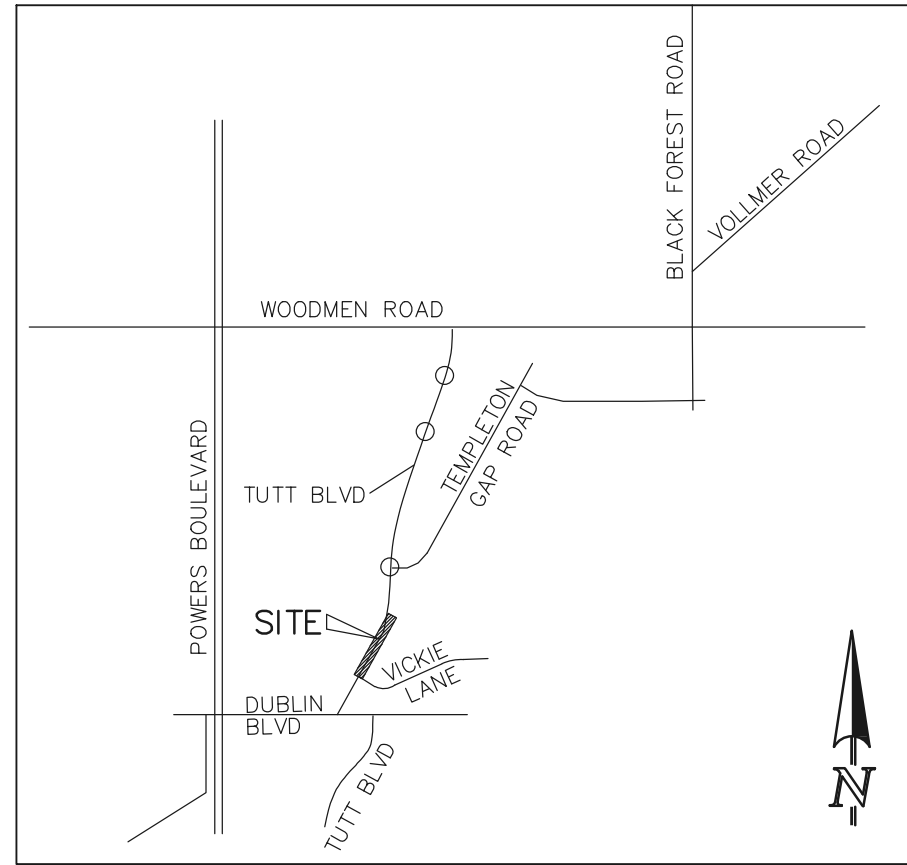
STANDARD GRADING AND EROSION CONTROL PLAN NOTES

- NO CLEARING, GRADING, EXCAVATION, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE ALLOWED (EXCEPT FOR WORK DIRECTLY RELATED TO THE INSTALLATION OF INITIAL CONTROL MEASURES) UNTIL A CITY GEC PERMIT HAS BEEN ISSUED.
- ALL LAND DISTURBING ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH AND THE APPROVED GEC PLAN AND CSWMP.
- INITIAL CONTROL MEASURES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY LAND DISTURBANCE ACTIVITIES TAKING PLACE. AN INITIAL SITE INSPECTION WILL NOT BE SCHEDULED UNTIL A CITY GEC PERMIT HAS BEEN "CONDITIONALLY APPROVED." CALL CITY STORMWATER INSPECTIONS, 385-5980, AT LEAST 48 HOURS PRIOR TO CONSTRUCTION TO SCHEDULE AN INITIAL INSPECTION AND OBTAIN FULL PERMIT APPROVAL.
- INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), INCLUDING REGULATIONS PROMULGATED AND CERTIFICATIONS OR PERMITS ISSUED, IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE CITY'S MS4 PERMIT, STORMWATER CONSTRUCTION MANUAL. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS.
- ALL CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION MEASURES ARE IMPLEMENTED. TEMPORARY CONSTRUCTION CONTROL MEASURES MUST BE REMOVED PRIOR TO PERMIT CLOSEOUT.
- CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS OR ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONSTRUCTION CONTROL MEASURES MAY BE REQUIRED BY THE GEC INSPECTOR IF DEEMED NECESSARY BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).
- ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- THE PERMITTEE SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AS A RESULT OF CONSTRUCTION ACTIVITIES.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO THE STORM SEWER SYSTEM AT ANY TIME.
- SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT ALL STORAGE, EQUIPMENT FUELING, AND EQUIPMENT SERVICING AREAS SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITY. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT ADEQUATE PROTECTION. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.
- SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED AS SOON AS POSSIBLE AFTER DISCOVERY.
- NO CHEMICALS ARE TO BE ADDED TO THE DISCHARGE UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED BY THE STATE. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER FINAL GRADING OR FINAL LAND DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS SHALL BE ROUGHENED, MULCHED, TACKIFIED, OR STABILIZED WITH TARPS WITHIN FOURTEEN (14) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDED, UNLESS AN ALTERNATIVE STABILIZATION MEASURE IS ACCEPTED AT THE INSPECTOR'S DISCRETION. ALL TEMPORARY CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED.
- THE GEC PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE STORMWATER ENTERPRISE SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY'S ACCEPTANCE OF THE PLAN, THE CONSTRUCTION SITE IS IDLE FOR TWELVE (12) CONSECUTIVE MONTHS, A CHANGE IN PROPERTY OWNERSHIP OCCURS, THE PLANNED DEVELOPMENT CHANGES, OR ANY OTHER MAJOR MODIFICATIONS ARE PROPOSED AS DEFINED IN THE STORMWATER CONSTRUCTION MANUAL.
- IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY UTILITY EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL FROM THE UTILITY OWNER. CITY ACCEPTANCE OF THE GEC PLAN AND CSWMP DOES NOT SATISFY THIS REQUIREMENT. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS SHALL BE AT THE APPLICANT'S EXPENSE.
- APPLICANT REPRESENTS AND WARRANTS THAT THEY HAVE THE LEGAL AUTHORITY TO GRADE AND/OR CONSTRUCT IMPROVEMENTS ON ADJACENT PROPERTY. THE CITY HAS NOT REVIEWED THE DEVELOPER'S AUTHORITY TO MODIFY ADJACENT PROPERTY. AN APPROVED GEC PERMIT DOES NOT PROVIDE APPROVAL FOR THE APPLICANT TO PERFORM WORK ON ADJACENT PROPERTY.
- ALL UTILITY INSTALLATIONS WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE COVERED UNDER THIS PLAN. LOCATIONS OF UTILITIES WITHIN THE LIMITS OF DISTURBANCE MAY BE MODIFIED AFTER PLAN APPROVAL AS A FIELD CHANGE. UTILITY INSTALLATIONS RELATED TO THE PRIVATE DEVELOPMENT THAT EXTEND BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE CONSIDERED TO BE PART OF THE LARGER DEVELOPMENT, AND THEREFORE REQUIRE A PLAN MODIFICATION OR SEPARATE PLAN FOR THE ADDITIONAL DISTURBANCE AREA.

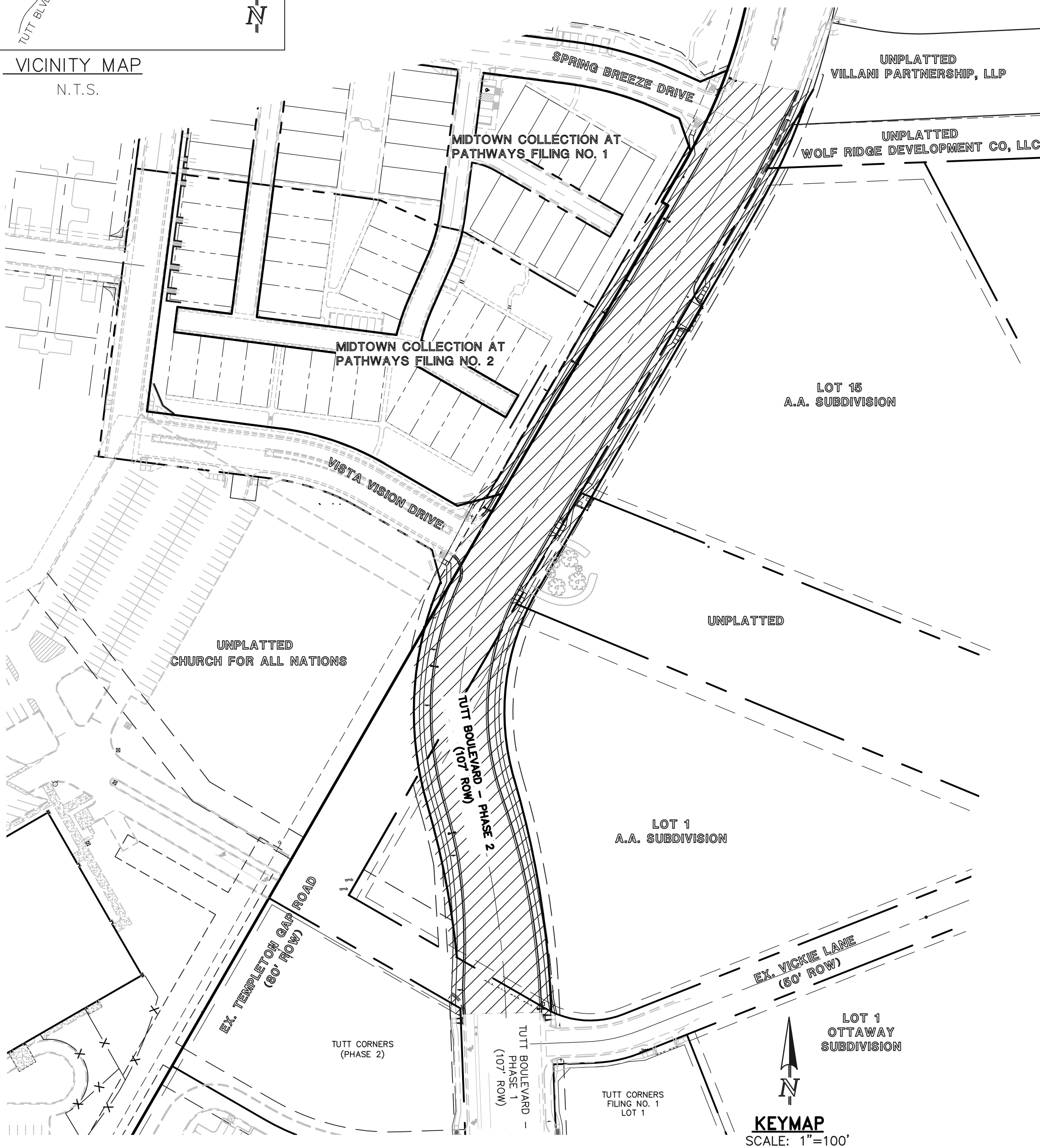
TIMING:
ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: **MARCH 2023**
ANTICIPATED END OF LAND DISTURBANCE TIME PERIOD: **MAY 2023**
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED: **OCTOBER 2023**

AREAS:
TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED: **4.30 ACRES**

RECEIVING WATERS:
NAME OF RECEIVING WATERS: **COTTONWOOD CREEK BASIN**
ULTIMATE RECEIVING WATERS: **MONUMENT CREEK**



VICINITY MAP
N.T.S.



KEYMAP
SCALE: 1"=100'

NOTES:

THE AVERAGE SOIL CONDITION REFLECTS HYDROLOGIC GROUP A (BLAKELAND LOAMY SAND) AS DETERMINED BY THE "NRCS WEB SOIL SURVEY".

NO PORTION OF THIS SITE IS LOCATED WITHIN A FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE RATE MAP (F.I.R.M.) MAP NUMBER 08041C 0537G EFFECTIVE DATE, DECEMBER 7, 2018.

EXISTING VEGETATION CONSISTS OF PATCHED ASPHALT ROADWAY WITH GRAVEL SHOULDERS.

EMERGENCY OVERFLOW FOR INLETS IN THE INTERIM UNTIL CURB AND ASPHALT IS INSTALLED WILL BE TO CONTAIN FLOWS WITHIN PUBLIC ROADWAY TO DOWNSTREAM STORM FACILITIES.

STOCKPILE LOCATION FOR THIS PROPERTY TO BE LOCATED BY THE CONTRACTOR AND ADDED TO THE GEC UPON DETERMINATION.

LIMITS OF DISTURBANCE FOR THIS PLAN INCLUDE ASPHALT REMOVAL, GRADING FOR ESTABLISHMENT OF NEW ROADWAY SECTION AS SHOWN AND STORM SEWER INSTALL.

LOCATION OF STORAGE FOR MAINTENANCE EQUIPMENT, CONCRETE WASHOUT, AND TEMPORARY DISPOSAL AREAS WILL BE ADDED TO THIS PLAN BY SWMP ADMINISTRATOR UPON COORDINATION WITH SELECTED CONTRACTOR.

PROPOSED RETAINING WALLS TO BE DESIGNED AND PERMITTED BY OTHERS, IF APPLICABLE.

STAGING AREAS TO BE LOCATED BY THE CONTRACTOR AND ADDED TO THE CSWMP UPON DETERMINATION.

ASPHALT, CONCRETE BATCH PLANTS, AND MASONRY MIX STATIONS WILL NOT BE USED ON THIS SITE.

NON-STRUCTURAL CONTROL MEASURES TO BE USED ON THIS SITE INCLUDE EXISTING ASPHALT SWEEPING.

THIS SITE IS NOT LOCATED IN A CITY STREAMSIDE OR HILLSIDE OVERLAY.

NO PRESERVATION EASEMENTS EXIST ON SITE.

NO GEOLOGIC HAZARDS EXIST ON SITE.

AGENCIES

| | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CITY ENGINEERING: | CITY OF COLORADO SPRINGS PUBLIC WORKS DEPARTMENT 30 S. NEVADA AVENUE, SUITE 403 COLORADO SPRINGS, CO 80903 MR. MIKE CHAVES, P.E. (719) 385-5408 |
| CIVIL ENGINEER: | CLASSIC CONSULTING ENGINEERS & SURVEYORS 6385 CORPORATE DRIVE, SUITE 101 COLORADO SPRINGS, CO 80919 MR. MARC A. WHORTON, P.E. (719) 785-0790 |
| TRAFFIC ENGINEERING: | CITY OF COLORADO SPRINGS 30 S. NEVADA AVENUE COLORADO SPRINGS, COLORADO 80903 MR. TODD FRISBIE P.E. P.T.O.E. (719) 385-7628 |
| EDRD ENGINEERING: | CITY OF COLORADO SPRINGS 30 S. NEVADA AVENUE, SUITE 401 COLORADO SPRINGS, COLORADO 80903 MS. ERIN POWERS, (719) 385-5852 |
| COLORADO SPRINGS UTILITIES | PLANNING & ENGINEERING 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, COLORADO 80910 MR. DREW MAKINGS, (719) 668-8127 (WATER) AND (WASTEWATER) |
| FIELD ENGINEERING GAS: | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE COLORADO SPRINGS, COLORADO 80903 MR. TIM BENEDICT, (719) 668-4985 |
| FIELD ENGINEERING ELEC: | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE COLORADO SPRINGS, COLORADO 80920 MR. TIM BENEDICT, (719) 668-4985 |
| FIRE DEPARTMENT: | CITY OF COLORADO SPRINGS FIRE PREVENTION DIVISION 2880 INTERNATIONAL CIRCLE - SUITE 200 COLORADO SPRINGS, COLORADO 80910 MS. DEE WITHEE (719) 385-7361 |
| TELEPHONE COMPANY: | CENTURY LINK COMMUNICATIONS (LOCATORS) (800) 922-1987 |

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, WELFARE, OR STABILITY OF PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROPERTY.

MARC A. WHORTON, COLORADO P.E. #37155
(719) 785-0790
PHONE

CITY PROJECT MANAGER'S STATEMENT:

I HEREBY CERTIFY THAT THE DRAINAGE, GRADING AND EROSION CONTROL FOR TUTT BLVD. EXTENSION - PHASE 2 SHALL BE CONSTRUCTED ACCORDING TO THE DESIGN PRESENTED IN THIS GRADING AND EROSION CONTROL PLAN. I FURTHER UNDERSTAND THAT FIELD CHANGES MUST BE REVIEWED BY THE SWENT REVIEW ENGINEER TO ENSURE CONFORMANCE WITH THE ORIGINAL DESIGN INTENT. I AM EMPLOYED BY AND PERFORM ENGINEERING SERVICES SOLELY FOR THE CITY OF COLORADO SPRINGS AND THEREFORE AM EXEMPT FROM COLORADO REVISED STATUTE TITLE 12, ARTICLE 25, PART 1 ACCORDING TO 12-25-103(1), C.R.S.

MR. MIKE CHAVES
NAME OF CITY PROJECT MANAGER
Mike Chaves
SIGNATURE
1/26/2023
DATE

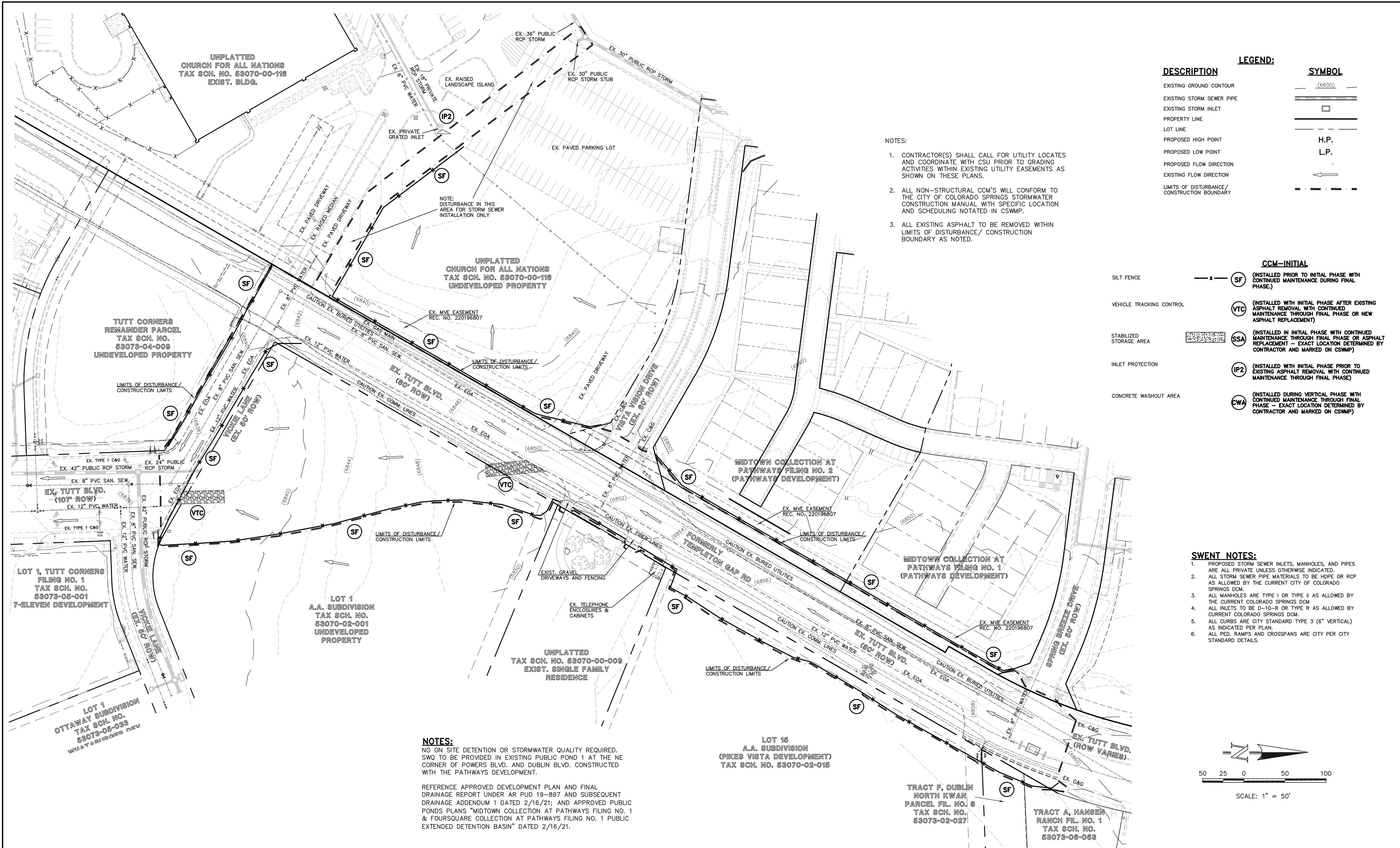
CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL REVIEW

THIS GRADING AND EROSION CONTROL PLAN IS FILED IN ACCORDANCE WITH CITY CODE. THIS PLAN IS REVIEWED IN ACCORDANCE WITH THE STORMWATER CONSTRUCTION MANUAL, LATEST REVISIONS.

Emile Wang
FOR THE SWENT MANAGER
22 030 22 1032
NOTES
2/3/2023
DATE

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| 48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS 811 UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. | NO. REVISION 1 REVISED PER CITY COMMENTS DATE 10/3/22 | REVIEW: PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC 1/26/2023 DATE MARC A. WHORTON, COLORADO P.E. #37155 | CLASSIC CONSULTING ENGINEERS & SURVEYORS 619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903 (719) 785-0790 (719) 785-0799 (fax) | TUTT BLVD EXTENSION PHASE 2 GRADING & EROSION CONTROL PLANS TITLE SHEET DESIGNED BY MAW SCALE (H) 1"= N/A DATE 8/18/22 DRAWN BY MAW (V) 1"= N/A SHEET 1 OF 4 CHECKED BY JOB NO. 2467.16 |
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NOTES:
NO ON SITE DETENTION OR STORMWATER QUALITY REQUIRED.
SWQ TO BE PROVIDED IN EXISTING PUBLIC POND 1 AT THE NE CORNER OF POWERS BLVD. AND DUBLIN BLVD. CONSTRUCTED WITH THE PATHWAYS DEVELOPMENT.
REFERENCE APPROVED DEVELOPMENT PLAN AND FINAL DRAINAGE REPORT UNDER AR PUD 19-897 AND SUBSEQUENT DRAINAGE ADDENDUM 1 DATED 2/16/21; AND APPROVED PUBLIC PONDS PLANS "MIDTOWN COLLECTION AT PATHWAYS FILING NO. 1 & FOURSQUARE COLLECTION AT PATHWAYS FILING NO. 1 PUBLIC EXTENDED DETENTION BASIN" DATED 2/16/21.

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811
UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

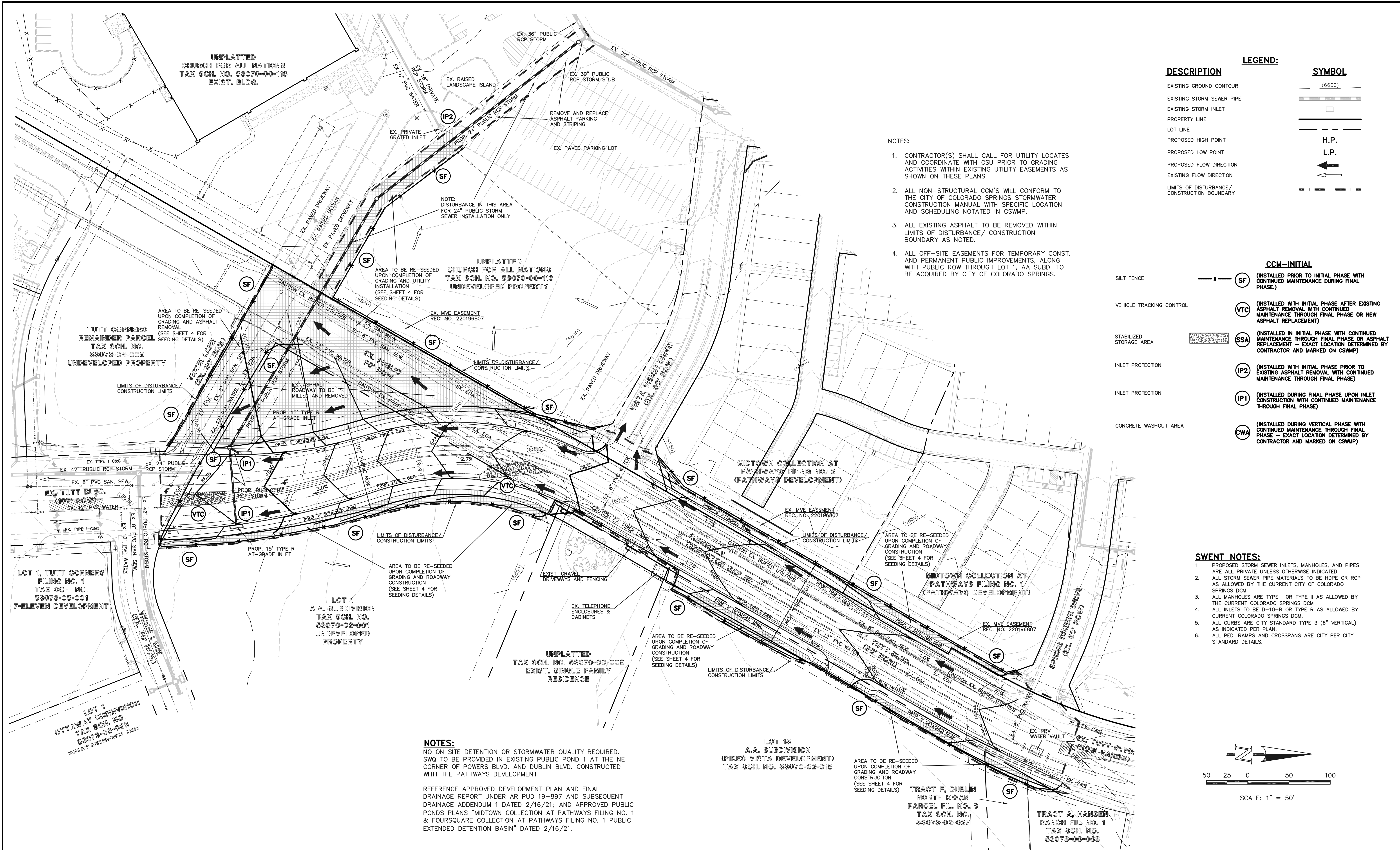
| NO. | REVISION | DATE |
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| 1 | REVISED PER CITY COMMENTS | 10/3/22 |
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REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC
MARC A. WHORTON, COLORADO REGISTERED PROFESSIONAL ENGINEER #37155
1/26/2023
DATE

CLASSIC
CONSULTING
ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719) 785-0790
(719) 785-0799 (Fax)

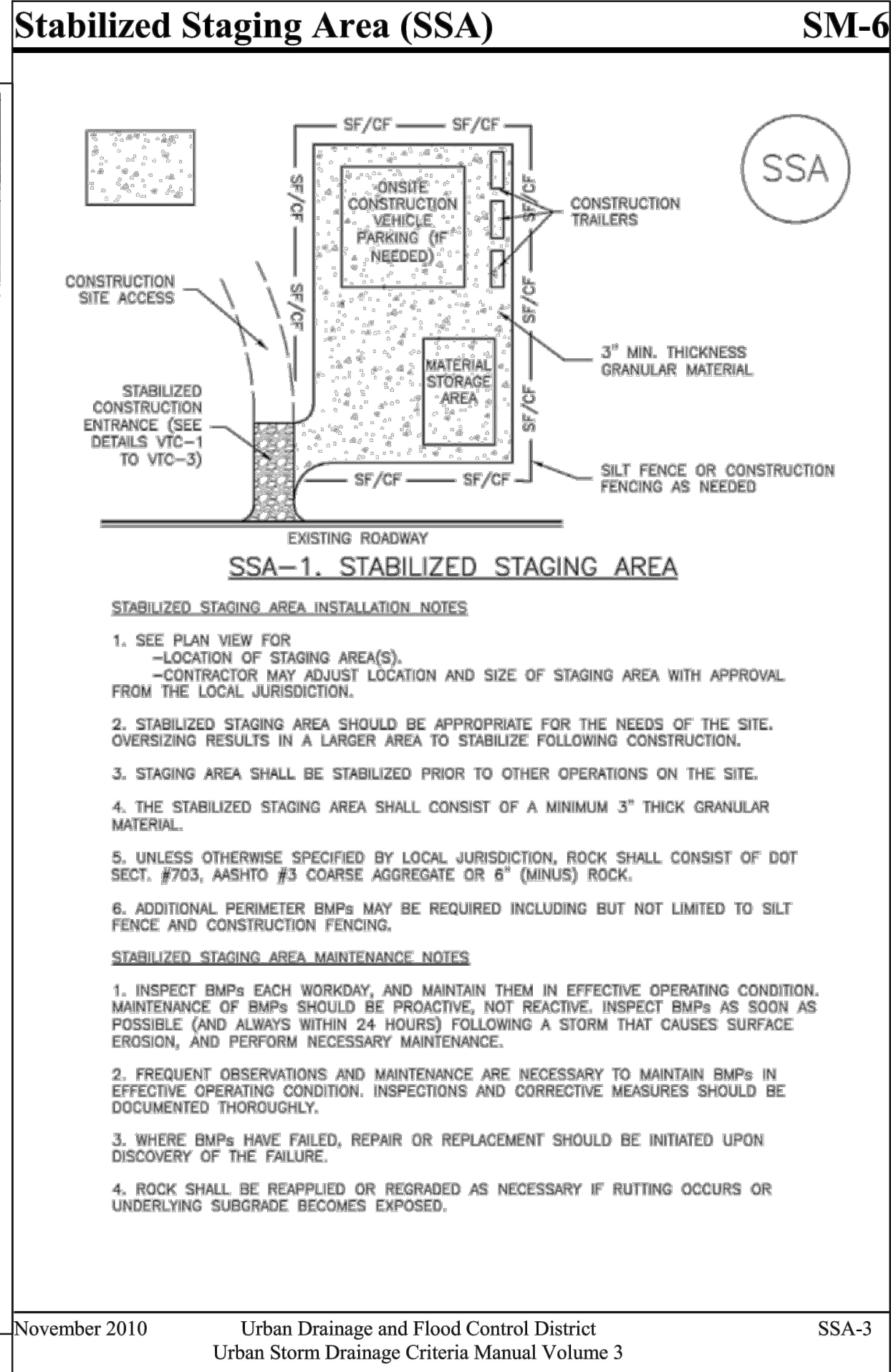
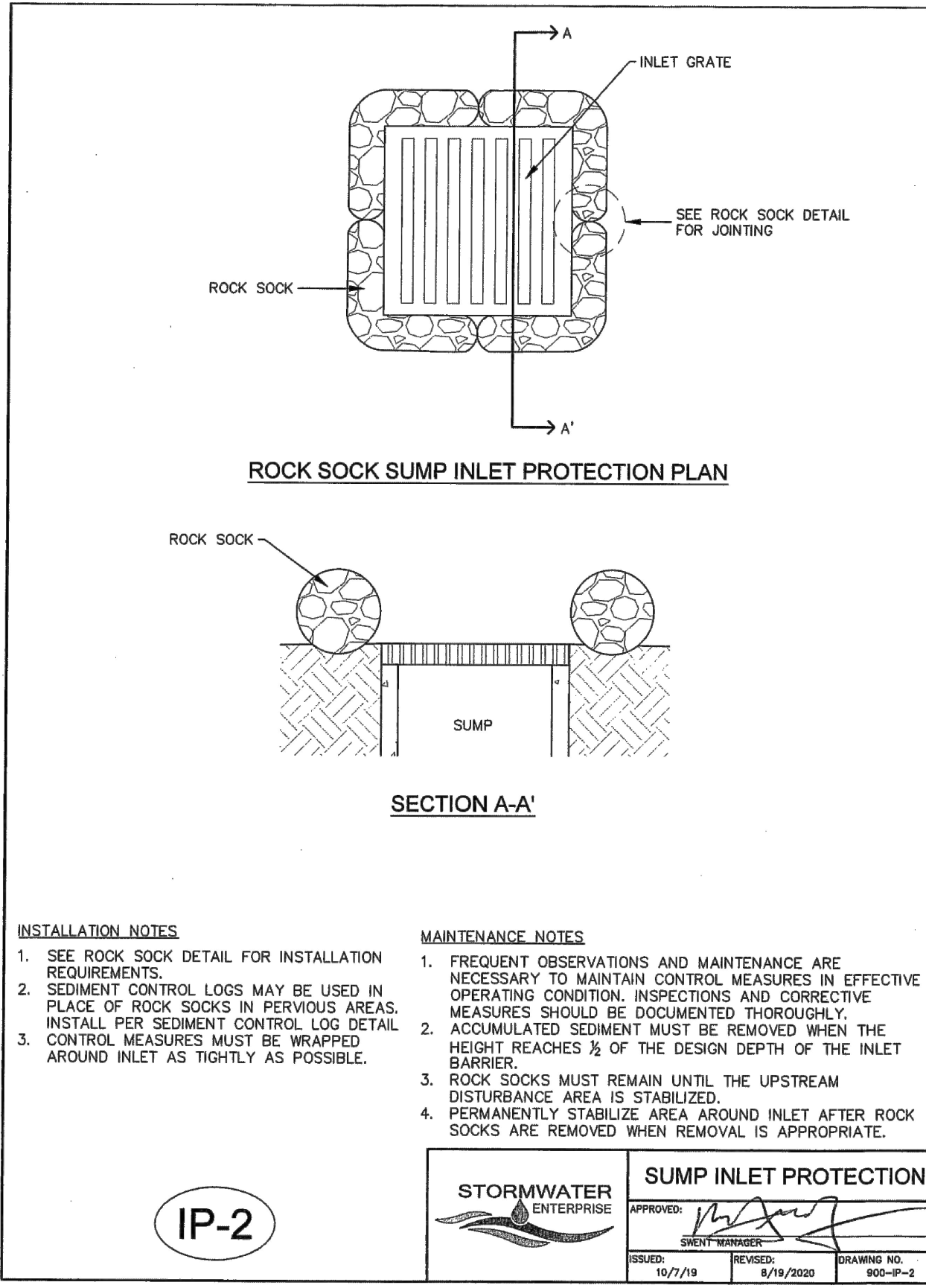
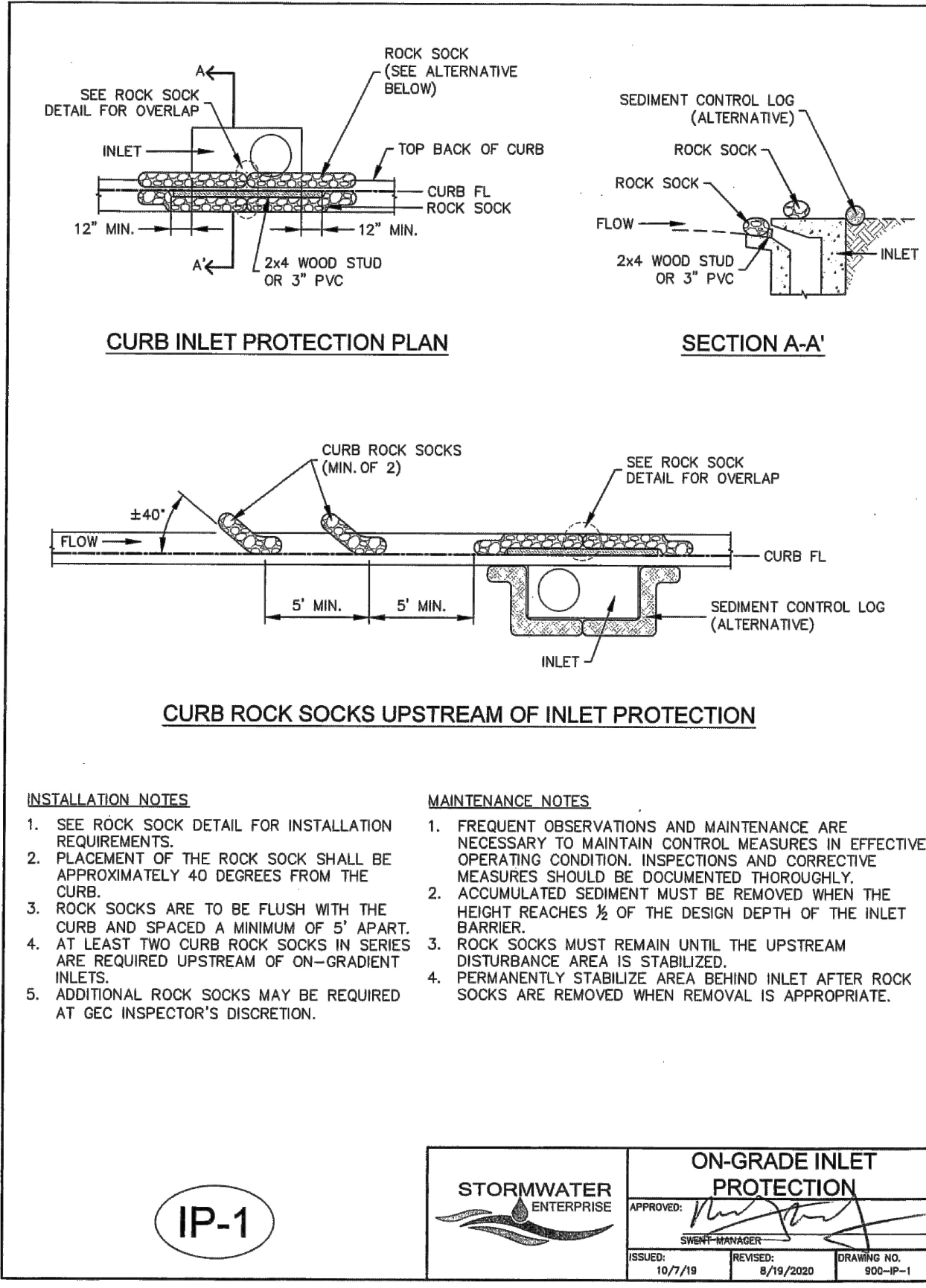
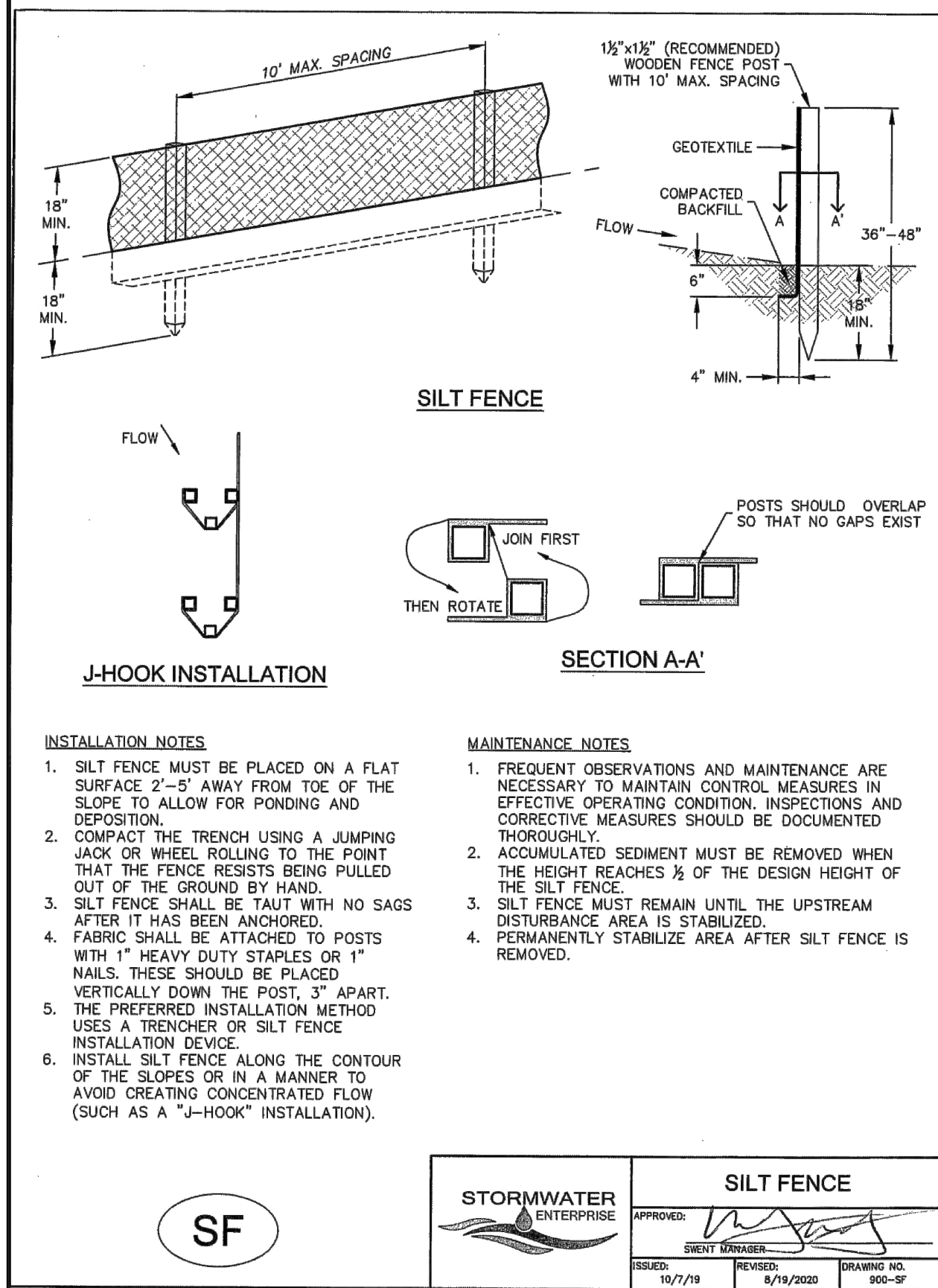
**TUTT BLVD EXTENSION
PHASE 2
GRADING & EROSION CONTROL PLAN
INITIAL PHASE**
DESIGNED BY: MAW SCALE: DATE: 8/18/22
DRAWN BY: MAW (H) 1"= 50' SHEET 2 OF 4
CHECKED BY: (V) 1"= N/A JOB NO. 2467.16

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| <div>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS</div> <div>811</div> <div>UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW</div> <div>THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.</div> | NO. REVISION | | DATE | REVIEW: | <div></div> <div>MARC A. WHORTON, COLORADO PROFESSIONAL ENGINEER #37155</div> <div>DATE 1/26/2023</div> | <div></div> <div>619 N. Cascade Avenue, Suite 200 (719) 785-0790 Colorado Springs, Colorado 80903 (719) 785-0799 (Fax)</div> | TUTT BLVD EXTENSION | | | |
| | 1 REVISED PER CITY COMMENTS | | 10/3/22 | PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC | | | PHASE 2 | | | |
| | | | | | | | GRADING & EROSION CONTROL PLAN | | | |
| | | | | | | | FINAL PHASE | | | |
| | | | | | | | | | | |
| | | | | | DESIGNED BY | MAW | SCALE | DATE | 8/18/22 | |
| | | | | | DRAWN BY | MAW | (H) 1"= 50' | SHEET | 3 OF 4 | |
| | | | | | CHECKED BY | | (V) 1"= N/A | JOB NO. | 2467.16 | |

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STABILIZED STAGING AREA MAINTENANCE NOTES

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

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

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

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

Chapter 5
Native Vegetation Requirements and Guidelines

Table 5-1. El Paso County Conservation District All-Purpose Mix for Upland, Transition and Permanent Control Measure Areas

| Common Name | Scientific Name | Growth Season / Form | % of Mix | Pounds PLS | | |
|--------------------------|---------------------------------|----------------------|----------|--------------------------------------------------|---------------------------------------------------------------------------------|-------------------------|
| | | | | • Irrigated broadcast • Irrigated hydroseeded | • Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled | • Non-irrigated drilled |
| Bluestem, big | <i>Andropogon gerardi</i> | Warm, sod | 20 | 4.4 | 2.2 | 1.1 |
| Gramma, blue | <i>Bouteloua gracilis</i> | Warm, bunch | 10 | 0.5 | 0.25 | 0.13 |
| Green needlegrass | <i>Nassella viridula</i> | Cool, bunch | 10 | 2 | 1 | 0.5 |
| Wheatgrass, western | <i>Pascopyrum smithii</i> | Cool, sod | 20 | 6.4 | 3.2 | 1.6 |
| Gramma, sidecoats | <i>Bouteloua curtipendula</i> | Warm, bunch | 10 | 2 | 1 | 0.5 |
| Switchgrass | <i>Panicum virgatum</i> | Warm, bunch/sod | 10 | 0.8 | 0.4 | 0.2 |
| Prairie sandreed | <i>Calamagrostis longifolia</i> | Warm, sod | 10 | 1.2 | 0.6 | 0.3 |
| Yellow Indiangrass | <i>Sorghastrum nutans</i> | Warm, sod | 10 | 2 | 1 | 0.5 |
| Seed rate (lbs PLS/acre) | | | | 19.3 | 9.7 | 4.8 |

*For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock wetland plants 2-foot on-center is recommended for sites with wetland hydrology.

*Species that will do well in the bottom of pond areas.

City of Colorado Springs
Stormwater Enterprise

5-11

Stormwater Construction Manual
December 2020

Chapter 5
Native Vegetation Requirements and Guidelines

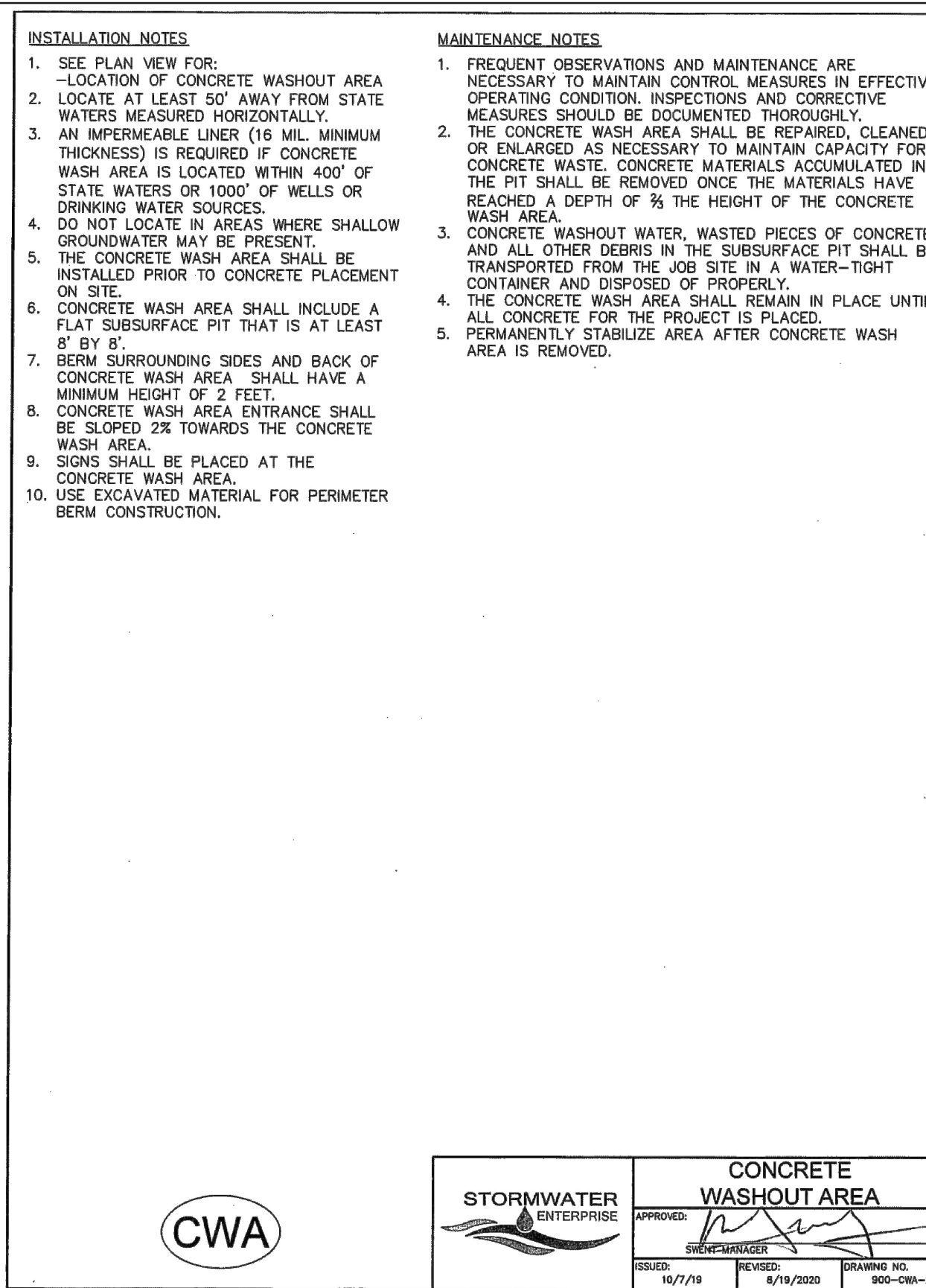
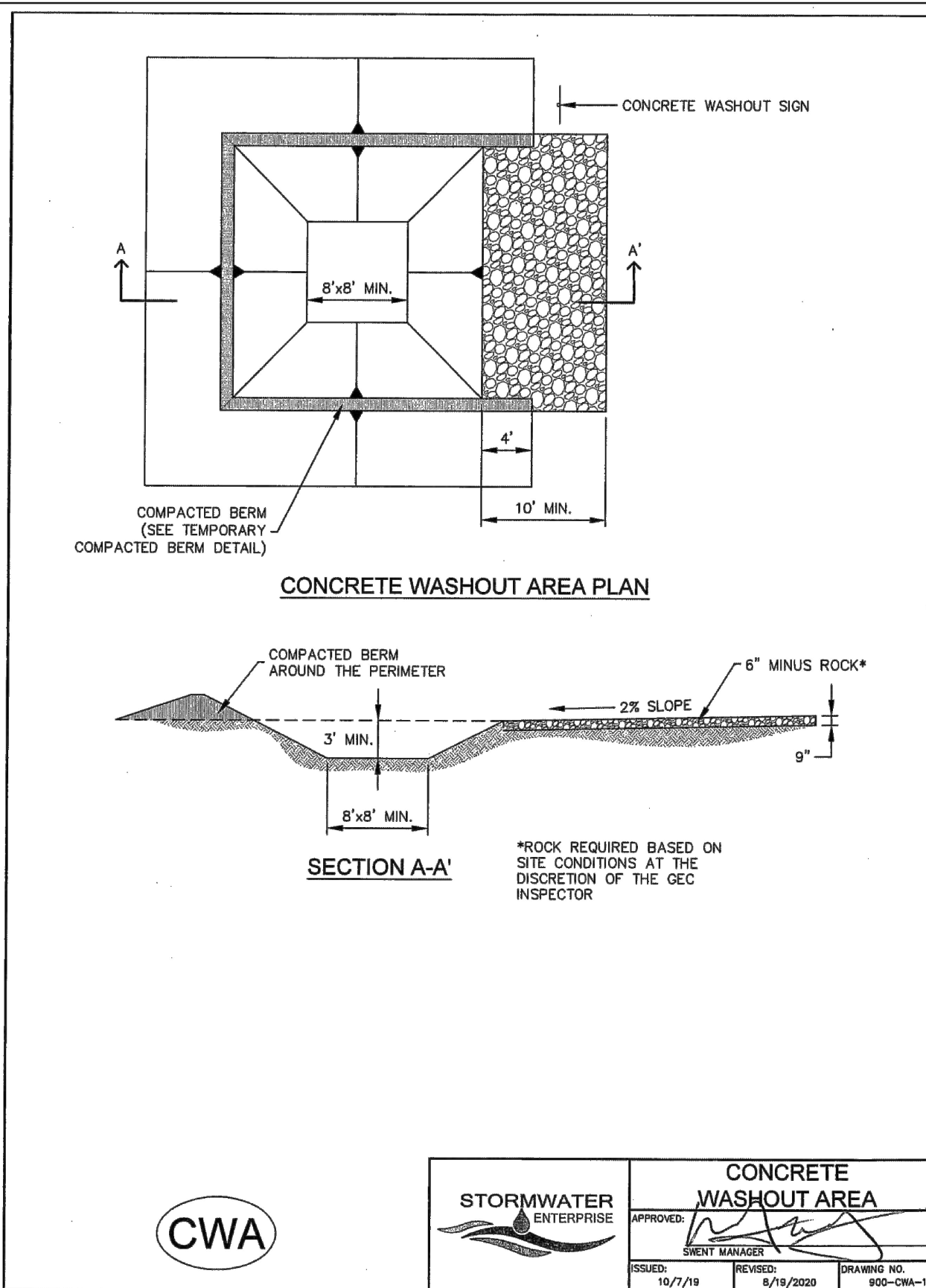
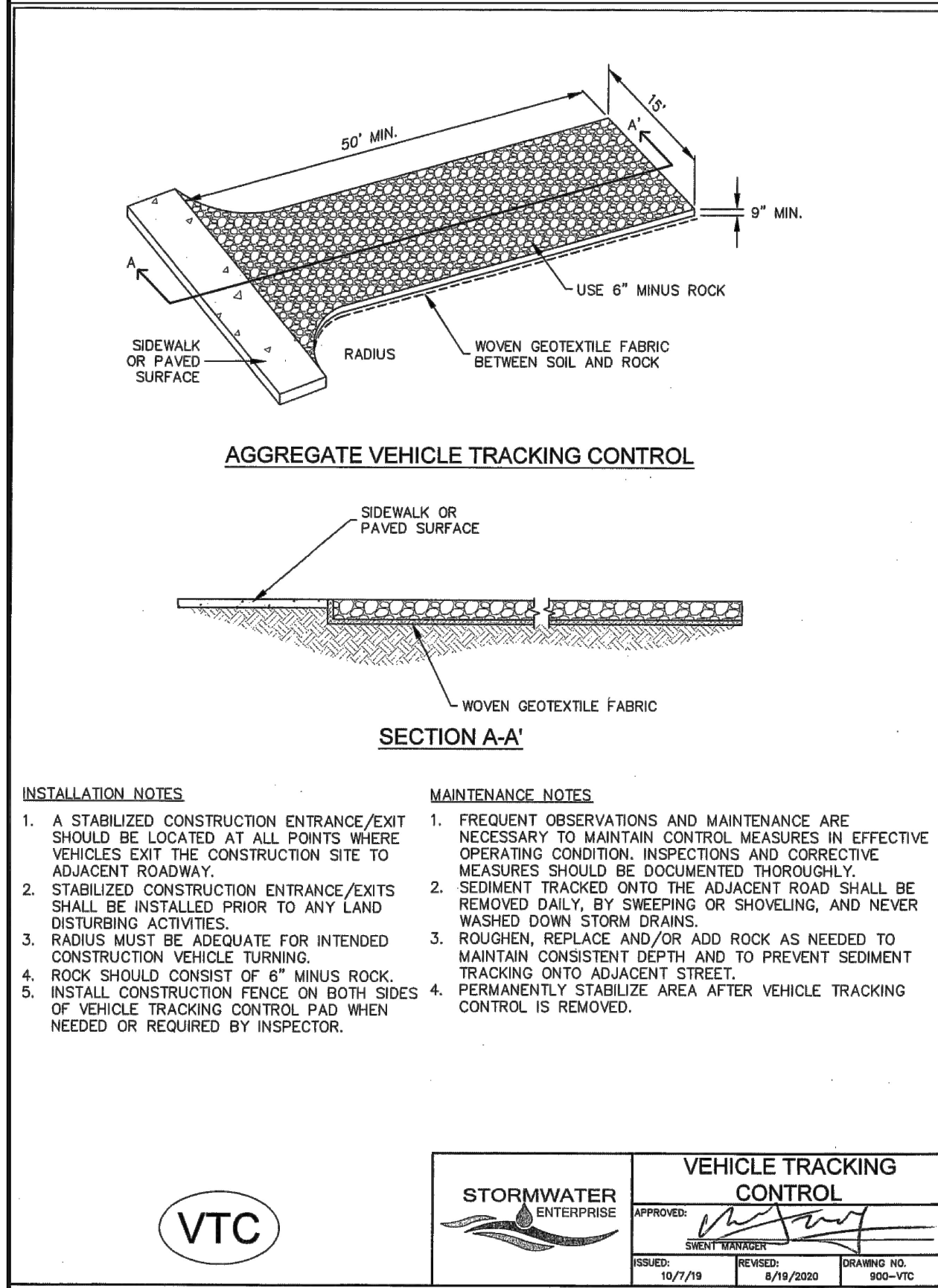
Table 5-2. El Paso County All-Purpose Low Grow Mix for Upland and Transition Areas

| Common Name | Scientific Name | Growth Season / Form | % of Mix | Pounds PLS | | |
|--------------------------|-------------------------------|----------------------|----------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------|
| | | | | • Irrigated broadcast • Irrigated hydroseeded • Irrigated drilled | • Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled | • Non-irrigated drilled |
| Buffalograss | <i>Buchloe dactyloides</i> | Warm, sod | 25 | 9.6 | 4.8 | 2.4 |
| Gramma, blue | <i>Bouteloua gracilis</i> | Warm, bunch | 20 | 10.8 | 5.4 | 2.7 |
| Gramma, sidecoats | <i>Bouteloua curtipendula</i> | Warm, bunch | 29 | 5.6 | 2.8 | 1.4 |
| Green needlegrass | <i>Nassella viridula</i> | Cool, bunch | 5 | 3.2 | 1.6 | 0.8 |
| Wheatgrass, western | <i>Pascopyrum smithii</i> | Cool, sod | 20 | 12 | 6 | 3 |
| Droopseed, sand | <i>Sporobolus cryptandrus</i> | Warm, bunch | 1 | 0.8 | 0.4 | 0.2 |
| Seed rate (lbs PLS/acre) | | | | 42 | 21 | 10.3 |

City of Colorado Springs
Stormwater Enterprise

5-12

Stormwater Construction Manual
December 2020



| | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------|---------------------------|---------|--|
| 48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS | | NO. REVISION | | DATE | |
| 811 | | 1 | REVISED PER CITY COMMENTS | 10/3/22 | |
| UTILITY NOTIFICATION OF COLORADO IT'S THE LAW | | | | | |
| THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. | | | | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO REG. #37155

1/26/2023

DATE

CLASSIC CONSULTING

619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903

(719) 785-0790
(719) 785-0799 (fax)

TUTT BLVD. EXTENSION

PHASE 2

GRADING & EROSION CONTROL PLAN

DETAILS

| | | | | |
|-------------|-----|--------------|---------|---------|
| DESIGNED BY | MAW | SCALE | DATE | 8/24/22 |
| DRAWN BY | MAW | (H) 1" = 30' | SHEET | 4 OF 4 |
| CHECKED BY | CMT | (V) 1" = N/A | JOB NO. | 2467.16 |

TUTT BLVD EXTENSION - PHASE 2
CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO
CONSTRUCTION PLANS

AUGUST 2022

GENERAL NOTES

- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH THE CITY OF COLORADO SPRINGS, DEPARTMENT OF PUBLIC WORKS, SUBDIVISION POLICY MANUAL AND STANDARD SPECIFICATIONS, AS WELL AS THE CITY OF COLORADO SPRINGS WASTEWATER DIVISION "RULES FOR THE INSTALLATION OF SEWER MAINS AND SERVICES".
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- CONCRETE USED IN CURB AND GUTTER, SIDEWALK, AND CROSSSPAN CONSTRUCTION WILL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- ALL CURB RETURNS AND 10' EITHER SIDE OF CURB RETURNS SHALL BE 6" VERTICAL CURB, CITY OF COLORADO SPRINGS TYPE 1 CURB WITH AN ADDITIONAL 10' OF TRANSITION TO 6" RAMP CURB. CITY OF COLORADO SPRINGS MODIFIED TYPE 5 CURB, UNLESS OTHERWISE INDICATED.
- PEDESTRIAN RAMPS SHALL BE INSTALLED AT INTERSECTIONS AS SHOWN AND CONFORM TO THE CITY OF COLORADO SPRINGS, DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS (SEE DETAIL SHEET). NOTE: WIDTH OF PEDESTRIAN RAMPS MUST MATCH WIDTH OF SIDEWALK.
- IF A DISCREPANCY OCCURS BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS, THE ENGINEER WILL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.
- THE CONTRACTOR SHALL SECURE ALL APPLICABLE LICENSES AND PERMITS TO COMPLETE THE CONSTRUCTION IN COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- CONTRACTOR TO OBTAIN COPIES OF THE SOILS REPORT FROM THE GEOTECHNICAL ENGINEER AND TO BE KEPT ON-SITE DURING ALL EARTHWORK OPERATIONS.

CONCRETE: CONCRETE REINFORCEMENT:

- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE YIELD STRENGTH OF 4,000 PSI UNLESS OTHERWISE NOTED. HIGHER COMPRESSIVE STRENGTH CONCRETE IS ACCEPTABLE TO ACHIEVE EARLY CONCRETE STRENGTH THAT MAY BE DEEMED NECESSARY TO MEET CONSTRUCTION SCHEDULING PRIORITIES.
- ALL CAST IN PLACE CONCRETE REINFORCEMENT SHALL HAVE A MINIMUM TENSILE YIELD STRENGTH OF 60,000 PSI UNLESS OTHERWISE NOTED, AND CONFORMANCE WITH CITY OF COLORADO SPRINGS SPECIFICATIONS, SECTION 603.
- CONCRETE TESTING SHALL BE IN CONFORMANCE WITH CITY OF COLORADO SPRINGS SPECIFICATIONS, SECTION 506.

TRAFFIC ENGINEERING GENERAL NOTES:

- BEFORE EXCAVATING, CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING.
- APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK TO BE PERFORMED UNTIL A PERMIT HAS BEEN ISSUED.
- THE APPROVAL OF THESE PLANS OR ISSUANCE OF A PERMIT BY THE CITY OF COLORADO SPRINGS DOES NOT AUTHORIZE THE SUBDIVIDER AND OWNER TO VIOLATE ANY FEDERAL, STATE OR CITY LAWS, ORDINANCES, REGULATIONS OR POLICIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW, TEMPORARY AND EXISTING TRAFFIC SIGNS FROM THE START OF THE CONSTRUCTION PROJECT UNTIL ACCEPTANCE BY CITY TRAFFIC ENGINEERING.
- ALL TRAFFIC SIGNS, PAVEMENT MARKINGS, AND TRAFFIC SIGNALS SHALL MEET OR EXCEED M.U.T.C.D. STANDARDS.
- THE CONTRACTOR SHALL NOT REMOVE ANY EXISTING SIGNS, PAVEMENT MARKINGS OR TRAFFIC SIGNALS DURING THE PROJECT WITHOUT SIGNED AUTHORIZATION OF THE CITY ENGINEERING INSPECTOR ASSIGNED TO THE PROJECT.
- CONTRACTOR SHALL PREPARE A DETAILED TRAFFIC CONTROL PLAN, SUBMIT TO CITY TRAFFIC ENGINEERING FOR APPROVAL, AND OBTAIN APPROPRIATE PERMITS IN ACCORDANCE WITH THE "TRAFFIC CONTROLS FOR STREET CONSTRUCTION, UTILITY WORK AND MAINTENANCE OPERATIONS", MUTCD SUPPLEMENT FOR THE CITY OF COLORADO SPRINGS, AUGUST 1992.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND MAINTAINING THE TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW, TEMPORARY, AND EXISTING TRAFFIC SIGNAL MODIFICATIONS.

ADDITIONAL NOTES:

REFERENCE TO FOLLOWING DOCUMENTS FOR ADDITIONAL INFORMATION PERTAINING TO THIS PROJECT:

SEE TUTT BLVD EXTENSION - PHASE 1 CONSTRUCTION PLANS FOR EXISTING ROAD CONNECTION TO SOUTH

STRIPING AND SIGNAGE GENERAL NOTES:

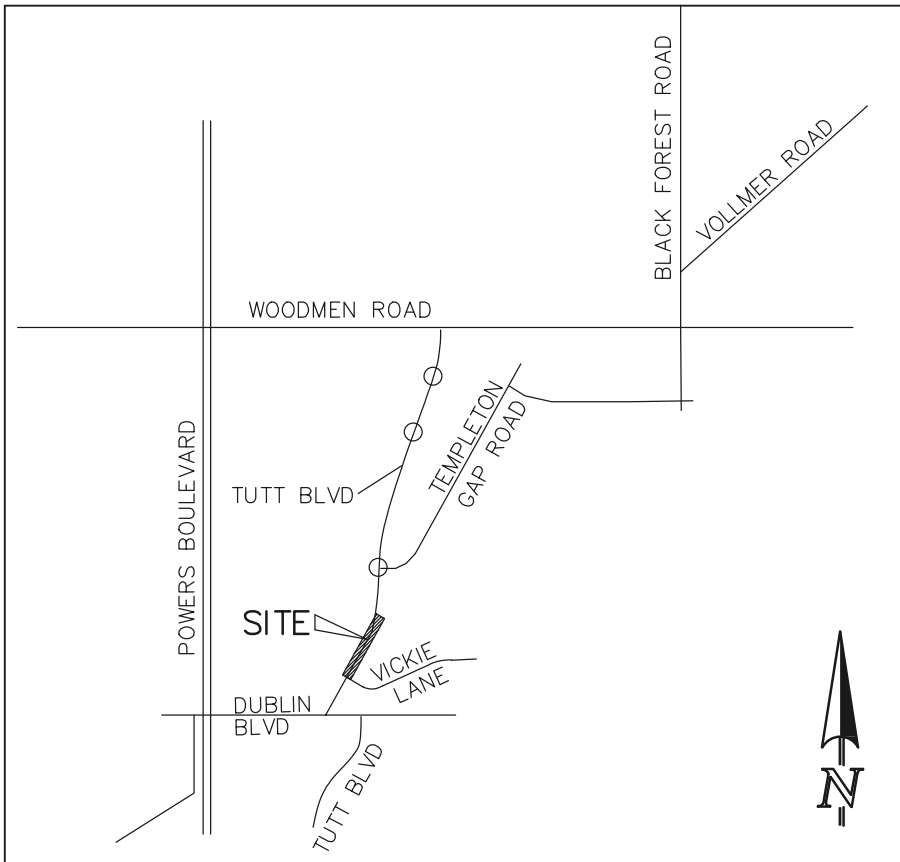
- INSTALLATION OF ALL STRIPING, SIGNS AND PAVEMENT MARKERS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMOVAL OF EXISTING PAVEMENT MARKINGS (SCARRING OF PAVEMENT IS NOT PERMITTED). AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OVERLAYING OR CHIP SEALING ROADWAY, IF SCARRING OCCURS DURING REMOVAL OF EXISTING OR TEMPORARY PAVEMENT MARKINGS. THE CITY TRAFFIC ENGINEER WILL DETERMINE METHOD OF PAVEMENT REPAIR.
- ALL STRIPING AND SIGNING SHALL CONFORM TO THE MOST RECENT ADOPTED EDITION OF THE FOLLOWING MANUALS AND THEIR SUPPLEMENTAL AMENDMENTS:
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
CITY OF COLORADO SPRINGS SIGNS AND MARKINGS GUIDELINES
CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS
CITY OF COLORADO SPRINGS PUBLIC WORKS DESIGN MANUAL
- ALL SIGNING AND STRIPING IS SUBJECT TO THE APPROVAL OF THE CITY TRAFFIC ENGINEER PRIOR TO INSTALLATION AND/OR REMOVAL.
- CONTRACTOR SHALL REMOVE ALL CONFLICTING STRIPING, PAVEMENT MARKINGS AND LEGENDS BY HYDROBLASTING, SANDBLASTING AND/OR GRINDING. ANY DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- SIGN POSTS SHALL BE INSTALLED WITH A MINIMUM OF 1 3/4" X 10" SQUARE PERFORATED STEEL TUBING WITH SLEEVE PER CITY OF COLORADO SPRINGS STANDARD.
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM OF HIGH INTENSITY GRADE SHEETING.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLANS SHALL BE APPROVED BY THE ENGINEER OF WORK AND THE CITY TRAFFIC ENGINEER PRIOR TO ANY CHANGES BEING MADE IN THE FIELD.
- ALL SIGNS SHOWN ON THE STRIPING AND SIGNING PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR EXISTING SIGNS SPECIFICALLY INDICATED TO BE RELOCATED OR TO REMAIN.
- STRIPED CROSSWALKS SHALL HAVE AN INSIDE DIMENSION OF 10 FEET AND CONTINENTAL CROSSWALKS SHALL HAVE A MINIMUM WIDTH OF 9 FEET UNLESS INDICATED OTHERWISE.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS (EXCEPT WITHIN BIKE LANES) SHALL BE A MINIMUM OF 90MIL THICKNESS THERMOPLASTIC OR PREFORM PLASTIC TAPE.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM OF 15 MIL THICKNESS EPOXY.
- CONTRACTOR TO DELIVER ALL REMOVED SIGNS TO THE CITY OF COLORADO SPRINGS SIGNS/MARKINGS SHOP AT 404 FONTANERO STREET, (719)385-6721.
- CONTRACTOR SHALL NOTIFY CITY TRAFFIC ENGINEER (719) 385-5907 A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO AND UPON COMPLETION OF STRIPING AND SIGNAGE.

BASIS OF BEARINGS:

A PORTION OF THE NORTHERLY BOUNDARY OF LOT 2 AS PLATTED IN A.A. SUBDIVISION RECORDED IN PLAT BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE NORTHWESTERLY END BY 1" WASHER AND NAIL STAMPED "2692" AND AT THE SOUTHEASTERLY END BY A 1" YELLOW PLASTIC CAP STAMPED "LDC 18465" IS ASSUMED TO BEAR S60°02'31"E, A DISTANCE OF 268.19 FEET.

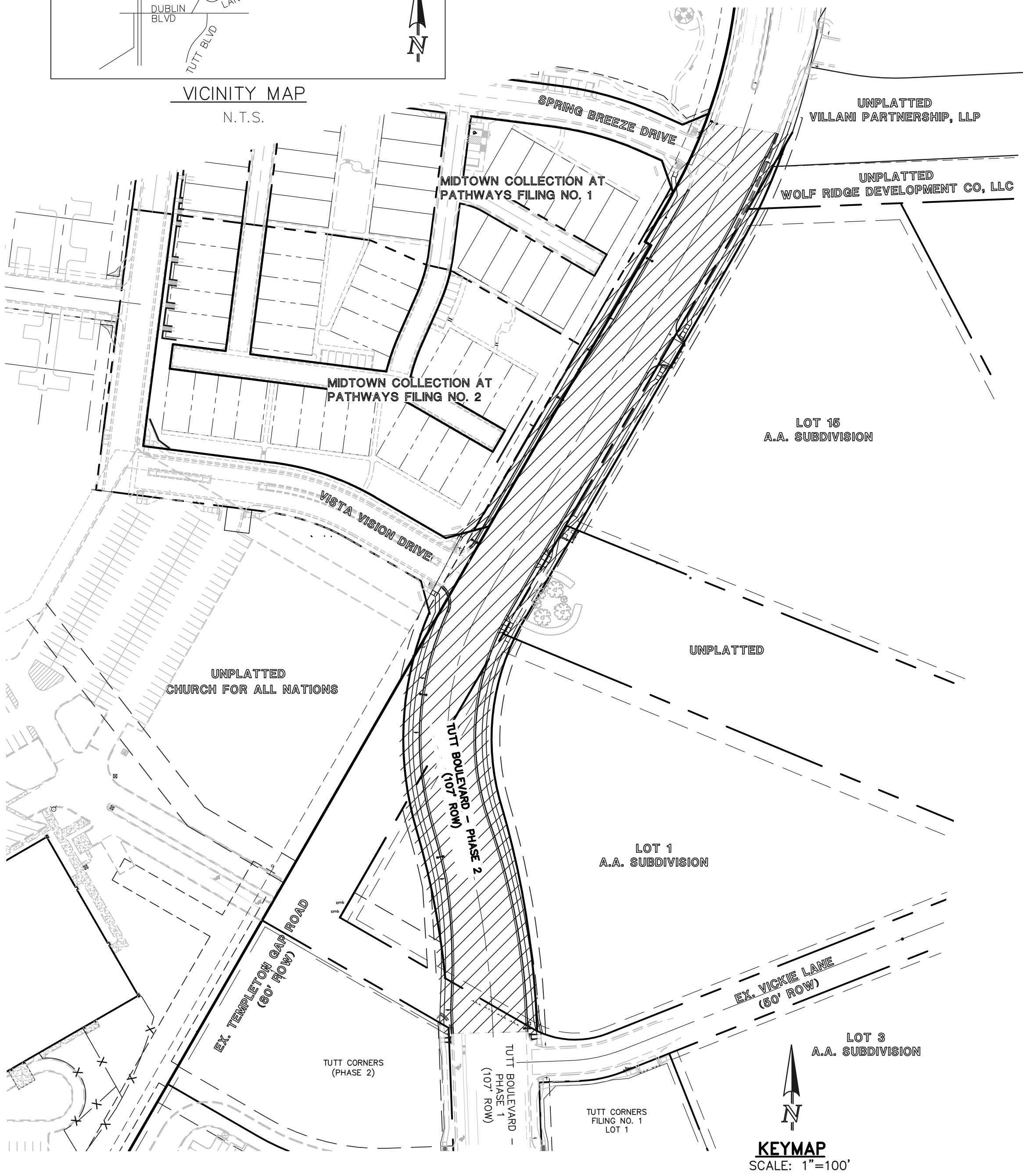
BENCHMARKS:

- A RECOVERED 1" YELLOW PLASTIC CAP STAMPED "18465" LOCATED AT THE NORTHEASTERLY CORNER OF LOT 2 AS PLATTED IN "A.A. SUBDIVISION" RECORDED IN BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO LOCATED ON THE SOUTHERLY RIGHT OF WAY LINE OF VICKIE LANE. EL:6837.13
- A RECOVERED 1" RED PLASTIC CAP STAMPED "19586" LOCATED AT THE SOUTHWESTERLY CORNER OF TUTT BOULEVARD AS PLATTED IN "TUSCANY PLAZA SUBDIVISION FILING NO. 1" RECORDED UNDER RECEPTION NO. 209/12964, RECORDS OF EL PASO COUNTY, COLORADO. EL:6862.30



VICINITY MAP

N.T.S.



AGENCIES

| | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CITY ENGINEERING: | CITY OF COLORADO SPRINGS PUBLIC WORKS DEPARTMENT 30 S. NEVADA AVENUE, SUITE 403 COLORADO SPRINGS, CO 80903 MR. MIKE CHAVES, P.E. (719) 385-5408 |
| CIVIL ENGINEER: | CLASSIC CONSULTING ENGINEERS & SURVEYORS 6385 CORPORATE DRIVE, SUITE 101 COLORADO SPRINGS, CO 80919 MR. MARC A. WHORTON, P.E. (719) 785-0790 |
| TRAFFIC ENGINEERING: | CITY OF COLORADO SPRINGS 30 S. NEVADA AVENUE COLORADO SPRINGS, COLORADO 80903 MR. TODD FRISBIE P.E. P.T.O.E. (719) 385-7628 |
| EDRD ENGINEERING: | CITY OF COLORADO SPRINGS 30 S. NEVADA AVENUE, SUITE 401 COLORADO SPRINGS, COLORADO 80903 MS. ERIN POWERS, (719) 385-5852 |
| COLORADO SPRINGS UTILITIES | PLANNING & ENGINEERING 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, COLORADO 80910 MR. DREW MAKINGS, (719) 668-8127 (WATER) AND (WASTEWATER) |
| FIELD ENGINEERING GAS: | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE COLORADO SPRINGS, COLORADO 80903 MR. TIM BENEDICT, (719) 668-4985 |
| FIELD ENGINEERING ELEC: | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE COLORADO SPRINGS, COLORADO 80920 MR. TIM BENEDICT, (719) 668-4985 |
| FIRE DEPARTMENT: | CITY OF COLORADO SPRINGS FIRE PREVENTION DIVISION 2880 INTERNATIONAL CIRCLE - SUITE 200 COLORADO SPRINGS, COLORADO 80910 MS. DEE WITHEE (719) 385-7361 |
| TELEPHONE COMPANY: | CENTURY LINK COMMUNICATIONS (LOCATORS) (800) 922-1987 |

SHEET INDEX:

| | |
|--------------|---------------------------------------------------|
| SHEET 1 OF 5 | - TITLE SHEET |
| SHEET 2 OF 5 | - HORIZONTAL CONTROL AND TYPICAL ROADWAY SECTIONS |
| SHEET 3 OF 5 | - DEMOLITION PLAN |
| SHEET 4 OF 5 | - STREET IMPROVEMENT PLAN & PROFILE |
| SHEET 5 OF 5 | - SIGNAGE, STRIPING & LIGHTING PLAN |

| | |
|------------------------------------------------------------------------------------------------------------------------------------|---------|
| REVIEW: | |
| STREET DESIGN FOR CITY ENGINEERING: | |
| UTILITY GRADE REVIEW | N/A |
| TRAFFIC SIGNAGE & STRIPING | 2/22/23 |
| CURB & GUTTER REVIEW | 2/22/23 |
| FINAL REVIEW | 2/22/23 |
| DRAINAGE DESIGN: | N/A |
| THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED | |

| | |
|--------------------------------------------------------------------------------------------------------|--|
| DESIGN DATA: TUTT BLVD. - PHASE 2 | |
| SIDEWALKS: WIDTH: 5' | |
| LOCATION: <input type="checkbox"/> Attached <input checked="" type="checkbox"/> Detached | |
| CURB TYPE: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 3 | |
| R/W WIDTH: 107' | |
| MAT WIDTH: VARIES | |
| STREET TYPE: ARTERIAL | |
| HVEEM | |

| | |
|----------------------------------------------------------------------------|--|
| PAVEMENT: | |
| TYPE: HMA <input checked="" type="checkbox"/> PCC <input type="checkbox"/> | |
| THICKNESS | |
| COMPOSITE SECTION | |
| HMA | |
| BASE | |
| SUBGRADE STABILIZATION: | |
| CHEMICAL: <input type="checkbox"/> MECH.: <input type="checkbox"/> | |
| TYPE: | |
| THICKNESS | |

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811
UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW

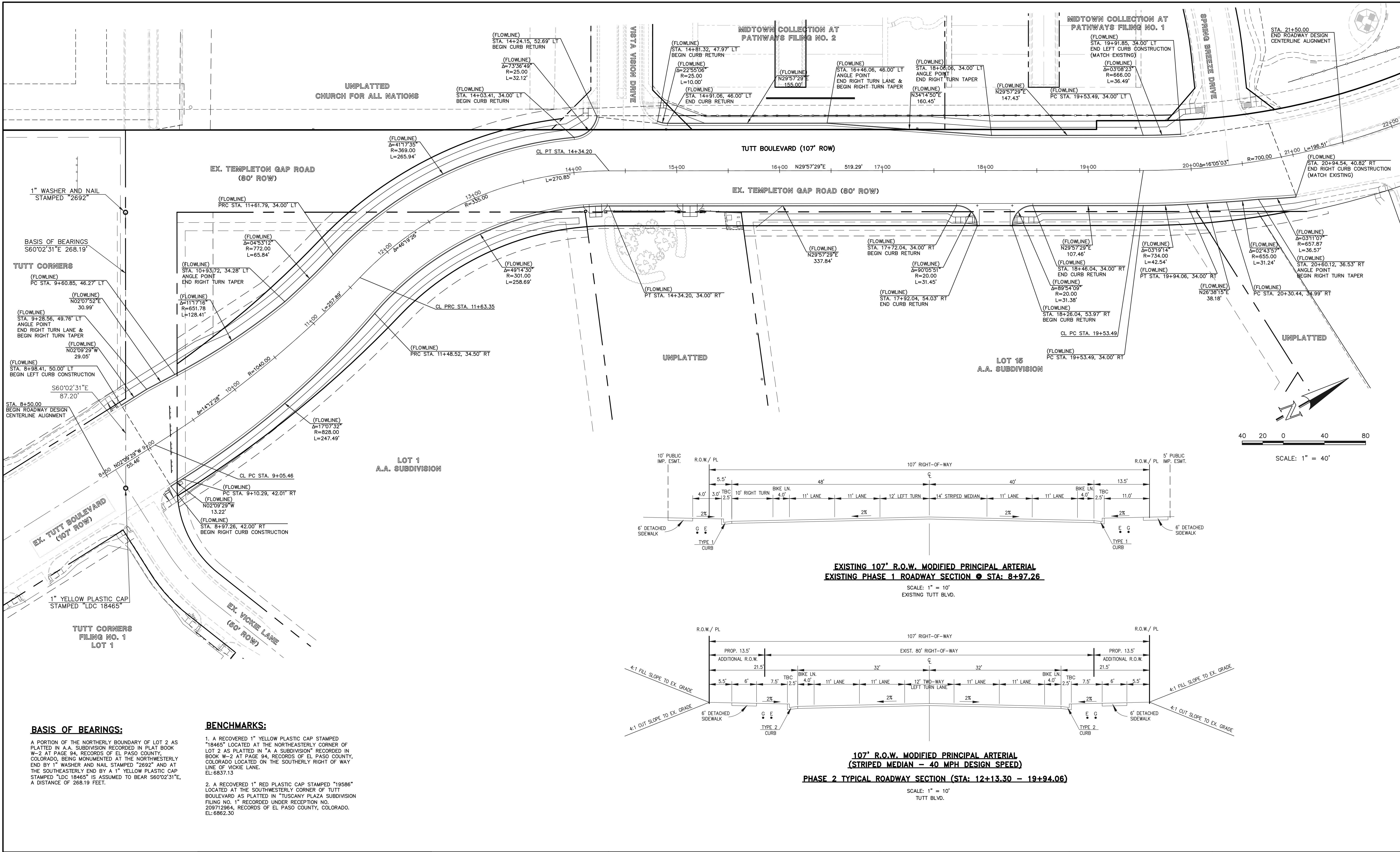
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| NO. | REVISION | DATE |
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| REVIEW: | |
| PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC | |
| MARC A. WHORTON, COLORADO P.E. #37155 | 1/26/2023 |
| DATE | |

| | |
|----------------------------------------------------------------------|-------------------------------------|
| CLASSIC CONSULTING ENGINEERS & SURVEYORS | |
| 619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903 | (719)785-0790 (719)785-0799(Fax) |

| | |
|-----------------------------------------------------|--------------------|
| TUTT BLVD EXTENSION - PHASE 2 CONSTRUCTION PLANS | |
| TITLE SHEET | |
| DESIGNED BY: PRA | SCALE: (H) 1"= N/A |
| DRAWN BY: PRA | SHEET 1 OF 5 |
| CHECKED BY: (V) 1"= N/A | JOB NO. 2467.16 |
| DATE: 08/25/22 | |



BASIS OF BEARINGS:

A PORTION OF THE NORTHERLY BOUNDARY OF LOT 2 AS PLATTED IN A.A. SUBDIVISION RECORDED IN PLAT BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE NORTHWESTERLY END BY 1" WASHER AND NAIL STAMPED "2692" AND AT THE SOUTHEASTERLY END BY A 1" YELLOW PLASTIC CAP STAMPED "LDC 18465" IS ASSUMED TO BEAR S60°02'31"E, A DISTANCE OF 268.19 FEET.

- BENCHMARKS:**
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 2. A RECOVERED 1" RED PLASTIC CAP STAMPED "19586" LOCATED AT THE SOUTHWESTERLY CORNER OF TUTT BOULEVARD AS PLATTED IN "TUSCANY PLAZA SUBDIVISION FILING NO. 1" RECORDED UNDER RECEPTION NO. 209712964, RECORDS OF EL PASO COUNTY, COLORADO. EL: 6862.30

REVIEW:

STREET DESIGN FOR CITY ENGINEERING:

UTILITY GRADE REVIEW *N/A* DATE *2/22/23*

TRAFFIC SIGNAGE & STRIPING *Robert H. Haeck* DATE *2/22/23*

CURB & GUTTER REVIEW *Robert H. Haeck* DATE *2/22/23*

FINAL REVIEW *Robert H. Haeck* DATE *2/22/23*

DRAINAGE DESIGN: *N/A* DATE *2/22/23*

THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED.

DESIGN DATA: TUTT BLVD. - PHASE 2

SIDEWALKS: WIDTH: *5'*
LOCATION: ☐ Attached ☒ Detached

CURB TYPE ☒ 1 ☐ 2 ☐ 3

R/W WIDTH *107'* **MAT WIDTH** *VARIES*

STREET TYPE *ARTERIAL* **HVEEM** *VARIES*

PAVEMENT:
TYPE: HMA ☒ PCC ☐
THICKNESS *VARIES*
COMPOSITE SECTION
HMA *VARIES*
BASE *VARIES*
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE: *VARIES*
THICKNESS *VARIES*

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS 811

UTILITY NOTIFICATION CENTER OF COLORADO ITS THE LAW

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| NO. | REVISION | DATE |
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REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO LICENSED SURVEYOR #37155

1/26/2023

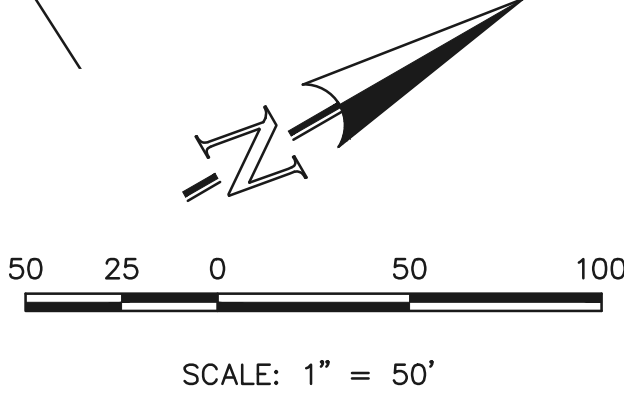
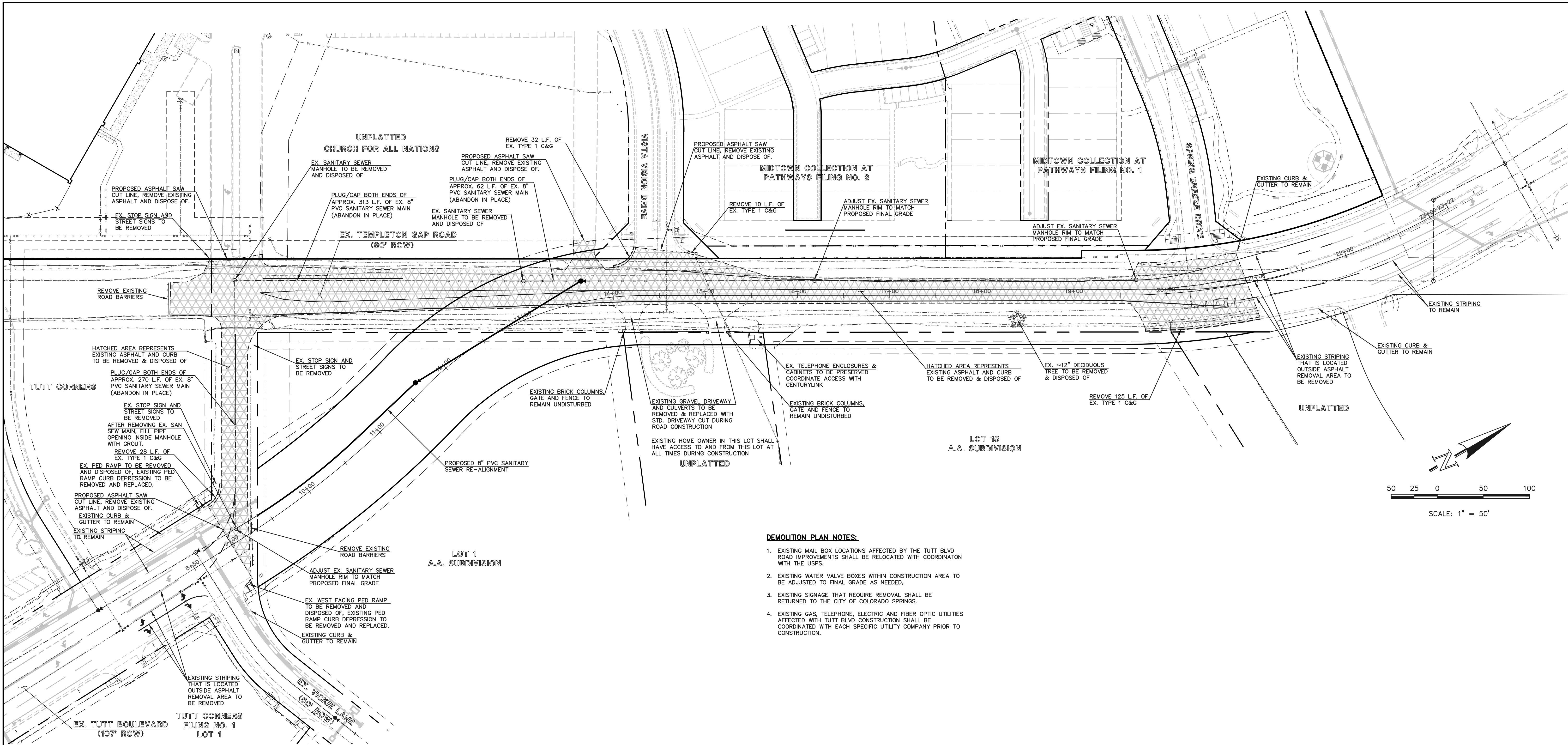
DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903 (719) 785-0790 (719) 785-0799 (Fax)

| TUTT BLVD EXTENSION - PHASE 2 CONSTRUCTION PLANS | | | |
|--------------------------------------------------|-----|--------------|-----------------|
| HORIZONTAL CONTROL AND TYPICAL ROADWAY SECTIONS | | | |
| DESIGNED BY | PRA | SCALE | DATE |
| DRAWN BY | PRA | (H) 1" = 40' | SHEET 2 OF 5 |
| CHECKED BY | | (V) 1" = N/A | JOB NO. 2467.16 |

N:\2467.16\DRAWINGS\CONSTRUCTION\02-2467.16-SU-02-HC-PDOC.dwg, 9/26/2023, 9:49:03 AM, 1:1



DEMOLITION PLAN NOTES:

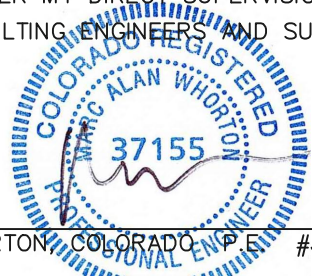
- EXISTING MAIL BOX LOCATIONS AFFECTED BY THE TUTT BLVD ROAD IMPROVEMENTS SHALL BE RELOCATED WITH COORDINATION WITH THE USPS.
- EXISTING WATER VALVE BOXES WITHIN CONSTRUCTION AREA TO BE ADJUSTED TO FINAL GRADE AS NEEDED.
- EXISTING SIGNAGE THAT REQUIRE REMOVAL SHALL BE RETURNED TO THE CITY OF COLORADO SPRINGS.
- EXISTING GAS, TELEPHONE, ELECTRIC AND FIBER OPTIC UTILITIES AFFECTED WITH TUTT BLVD CONSTRUCTION SHALL BE COORDINATED WITH EACH SPECIFIC UTILITY COMPANY PRIOR TO CONSTRUCTION.

REVIEW:
STREET DESIGN FOR CITY ENGINEERING:
UTILITY GRADE REVIEW *N/A* DATE *2/22/23*
TRAFFIC SIGNAGE & STRIPING *Zahir Hameed* DATE *2/22/23*
CURB & GUTTER REVIEW *Zahir Hameed* DATE *2/22/23*
FINAL REVIEW *Zahir Hameed* DATE *2/22/23*
DRAINAGE DESIGN: *N/A* DATE *2/22/23*
THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED

DESIGN DATA: TUTT BLVD. - PHASE 2
SIDEWALKS: WIDTH: *5'*
LOCATION: ☐ Attached ☒ Detached
CURB TYPE ☒ 1 ☐ 5 ☐ 3
R/W WIDTH *107'* MAT WIDTH VARIES
STREET TYPE *ARTERIAL* HVEEM
PAVEMENT:
TYPE: HMA ☒ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811
UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. REVISION | DATE |
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REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO #37155
1/26/2023
DATE



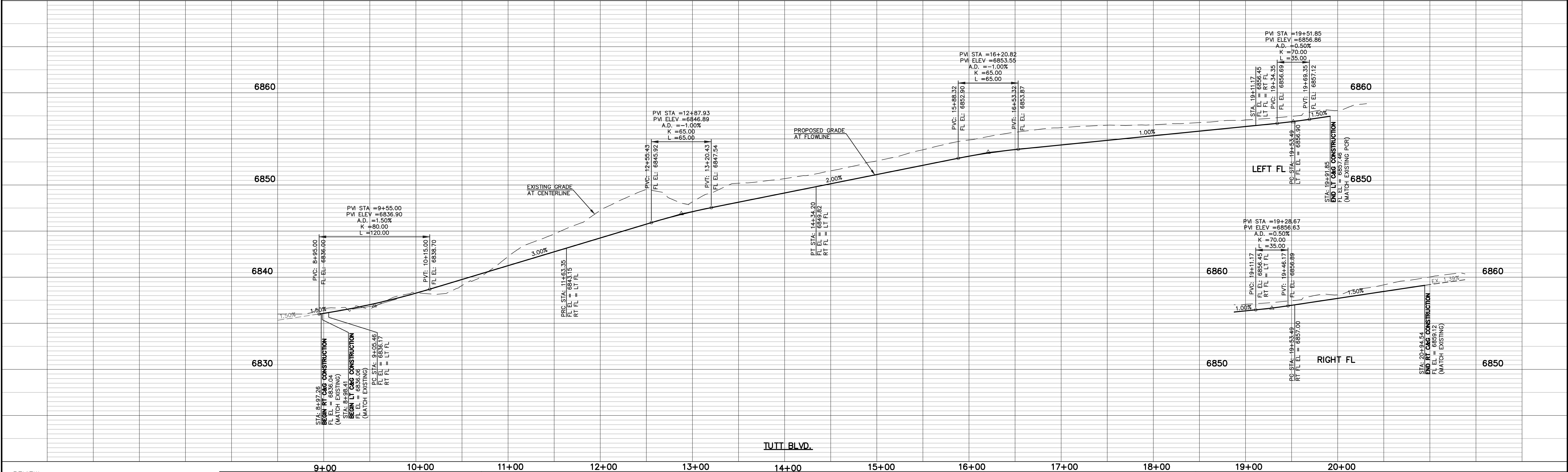
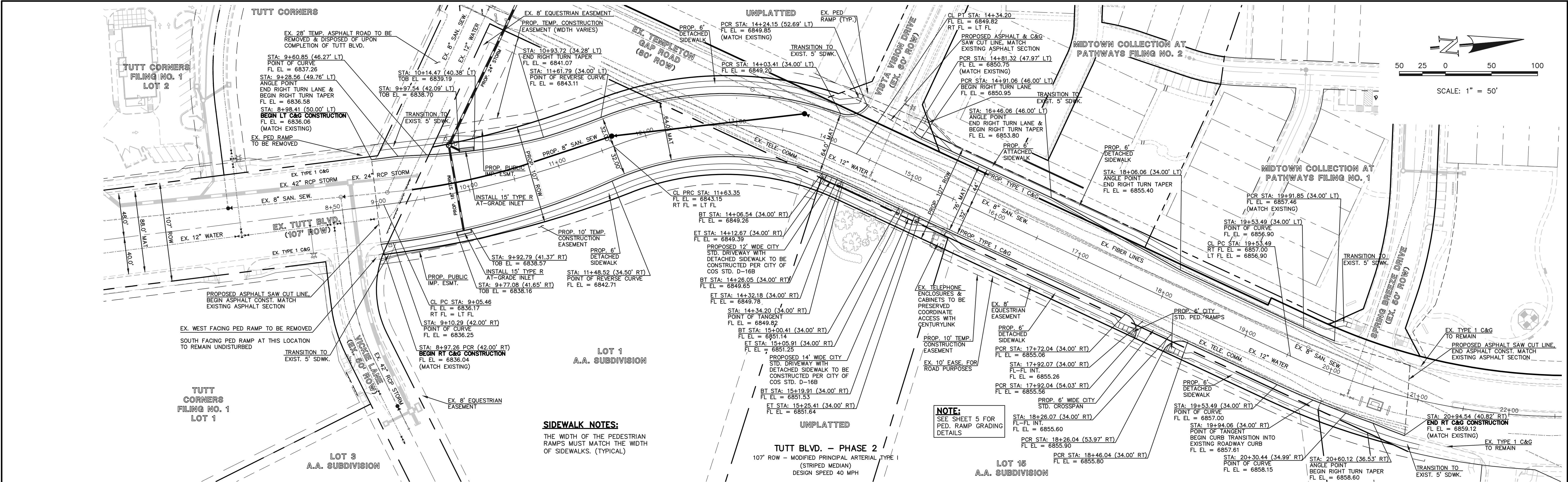
CLASSIC
CONSULTING
ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719) 785-0790
(719) 785-0799 (Fax)

| TUTT BLVD EXTENSION - PHASE 2 CONSTRUCTION PLANS DEMOLITION PLAN | | | | |
|------------------------------------------------------------------------|-----|-------------|--------------|----------|
| DESIGNED BY | PRA | SCALE | DATE | 08/25/22 |
| DRAWN BY | PRA | (H) 1"= 50' | SHEET 3 OF 5 | |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2467.16 |

CLASSIC
ENGINEERS & SURVEYORS

N:\246716\DRAWINGS\CONSTRUCTION\04-246716-01_PDD\dwg, 9/28/2023 9:52:09 AM, 1:1



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| REVIEW: STREET DESIGN FOR CITY ENGINEERING: UTILITY GRADE REVIEW <u>N/A</u> DATE <u>2/22/23</u> TRAFFIC SIGNAGE & STRIPING <u>Robert Alazack</u> DATE <u>2/22/23</u> CURB & GUTTER REVIEW <u>Robert Alazack</u> DATE <u>2/22/23</u> FINAL REVIEW <u>Robert Alazack</u> DATE <u>2/22/23</u> DRAINAGE DESIGN: <u>N/A</u> DATE <u>2/22/23</u> THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED | DESIGN DATA: TUTT BLVD. - PHASE 2 SIDEWALKS: WIDTH: <u>5'</u> LOCATION: <input type="checkbox"/> Attached <input checked="" type="checkbox"/> Detached CURB TYPE <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 3 R/W WIDTH <u>107'</u> MAT WIDTH VARIES STREET TYPE <u>ARTERIAL</u> HVEEM <u> </u> THICKNESS <u> </u> | PAVEMENT: TYPE: HMA <input checked="" type="checkbox"/> PCC <input type="checkbox"/> THICKNESS <u> </u> COMPOSITE SECTION HMA <u> </u> BASE <u> </u> SUBGRADE STABILIZATION: CHEMICAL: <input type="checkbox"/> MECH.: <input type="checkbox"/> TYPE: <u> </u> THICKNESS <u> </u> | 811 UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. | NO. REVISION 1 REVISED PER CITY COMMENTS DATE 1/13/23 | REVIEW: PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC MARC A. WHORTON, COLORADO PROFESSIONAL ENGINEER #37155 1/26/2023 DATE | TUTT BLVD EXTENSION - PHASE 2 CONSTRUCTION PLANS STREET IMPROVEMENT PLAN & PROFILE DESIGNED BY PRA SCALE DATE 08/25/22 DRAWN BY PRA (H) 1"= 50' SHEET 4 OF 5 CHECKED BY (V) 1"= 5' JOB NO. 2467.16 | CLASSIC CONSULTING ENGINEERS & SURVEYORS 619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903 (719) 785-0790 (719) 785-0799 (Fax) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

*NOTE: ALL STRIPING INSTALLATION SHALL BE PER COLORADO DEPARTMENT OF TRANSPORTATION
"M&S STANDARDS" STANDARD PLAN NO. S-627-1

SIGNS AND POLES SHALL BE PER CDOT STANDARDS
S-614-8, LATEST REVISION.

ALL 4", 6", AND 8" SOLID OR SKIP PAVEMENT MARKING
ARE TO BE EPOXY.

4" LETTERS ON STREET NAME SIGNS INTERSECTING STREET OF
25 MPH OR LESS.
6" LETTERS ON STREET NAME SIGNS INTERSECTING STREETS OF
30 TO 40 MPH'S.
8" LETTERS ON STREET NAME SIGNS INTERSECTING STREETS OF
GREATER THAN 40 MPH.

ALL INTERNAL SIGNS SHALL BE:

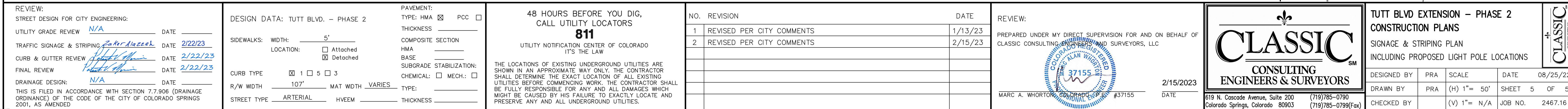
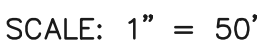
4" FONT LETTER SIZE
6" FONT LETTER SIZE ON ALL STREETS
POSTED 30 MPH OR GREATER

2. THE PORTION OF THE POST ABOVE THE GROUND LINE SHALL BE PAINTED IN ACCORDANCE WITH THE APPROPRIATE GENERAL NOTE.

3. DETACHABLE EXTENSION WING RAILS FOR BYPASSING OF CONSTRUCTION EQUIPMENT ARE PERMITTED, WHEN NECESSARY, ON FIXED OR MOVABLE TYPE 3 BARRICADES. THE LENGTH SHALL BE ADEQUATE TO CLOSE THE BORROW PIT AND/OR SHOULDER AS REQUIRED.



SCALE: 1" = 10'



GENERAL NOTES

- SEE GREENWAYS AT SAND CREEK FIL. 1 STREET IMPROVEMENT PLANS BY CCES FOR STREET APPROVALS.
- BEFORE EXCAVATING, CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING.
- APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK TO BE PERFORMED UNTIL A PERMIT HAS BEEN ISSUED.
- THE APPROVAL OF THESE PLANS OR ISSUANCE OF A PERMIT BY THE CITY OF COLORADO SPRINGS DOES NOT AUTHORIZE THE SUBDIVIDER AND OWNER TO VIOLATE ANY FEDERAL, STATE OR CITY LAWS, ORDINANCES, REGULATIONS, OR POLICIES.
- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH THE CITY OF COLORADO SPRINGS, DEPARTMENT OF PUBLIC WORKS, SUBDIVISION POLICY MANUAL AND STANDARD SPECIFICATIONS, AS WELL AS THE CITY OF COLORADO SPRINGS WASTEWATER DIVISION "RULES FOR THE INSTALLATION OF SEWER MAINS AND SERVICES".
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS & CITY SPECS.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC) OR ASPHALT (ASP).
- IF A DISCREPANCY OCCURS BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS, THE ENGINEER WILL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.
- THE CONTRACTOR SHALL SECURE ALL APPLICABLE LICENSES AND PERMITS TO COMPLETE THE CONSTRUCTION IN COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- STORM SEWER LATERALS SHALL BE CLASS III REINFORCED CONCRETE PIPE WITH 6000 PSI CONCRETE AND CLASS-C BEDDING. UNLESS OTHERWISE NOTED, ALL STORM SEWER MANHOLES, BENDS, WYES AND TEES SHOWN ON PLANS SHALL BE PREFABRICATED.
- CONTRACTOR TO OBTAIN COPIES OF THE SOILS REPORT FROM THE GEOTECHNICAL ENGINEER AND TO BE KEPT ON-SITE DURING ALL EARTHWORK OPERATIONS.

CONCRETE CONSTRUCTION SPECIFICATIONS

- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH THE CITY OF COLORADO SPRINGS, CITY ENGINEERING DIVISION SUBDIVISION POLICY MANUAL AND STANDARD SPECIFICATIONS (LATEST EDITION).
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE YIELD STRENGTH OF 4,000 PSI UNLESS OTHERWISE NOTED. HIGHER COMPRESSIVE STRENGTH CONCRETE IS ACCEPTABLE TO ACHIEVE EARLY CONCRETE STRENGTH THAT MAY BE DEEMED NECESSARY TO MEET CONSTRUCTION SCHEDULING PRIORITIES. CONCRETE SLUMP SHALL BE KEPT TO A MINIMUM WORKABLE LIMIT. AN "APPROVED" WATER REDUCING AGENT MAY BE USED. CONCRETE SHALL BE IN ACCORDANCE WITH CITY OF COLORADO SPRINGS ENGINEERING DIVISION STANDARD SPECIFICATIONS 500 CONCRETE AND 600 STRUCTURAL CONCRETE WITH ATTENTION TO SUBSECTION 607 FOR CURING AND COLD WEATHER REQUIREMENTS.
- ALL CONCRETE REINFORCEMENT SHALL HAVE A MINIMUM TENSILE YIELD STRENGTH OF 60,000 PSI UNLESS OTHERWISE NOTED.
- THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING STEEL BARS, UNLESS SHOWN OR OTHERWISE NOTED.

| BAR SIZE | #4 | #5 | #6 | #7 | #8 | #9 |
|---------------|-------|-------|-------|-------|-------|-------|
| SPLICE LENGTH | 1'-9" | 2'-2" | 2'-7" | 3'-4" | 4'-3" | 5'-5" |
- CONCRETE PROTECTION, COVER, FOR REINFORCEMENT SHALL BE 3" FOR CONCRETE POURED AGAINST EARTH, AND 2" FOR CONCRETE POURED IN FORMS UNLESS OTHERWISE NOTED ON THE PLANS.
- CEMENT SHALL BE TYPE II, NO CALCIUM CHLORIDE ADDITIVES WILL BE PERMITTED.
- CONCRETE TESTING SHALL BE IN CONFORMANCE WITH CITY OF COLORADO SPRINGS ENGINEERING DIVISION STANDARD SPECIFICATION 506.
- ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER. ALL COLD JOINTS SHALL BE AS INDICATED ON THESE PLANS. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS POURED.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER CITY SPECIFICATIONS.
- ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

ENGINEERING STATEMENT

PLAN REVIEW BY CITY OF COLORADO SPRINGS IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH DESIGN CRITERIA. THE CITY OF COLORADO SPRINGS IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE CITY OF COLORADO SPRINGS, THROUGH ITS APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

*FINAL ACCEPTANCE OF PUBLIC STORM SEWER WILL NOT BE COMPLETED UNTIL ALL DRAINAGE EASEMENTS HAVE BEEN OBTAINED

REVIEW:
STREET DESIGN FOR CITY ENGINEERING:

DRAINAGE DESIGN: *Erica Meyer* DATE **2/22/2023**
THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED

NOTE:
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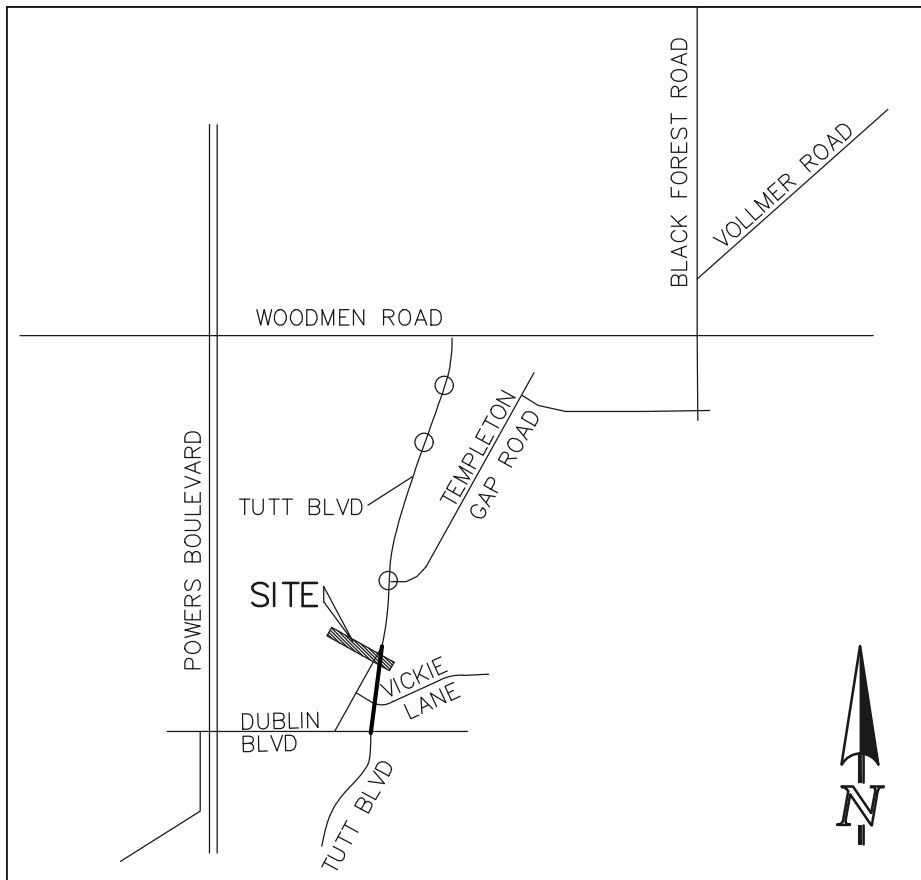
BASIS OF BEARINGS:

A PORTION OF THE NORTHERLY BOUNDARY OF LOT 2 AS PLATTED IN A.A. SUBDIVISION RECORDED IN PLAT BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE NORTHWESTERLY END BY 1" WASHER AND NAIL STAMPED "2692" AND AT THE SOUTHEASTERLY END BY A 1" YELLOW PLASTIC CAP STAMPED "LDC 18465" IS ASSUMED TO BEAR S60°02'31"E, A DISTANCE OF 268.19 FEET.

BENCHMARKS:

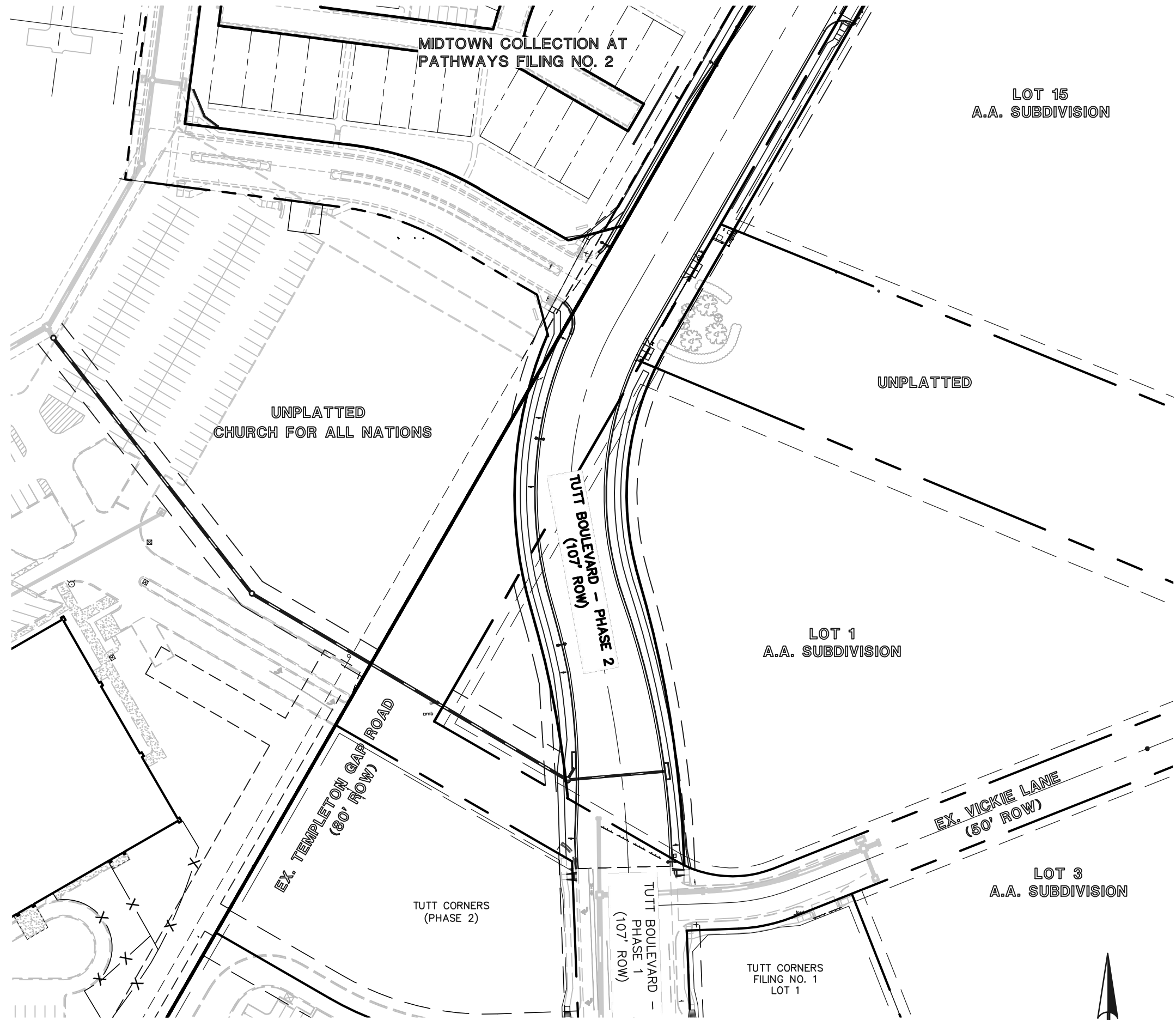
1. A RECOVERED 1" YELLOW PLASTIC CAP STAMPED "18465" LOCATED AT THE NORTHEASTERLY CORNER OF LOT 2 AS PLATTED IN "A A SUBDIVISION" RECORDED IN BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO LOCATED ON THE SOUTHERLY RIGHT OF WAY LINE OF VICKIE LANE. EL:6837.13

2. A RECOVERED 1" RED PLASTIC CAP STAMPED "19586" LOCATED AT THE SOUTHWESTERLY CORNER OF TUTT BOULEVARD AS PLATTED IN "TUSCANY PLAZA SUBDIVISION FILING NO. 1" RECORDED UNDER RECEPTION NO. 209712964, RECORDS OF EL PASO COUNTY, COLORADO. EL:6862.30



VICINITY MAP

N.T.S.



KEYMAP

SCALE: 1"=100'

SHEET INDEX:

- SHEET 1 OF 4 - TITLE SHEET
SHEET 2 OF 4 - PUBLIC STORM SEWER PLAN & PROFILE SHEET
SHEET 3 OF 4 - PUBLIC STORM SEWER DETAIL SHEET
SHEET 4 OF 4 - PUBLIC STORM SEWER DETAIL SHEET

STORM SEWER LOCATE NOTE:

PER COLORADO SENTATE BILL 18-167, ALL UNDERGROUND UTILITIES, INCLUDING STORM SEWER, MUST BE INSTALLED WITH A DETECTABLE MATERIAL TO ENSURE UTILITIES CAN BE TRACED AT GROUND LEVEL. CONTRACTOR SHALL ENSURE ALL STORM PIPES INSTALLED WITH THIS DEVELOPMENT ARE EQUIPPED WITH A MEANS OF BEING DETECTED, AS PER CITY OF COLORADO SPRINGS STANDARD DRAWING D-37.

AGENCIES

- CITY ENGINEERING: CITY OF COLORADO SPRINGS
PUBLIC WORKS DEPARTMENT
30 S. NEVADA AVENUE, SUITE 403
COLORADO SPRINGS, CO 80903
MR. MIKE CHAVES, P.E. (719) 385-5408
- CIVIL ENGINEER: CLASSIC CONSULTING ENGINEERS & SURVEYORS
6385 CORPORATE DRIVE, SUITE 101
COLORADO SPRINGS, CO 80919
MR. MARC A. WHORTON, P.E. (719) 785-0790
- TRAFFIC ENGINEERING: CITY OF COLORADO SPRINGS
30 S. NEVADA AVENUE
COLORADO SPRINGS, COLORADO 80903
MR. TODD FRISBIE P.E. P.T.O.E. (719) 385-7628
- EDRD ENGINEERING: CITY OF COLORADO SPRINGS
30 S. NEVADA AVENUE, SUITE 401
COLORADO SPRINGS, COLORADO 80903
MS. ERIN POWERS, (719) 385-5852
- COLORADO SPRINGS UTILITIES: PLANNING & ENGINEERING
1521 HANCOCK EXPRESSWAY
COLORADO SPRINGS, COLORADO 80910
MR. DREW MAKINGS, (719) 668-8127
(WATER) AND (WASTEWATER)
- FIELD ENGINEERING GAS: COLORADO SPRINGS UTILITIES
7710 DURANT DRIVE
COLORADO SPRINGS, COLORADO 80903
MR. TIM BENEDICT, (719) 668-4985
- FIELD ENGINEERING ELEC: COLORADO SPRINGS UTILITIES
7710 DURANT DRIVE
COLORADO SPRINGS, COLORADO 80920
MR. TIM BENEDICT, (719) 668-4985
- FIRE DEPARTMENT: CITY OF COLORADO SPRINGS FIRE PREVENTION DIVISION
2880 INTERNATIONAL CIRCLE - SUITE 200
COLORADO SPRINGS, COLORADO 80910
MS. DEE WITHEE (719) 385-7361
- TELEPHONE COMPANY: CENTURY LINK COMMUNICATIONS (LOCATORS)
(800) 922-1987

P.E. CERTIFICATION NOTES:

FOR PUBLIC IMPROVEMENTS

- CONTRACTOR TO CONTACT DESIGN ENGINEER IMMEDIATELY IF CONSTRUCTION VARIES IN ANY WAY FROM THE PLANS.
- CONTRACTOR TO NOTIFY ENGINEER PRIOR TO START OF JOB FOR PRE-CONSTRUCTION MEETING.
- CONTRACTOR TO PROVIDE PROJECT SCHEDULE TO ENGINEER VERBALLY OR IN WRITING.
- ADHERENCE TO THE ITEMS LISTED ABOVE FOR COORDINATION PURPOSES WILL HELP FACILITATE A P.E. CERTIFICATION AT THE COMPLETION OF THE PUBLIC IMPROVEMENTS FOR THIS JOB.

STATEMENTS:

THE CITY OF COLORADO SPRINGS RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN; THE CITY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY. RESUBMITTAL IS REQUIRED IF CONSTRUCTION HAS NOT COMMENCED WITHIN 180 DAYS OF REVIEW DATE.

DETAILED DRAINAGE CONSTRUCTION PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE CITY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED DRAINAGE PLANS AND SPECIFICATIONS.



MARC A. WHORTON, COLORADO P.E. #37155
FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC

1/26/2023
DATE

REVIEW:
STREET DESIGN FOR CITY ENGINEERING:

DRAINAGE DESIGN: *Erica Meyer* DATE **2/22/2023**
THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED

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UTILITY NOTIFICATION CENTER OF COLORADO
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NO. REVISION

DATE

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC



1/26/2023

DATE



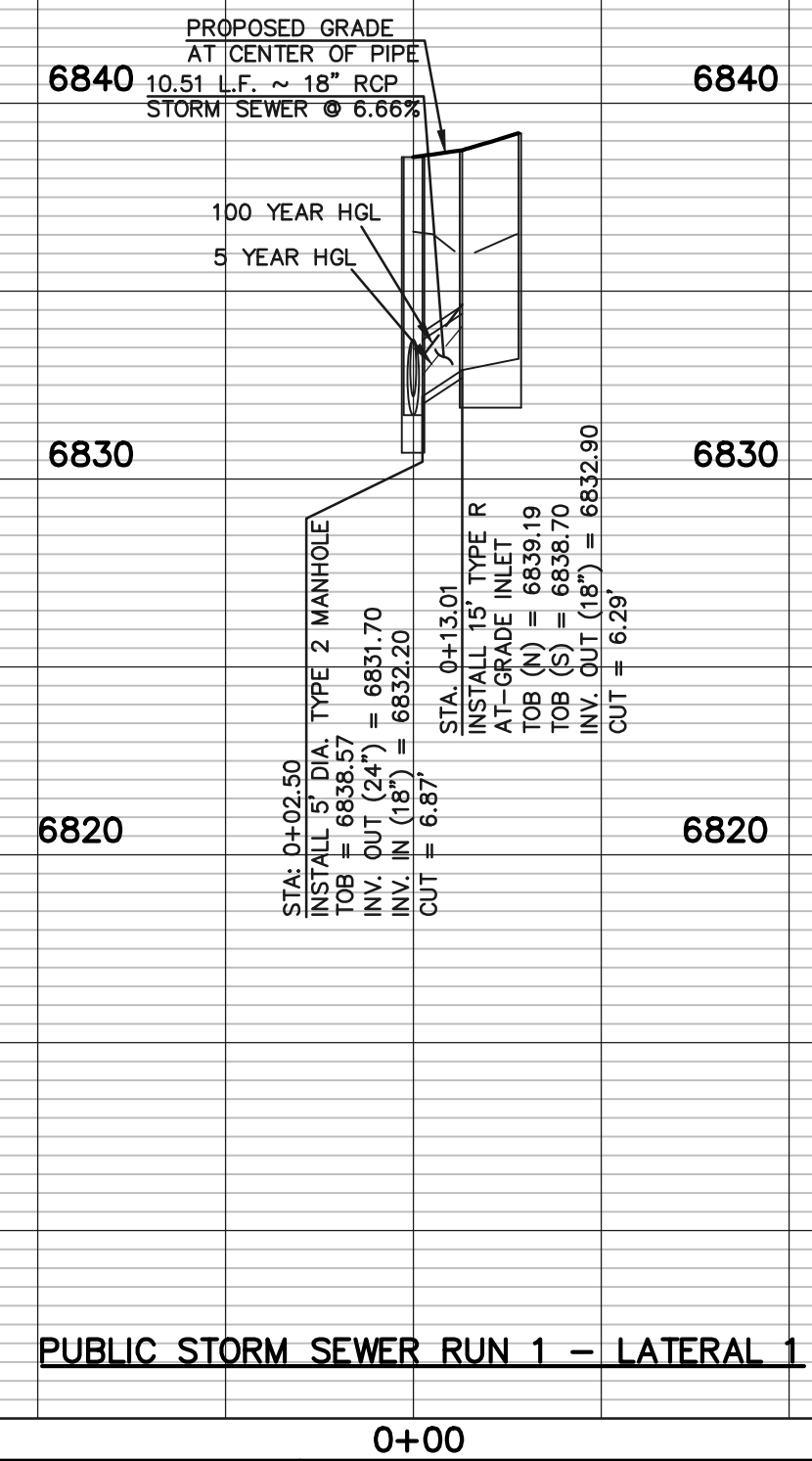
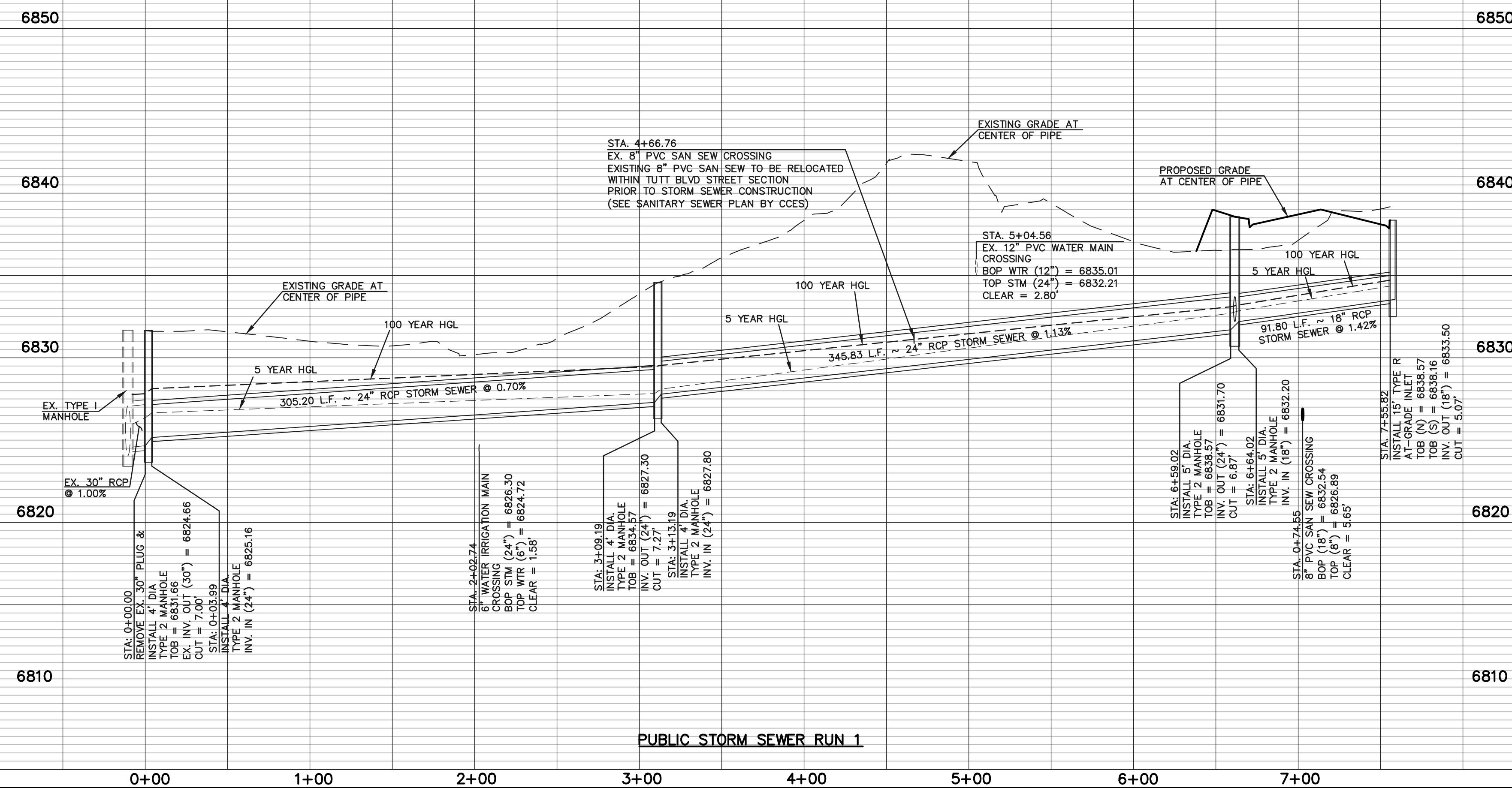
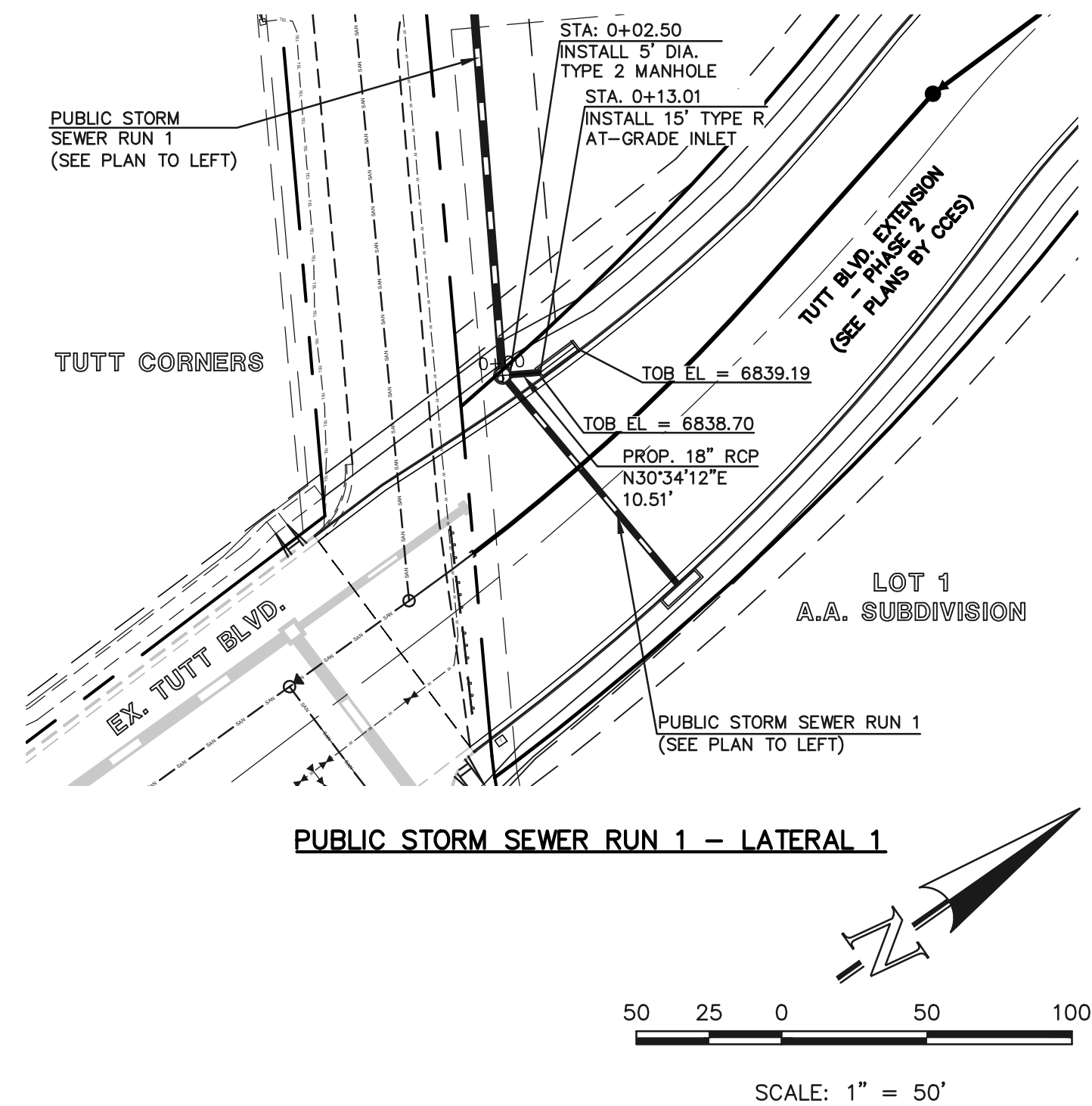
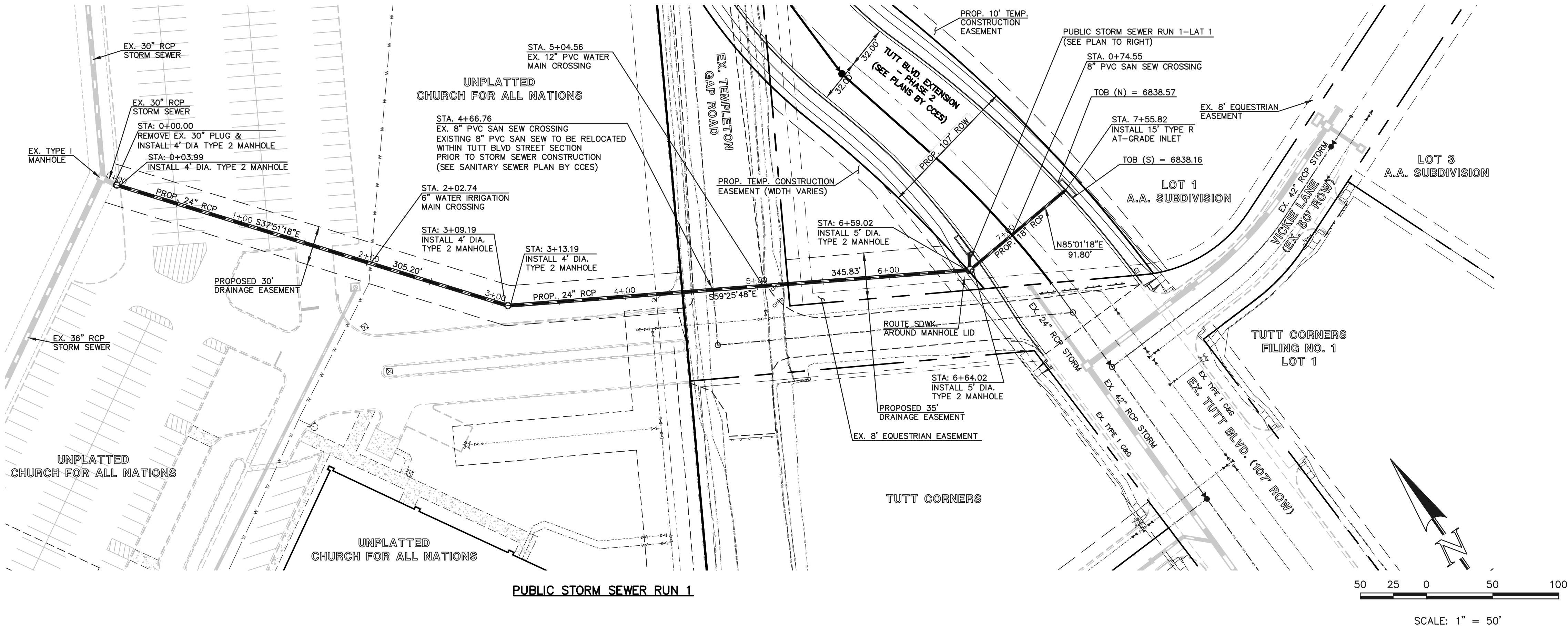
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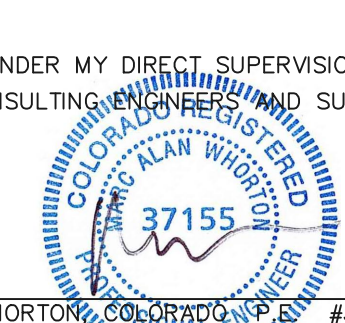
TUTT BLVD EXTENSION - PHASE 2
PUBLIC STORM SEWER PLANS

TITLE SHEET

| | | | | |
|-------------|-----|-------------|--------------|----------|
| DESIGNED BY | PRA | SCALE | DATE | 08/25/22 |
| DRAWN BY | PRA | (H) 1"= N/A | SHEET 1 OF 4 | |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2467.16 |



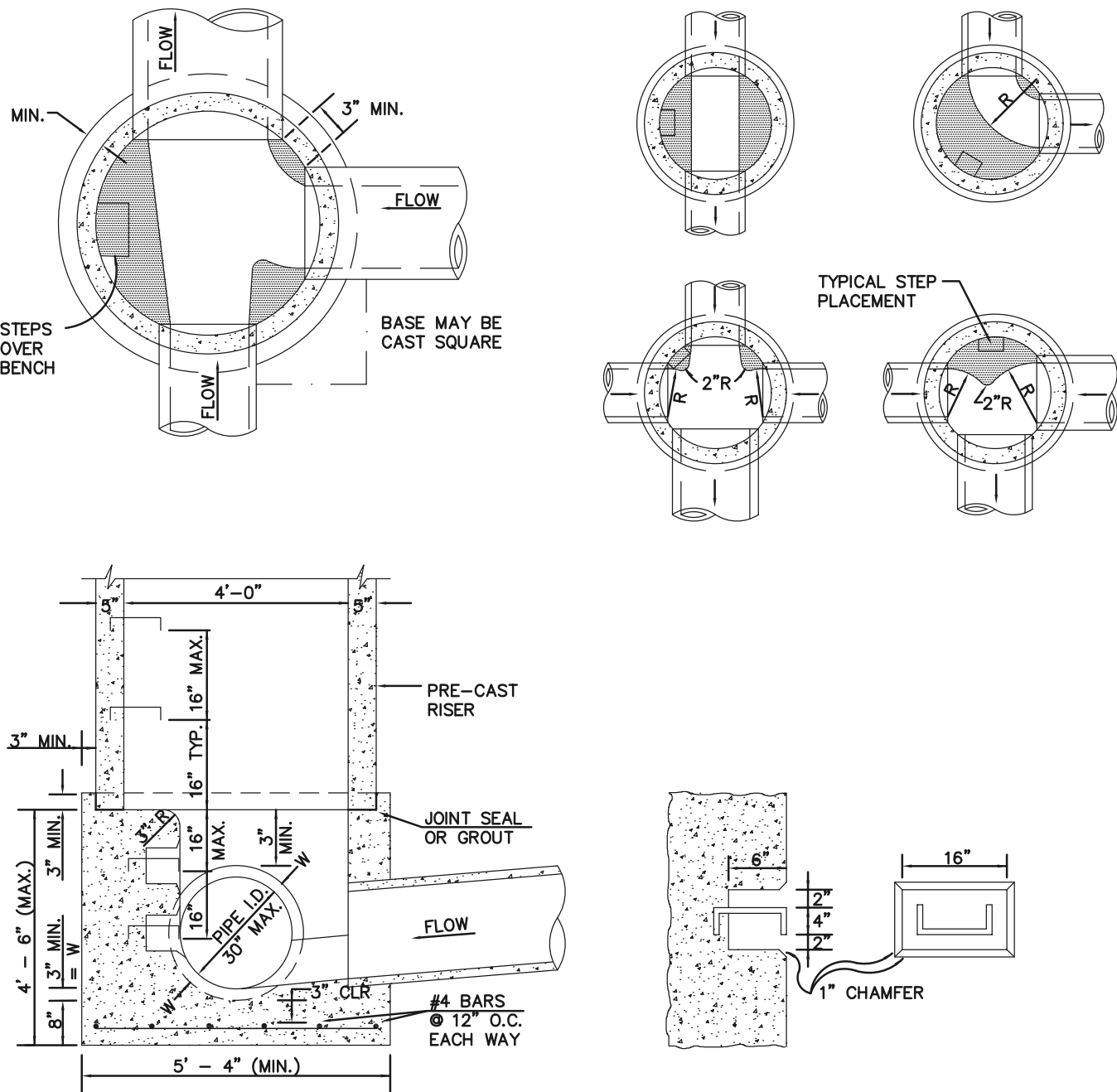


| <p>REVIEW:</p> <p>STREET DESIGN FOR CITY ENGINEERING:</p> <p>DRAINAGE DESIGN: <i>Erica May</i> DATE 2/22/2023</p> <p>THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED</p> | | <p>ENGINEERING STATEMENT</p> <p>PLAN REVIEW BY CITY OF COLORADO SPRINGS IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH DESIGN CRITERIA. THE CITY OF COLORADO SPRINGS IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE CITY OF COLORADO SPRINGS, THROUGH ITS APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.</p> <p>*FINAL ACCEPTANCE OF PUBLIC STORM SEWER WILL NOT BE COMPLETED UNTIL ALL DRAINAGE EASEMENTS HAVE BEEN OBTAINED</p> | | <p>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS 811</p> <p>UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW</p> <p>THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.</p> | | <table><thead><tr><th>NO.</th><th>REVISION</th><th>DATE</th></tr></thead><tbody><tr><td>1</td><td>REVISED PER CITY COMMENTS</td><td>1/11/23</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table> | | NO. | REVISION | DATE | 1 | REVISED PER CITY COMMENTS | 1/11/23 | | | | | | | | | | | | | <p>REVIEW:</p> <p>PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC</p> <p> #37155</p> <p>MARC A. WHORTON, COLORADO LICENSE #37155</p> <p>1/26/2023</p> <p>DATE</p> | | <p>TUTT BLVD EXTENSION - PHASE 2 PUBLIC STORM SEWER PLANS PUBLIC STORM SEWER PLANS PLAN & PROFILE SHEET</p> <table><tr><td>DESIGNED BY</td><td>PRA</td><td>SCALE</td><td>DATE</td><td>08/25/22</td></tr><tr><td>DRAWN BY</td><td>PRA</td><td>(H) 1"= 50'</td><td>SHEET</td><td>2 OF 4</td></tr><tr><td>CHECKED BY</td><td> </td><td>(V) 1"= 5'</td><td>JOB NO.</td><td>2467.16</td></tr></table> | | DESIGNED BY | PRA | SCALE | DATE | 08/25/22 | DRAWN BY | PRA | (H) 1"= 50' | SHEET | 2 OF 4 | CHECKED BY | | (V) 1"= 5' | JOB NO. | 2467.16 | <p>CLASSIC CONSULTING ENGINEERS & SURVEYORS</p> <p>619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903</p> <p>(719) 785-0790 (719) 785-0799 (Fax)</p> | |
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| DRAWN BY | PRA | (H) 1"= 50' | SHEET | 2 OF 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECKED BY | | (V) 1"= 5' | JOB NO. | 2467.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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REVIEW:
STREET DESIGN FOR CITY ENGINEERING:

DRAINAGE DESIGN: *Emm. Nagy* DATE *2/22/2023*
THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED



STORM SEWER MANHOLE - TYPE II

NOTES

1. TYPE II MANHOLES SHALL BE USED ONLY WITH APPROVAL OF THE CITY ENGINEER AND ONLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.
2. VIEW AND DETAILS ARE TYPICAL. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
3. EITHER LADDER OR STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30" STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.
4. PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.
5. BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., 1/2" PER FT. MIN.).
6. FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1 MAX., 1/2" PER FT. MIN.). FLOOR SHALL BE SHAPED AND CHANNELLED; SEE DETAILS THIS SHEET.

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811
UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW

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| NO. | REVISION | DATE |
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REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO REGISTERED PROFESSIONAL ENGINEER #37155

1/26/2023

DATE



619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)

TUTT BLVD EXTENSION - PHASE 2
PUBLIC STORM SEWER PLANS
DETAIL SHEET

| | | | | |
|-------------|--------------|--------------|---------|----------|
| DESIGNED BY | PRA | SCALE | DATE | 08/25/22 |
| DRAWN BY | PRA | (H) 1" = N/A | SHEET | 3 OF 4 |
| CHECKED BY | (V) 1" = N/A | JOB NO. | 2467.16 | |

CLASSIC
CONSULTING
ENGINEERS & SURVEYORS

GENERAL NOTES:

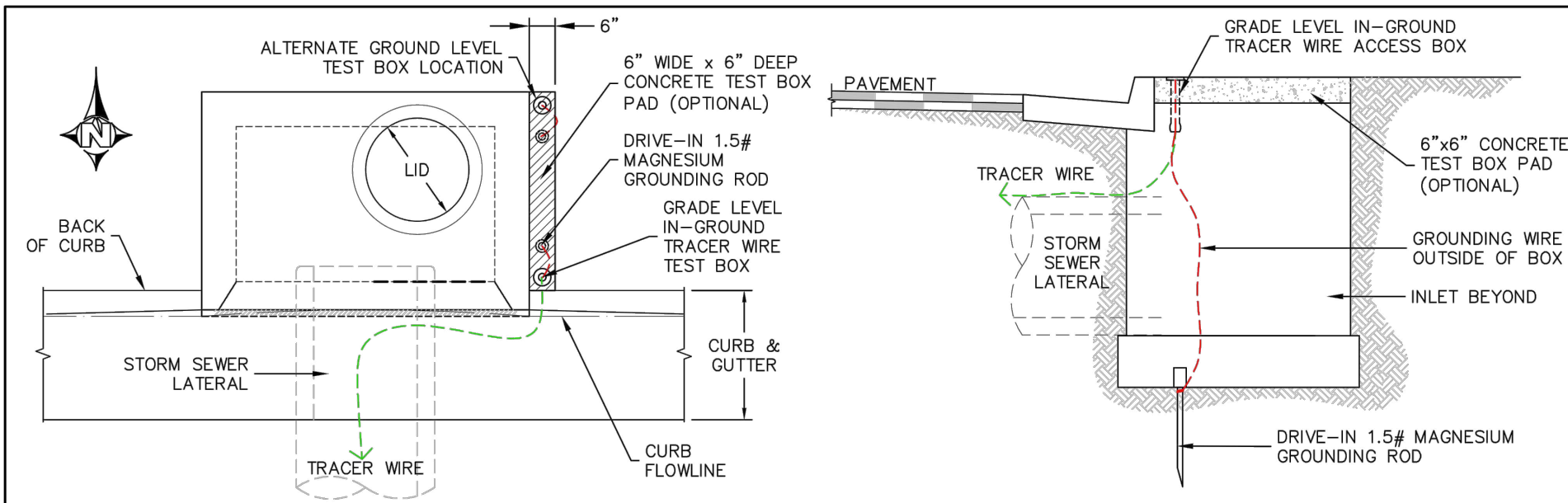
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT CITY OF COLORADO SPRINGS ENGINEERING DIVISION (THE CITY) STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS (EXCAVATION, CONCRETE, TRAFFIC CONTROL, ETC.), AND NOTIFY THE CITY BY 1500 HOURS THE BUSINESS DAY BEFORE INSPECTION IS REQUIRED.
 - DO NOT BACKFILL INLETS PRIOR TO ONE-POUND ANODE AND 1.5# MAGNESIUM GROUND ROD INSTALLATION.
- TRACER WIRE:
- TRACER WIRE SHALL BE INSTALLED ON ALL UNDERGROUND PIPE.
 - TRACER WIRE FOR STORM SEWER AND DRAIN LINES SHALL BE GREEN IN ACCORDANCE WITH AMERICAN PUBLIC WORKS ASSOCIATION (APWA) UNIFORM COLOR CODE.
 - "OPEN TRENCH" TRACER WIRE SHALL BE #8 OR #10 AWG COPPER SOLID OR #12 AWG COPPER CLAD HIGH STRENGTH WITH MINIMUM 30 MIL HDPE INSULATION THICKNESS COMPLYING WITH ASTM D-1248, AND A MINIMUM AVERAGE TENSILE BREAK LOAD OF 450-LBS, AND A 30-MIL HDPE JACKET-GREEN (TYPICAL).
 - "PIPE/SPLIT LINING" TRACER WIRE SHALL BE 7X7 STRANDED COPPER CLAD STEEL, EXTREME STRENGTH WITH 4,700 LB. BREAK LOAD, WITH MINIMUM 50-MIL HDPE INSULATION THICKNESS.
 - TRACER WIRE SHALL BE SECURED EVERY 5-FEET TO 8-FEET ON THE TOP OF THE PIPE BY TAPING OR TYING TO THE PIPE.
 - A 4-WAY CONNECTOR OR (2) 3-WAY CONNECTORS WITH SHORT JUMP WIRE ARE REQUIRED AT ALL CROSSINGS.
 - TRACER WIRE SHALL BE AS CONTINUOUS AS POSSIBLE. IF SPLICING IS NECESSARY, THE ONLY APPROVED SPLICE METHOD IS A SPLIT BOLT CONNECTOR HOUSED IN A SPLIT BOLT HOUSING.
 - ANY DAMAGE OCCURRING DURING INSTALLATION OF THE TRACER WIRE MUST BE IMMEDIATELY REPAIRED BY REMOVING THE DAMAGED WIRE AND INSTALLING A NEW SECTION OF WIRE WITH APPROVED CONNECTORS. TAPING AND/OR SPRAY COATING SHALL NOT BE ALLOWED AS A CONNECTION.
 - EXPOSED WIRE SHALL BE WRAPPED WITH SCOTCH LINERLESS RUBBER SPLICING TAPE TO SEAL OUT MOISTURE, AND THEN COATED WITH SCOTCH SUPER 33+ VINYL ELECTRIC TAPE TO SEAL THE RUBBER TAPE.
 - TRACER WIRE CAN NOT BE PLACED INSIDE DRAINAGE INLETS.

TERMINATION/ACCESS:

- TRACER WIRE SHALL BE BROUGHT ABOVE GROUND AND CONNECT AT EACH INLET AND MANHOLE IN A GRADE LEVEL TRACER WIRE TEST BOX.
- A MINIMUM OF 2-FEET OF EXCESS/SLACK WIRE IS REQUIRED IN ALL TRACER WIRE ACCESS BOXES AFTER MEETING FINAL ELEVATION.
- DRIVE-IN 1.5# MAGNESIUM GROUND RODS (ANODE) WHICH SHALL BE ATTACHED TO THE END OF THE TRACER WIRE.
- TRACER WIRE MUST BE PROPERLY GROUNDED AT ALL DEAD ENDS (INLETS, OUTFALL, ETC.), AND DRIVEN INTO NATIVE SOIL AT PIPE LEVEL.
- TRACER WIRE TERMINATION POINTS MUST UTILIZE A WIRE ACCESS BOX.
- TRACER WIRE ACCESS BOXES MUST INCLUDE A MANUAL INTERRUPTIBLE CONDUCTIVE/CONNECTIVE LINK BETWEEN TERMINAL FOR TRACER WIRE CONNECTION AND TERMINAL FOR GROUND ROD WIRE CONNECTION.
- GROUNDING ANODE WIRE AND 1.5# MAGNESIUM GROUND ROD WIRE SHALL BE CONNECTED TO THE IDENTIFIED LOCATION (BOTTOM) TERMINAL IN ALL ACCESS BOXES.
- ALL SERVICE LATERAL TRACER WIRES MUST BE PROPERLY CONNECTED TO THE MAINLINE TRACER WIRE TO ENSURE FULL TRACING/LOCATING CAPABILITIES FROM A SINGLE CONNECTION POINT.
- TRUNK LINE TRACER WIRE SHALL BE CONTINUOUS, BY-PASSING AROUND THE OUTSIDE OF MANHOLES/STRUCTURES ON THE NORTH OR EAST SIDE, UNLESS ON THE END SECTION.
- ALL NEW TRACER WIRE INSTALLATIONS SHALL BE TESTED AND LOCATED PRIOR TO ACCEPTANCE. TESTING AND LOCATING SHALL BE PERFORMED BY A THIRD PARTY AT THE COMPLETION OF ROUGH GRADING AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. ANY DEFICIENCIES SHALL BE CORRECTED PRIOR TO FINAL ACCEPTANCE.
- WHEN REPAIRS ARE PERFORMED ON STORMWATER LINE, TRACER WIRE SHALL BE TESTED PRIOR TO FINAL ACCEPTANCE.

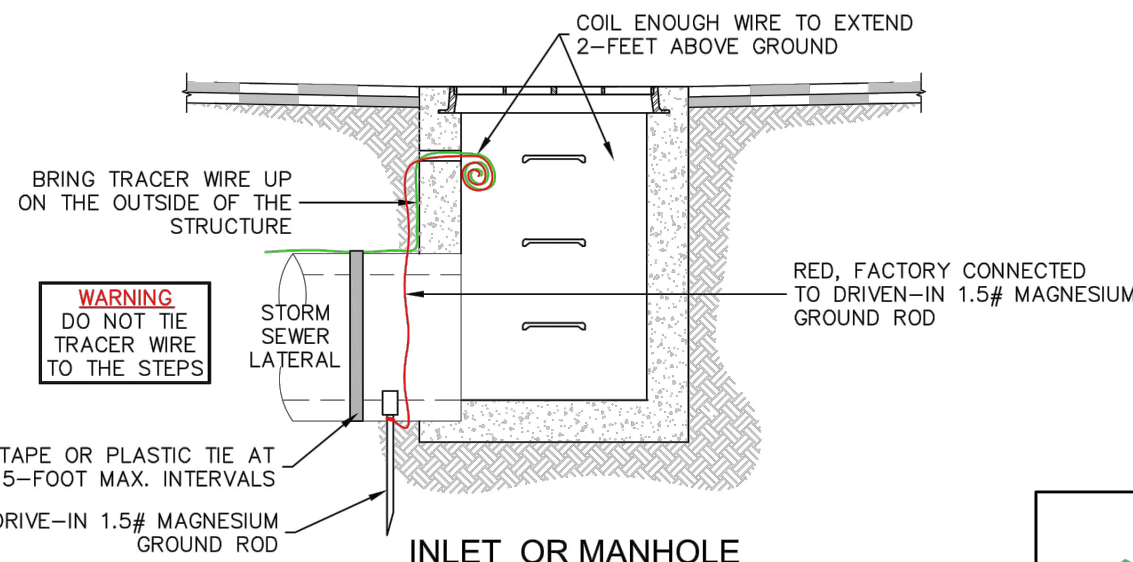


| TRACER WIRE GENERAL NOTES | | |
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| APPROVED: | | |
| CITY ENGINEER | | |
| ISSUED: | REVISED: | DRAWING NO. |
| 8/16/19 | | D-37A |



TYPICAL CURB INLET PLAN

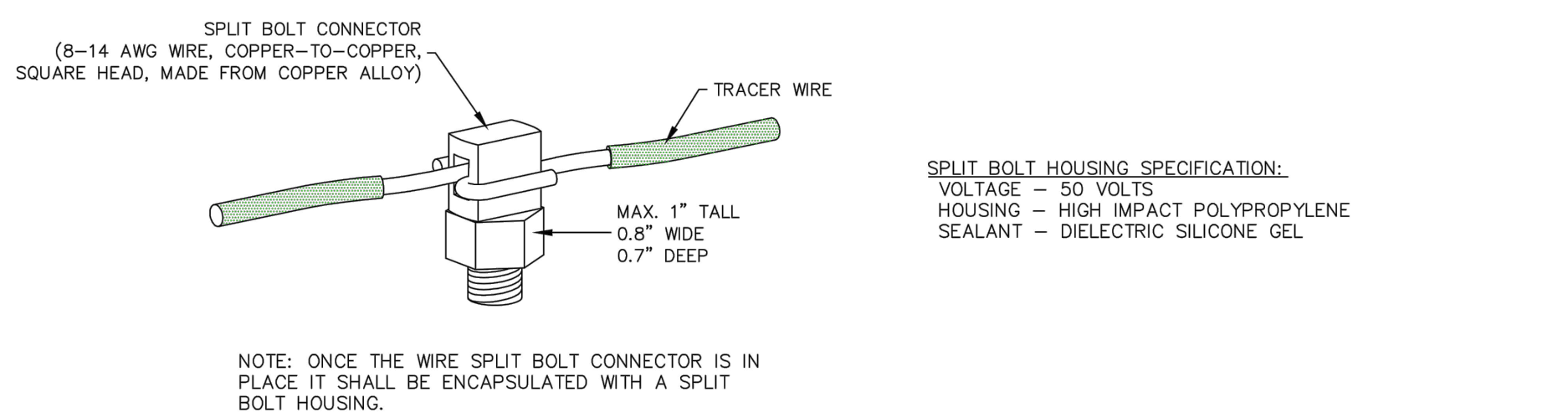
TYPICAL CURB INLET SECTION



INLET OR MANHOLE LOCATED IN PAVED SURFACE



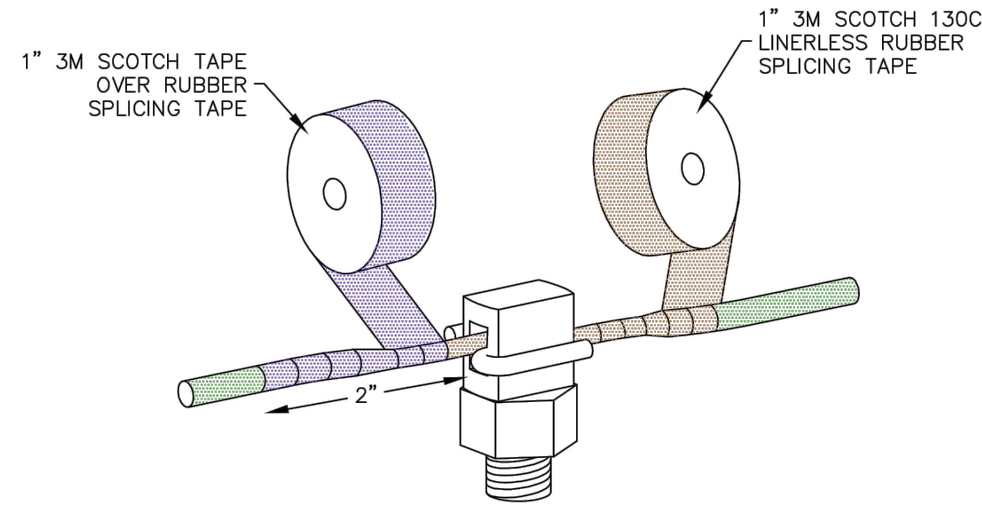
| TRACER WIRE AT STORM SEWER LATERALS | | |
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| APPROVED: | | |
| CITY ENGINEER | | |
| ISSUED: | REVISED: | DRAWING NO. |
| 8/16/19 | | D-37B |



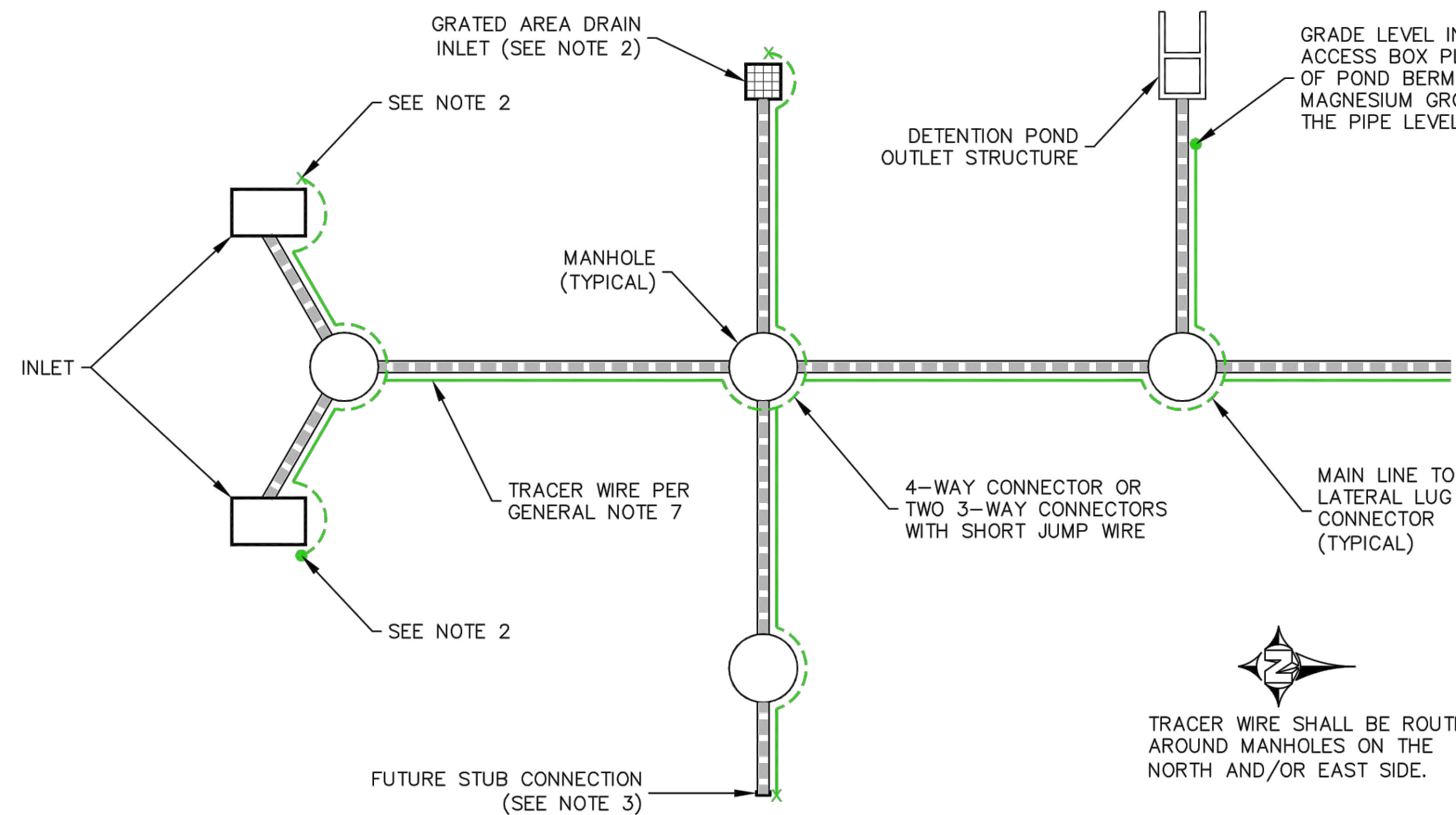
SPLIT BOLT CONNECTION

TAPING NOTES:

- WRAP ALL TRACER WIRE SPLIT BOLT CONNECTORS OR EXPOSED WIRE USING 1-INCH 3M SCOTCH 130C LINERLESS RUBBER SPLICING TAPE. SEAL ALL ENDS TO PREVENT MOISTURE PENETRATION.
- WRAP OVER RUBBER TAPE WITH 1-INCH SCOTCH 33+ VINYL TAPE TO COVER AND PROTECT RUBBER TAPE. EXTEND WRAP 2-INCHES ON BOTH SIDES OF CONNECTOR.



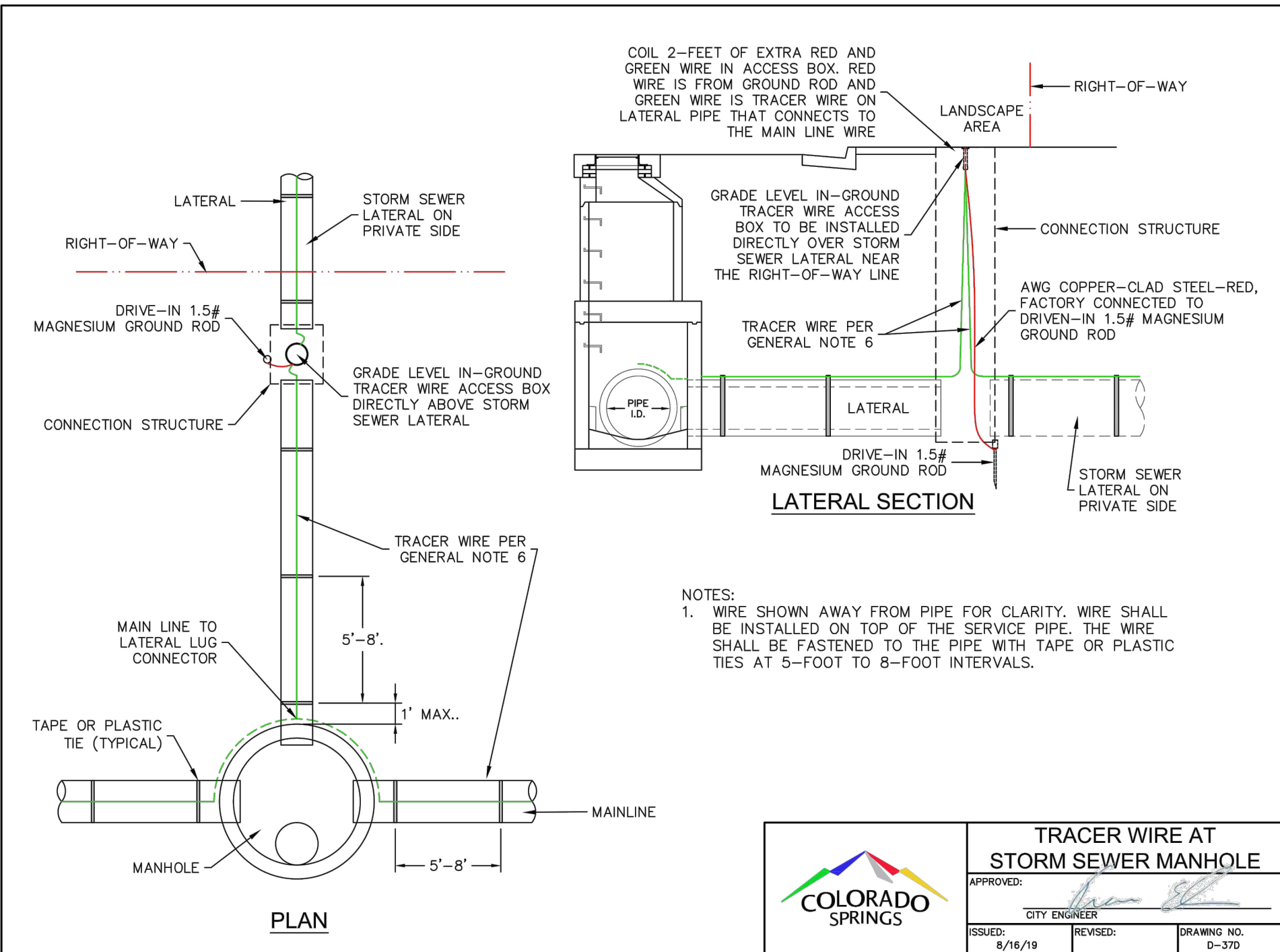
| TRACER WIRE SPLICE DETAIL | | |
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| APPROVED: | | |
| CITY ENGINEER | | |
| ISSUED: | REVISED: | DRAWING NO. |
| 8/16/19 | | D-37C |



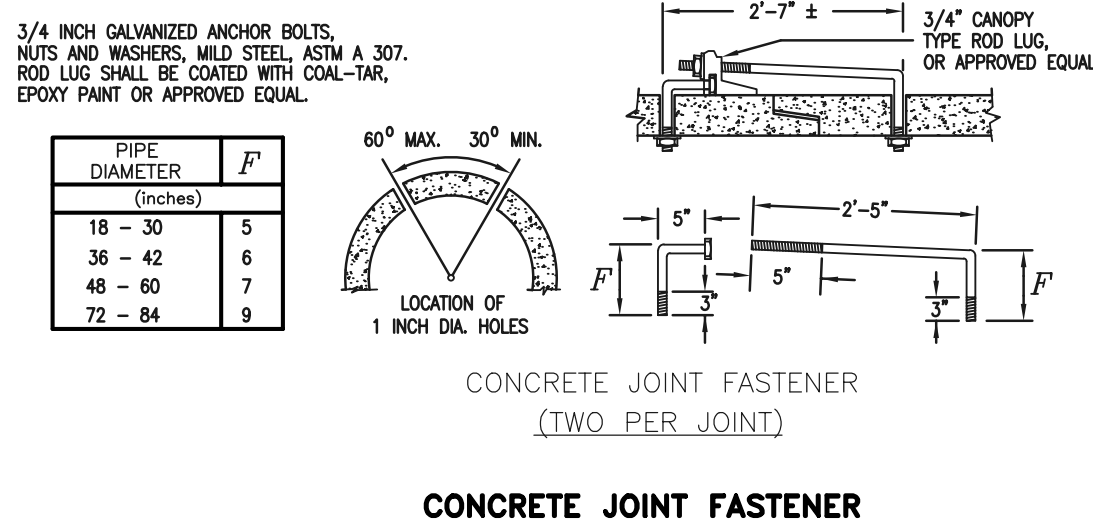
- NOTES:
- WIRE SHOWN AWAY FROM PIPE FOR CLARITY. WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5-FOOT TO 8-FOOT INTERVALS.
 - TRACER WIRE FOR INLETS SHALL TERMINATE AT A GRADE LEVEL IN-GROUND ACCESS BOX. DRIVE-IN MAGNESIUM GROUND ROD MUST BE USED AT ALL TERMINATION POINTS.
 - PLACE A TEST STATION WITH A DRIVE-IN 1.5# MAGNESIUM GROUND ROD AT DEAD ENDS AND FUTURE CONNECTIONS.



| TRACER WIRE SAMPLE STORM SEWER PLAN | | |
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| APPROVED: | | |
| CITY ENGINEER | | |
| ISSUED: | REVISED: | DRAWING NO. |
| 8/16/19 | | D-37C |



| TRACER WIRE AT STORM SEWER MANHOLE | | |
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| APPROVED: | | |
| CITY ENGINEER | | |
| ISSUED: | REVISED: | DRAWING NO. |
| 8/16/19 | | D-37D |



CONCRETE JOINT FASTENER (TWO PER JOINT)

CONCRETE JOINT FASTENER

REVIEW:
STREET DESIGN FOR CITY ENGINEERING:

DRAINAGE DESIGN: DATE 2/22/2023
THIS IS FILED IN ACCORDANCE WITH SECTION 7.7.906 (DRAINAGE ORDINANCE) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED

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REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO REG. #37155

1/26/2023

DATE



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Colorado Springs, Colorado 80903 (719) 785-0799 (Fax)

TUTT BLVD EXTENSION - PHASE 2
PUBLIC STORM SEWER PLANS
DETAIL SHEET

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| DESIGNED BY | PRA | SCALE | DATE | 08/25/22 |
| DRAWN BY | PRA | (H) 1" = N/A | SHEET 4 | OF 4 |
| CHECKED BY | | (V) 1" = N/A | JOB NO. | 2467.16 |



WASTEWATER PLAN NOTES

THE CONTRACTOR SHALL NOTIFY COLORADO SPRINGS UTILITIES' INSPECTIONS OFFICE 719-668-4658 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

GENERAL:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET *COLORADO SPRINGS UTILITIES' WASTEWATER LINE EXTENSION AND SERVICE STANDARDS* (WASTEWATER STANDARDS).
- THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION.
- COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, MANHOLES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE ENGINEER OF RECORD IMMEDIATELY.
- NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WASTEWATER MAIN.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
- ALL FIELD STAKING SHALL COMPLY WITH THE WASTEWATER STANDARDS.
- THE CONTRACTOR SHALL ENSURE THAT WASTEWATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION.
- ALL MANHOLES LOCATED WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISH GRADE. IF MANHOLES ARE IN POOR CONDITION OR IF THE DISTANCE BETWEEN THE RING/COVER AND CONE OF THE MANHOLE EXCEEDS THE WASTEWATER STANDARDS, THE CONTRACTOR MAY BE REQUIRED TO REPLACE PART OR ALL OF THE EXISTING MANHOLES.
- REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE COLORADO SPRINGS UTILITIES INSPECTOR.
- ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE *CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL*.

WASTEWATER PROJECT - SPECIFIC NOTES

- | APPLICABLE | NON-APPLICABLE | |
|-------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | CORROSION PROTECTION IS REQUIRED FOR ALL DUCTILE IRON PIPE. ALL PROTECTION SHALL COMPLY WITH THE WASTEWATER STANDARDS. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | THIS PROJECT IS CONNECTING TO AN EXISTING MANHOLE. A MANHOLE ASSESSMENT HAS BEEN COMPLETED FOR THIS PROJECT. THE FOLLOWING CHECKED ITEMS ARE REQUIRED: <ul style="list-style-type: none"><input checked="" type="checkbox"/> THE CONTRACTOR SHALL PROVIDE A BYPASS PUMPING PLAN FOR APPROVAL BY COLORADO SPRINGS UTILITIES AND COMPLY WITH ALL THE REQUIREMENTS THEREIN.<input type="checkbox"/> REPAIR THE EXISTING MANHOLE (REFER TO PLAN AND PROFILE FOR REQUIREMENTS).<input type="checkbox"/> REPLACE THE EXISTING MANHOLE (REFER TO PLAN AND PROFILE FOR REQUIREMENTS). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | MANHOLES ARE BEING ABANDONED, THE CONTRACTOR SHALL: <ul style="list-style-type: none">• PLUG THE "IN" AND "OUT" INVERTS WITH A WATERTIGHT MECHANICAL PLUG AND GROUT WITH APPROVED MATERIAL.• REMOVE AND DISPOSE OF THE CONE SECTION.• REMOVE THE RING AND COVER AND RETURN THEM TO COLORADO SPRINGS UTILITIES.• FILL THE MANHOLE WITH APPROVED MATERIAL. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | WASTEWATER MAINS EXISTS UNDERNEATH A PROPOSED STRUCTURE, CONTRACTOR SHALL: <ul style="list-style-type: none"><input type="checkbox"/> REMOVE IT<input type="checkbox"/> GROUT IT FULL |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | WASTEWATER MAIN TO BE ABANDONED EXISTS WITHIN RIGHT-OF-WAY, THE CONTRACTOR SHALL: <ul style="list-style-type: none"><input type="checkbox"/> REMOVE IT<input checked="" type="checkbox"/> GROUT IT FULL |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | PIPELINES LESS THAN 1.04% GRADE ARE PROPOSED. THE CONTRACTOR SHALL COMPLY WITH THE ADDITIONAL REQUIREMENTS AS SPECIFIED WITHIN THE WASTEWATER STANDARDS. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | THIS PROJECT IS UTILIZING EXISTING WASTEWATER STUB(S) IN AN "AS-IS" CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE STUB(S), CONNECTION, AND SUBSEQUENT EXTENSION MEET ALL CURRENT WASTEWATER STANDARDS AND DO NOT HAVE ANY DEFECTS. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF THE DEPTH, LOCATION, OR CONDITION OF ANY EXISTING STUB(S) SHOWN ON ANY "AS CONSTRUCTED" DRAWINGS. FURTHER, THE EXISTING STUB SHALL BE INCLUDED IN THE TWO-YEAR WARRANTY PERIOD FOR THIS PROJECT. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | A WASTEWATER STUB OR STUBS ARE PROPOSED WITH THIS PROJECT. COLORADO SPRINGS UTILITIES WILL INSPECT THE CONSTRUCTION BUT DOES NOT GUARANTEE THAT THE DESIGN OR INSTALLATION OF THE PROPOSED STUB(S) WILL MEET FUTURE DEVELOPMENT REQUIREMENTS. FURTHER, THE PROPOSED STUB(S) WILL NOT BE INCLUDED IN THE TWO-YEAR WARRANTY PERIOD FOR THIS PROJECT AND WILL NOT BE ACCEPTED OR OWNED BY COLORADO SPRINGS UTILITIES. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | UNDERDRAIN REVIEW BY THE CITY ENGINEERING DIVISION IS FOR SYSTEM SEPARATION AND DISCHARGE TO OPEN DRAINAGE OR STORM SEWER. THE PUBLIC WORKS DEPARTMENT AND COLORADO SPRINGS UTILITIES ARE NOT RESPONSIBLE FOR UNDERDRAIN SYSTEM MAINTENANCE |

TUTT BLVD EXTENSION - PHASE 2

CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO

PUBLIC 8" PVC SANITARY SEWER PLAN

MARCH 2022

BASIS OF BEARINGS:

A PORTION OF THE NORTHERLY BOUNDARY OF LOT 2 AS PLATTED IN A.A. SUBDIVISION RECORDED IN PLAT BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE NORTHWESTERLY END BY 1" WASHER AND NAIL STAMPED "2692" AND AT THE SOUTHEASTERLY END BY A 1" YELLOW PLASTIC CAP STAMPED "LDC 18465" IS ASSUMED TO BEAR S60°02'31"E, A DISTANCE OF 268.19 FEET.

BENCHMARKS:

- A RECOVERED 1" YELLOW PLASTIC CAP STAMPED "18465" LOCATED AT THE NORTHEASTERLY CORNER OF LOT 2 AS PLATTED IN "A A SUBDIVISION" RECORDED IN BOOK W-2 AT PAGE 94, RECORDS OF EL PASO COUNTY, COLORADO LOCATED ON THE SOUTHERLY RIGHT OF WAY LINE OF VICKIE LANE. EL: 6837.13
- A RECOVERED 1" RED PLASTIC CAP STAMPED "19586" LOCATED AT THE SOUTHWESTERLY CORNER OF TUTT BOULEVARD AS PLATTED IN "TUSCANY PLAZA SUBDIVISION FILING NO. 1" RECORDED UNDER RECEPTION NO. 209712964, RECORDS OF EL PASO COUNTY, COLORADO. EL: 6862.30

PROJECT SPECIFIC NOTES:

- ALL SANITARY STATIONS ARE CENTERLINE OF SANITARY MAIN.
- ALL PROPOSED SANITARY SEWER MAINS ARE PVC.

FOR PUBLIC IMPROVEMENTS

- CONTRACTOR TO CONTACT DESIGN ENGINEER IMMEDIATELY IF CONSTRUCTION VARIES IN ANY WAY FROM THE PLANS.
- CONTRACTOR TO NOTIFY ENGINEER PRIOR TO START OF JOB FOR PRE-CONSTRUCTION MEETING.
- CONTRACTOR TO PROVIDE PROJECT SCHEDULE TO ENGINEER VERBALLY OR IN WRITING.
- ADHERENCE TO THE ITEMS LISTED ABOVE FOR COORDINATION PURPOSES WILL HELP FACILITATE A P.E. CERTIFICATION AT THE COMPLETION OF THE PUBLIC IMPROVEMENTS FOR THIS JOB.



VICINITY MAP
NOT TO SCALE

FIMS MAP NUMBER: O-22; O-23

TAX SCHEDULE NO.:

PRESSURE ZONE: BRIARGATE & REDUCED BRIARGATE

STATIC PRESSURE AT MDD: 127 PSI

UTILITY DESIGN CAD FILE NO.: CF20232995

UAP FILE NO: N/A

DEVELOPMENT PLAN NO.: N/A

APPROVAL DATE: N/A

PLAT REC. NO.:

PUBLIC UTILITY EASEMENT REC. NO.:

NOTICE OF PRIVATE WASTEWATER SYSTEM REC. NO.: N/A

NOTICE OF PRIVATE WATER SYSTEM REC. NO.: N/A

SHEET INDEX:

SHEET 1 OF 2 - TITLE SHEET

SHEET 2 OF 2 - PUBLIC 8" PVC SANITARY SEWER PLAN

UNDERDRAIN NOTE:

UNDERDRAIN SLOPE TO MATCH SLOPE OF SANITARY SEWER MAIN UNLESS OTHERWISE NOTED. 6" PVC UNDERDRAIN TO BE "PASSIVE". IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION UNDERDRAIN TO BE "ACTIVE" (PERFORATED). COORDINATION WITH THE CSU INSPECTOR IS REQUIRED.

UNDERDRAIN REVIEW STATEMENT

REVIEW BY CITY ENGINEERING DIVISION IS FOR SYSTEM SEPARATION AND DISCHARGE TO OPEN DRAINAGE OR STORM SEWER. THE PUBLIC WORKS DEPARTMENT AND COLORADO SPRINGS UTILITIES ARE NOT RESPONSIBLE FOR UNDERDRAIN SYSTEM MAINTENANCE.

REVIEWED BY: _____ DATE: _____

UTILITY GRADE REVIEW

CENTERLINE LINE AND GRADE IS REVIEWED FOR CONFORMANCE TO STANDARDS TO ALLOW FOR THE DESIGN AND CONSTRUCTION OF UTILITY MAINS. DRAINAGE FACILITIES DESIGN HAS BEEN CHECKED BY THE DESIGN ENGINEER TO AVOID CONFLICTS WITH UTILITY MAINS. THIS IS NOT A CURB & GUTTER REVIEW AND THE DEVELOPER WILL BE RESPONSIBLE FOR ANY COST DUE TO DESIGN CHANGES PRIOR TO CURB & GUTTER REVIEW. THIS REVIEW EXPIRES IN 180 DAYS.

SIGNED: _____ DATE: _____

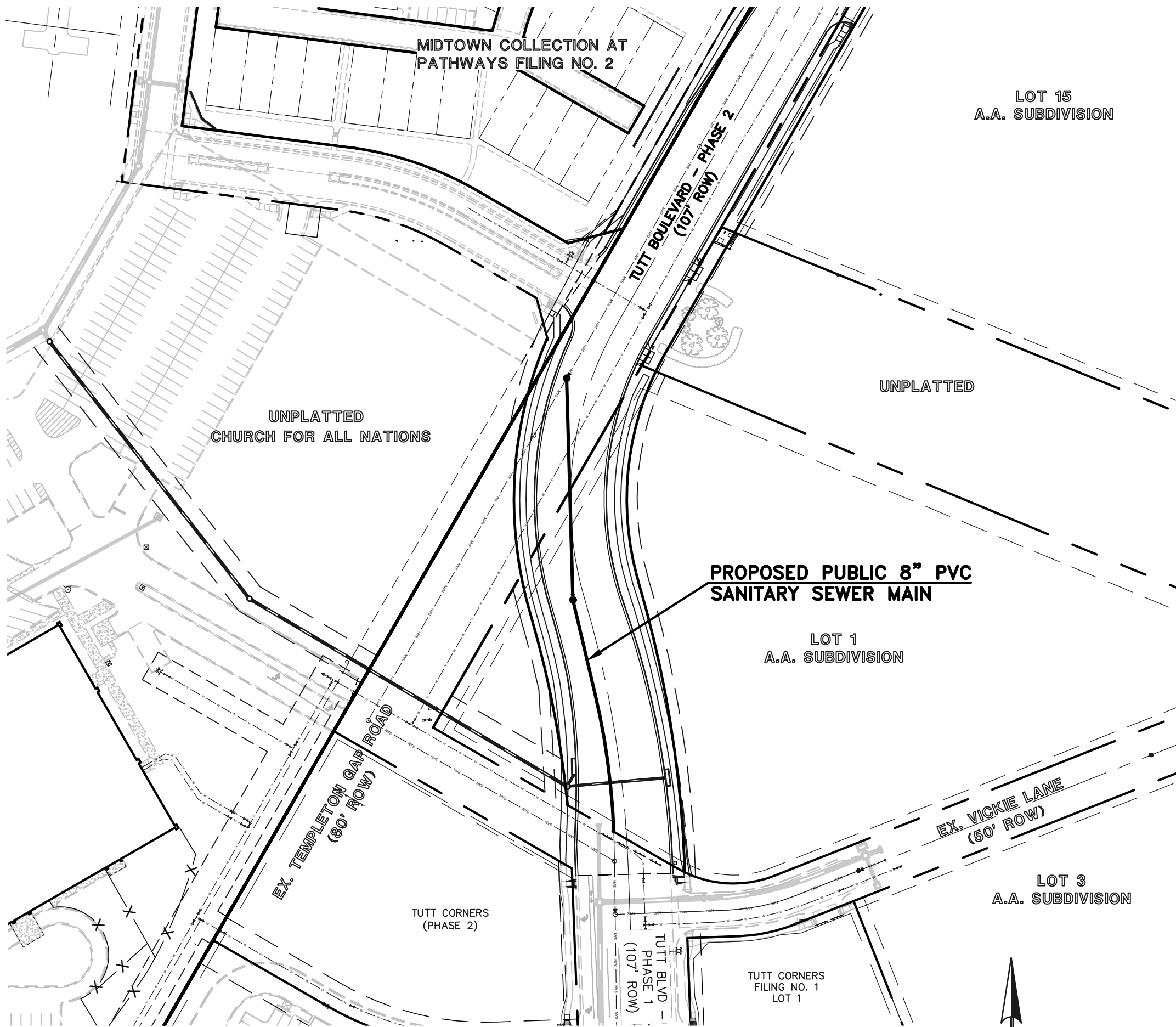
COLORADO SPRINGS UTILITIES
WASTEWATER MAIN DESIGN APPROVAL

PROJECT NUMBER: 2023-S008

WORK ORDER NUMBER: 3966093

CSU SHEET 1 OF 2

APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE ABOVE AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.



KEYMAP
SCALE: 1"=100'

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811

UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NO. REVISION

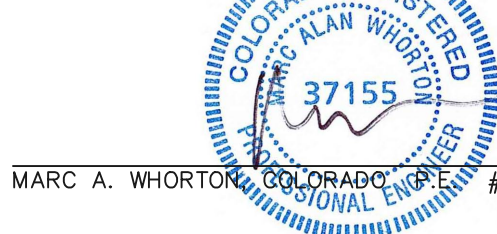
1 REVISED PER CSU COMMENTS

DATE

3-10-23

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC



9/28/2023

DATE



619 N. Cascade Avenue, Suite 200 (719) 785-0790
Colorado Springs, Colorado 80903 (719) 785-0799 (Fax)

AGENCIES

CITY ENGINEERING:

CITY OF COLORADO SPRINGS
PUBLIC WORKS DEPARTMENT
30 S. NEVADA AVENUE, SUITE 403
COLORADO SPRINGS, CO 80903
MR. MIKE CHAVES, P.E. (719) 385-5408

CIVIL ENGINEER:

CLASSIC CONSULTING ENGINEERS & SURVEYORS
6385 CORPORATE DRIVE, SUITE 101
COLORADO SPRINGS, CO 80919
MR. MARC A. WHORTON, P.E. (719) 785-0790

TRAFFIC ENGINEERING:

CITY OF COLORADO SPRINGS
30 S. NEVADA AVENUE
COLORADO SPRINGS, COLORADO 80903
MR. TODD FRISBIE P.E. P.T.O.E. (719) 385-7628

WATER RESOURCES
ENGINEERING DIVISION:

CITY OF COLORADO SPRINGS
30 S. NEVADA AVENUE, SUITE 401
COLORADO SPRINGS, CO 80903
MR. JOEL MEZKER, (719) 385-5613

EDRD ENGINEERING:

CITY OF COLORADO SPRINGS
30 S. NEVADA AVENUE, SUITE 401
COLORADO SPRINGS, COLORADO 80903
MR. PATRICK MORRIS, (719) 385-5075

CSU WATER AND
WASTEWATER:

DEVELOPMENT SERVICES
1521 HANCOCK EXPRESSWAY
COLORADO SPRINGS, COLORADO 80903
MR. CALEB SAVAGE, (719) 668-1855

FIELD ENGINEERING GAS:

COLORADO SPRINGS UTILITIES
7710 DURANT DRIVE
COLORADO SPRINGS, COLORADO 80903
MR. TIM BENEDICT, (719) 668-4985

FIELD ENGINEERING ELEC:

COLORADO SPRINGS UTILITIES
7710 DURANT DRIVE
COLORADO SPRINGS, COLORADO 80920
MR. TIM BENEDICT, (719) 668-4985

ADDITIONAL
ELECTRIC COMPANY:

MOUNTAIN VIEW ELECTRIC ASSOC., INC.
11140 EAST WOODMEN ROAD
FALCON, COLORADO 80831
MS. AMY CALLAGHAN (719) 495-2283

FIRE DEPARTMENT:

CITY OF COLORADO SPRINGS FIRE PREVENTION DIVISION
2880 INTERNATIONAL CIRCLE - SUITE 200
COLORADO SPRINGS, COLORADO 80910
MS. DEE WITHEE (719) 385-7361

TELEPHONE COMPANY:

CENTURYLINK (LOCATORS) 811
A.T.& T. (LOCATORS) 811
FALCON BROADBAND (LOCATORS) 811
ZAYO GROUP (LOCATORS) 811
PCI BROADBAND (LOCATORS) 811

TUTT BLVD EXTENSION - PHASE 2
PUBLIC 8" PVC SANITARY SEWER PLAN

TITLE SHEET

DESIGNED BY PRA SCALE DATE 03/11/22

DRAWN BY PRA (H) 1"= N/A SHEET 1 OF 2

CHECKED BY (V) 1"= N/A JOB NO. 2467.16



SCHEDULE I – EXHIBITS

- Exhibit 1 Sample Contract
- Exhibit 2 RESERVED
- Exhibit 3 Qualification Statement
- Exhibit 4 Bid Certification and Representations and Certifications
- Exhibit 5 Bid Bond

EXHIBIT 1 – SAMPLE CONTRACT

CONSTRUCTION CONTRACT

| | | | |
|--------------------------------|------------------|------------------------|---------------------------------------------------------------------------------------------------------------|
| Contract Number: | | Project Name/Title | |
| | | | |
| Vendor/Contractor | | | |
| Contact Name: | | Telephone: | |
| Email Address: | | | |
| Address: | | | |
| Federal Tax ID # | | Please check one: | <input type="checkbox"/> Corporation <input type="checkbox"/> Individual <input type="checkbox"/> Partnership |
| | | | |
| City Contracting Specialist | | City Dept Rep | |
| NOT TO EXCEED Contract Amount: | | City Account # | |
| Contract Type: | Fixed Unit Price | Period of Performance: | |

1. INTRODUCTION

THIS Fixed Unit Price CONTRACT ("Contract") is made and entered into this XXX day of XXX, 2022 by and between the City of Colorado Springs, a Colorado municipal corporation and home rule city, in the County of El Paso, State of Colorado, (the "City"), and _____ (the "Contractor").

THE CITY AND THE CONTRACTOR HEREBY AGREE AS FOLLOWS:

The City has heretofore prepared the necessary Contract Documents for the following Activity: XXXX.

The Contractor did on the XXX day of XXX, 2022 submit to the City the Contractor's written offer and proposal to do the work therein described under the terms and conditions therein set forth and furnish all materials, supplies, labor, services, transportation, tools, equipment, and parts for said work in strict conformity with the accompanying Contract Documents, which are attached hereto and incorporated herein by this reference, including the following:

1. This Contract
2. Schedule A – Price Sheet
3. Schedule B – General Construction Terms and Conditions
4. Schedule C – Special Contract Terms and Conditions
5. Schedule D – General Specifications
6. Schedule E – Special and Technical Specifications
7. Schedule F – Scope of Work
8. Exhibit 1 – Performance, Labor and Material Payment, and Maintenance Bonds
9. Exhibit 2 – Minimum Insurance Requirements

2. COMPENSATION/CONSIDERATION

THIS FIXED UNIT PRICE CONTRACT is established at the Not to Exceed amount of \$xxxxxxx.

Subject to the terms and conditions of the Contract Documents, Contractor agrees to furnish all materials and to perform all work as set forth in its proposal and as required by the Contract Documents.

All pricing is in accordance with the fixed unit prices found in Schedule A, as proposed by the Contractor. Payment made for actual quantities as set forth in Schedule B, General Construction Terms and Conditions. At no time shall the total obligation of the City exceed the not to exceed amount of this Contract.

3. TERM OF CONTRACT

Contractor will start work promptly after the Notice to Proceed and continue to work diligently until completed. The Contractor shall complete all work on an as ordered basis throughout the Contract period which is **the date of Notice to Proceed through April 30, 2022** ("Period of Performance") as per the specifications and drawings. The Contractor shall provide a two-year guarantee on all work performed under this Contract after the job has been completed and accepted.

4. INSURANCE

The Contractor shall provide and maintain acceptable Insurance Policy(s) consistent with the Minimum Insurance Requirements attached as Exhibit 2, which includes Property, Liability, and as otherwise listed in Exhibit 2. The City of Colorado Springs shall be reflected as an additional insured on the Property and Liability policy(s).

Further, Contractor understands and agrees that Contractor shall have no right of coverage under any existing or future City comprehensive, self, or personal injury policies. Contractor shall provide insurance coverage for and on behalf of Contractor that will sufficiently protect Contractor, or Contractor's agents, employees, servants or other personnel, in connection with the services which are to be provided by Contractor pursuant to this Contract, including protection from claims for bodily injury, death, property damage, and lost income. Contractor shall provide worker's compensation insurance coverage for Contractor and all Contractor personnel. Contractor shall file applicable insurance certificates with the City and shall also provide additional insurance as indicated in this Contract. ***A CURRENT CERTIFICATE OF INSURANCE IS REQUIRED PRIOR TO COMMENCEMENT OF SERVICES LISTING THE CITY AND XXXX AS ADDITIONALLY INSURED.***

5. RESPONSIBILITY OF THE CONTRACTOR

- A. The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all Scope of Work services furnished by the Contractor under this Contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiencies in services provided under this Contract to the satisfaction of the City.
- B. The City's review, approval of, acceptance of, or payment for the services required under this Contract shall not be construed to operate as a waiver of any rights under this Contract or of any cause of action arising out of the performance of this Contract, and the Contractor shall be and remain liable to the City for any and all damages to the City caused by the Contractor's negligent performance of any of the services furnished under this Contract.

- C. The rights and remedies of the City provided for under this Contract are in addition to any other rights and remedies provided by law.
- D. If the Contractor is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.

6. WORK OVERSIGHT

- A. The extent and character of the work to be done by the Contractor shall be subject to the general approval of the City's delegated Project Manager.
- B. If any of the work or services being performed does not conform with Contract requirements, the City may require the Contractor to perform the work or services again in conformity with Contract requirements, at no increase in Contract amount. When defects in work or services cannot be corrected by re-performance, the City may (1) require the Contractor to take necessary action to ensure that future performance conforms to Contract requirements and (2) reduce the Contract price to reflect the reduced value of the work or services performed.
- C. If the Contractor fails to promptly perform the defective work or services again or to take the necessary action to ensure future performance is in conformity with Contract requirements, the City may (1) by Contract or otherwise, perform the services and charge to the Contractor any cost incurred by the City that is directly related to the performance of such work or service or (2) terminate the Contract for breach of contract.

7. SUBCONTRACTORS, ASSOCIATES, AND OTHER CONTRACTORS

- A. Any subcontractor, outside associates, or other contractors used by the Contractor in connection with Contractor's work under this Contract shall be limited to individuals or firms that are specifically identified by the Contractor in the Contractor's proposal and agreed to by the City. The Contractor shall obtain the City's Project Manager's written consent before making any substitution of these subcontractors, associates, or other contractors.
- B. The Contractor shall include a flow down clause in all of its subcontracts, agreements with outside associates, and agreements with other contractors. The flow down clause shall cause all of the terms and conditions of this Contract, including all of the applicable parts of the Contract Documents, to be incorporated into all subcontracts, agreements with outside associates, and agreements with other contractors. The flow down clause shall provide clearly that there is no privity of contract between the City and the Contractor's subcontractors, outside associates, and other contractors.

8. KEY PERSONNEL

The key personnel listed in the proposal and/or below will be the individuals used in the performance of the work. If any of the listed key personnel leave employment or are otherwise not utilized in the performance of the work, approval to substitute must be obtained by the Contractor from the City's Project Manager. Any substitute shall have the same or a higher standard of qualifications that the key personnel possessed at the time of Contract award.

9. START AND CONTINUANCE OF WORK

It is further agreed that the Contractor will start work promptly and continue to work diligently until this Contract is completed.

10. APPROPRIATION OF FUNDS

This Contract is expressly made subject to the limitations of the Colorado Constitution and Section 7-60 of the Charter of the City of Colorado Springs. Nothing herein shall constitute, nor be deemed to constitute, the creation of a debt or multi-year fiscal obligation or an obligation of future appropriations by the City Council of Colorado Springs, contrary to Article X, § 20, Colo. Const., or any other constitutional, statutory, or charter debt limitation. Notwithstanding any other provision of this Contract, with respect to any financial obligation of the City which may arise under this Agreement in any fiscal year after the year of execution, in the event the budget or other means of appropriation for any such year fails to provide funds in sufficient amounts to discharge such obligation, such failure (i) shall act to terminate this Contract at such time as the then-existing and available appropriations are depleted, and (ii) neither such failure nor termination shall constitute a default or breach of this Contract, including any sub-agreement, attachment, schedule, or exhibit thereto, by the City. As used herein, the term "appropriation" shall mean and include the due adoption of an appropriation ordinance and budget and the approval of a Budget Detail Report (Resource Allocations) which contains an allocation of sufficient funds for the performance of fiscal obligations arising under this Contract.

11. CHANGES

The Contractor and the City agree and acknowledge as a part of this Contract that no change order or other form or order or directive may be issued by the City which requires additional compensable work to be performed, which work causes the aggregate amount payable under the Contract to exceed the amount appropriated for this Contract as listed above, unless the Contractor has been given a written assurance by the City that lawful appropriations to cover the costs of the additional work have been made or unless such work is covered under a remedy-granting provision of this Contract. The Contractor and the City further agree and acknowledge as a part of this Contract that no change order or other form or order or directive which requires additional compensable work to be performed under this Contract shall be issued by the City unless funds are available to pay such additional costs, and, regardless of any remedy-granting provision included within this Contract, the Contractor shall not be entitled to any additional compensation for any change which increases or decreases the Contract completion date, or for any additional compensable work performed under this Contract, and expressly waives any rights to additional compensation, whether by law or equity, unless, prior to commencing the additional work, the Contractor is given a written change order describing the change in Contract completion date or the additional compensable work to be performed, and setting forth the amount of compensation to be paid, and such change order is signed by the authorized City representative, as defined below. The amount of compensation to be paid, if any, shall be deemed to cover any and all additional, direct, indirect or other cost or expense or profit of the Contractor whatsoever. It is the Contractor's sole responsibility to know, determine, and ascertain the authority of the City representative signing any change order under this Contract.

No change, amendment, or modification to this Contract shall be valid unless duly approved and issued in writing by the City of Colorado Springs Procurement Services Division. The City shall not be liable for any costs incurred by the Contractor resulting from work performed for changes not issued in writing by the City of Colorado Springs Procurement Services Division.

The following personnel are authorized to sign changes, amendments, or modifications to this Contract.

The Project Manager: Changes up to \$14,999.99

The City of Colorado Springs Chief of Staff: Changes up to \$499,999.99

The Mayor of the City of Colorado Springs: Unlimited

12. ECONOMIC PRICE ADJUSTMENT

- A. The Contractor shall notify the City of Colorado Springs Procurement Services Division if, at any time during contract performance, the rate of pay for labor or the unit prices for material shown in Schedule A experiences a significant increase. A change in price shall be considered significant when the unit price of an item increases by 10% from the execution date of this Contract. The Contractor shall furnish notice of this increase within 60 days after the increase, or within any additional period that the City Procurement Services Division may approve in writing, but not later than the date of final payment under this Contract. The notice shall include the Contractor's proposal for an adjustment in the Contract unit prices to be negotiated under paragraph (b) of this clause, and shall include, in the form required by the City Procurement Services Division, supporting data explaining the cause, effective date, and amount of the increase and the amount of the Contractor's adjustment proposal.
- B. Promptly after the City Procurement Services Division receives the notice and data under paragraph (a) of this clause, the City Procurement Services Division and the Contractor shall negotiate a price adjustment in the contract unit prices and its effective date. However, the City Procurement Services Division may postpone the negotiations until an accumulation of increases in the labor rates (including fringe benefits) and unit prices of material shown in Schedule A results in an adjustment allowable under paragraph (c)(3) of this clause. The City Procurement Services Division shall modify this contract (1) to include the price adjustment and its effective date and (2) to revise the labor rates (including fringe benefits) or unit prices of material as shown in Schedule A to reflect the increases resulting from the adjustment. The Contractor shall continue performance at current rates pending agreement on, or determination of, any adjustment and its effective date.
- C. Any price adjustment under this clause is subject to the following limitations:
 - 1. Any adjustment shall be limited to the effect on unit prices of the increases in the rates of pay for labor (including fringe benefits) or unit prices for material shown in Schedule A. There shall be no adjustment for:
 - (i) Supplies or services for which the production cost is not affected by such changes;
 - (ii) Changes in rates or unit prices other than those shown in Schedule A; or
 - (iii) Changes in the quantities of labor or material used from those shown in Schedule A for each item.
 - 2. No upward adjustment shall apply to supplies or services that are required to be delivered or performed before the effective date of the adjustment, unless the Contractor's failure to deliver or perform according to the delivery schedule results from causes beyond the Contractor's control and without its fault or negligence, within the meaning of the Default clause.
 - 3. There shall be no adjustment for any change in rates of pay for labor (including fringe benefits) or unit prices for material which would not result in a net change of at least 3 percent of the then-current total contract price. This limitation shall not apply, however, if, after final delivery of all line items, either party requests an adjustment under paragraph (b) of this clause.

4. The aggregate of the increases in any contract unit price made under this clause shall not exceed 10 percent of the original unit price.

13. ASSIGNMENT

No assignment or transfer by the Contractor of this Contract or any part thereof or of the funds to be received thereunder by the Contractor will be recognized unless such assignment has had the prior written approval of the City and the surety has been given due notice of such assignment. Such written approval by the City shall not relieve the Contractor of the obligations under the terms of this Contract. In addition to the usual recitals in assignment contracts, the following language must be included in the assignment:

It is agreed that the funds to be paid to the assignee under this assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

14. CHOICE OF LAW

This Contract is subject to and shall be interpreted under the law of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado home rule city. Court venue and jurisdiction shall be exclusively in the Colorado District Court for El Paso County, Colorado. The Parties agree that the place of performance for this Contract is deemed to be in the City of Colorado Springs, El Paso County, State of Colorado. The Contractor shall ensure that the Contractor and the Contractor's employees, agents, officers and subcontractors are familiar with, and comply with, applicable Federal, State, and Local laws and regulations as now written or hereafter amended.

15. WORKERS' COMPENSATION INSURANCE

Contractor shall take out and maintain during the Period of Performance, Colorado Worker's Compensation Insurance for the Contractor and all employees of the Contractor. If any service is sublet by the Contractor, the Contractor shall require the subcontractor to provide the same coverage for the subcontractor and subcontractor's employees. Workers' Compensation Insurance shall include occupational disease provisions covering any obligations of the Contractor in accord with the provisions of the Workers' Compensation Act of Colorado.

16. INDEMNIFICATION

Contractor agrees that the Contractor shall indemnify, defend and hold harmless the City, its officers, employees and agents, from and against any and all loss, damage, injuries, claims, cause or causes of action, or any liability whatsoever resulting from, or arising out of, or in connection with the Contractor's obligations or actions under this Contract caused by any willful or negligent error, omission or act or a failure to observe any applicable standard of care by the Contractor or any person employed by it or anyone for whose acts the Contractor is legally liable. In consideration of the award of this Contract, to the extent damages are covered by insurance, the Contractor agrees to waive all rights of subrogation against the City, its subsidiary, parent, associated and/or affiliated entities, successors, or assigns, its elected officials, trustees, employees, agents, and volunteers for losses arising from the work performed by the Contractor for the City. The indemnification obligation shall survive the expiration or termination of this Contract

17. INDEPENDENT CONTRACTOR

In the performance of the Contractor's obligations under this Contract, it is understood, acknowledged and agreed between the parties that the Contractor is at all times acting and performing as an independent contractor, and the City shall neither have nor exercise any control or direction over the manner and means by which the Contractor performs the Contractor's obligations under this Contract, except as otherwise stated within the Contract terms. The City shall not provide any direction to the Contractor on the work necessary to complete the project. Contractor understands that it is an independent contractor responsible for knowing how to perform all work or tasks necessary to complete project. The Contractor understands and agrees that the Contractor and the Contractor's employees, agents, servants, or other personnel are not City employees. The Contractor shall be solely responsible for payment of salaries, wages, payroll taxes, unemployment benefits or any other form of compensation or benefit to the Contractor or any of the Contractor's employees, agents, servants or other personnel performing services or work under this Contract, whether it is of a direct or indirect nature. Further in that regard, it is expressly understood and agreed that for such purposes neither the Contractor nor the Contractor's employees, agents, servants or other personnel shall be entitled to any City payroll, insurance, unemployment, worker's compensation, retirement or any other benefits whatsoever.

18. APPLICABLE LAW AND LICENSES

In the conduct of the services or work contemplated in this Contract, the Contractor shall ensure that the Contractor and all subcontractors comply with all applicable state, federal and City and local law, rules and regulations, technical standards or specifications. The Contractor shall qualify for and obtain any required licenses prior to commencement of work.

19. PRIOR AGREEMENTS

This is a completely integrated Contract and contains the entire agreement between the parties. Any prior written or oral agreements or representations regarding this Contract shall be of no effect and shall not be binding on the City. This Contract may only be amended in writing, and executed by duly authorized representatives of the parties hereto.

20. INTELLECTUAL PROPERTY

The Parties hereby agree, and acknowledge, that all products, items writings, designs, models, examples, or other work product of the Contractor produced pursuant to this Contract are works made for hire, and that the City owns, has, and possesses any and all ownership rights and interests to any work products of the Contractor made under this Contract, including any and all copyright, trademark, or patent rights, and that compensation to the Contractor for Agreement and acknowledgment of this intellectual property right section of this Contract is included in any compensation or price whatsoever paid to the Contractor under this Contract. It is the intent of the parties that the City shall have full ownership and control of the Contractor's work products produced pursuant to this Contract, and the Contractor specifically waives and assigns to the City all rights which Contractor may have under the 1990 Visual Artists Rights Act, federal, and state law, as now written or later amended or provided. In the event any products, items writings, designs, models, examples, or other work product produced pursuant to this Contract is deemed by a court of competent jurisdiction not to be a work for hire under federal copyright laws, this intellectual property rights provision shall act as an irrevocable assignment to the City by the Contractor of any and all copyrights, trademark rights, or patent rights in the Contractor's products,

items writings, designs, models, examples, or other work product produced pursuant to this Contract, including all rights in perpetuity. Under this irrevocable assignment, the Contractor hereby assigns to the City the sole and exclusive right, title, and interest in and to the Contractor's products, items writings, designs, models, examples, or other work product produced pursuant to this Contract, without further consideration, and agrees to assist the City in registering and from time to time enforcing all copyrights and other rights and protections relating to the Contractor's products, items writings, designs, models, examples, or other work product in any and all countries. It is the Contractor's specific intent to assign all right, title, and interest whatsoever in any and all copyright rights in the Contractor's products, items writings, designs, models, examples, or other work product produced pursuant to this Contract, in any media and for any purpose, including all rights of renewal and extension, to the City. To that end, the Contractor agrees to execute and deliver all necessary documents requested by the City in connection therewith and appoints the City as Contractor's agent and attorney-in-fact to act for and in Contractor's behalf and stead to execute, register, and file any such applications, and to do all other lawfully permitted acts to further the registration, prosecution, issuance, renewals, and extensions of copyrights or other protections with the same legal force and effect as if executed by the Contractor; further, the parties expressly agree that the provisions of this intellectual property rights section shall be binding upon the parties and their heirs, legal representatives, successors, and assigns.

21. WAIVERS

No waiver of default by the City of any of the terms, covenants, and conditions hereof to be performed, kept, and observed by the Contractor shall be construed, or shall operate, as a waiver of any subsequent default of any of the terms, covenants, or conditions herein contained to be performed, kept, and observed by the Contractor.

22. THIRD PARTIES

It is expressly understood and agreed that enforcement of the terms and conditions of this Contract, and all rights of action relating to such enforcement, shall be strictly reserved to the Parties hereto, and nothing contained in this Contract shall give or allow any such claim or right of action by any other or third person or entity on such Contract. It is the express intention of the Parties hereto that any person or entity, other than the Parties to this Contract, receiving services or benefits under this Contract shall be deemed to be incidental beneficiaries only.

23. TERMINATION

A. Termination for Convenience.

By signing this Contract, Contractor represents that it is a sophisticated business and enters into the Contract voluntarily, has calculated all business risks associated with this Contract, and understands and assumes all risks of being terminated for convenience, whether such risks are known or not known. Contractor agrees that the City may terminate this Contract at any time for convenience of the City, upon written notice to the Contractor. Contractor expressly agrees to and assumes the risk that the City shall not be liable for any costs or fees of whatsoever kind and nature if termination for convenience occurs before Contractor begins any work or portion of the work. Contractor further expressly agrees and assumes the risks that the City shall not be liable for any unperformed work, anticipated profits, overhead, mobilizations costs, set-up, demobilization costs, relocation costs of employees, layoffs or severance costs, administrative costs, productivity costs, losses on disposal of equipment or materials, cost associated with the

termination of subcontractors, costs associated with purchase orders or purchases, or any other costs or fees of any kind and nature, if Contractor has started or performed portions of the Contract prior to receiving notice from the City. The City shall be liable only for the portions of work Contractor actually satisfactorily completed up to the point of the issuance of the Notice of Termination for convenience. Upon receipt of this notice the Contractor shall immediately: discontinue all services affected (unless the notice directs otherwise), and deliver to the City all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this Contract, whether completed or in process.

B. Termination for Cause: The occurrence of any one or more of the following events ("Event of Default") will justify termination for cause:

1. Contractor's failure to perform the work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule as adjusted from time to time.
2. Contractor's disregard of the laws or regulations of any public body having jurisdiction.
3. Contractor's disregard of the authority of Project Manager.
4. Contractor's violation in any material provision of the Contract Documents.
5. Contractor's failure to make prompt payments to its subcontractors, and suppliers of any tier, or laborers or any person working on the work by, through, or under the Contractor or any of them, any all of their employees, officers, servants, members, and agents.
6. Contractor files a petition commencing a voluntary case under the U.S. Bankruptcy Code, or for liquidation, reorganization, or an arrangement pursuant to any other U.S. or state bankruptcy Laws, or shall be adjudicated a debtor or be declared bankrupt or insolvent under the U.S. Bankruptcy Code, or any other federal or state laws relating to bankruptcy, insolvency, winding-up, or adjustment of debts, or makes a general assignment for the benefit of creditors, or admits in writing its inability to pay its debts generally as they become due, or if a petition commencing an involuntary case under the U.S. Bankruptcy Code or an answer proposing the adjudication of Contractor as a debtor or bankrupt or proposing its liquidation or reorganization pursuant to the Bankruptcy Code or any other U.S. federal or state bankruptcy laws is filed in any court and Contractor consents to or acquiesces in the filing of that pleading or the petition or answer is not discharged or denied within sixty (60) Calendar Days after it is filed.
7. A custodian, receiver, trustee or liquidator of Contractor, all or substantially all of the assets or business of Contractor, or of Contractor's interest in the Work or the Contract, is appointed in any proceeding brought against Contractor and not discharged within sixty (60) Calendar Days after that appointment, or if Contractor shall consent to or acquiesces in that appointment.
8. Contractor fails to commence correction of defective work or fails to correct defective work within a reasonable period of time after written notice.

If one or more of the events identified in Paragraphs 1-8 above occur, City may give Contractor written notice of the event and direct the event be cured. Any such Notice to Cure will provide Contractor a minimum of ten (10) calendar days to prepare and submit to the Project Manager a plan to correct the Event of Default. If such plan to correct the Event of Default is not submitted to the Project Manager within ten (10) days after the date of the written notice or such plan is unacceptable to the City, the City may, give Contractor (and the Surety, if any) written notice that Contractor's services are being terminated for cause. Upon delivery of the termination notice, City may terminate the services of Contractor in whole or in part, exclude Contractor from the site, and take possession of the work and of all Contractor's tools, appliances, construction equipment, and machinery at the project site, and use the same to

the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the work all materials and equipment stored at the site or for which City has paid Contractor but which are stored elsewhere, and finish the work as City may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until Certificate of Completion of the work. In the event City terminates this Contract for Cause and the cost of completing the work exceeds the unpaid balance of the Contract price, Contractor shall pay City for any costs of completion which exceed the Contract price when combined with all amounts previously paid to Contractor. When exercising any rights or remedies under this paragraph City shall not be required to obtain the lowest price for the work performed. Should the cost of such completion, including all proper charges, be less than the original Contract price, the amount so saved shall accrue to the City. Neither the City nor any officer, agent or employee of the City shall be in any way liable or accountable to the Contractor or the Surety for the method by which the completion of the said work, or any portion thereof, may be accomplished or for the price paid.

Where Contractor's services have been so terminated by City, the termination will not affect any rights or remedies of City against Contractor or Surety then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by City will not release Contractor from liability.

- C. Termination Notice. Upon receipt of a termination notice, whether for convenience or cause, the Contractor shall immediately: discontinue all services affected (unless the notice directs otherwise), and deliver to the City all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this Contract, whether completed or in process.
- D. Removal of Equipment. Except as provided above, in the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the City, shall promptly remove any part or all of Contractor's equipment and supplies from the property of the City, failing which the City shall have the right to remove such equipment and supplies at the expense of the Contractor.

24. BOOKS OF ACCOUNT AND AUDITING

The Contractor shall make available to the City if requested, true and complete records, which support billing statements, reports, performance indices, and all other related documentation. The City's authorized representatives shall have access during reasonable hours to all records, which are deemed appropriate to auditing billing statements, reports, performance indices, and all other related documentation. The Contractor agrees that it will keep and preserve for at least seven years all documents related to the Contract which are routinely prepared, collected or compiled by the Contractor during the performance of this Contract.

The City's Auditor and the Auditor's authorized representatives shall have the right at any time to audit all of the related documentation. The Contractor shall make all documentation available for examination at the Auditor's request at either the Auditor's or Contractor's offices, and without expense to the City.

25. COMPLIANCE WITH IMMIGRATION REFORM AND CONTROL ACT OF 1986

Contractor certifies that Contractor has complied with the United States Immigration Reform and Control Act of 1986. All persons employed by Contractor for performance of this Contract have completed and signed Form I-9 verifying their identities and authorization for employment.

26. LABOR

The Contractor shall employ only competent and skilled workmen and foremen in the conduct of work on this Contract. The Contractor shall at all times enforce strict discipline and good order among Contractor's employees. The Project Manager shall have the authority to order the removal from the work of any person, including Contractor's or any subcontractor's employees, who refuses or neglects to observe any of the provisions of these Plans or Specifications, or who is incompetent, abusive, threatening, or disorderly in conduct and any such person shall not again be employed on the Project.

In accord with the Keep Jobs in Colorado Act, codified at sections 8-17-101, et seq., C.R.S., Colorado labor shall be employed to perform the work to the extent of not less than eighty percent (80%) of each type or class of labor in the several classifications of skilled and common labor employed on this Project et seq.; provided however, that this paragraph shall not apply if the Project receives federal funding.

In no event shall the City be responsible for overtime pay.

27. GRATUITIES

- A. This Contract may be terminated if the Mayor, the Mayor's designee, and/or the Procurement Services Manager determine, in their sole discretion, that the Contractor or any officer, employee, agent, or other representative whatsoever, of the Contractor offered or gave a gift or hospitality to a City officer, employee, agent or Contractor for the purpose of influencing any decision to grant a City contract or to obtain favorable treatment under any City contract.
- B. The terms "hospitality" and "gift" include, but are not limited to, any payment, subscription, advance, forbearance, acceptance, rendering or deposit of money, services, or anything of value given or offered, including but not limited to food, lodging, transportation, recreation or entertainment, token or award.
- C. Contract termination under this provision shall constitute a breach of contract by the Contractor, and the Contractor shall be liable to the City for all costs of reletting the contract or completion of the project. Further, if the Contractor is terminated under this provision, or violates this provision but is not terminated, the Contractor shall be subject to debarment under the City's Procurement Regulations. The rights and remedies of the City provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

28. NON-DISCRIMINATION

- A. In accord with section 24-34-402, C.R.S., Title VII of the Civil Rights Act of 1964, Americans with Disabilities Act of 1990 as amended, all applicable federal and state laws, the Contractor will not discriminate against any employee or applicant for employment because of disability, race, creed, color, sex, sexual orientation, gender identity, gender expression, religion, age, national origin, or ancestry.

- B. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- C. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to disability, race, creed, color, sex, sexual orientation, gender identity, gender expression, religion, age, national origin, or ancestry.

29. ORDER OF PRECEDENCE

Any inconsistency in this Contract shall be resolved by giving precedence in the following order:

- A. This Contract document with its terms and conditions
- B. Specific Construction Terms and Conditions
- C. General Construction Terms and Conditions
- D. The Statement of Work
- E. Specific Specifications
- F. General Specifications
- G. Other Appendices, Attachments, Exhibits, or Schedules

30. HEADINGS

The section headings contained in this Contract are for reference purposes only and shall not affect the meaning or interpretation of this Contract.

31. DISPUTES

- A. All administrative and contractual disputes arising from or related to this Contract other than those arising under Unanticipated Circumstances provisions (in section 107.27 of Schedule B General Construction Terms and Conditions) shall be addressed in the following manner:
 - 1. If either Party disputes or disagrees with a Contract term or the other Party's interpretation of a Contract term or has any other administrative or contractual dispute not addressed in the Unanticipated Circumstances provisions, such Party shall promptly give the other Party written notice of said dispute.
 - 2. The Parties shall hold a meeting as soon as reasonably possible, but in no event later than thirty (30) calendar days from the initial written notice of the dispute, attended by persons with decision-making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute; provided, however, that no such meeting shall be deemed to vitiate or reduce the obligations and liabilities of the Parties or be deemed a waiver by a Party of any remedies to which such Party would otherwise be entitled unless otherwise agreed to by the Parties in writing.
 - 3. If, within thirty (30) calendar days after such meeting, the Parties have not succeeded in negotiating a resolution of the dispute, they agree to submit the dispute to non-binding mediation and to bear equally the costs of the mediation.
 - 4. The Parties will jointly appoint a mutually acceptable mediator. If they fail to do so within twenty (20) calendar days from the conclusion of the negotiation period, they shall each select a mediator. The two mediators will then appoint a third mediator who shall conduct mediation for the Parties as the sole mediator.
 - 5. The Parties agree to participate in good faith in the mediation and negotiations for a period of thirty (30) calendar days. The substantive and procedural law of the State of Colorado

shall apply to the proceedings. If the Parties are not successful in resolving the dispute through mediation, then the Parties shall be free to pursue any other remedy afforded by the laws of the State of Colorado.

6. Until final resolution of any dispute hereunder, the Contractor shall diligently proceed with the performance of this Contract as directed by the City. For purposes of this Contract, termination for convenience shall not be deemed a dispute. The City of Colorado Springs and the Contractor agree to notify each other in a timely manner of any claim, dispute, or cause of action arising from or related to this Contract, and to negotiate in good faith to resolve any such claim, dispute, or cause of action. To the extent that such negotiations fail, the City of Colorado Springs and the Contractor agree that any lawsuit or cause of action that arises from or is related to this Contract shall be filed with and litigated only by the Colorado District Court for El Paso County, CO.

32. DELIVERY

The City may cancel this Contract or any portion thereof if delivery is not made when and as specified, time being of the essence in this Contract. Contractor shall pay the City for any loss or damage sustained by the City because of failure to perform in accordance with this Contract.

33. PAYMENTS

All invoices shall be sent to the Project Manager identified in this Contract.

The City will pay the Contractor, upon submission of proper invoices, the prices stipulated in the Contract for services rendered and accepted, less any deductions provided in this Contract within 30 days (Net 30). The City will not pay late fees or interest. Any discount payment terms offered on the invoice may be taken by the City.

All payments for Construction will be made in accordance with the Payment provisions found in Schedule B – General Construction Terms and Conditions.

Each invoice must contain at least the following information:

Contract number, issued purchase order number, invoice number, invoice date, timeframe covered by invoice, type and amount of labor and materials used for that time period, dollar amount in unit price, extended price, and total value of invoice.

34. INSPECTION OF SERVICES

The Contractor is responsible for performing or having performed all inspections and tests necessary to substantiate that the services furnished under this Contract conform to Contract requirements, including any applicable technical requirements for specified manufacturers' parts. This clause takes precedence over any City inspection and testing required in the Contract's specifications, except for specialized inspections or tests specified to be performed solely by the City.

- A. Definition of "services", as used in this clause, includes services performed, workmanship, and material furnished or utilized in the performance of services.
- B. The Contractor shall provide and maintain an inspection system acceptable to the City covering the services under this Contract. Complete records of all inspection work performed

by the Contractor shall be maintained and made available to the City during Contract performance and for as long afterwards as the Contract requires.

- C. The City has the right to inspect and test all services called for by the Contract, to the extent practicable at all times and places during the term of the Contract. The City will perform inspections and tests in a manner that will not unduly delay the work.
- D. If the City performs inspections or test on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in Contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties.

35. SECURITY

The City maintains security requirements regarding access to City buildings and other City workplaces and worksites on City property. All Contractor personnel accessing City buildings, workplaces, or worksites, may be required to produce a valid, Government issued picture identification. Contractor personnel lacking such identification may not be allowed access to such sites. No costs incurred by the Contractor due to City security requirements shall be allowable or payable under this Contract.

36. TIME IS OF THE ESSENCE

In as much as the Contract concerns a needed or required service, the terms, conditions, and provisions of the Contract relating to the time of performance and completion of work are of the essence of this Contract. The Contractor shall begin work on the day specified and shall prosecute the work diligently so as to assure completion of the work within the number of calendar days or date specified, or the date to which the time for completion may have been extended.

37. EMPLOYMENT OF LABOR

The Contractor shall comply with, and defend and hold the City harmless from any violation of all laws and lawful rules and regulations, both of the State of Colorado and of the United States, relating to Workmen's Compensation, unemployment compensation, Social Security, payment for overtime, and all other expenses and conditions of employment under this Contract.

38. SALES TAX

The Contractor must have a tax-exemption certificate from the Colorado Department of Revenue for this project. The certificate does not apply to City of Colorado Springs Sales and Use Tax which shall be applicable. The tax exempt project number and the exemption certificate only applies to County, PPRTA (Pikes Peak Rural Transportation Authority), and State taxes when purchasing construction and building materials **to be incorporated into this project**.

Furthermore, the exemption **does not** include or apply to the purchase or rental of equipment, supplies or materials that **do not become a part of the completed project or structure**. Such purchases and rentals are subject to full applicable taxation.

All contracts with subcontractors must include the City of Colorado Springs Sales and Use Tax on the work covered by the Contract, and other taxes as applicable.

Note: For all equipment, materials and supplies incorporated into the work purchased from vendors or suppliers not licensed to collect City Sales Tax (i.e. out of state suppliers, etc.), City Use Tax is due and payable to the City. The Contractor shall execute and deliver, and shall cause the Contractor's subcontractors to execute and deliver to the City Sales Tax Office, ST 16 forms listing all said equipment, materials and supplies and the corresponding use tax due, along with payment for said taxes. Any outstanding taxes due may be withheld from the final payment due the Contractor and may result in suspension of Contractor from bidding on City projects.

Forms and instructions can be downloaded at <https://coloradosprings.gov/cat/government/tax-information/sales-tax>. Questions can be directed to the City Sales Tax Division at (719) 385-5903.

Our Registration Numbers are as follows:

City of Colorado Springs

Federal I.D.: 84-6000573

Federal Excise: A-138557

State Sales Tax: 98-03479

The Contractor's payment or exemption of State of Colorado, El Paso County and City Sales and Use Taxes shall be as specified herein.

39. SEVERABILITY

If any terms, conditions, or provisions of this Contract shall be held unconstitutional, illegal, or void, such finding shall not affect any other terms, conditions, or provisions of this Contract.

40. LIABILITY OF CITY EMPLOYEES

All authorized representatives of the City are acting solely as agents and representatives of the City when carrying out and exercising the power or authority granted to them under the Contract. There shall not be any liability on them either personally or as employees of the City.

41. USE OF CITY NAME OR LOGO

Except as otherwise provided in this Contract, the Contractor shall not refer to this Contract or the City of Colorado Springs in any advertising or promotions in such a manner as to state or imply that the product or service provided is endorsed or preferred by the City of Colorado Springs, its employees, or its Departments, or is considered by these entities to be superior to other products or services. Any use of the name or logo of the City of Colorado Springs in advertising or promotions must be approved in writing by the City of Colorado Springs Contracts Specialist assigned to the Contract prior to such use.

42. TRAVEL

If travel expenses are included as a line item in this Contract, all travel expenses incurred and billable by the Contractor are subject to City approval. Air travel shall be limited to the round trip "economy coach" fare. Travel from the Colorado Springs Airport is encouraged. Unless there are extenuating circumstances, the Contractor should take advantage of lower airfares by purchasing tickets more than 14 days in advance of travel. In-state travel by air must be more economical than travel by private vehicle. Use of a private vehicle may be reimbursed per mile at the current rate published by the IRS annually. Short-term parking, long-term parking or cab fare associated

with airport departure and arrival may be allowable expenses. Valet parking will not be allowed unless it is the least expensive or only option. Car rental rates may be reimbursed for car rentals no greater than the intermediate or standard classification. The City will not reimburse any other travel methods or expenses. The City will pay for lodging, meals, and miscellaneous expenses on a per diem basis only, in accordance with the current per diem rates published by the IRS annually. The City will not pay for Contractor expenses exceeding the per diem rates. Receipts for all reimbursable expenses must be provided with the Contractor's invoice.

43. ELECTRONIC SIGNATURE

This Agreement and all other documents contemplated hereunder may be executed using electronic signature with delivery via facsimile transmission, by scanning and transmission of electronic files in Portable Document Format (PDF) or other readily available file format, or by copy transmitted via email, or by other electronic means and in one or more counterparts, each of which shall be (i) an original, and all of which taken together shall constitute one and the same agreement, (ii) a valid and binding agreement and fully admissible under state and federal rules of evidence, and (iii) enforceable in accordance with its terms

44. APPENDICES

The following Appendices are made a part of this Agreement:

1. Schedule A – Price Sheet
2. Schedule B – General Construction Terms and Conditions
3. Schedule C – Special Contract Terms and Conditions
4. Schedule D – General Specifications
5. Schedule E – Special and Technical Specifications
6. Schedule F – Scope of Work
7. Exhibit 1 – Performance, Labor and Material Payment, and Maintenance Bonds
8. Exhibit 2 – Minimum Insurance Requirements

CONTRACT SIGNATURE PAGE

IN WITNESS WHEREOF, the parties have caused these presents to be executed on the day and the year first above written.

This Contract is executed in one (1) original copy.

| |
|------------------------------------------------|
| THE CITY OF COLORADO SPRINGS, COLORADO: |
| |

| | |
|----------------------|------|
| SECOND PARTY: | |
| | |
| Corporate Name | |
| Signature | Date |
| Title | |

EXHIBIT 2 – RESERVED

SEE SCHEDULE G – INSURANCE REQUIREMENTS

EXHIBIT 3 – QUALIFICATION STATEMENT

This statement will provide information which will enable the City to evaluate the qualifications of your firm and staff with regard to the requirements of this Invitation for Bid. Please complete this form in its entirety and submit it (in the number of copies requested) along with the other required proposal documents. If a request in the Qualification Statement is contained in the Bid, indicate the section in the Bid where that information can be found.

(PRINT)

FIRM NAME: _____

ADDRESS: _____

CITY STATE ZIP: _____

AUTHORIZED REPRESENTATIVE: _____

TITLE: _____

AUTHORIZED SIGNATURE: _____

PHONE: _____ FAX: _____

E-MAIL ADDRESS: _____

1. TYPE OF BUSINESS _____

2. TYPE OF LICENSE AND LOCATION

CORPORATION ☐ INDIVIDUAL ☐

PARTNERSHIP ☐ JOINT VENTURE ☐

OTHER: _____

3. TYPE OF SERVICE TO BE PROVIDED FOR IFB: _____

4. NUMBER OF YEARS IN BUSINESS: _____

5. ON A SEPARATE SHEET PROVIDE A BRIEF HISTORY OF YOUR FIRM, STAFF SIZE AND EXPERIENCE. SUBMIT A RESUME FOR THE PROJECT MANAGER AND EACH KEY PERSONNEL ASSIGNED TO THIS PROJECT.

6. WHAT OTHER NAME(S) HAS YOUR COMPANY OPERATED UNDER:

7. HAVE YOU OR YOUR FIRM EVER FAILED TO COMPLETE ANY WORK AWARDED TO YOU? YES ☐ NO ☐ IF "YES", EXPLAIN:

8. HAS ANY OFFICER OR PARTNER OF YOUR ORGANIZATION EVER BEEN AN OFFICER OR PARTNER OF ANOTHER ORGANIZATION THAT FAILED TO COMPLETE A CONTRACT WITHIN THE LAST FIVE (5) YEARS? YES ☐ NO ☐
IF "YES", EXPLAIN:

9. HAS YOUR FIRM OR ANY PARTNERS OR OFFICERS EVER BEEN INVOLVED IN ANY BANKRUPTCY ACTION? YES ☐ NO ☐ IF "YES", EXPLAIN:

10. ARE YOU PRESENTLY INVOLVED IN ANY LITIGATION WITH ANY GOVERNMENT AGENCY? YES ☐ NO ☐ IF "YES", EXPLAIN TYPE, KIND, PLAINTIFF, DEFENDANT, ETC., AND STATE THE CURRENT STATUS:

11. BANK REFERENCE:

ADDRESS:

CONTACT:

PHONE:

12. LIST THREE (3) SIMILAR PROJECTS (LOCAL OR STATE-WIDE) **FROM LAST FIVE (5) YEARS**-INCLUDE LOCATION OF PROJECT, SIZE OF PROJECT (CONTRACT AMOUNT), CONTACT NAME, ADDRESS, TELEPHONE NUMBERS
NOTE: DETAILED INFORMATION ON THESE PROJECTS MAY ALSO BE REQUESTED IN THE IFB PACKAGE.

1. Location of Project:

Size of Project:

Contract Amount:

Contact Name and Title:

Contract Address:

Contact telephone and FAX Numbers:

2. Location of Project:

Size of Project:

Contract Amount:

Contact Name:

Contact Address:

Contact telephone and FAX Numbers:

3. Location of Project:

Size of Project:

Contract Amount:

Contact Name:

Contact Address:

Contact telephone and FAX Numbers:

13. LIST **CURRENT** SIMILAR PROJECTS (LOCAL OR STATE-WIDE) UNDER CONTRACT- INCLUDE LOCATION OF PROJECT, SIZE OF PROJECT (CONTRACT AMOUNT) CONTACT NAME, ADDRESS, TELEPHONE NUMBERS.
NOTE: DETAILED INFORMATION ON THESE PROJECTS MAY ALSO BE REQUESTED IN THE IFB PACKAGE.

1. Location of Project:

Size of Project:

Contract Amount:

Contact Name and Title:

Contact Address:

Contact telephone and FAX Numbers:

2. Location of Project: _____
Size of Project: _____
Contract Amount: _____
Contact Name and Title: _____
Contact Address: _____
Contact telephone and FAX Numbers: _____
3. Location of Project: _____
Size of Project: _____
Contract Amount: _____
Contact Name and Title: _____
Contact Address: _____
Contact telephone and FAX Numbers: _____
14. LIST OF SUB-CONTRACTORS TO BE USED FOR THIS PROJECT:
(INCLUDE NAME, ADDRESS, TELEPHONE NUMBER, TYPE OF WORK)
1. Name: _____
Address: _____
Telephone Number: _____
Type of Work: _____
2. Name: _____
Address: _____
Telephone Number: _____
Type of Work: _____
3. Name: _____
Address: _____
Telephone Number: _____
Type of Work: _____

IF ADDITIONAL INFORMATION IS PROVIDED ON A SEPARATE SHEET FOR ANY OF THE ITEMS, CLEARLY SPECIFY WHERE IT CAN BE LOCATED IN YOUR BID PACKAGE.

EXHIBIT 4 – BID CERTIFICATION AND REPRESENTATIONS AND CERTIFICATIONS

Check or Mark the space after each number to indicate compliance.

1. _____ Address of Offeror's Principal Place of Business:

Does Offeror have an established office or facility in Colorado Springs?

Yes _____ No _____

If yes, indicate address below if different than Principal Place of Business.

Colorado Springs Facility - Year established _____

Address of Colorado Springs Facility:

Percent of Work to be Performed from Principal Place of Business? _____

Percent of Work to be Performed from Colorado Springs Facility? _____

2. _____ Indicate your ability to provide a certificate of insurance evidencing the required coverage types and limits specified in Minimum Insurance Requirements Exhibit. (The certificate of insurance must reflect the City of Colorado Springs as an Additional Insured, as applicable.)

Indicate your ability to comply with the following requirements:

The City shall be added as an Additional Insured to all liability policies:

Yes _____ No _____

Your property and liability insurance company is licensed to do business in Colorado:

Yes _____ No _____

Provide the name of your property and liability insurance company here:

Name: _____

Your property and liability insurance company has an AM best rating of not less than B+ and/or VII:

Yes _____ No _____

Worker's Compensation Insurance is carried for all employees and covers work done in Colorado:

Yes _____ No _____

3. _____ Provide one (1) copy of current financial statements (if required). Enclose financial information in a separate envelope; do not bind with the other proposal copies. If review of the information is to be restricted to the City's financial officer, it must be marked accordingly.
4. _____ Provide the completed and signed bid. (Bids must be identified as specified in this IFB document). All required Exhibits are attached.

By signing below, the Offeror certifies that no person or firm other than the Offeror or as otherwise indicated has any interest whatsoever in this offer or any Contract that may be entered into as a result of this offer and that in all respects the offer is legal and firm, submitted in good faith without collusion or fraud. The undersigned additionally declares that it has carefully examined the Bid information and the complete Solicitation prior to submitting a Bid. The Bidder's signature will be considered the Bidder's acknowledgement of understanding and ability to comply with all items in the solicitation.

Offeror has appointed _____ as the Offeror's representative and contact for all questions or clarifications in regard to this Offeror.

Telephone: (____) _____

Email: _____

The undersigned acknowledges and understands the terms, conditions, Specifications and all Requirements contained and/or referenced and are legally authorized by the Offeror to make the above statements or representations.

(Name of Company)

(Signature)

(Address)

Date

(City, State and Zip)

(Telephone Number)

(Name typed/Printed)

(Title)

(E-Mail Address)

FEDERAL TAX ID # _____

This Company Is: Corporation____ Individual____ Partnership____ LLC____

Offeror hereby acknowledges receipt of the following amendments, if applicable. Offeror agrees that it is bound by all Amendments identified herein.

AMENDMENT #1_____ DATED:_____

AMENDMENT #2_____ DATED:_____

AMENDMENT #3_____ DATED:_____

Please Note: the following Representations and Certifications must be initialed by Offeror in the spaces provided and returned with this certification.

1. INSURANCE REQUIREMENTS

Offeror shall comply with all insurance requirements and will submit the Insurance Certificates prior to performance start date. If limits are different from the stated amounts, Offeror shall explain variance. Certain endorsements and "additionally insured" statements may require further clarification and specific statements on a project specific basis and should have been described in the Offeror's Bid.

Initials for 1

2. ETHICS VIOLATIONS

- A. The Offeror shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in this clause in its own operations and direct business relationships.
- B. Offeror certifies the Offeror has not violated or caused any person to violate, and shall not violate or cause any person to violate, the City's Code of Ethics contained in Article 3, of Chapter 1 of the City Code and in the City's Procurement Rules and Regulations
- C. When the Offeror has reasonable grounds to believe that a violation described in this clause may have occurred, the Offeror shall promptly report the possible violation to the City Contracts Specialist in writing.
- D. The Offeror must disclose with the signing of this Bid, the name of any officer, director, or agent who is also an employee of the City and any City employee who owns, directly or indirectly, an interest of ten percent (10%) or more in the Offeror's firm or any of its branches.
- E. In addition, the Offeror must report any conflict or apparent conflict, current or discovered during the performance of the Contract, to the City Contracts Specialist.
- F. The Offeror shall not engage in providing gifts, meals or other amenities to City employees. The right of the Offeror to proceed may be terminated by written notice issued by City Contracts Specialist if Offeror offered or gave a gratuity to an officer, official, or employee of the City and intended by the gratuity to obtain a contract or favorable treatment under a contract.
- G. The Offeror shall cooperate fully with the City or any agency investigating a possible violation on behalf of the City. If any violation is determined, the Offeror will properly compensate the City.
- H. The Offeror agrees to incorporate the substance of this clause (after substituting "Contractor" for "Offeror") in all subcontracts under this offer.

Initials for 2

3. COOPERATION WITH OTHER CONTRACTORS

Other City activities/contracts may be in progress or start during the performance of this contract. The Offeror shall coordinate the work harmoniously with the other contractors or City personnel, if applicable.

Initials for 3

4. INTERNET USE

Should the Offeror require access to City Internet resources in the performance of this requirement, a "Contractor's Internet Use Agreement" form must be separately signed by each individual having access to the City Network. The completed Contractor's Internet Use Agreement will be maintained with this agreement. Inappropriate use of the City Network will be grounds for immediate termination of any awarded contract.

Initials for 4

5. LITIGATION

If awarded a contract, Offeror shall notify the City within five (5) calendar days after being served with a summons, complaint, or other pleading in any matter which has been filed in any federal or state court or administrative agency. The Offeror shall deliver copies of such document(s) to the City's Procurement Services Manager. The term "litigation" includes an assignment for the benefit of creditors, and filings of bankruptcy, reorganization and/or foreclosure.

Initials for 5

6. CONTRACTOR'S REGISTRATION INFORMATION

Offeror's firm verifies and states that they are (check all that apply):

_____ Large Business (i.e. do not qualify as a small business or non-profit)

_____ Nonprofit

_____ Small Business

_____ Minority Owned Business/Small Disadvantaged Business

_____ Woman Owned Business

_____ Veteran Owned Business

_____ Service-Disabled Veteran Owned Business

_____ HUBZone Business

Note: The City accepts self-certification for these categories in accordance with Small Business Administration (SBA) standards. The SBA size standards are found on the SBA website <https://www.sba.gov/content/am-i-small-business-concern>.

Initials for 6

7. CONTRACTOR PERSONNEL

- A. The Offeror shall appoint one of its key personnel as the "Authorized Representative" who shall have the power and authority to interface with the City and represent the Offeror in all administrative matters concerning this Bid and any awarded contract, including without limitation such administrative matters as correction of problems modifications, and reduction of costs.
- B. The Authorized Representative shall be the person identified in the Offeror's Bid, unless the Offeror provides written notice to the City naming another person to serve as its Authorized Representative. Communications received by the City Contracts Specialist from the Authorized Representative shall be deemed to have been received from the Offeror.

The individual, _____ (Name)

with position, _____ (Title)

Can be reached at _____

Work telephone number: _____

Home telephone number: _____
Cellular telephone number: _____
E-mail address: _____

Initials for 7

8. OFFEROR's CERTIFICATION

The undersigned hereby affirms that:

- A. He/She is a duly authorized agent of the Offeror;
- B. He/She has read and agrees to the City's standard terms and conditions attached.
- C. The offer is presented in full compliance with the collusive prohibitions of the City of Colorado Springs. The Offeror certifies that no employee of its firm has discussed, or compared the offer with any other offeror or City employee and has not colluded with any other offeror or City employee.
- D. The Offeror certifies that it has checked all of its figures, and understands that the City will not be responsible for any errors or omissions on the part of the Offeror in preparing its Bid.
- E. By submitting an offer the Offeror certifies that it has complied and will comply with all requirements of local, state, and federal laws, and that no legal requirements have been or will be violated in making or accepting this solicitation.
- F. If awarded the contract, the Offeror agrees to execute and enter into a contract with the City, and furnish the necessary security within ten (10) days of receipt of the "Notice of Award", and to begin the work within ten (10) day from the date of the receipt of the "Notice to Proceed", and to complete the Work with the above specifications.
- G. I hereby certify that I am submitting the Bid based on my company's capabilities to provide quality products and/or services on time.

Initials for 8

9. OFFEROR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS:

- A. The Offeror certifies to the best of its knowledge and belief, that (i) the Offeror and/or any of its Principals
 - 1. Are (), Are not () presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;
 - 2. Have (), Have not (), within a three year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, local) contract or subcontract; violation of Federal or state antitrust statutes relation to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, tax evasion, or receiving stolen property; and
 - 3. Are (), Are not () presently indicated for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in any paragraphs above.
- B. The Offeror shall provide immediate written notice to the City Contracts Specialist if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reasons of changed circumstances.
- C. The certification in paragraph 1. above, is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the City, the City Contracts Specialist may terminate the contract resulting from this solicitation for default. Termination for default may result in additional charges being levied for the costs incurred by the City to initiate activities to replace the awarded Contractor.

Initials for 9

10. ACCEPTANCE OF CITY CONTRACTS SPECIALIST'S SOLE AUTHORITY FOR CHANGES

Unless otherwise specified in the Contract, the Offeror hereby agrees that any changes to the scope of work, subsequent to the original contract signing, shall be generated in writing and an approval signature shall be obtained from the City Contracts Specialist prior to additional work performance.

Initials for 10

11. CITY CONTRACTOR SAFETY PROGRAM

The Offeror hereby agrees to adhere to a worker safety program for contractor employees on a City job site or location. By initialing below, the Offeror has reviewed the information and will abide by the City Policy which is available for review:

<https://coloradosprings.gov/finance/page/procurement-regulations-and-documents>

Initials for 11

12. ACCEPTANCE OF CITY ENVIRONMENTALLY PREFERRED PURCHASING (EPP) POLICY

The City of Colorado Springs is committed to buying more environmentally preferable goods and services, as long as they meet performance needs, are available within a reasonable time and at a reasonable cost. The Offeror hereby acknowledges review of this policy by initialing below.

<https://coloradosprings.gov/finance/page/procurement-regulations-and-documents>

Initials for 12

13. FRAUD, WASTE, AND ABUSE

Everyone has a duty to report any suspected unlawful act impacting the City of Colorado Springs operations and its enterprises. Anyone who becomes aware of the existence or apparent existence of fraud, waste, and abuse in City of Colorado Springs is encouraged to report such matters to the City Auditor's Office in writing or on the telephone hotline 385-2387 (ADTR). Written correspondence can be mailed to:

City Auditor
P.O. Box 2241
Colorado Springs CO 80901

Or via email FraudHotline@coloradosprings.gov. Any of these mechanisms allow for anonymous reporting. For more information, please go to the website <https://coloradosprings.gov/cityfraud>.

Initials for 13

Name of Company: _____

Federal Tax ID Number: _____

DUNS Number: _____

Principal Place of Business: _____

Signature of Authorized Representative

Printed Name: _____

Title: _____

Date: _____

EXHIBIT 5 – CITY OF COLORADO SPRINGS BID BOND

1. KNOW ALL MEN BY THESE PRESENTS, THAT:

(Name) _____ As Principal, hereinafter called Principal, and

(Address) _____

(SURETY Name) _____ a corporation organized and existing under
the laws of the State of: _____

(SURETY Address) _____
and AUTHORIZED TO DO BUSINESS IN THE STATE OF COLORADO, as Surety, hereinafter called Surety, are
held firmly bound to the CITY OF COLORADO SPRINGS, COLORADO, as Obligee, hereinafter called the Obligee,
in the sum of: (Insert Bid Amount in Words) _____ (\$ _____ DOLLARS),
lawful money of the United States of America, for payment of which sum well and truly to be made, the Principal and
the Surety bind themselves, their heirs, executors, successors and assigns, jointly and severally, firmly by these
presents.

2. WHEREAS, the Principal has submitted to the Obligee,

a contract bid dated the _____ day of _____ For the following contract:

3. NOW THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT, If Principals bid is accepted by
Obligee and Principal is awarded the contract in whole or in part, and the Principal shall enter into the contract with
the Obligee in accordance with the terms of such bid, and give such Payment, Performance, and Maintenance
bond or bonds as may be specified in the bidding or contract documents with good and sufficient surety for the
faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution
thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the
Principal shall promptly pay to the Obligee the amount of this bond as set forth herein above, then this obligation
shall be null and void, otherwise this obligation to remain in full force and effect.

Signed and sealed on the dates set forth below:

| | |
|--------------------|-------------------------------------------------------------------------------|
| _____ (Witness) | FOR: _____ (Principals Name) |
| | BY: _____ |
| | ITS: _____ |
| (Seal) | This _____ day of _____ |
| _____ (Witness) | FOR: _____ (Surety's Name) |
| | BY: _____ |
| | ITS: _____ |
| (Seal) | This _____ Day of _____ |
| Bond # _____ | This Bond <input type="checkbox"/> (is) _____ (is not) a SBA Guaranteed Bond. |