

CONSTRUCTION CONTRACT # 2025-150

**City of Flagstaff, Arizona
and
Hope Construction LLC**

This Construction Contract (“Contract”) is made and entered into this ____ day of _____, 2023, by and between the City of Flagstaff, a political subdivision of the state of Arizona (“Owner”), and Hope Construction LLC, an Arizona limited liability partnership (“Contractor”). Owner and Contractor may be referred to each individually as a “Party” and collectively as the “Parties.”

RECITALS

- A. Owner desires to obtain construction services (“Services”); and
- B. Contractor has available and offers to provide personnel and materials necessary to accomplish the work and complete the Project as described in the Scope of Work within the required time in accordance with the calendar days included in this Contract.

NOW, THEREFORE, the Owner and Contractor agree as follows:

- 1. Scope of Work.** Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services, and facilities for the **Sport Courts at Bushmaster Park** (“Project”). The Project scope is specific to the Special Provisions attached hereto as **Exhibit A**. Contractor shall construct the Project for the Owner in a good, workmanlike and substantial manner and to the satisfaction of the Owner through its engineers and under the direction and supervision of the City Engineer or his properly authorized agents (“Engineer”), including but not limited to project managers and project engineers. Contractor’s work shall be strictly pursuant to and in conformity with the Contract.
 - 1.1 A Pre-Construction Conference will be held with the successful Contractor after the Notice of Award is issued. The date and time of the Conference will be agreed upon between Contractor and the Engineer at a location identified by the Owner. The purpose of the Conference is to outline specific construction items and procedures that the Owner feels require special attention on the part of Contractor. Contractor may also present any variations in procedures to improve the workability of the Project, reduce the cost, or reduce inconvenience to the public. Contractor shall submit a written proposal at this Conference outlining intended plans for pavement replacement, maintaining continuous access to residences and businesses along the construction site, and traffic control.
- 2. Contract; Ownership of Work.** Contractor shall furnish and deliver all of the materials and perform all of the work in accordance with this Contract; Construction Plans (“Plans”); Special Provisions; the City of Flagstaff Engineering Design and Construction Standards and Specifications; the latest version of the Maricopa Association of Governments (“MAG”) Specifications for Public Works Construction and City Revisions of MAG Standard Specifications for Public Works Construction attached hereto as **Exhibit B**; and any Arizona Department of Transportation (“ADOT”) Standards that may be referenced on the Plans or in the specifications,

incorporated in this Contract by reference, plans, and associated documents. All provisions of the Invitation for Bid, Performance Bond, Payment Bond, Certificates of Insurance, Addenda, Change Orders, and Field Orders, if any, are hereby incorporated into this Contract. All materials, work, specifications, and plans shall be the property of the Owner.

The following exhibits are incorporated by reference and are expressly made a part of this Contract:

- | | | |
|-----|---|-----------|
| 2.1 | Sport Courts at Bushmaster Park Special Provisions | Exhibit A |
| 2.2 | City of Flagstaff Amendments to MAG Standard Specifications for Public Works Construction (“Flagstaff Addendum to MAG”) | Exhibit B |
| 2.3 | Bid Schedule | Exhibit C |

3. Payments. In consideration of the faithful performance of the work described in this Contract, the Owner shall pay an amount not to exceed Total Contract Amount of **Two Million One Hundred Sixty-Eight Thousand Eight Hundred Ninety-Two Dollars and Zero Cents (\$2,168,892.00)** to Contractor for work and materials provided in accordance with the submitted Bid Schedule attached hereto as Exhibit C, which amount includes all federal, state, and local taxes, as applicable. This amount shall be payable through monthly progress payments, subject to the following conditions:

3.1 Contractor shall promptly submit to the Owner all proper invoices necessary for the determination of the prices of labor and materials;

3.2 The City Engineer shall have the right to finally determine the amount due to Contractor;

3.3 As authorized by A.R.S. § 34-221, progress payments shall be made in the amount of ninety percent (90%) of the value of labor and materials incorporated in the work, based on the sum of the Contract prices of labor and material, and of materials stored at the worksite, on the basis of substantiating paid invoices, as estimated by the Owner, less the aggregate of all previous payments, until the work performed under this Contract is fifty percent (50%) complete. When and after such work is fifty (50%) complete, the ten percent (10%) of value previously retained may be reduced to five percent (5%) of value completed if Contractor is making satisfactory progress as determined by the Owner, and providing that there is no specific cause or claim requiring a greater amount to be retained. If at any time the Owner determines that satisfactory progress is not being made, the ten percent (10%) retention shall be reinstated for all subsequent progress payments made under this Contract;

3.4 Contractor agrees that title to materials incorporated in the work, and stored at the site, shall vest with the Owner upon receipt of the corresponding progress payment;

3.5 The remainder of the Contract price, after deducting all such monthly payments and any retention, shall be paid within sixty (60) days after final acceptance of completed work by the Owner. The release of retention or alternate surety shall be made following the Owner’s receipt and acceptance of: Contractor’s Affidavit Regarding Settlement of Claims, Affidavit of Payment, Consent of Surety for Final Payment, and Unconditional Full and Final lien waivers from all

subcontractors and suppliers who have filed an Arizona Preliminary Twenty Day Lien Notice in accordance with A.R.S. §§ 33-992.01 and 33-992.02.

4. Time of Completion. Contractor agrees to complete all work as described in this Contract within **two hundred ten (210) calendar days** from the date of the Owner's Notice to Proceed, free of all liens, claims, and demands of any kind for materials, equipment, supplies, services, labor, taxes, and damages to property or persons, in the manner and under the conditions specified within the time or times specified in this Contract.

5. Performance of Work. All work covered by this Contract shall be done in accordance with the latest and best accepted practices of the trades involved. The Contractor shall use only skilled craftsmen experienced in their respective trades to prepare the materials and to perform the work.

6. Acceptance of Work; Non-Waiver. No failure of the Owner during the progress of the work to discover or reject materials or work not in accordance with this Contract shall be deemed an acceptance of, or a waiver of, defects in work or materials. No payment shall be construed to be an acceptance of work or materials which are not strictly in accordance with the Contract.

7. Delay of Work. Any delay in the performance of this Contract due to strikes, lockouts, fires, or other unavoidable casualties beyond the control of Contractor and not caused by any wrongful act or negligence of Contractor shall entitle Contractor to an extension of time equal to the delay so caused. Contractor shall notify the Owner in writing specifying such cause within twenty-four (24) hours after its occurrence. In the event such delay is caused by strikes, lockouts, or inability to obtain workmen for any other cause, the Owner shall have the right but shall not be obligated to complete the work on the same basis as is provided for in this Contract.

8. Failure to Complete Project in Timely Manner. If Contractor fails or refuses to execute this Contract within the time specified within this Contract, or such additional time as may be allowed, the proceeds of Contractor's performance guaranty shall become subject to deposit into the Treasury of the municipality as monies available to compensate the Owner for damages as provided by A.R.S. § 34-201 for the delay in the performance of work under this Contract, and the necessity of accepting a higher or less desirable bid from such failure or refusal to perform this Contract as required. If Contractor has submitted a certified check or cashier's check as a performance guaranty, the check shall be returned after the completion of this Contract.

9. Labor Demonstration. It is understood that the work covered by this Contract is for the Owner's business purposes and that any unfavorable publicity or demonstrations in connection with the work will have a negative effect upon the Owner. If Contractor's actions in performance of the Contract result in any public demonstration on behalf of the laborers or organized labor in the vicinity of the Owner's premises, whether such demonstration is in the form of picketing, posting of placards or signs, violence, threats of violence, or in any other form, which in the Owner's judgment might convey to the public the impression that the Owner or the Contractor or any subcontractor is unfair to laborers or to organized labor, the Owner shall have the right to terminate this Contract immediately, unless the Contractor shall have caused such demonstration to be discontinued within two (2) days after request of the Owner to do so. In the event any such demonstration is attended by violence, the Owner may fix lesser time within which a discontinuance shall be accomplished. In the event of Contract termination, Contractor agrees to remove from the Premises within twenty-

four (24) hours of termination all machinery, tools, and equipment belonging to it or to its subcontractors. All obligations or liabilities of the Owner to Contractor shall be discharged by such termination, except the obligation to pay to Contractor a portion of the Contract price representing the value based upon the Contract prices of labor and materials incorporated in the work as established by the Owner, less the aggregate of all previous payments, but subject to all of the conditions pertaining to payments generally.

10. Material Storage. During the progress of the work, the Contractor shall arrange for office facilities and for the orderly storage of materials and equipment. Contractor shall erect any temporary structures required for the work at his or her own expense. Contractor shall at all times keep the premises reasonably free from debris and in a condition which will not increase fire hazards. Upon completion of the work, Contractor shall remove all temporary buildings and facilities and all equipment, surplus materials, and supplies belonging to Contractor. Contractor shall leave the Premises in good order, clean, and ready to use by the Owner. The establishment of any temporary construction yard, material storage area, or staging area to be located within City of Flagstaff limits and outside the public right-of-way or Project limits generally requires a Temporary Use Permit. (See Exhibit B, Section 107.2.1.).

11. Maintenance During Winter Suspension of Work.

11.1 A “Winter Shutdown” is the period of time typically including December through March during which no work will be performed by any person or entity (including but not limited to Contractor) on the Project and Contractor shall shutdown, properly insulate, and shelter the Project in a safe and workmanlike manner pursuant to local, state, and federal laws. Although December through March is typically the time frame, the Owner reserves the right to initiate and terminate a Winter Shutdown at the Owner’s sole discretion in the event of adverse weather conditions. A Winter Shutdown may be declared by the Owner despite delays, *for any reason*, on the Project. The Owner retains the right to declare a Winter Shutdown. If work has been suspended due to winter weather, Contractor shall be responsible for maintenance and protection of the improvements and of partially completed portions of the work until final acceptance of the Project. Winter Shutdown shall be by field order, change order, or original contract. If repairs and/or maintenance are needed during the Winter Shutdown, Contractor is required to perform the repairs and/or maintenance within twenty-four (24) hours of notification from the Owner. If the needed repairs and/or maintenance are not addressed within the time frame, the Owner will accomplish the work and deduct the cost from monies due or that become due to Contractor.

11.2 The Owner shall provide snow removal operations on active traffic lanes only during the Winter Shutdown. All other snow removal and maintenance operations shall be the responsibility of Contractor during the Winter Shutdown. All costs associated with snow removal and proper disposal shall be considered incidental to the work including repair of temporary surface improvements due to normal wear and snow removal operations during the Winter Shutdown.

12. Assignment. Contractor shall not assign this Contract, in whole or in part, without the prior written consent of the Owner, and no delegation of any duty of Contractor shall be made without prior written consent of the Owner. The Owner shall not unreasonably withhold consent to such assignment. Contractor agrees that any assignment agreement between Contractor and the assignee shall include and subject to the assignee all obligations, terms, and conditions of this

Contract and that Contractor shall also remain liable under all obligations, terms, and conditions of this Contract.

13. Notices. Any notices or demands required to be given, pursuant to the terms of this Contract, may be given to the other Party in writing, delivered in person, sent by facsimile transmission, emailed, deposited in the United States mail, postage prepaid, or deposited with any commercial air courier or express service at the addresses set forth below, or to such other address as the Parties may substitute by written notice, given in the manner prescribed in this paragraph. However, notices of termination, notices of default, and any notice regarding warranties shall be sent via registered or certified mail, return receipt requested, at the address set forth below *and* to legal counsel for the Party to whom the notice is being given.

If to Owner:

Emily Markel
Purchasing Manager
City of Flagstaff
211 West Aspen Avenue
Flagstaff, AZ 86001
EMarkel@flagstaffaz.gov

If to Contractor:

David Carpenter
Manager
Hope Construction, LLC
495 S. River Run Rd., Suite 100
Flagstaff, AZ 86001
dc@hopeaz.com

With a Copy to:

Amy Hagin
Assistant Parks and Recreation
Director City of Flagstaff
211 West Aspen Avenue
Flagstaff, AZ 86001
ahagin@flagstaffaz.gov

14. Contract Violations. In the event that any of the provisions of this Contract are violated by Contractor or by any of Contractor's subcontractors, the Owner may serve written notice upon Contractor and the Surety of its intention to terminate such Contract ("Notice to Terminate"). The Contract shall terminate within five (5) days of the date Contractor receives the Notice to Terminate, unless the violation ceases and Contractor makes arrangements for correction satisfactory to the Owner. In the event of any such termination, the Owner shall immediately serve notice of the termination upon the Surety by registered mail, return receipt requested. The Surety shall have the right to take over and perform the Contract. If the Surety does not commence performance within ten (10) days from the date of receipt of the Owner's notice of termination, the Owner may complete the work at the expense of Contractor, and Contractor and his or her Surety shall be liable to the Owner for any excess cost incurred by the Owner to complete the work. If the Owner completes the work, the Owner may take possession of and utilize such materials, appliances, and plants as may be on the worksite site and necessary for completion of the work.

15. Termination for Convenience. The Owner may terminate this Contract at any time for any reason by giving at least **thirty (30) days** written notice to Contractor. If termination occurs under this Section, Contractor shall be paid fair market value for work completed by Contractor as of the date of termination. The Parties agree that fair market value shall be determined based on

Contractor's Specifications (Scope & Cost Estimation), less any work not yet completed by Contractor as of the date the written notice of termination is given to Contractor.

16. Contractor's Liability and Indemnification. To the fullest extent permitted by law, Contractor shall indemnify, save, and hold harmless the City of Flagstaff and its officers, officials, agents, and employees ("Indemnitee") from and against liabilities, damages, losses, and costs, including reasonable attorneys' fees, but only to the extent caused by the recklessness or intentional wrongful conduct of Contractor, subcontractor, or design professional, or other persons employed or used by Contractor, subcontractor, or design professional in the performance of the Contract. The amount and type of insurance coverage requirements set forth in this Contract (Exhibit B, Section 103.6) will in no way be construed as limiting the scope of the indemnity in this paragraph.

17. Non-Appropriation. In the event that no funds or insufficient funds are appropriated and budgeted in any fiscal period of the Owner to meet the Owner's obligations under this Contract, the Owner will notify Contractor in writing of such occurrence, and this Contract will terminate on the earlier of the last day of the fiscal period for which sufficient appropriation was made or whenever the funds appropriated for payment under this Contract are exhausted. No payments shall be made or due to the other Party under this Contract beyond these amounts appropriated and budgeted by the Owner to fund the Owner's obligations under this Contract.

18. Amendment of Contract. This Contract may not be modified or altered except through a formal written amendment or a written change order, approved by the Owner's Change Order Committee, signed by duly authorized representatives of the parties, which directs Owner or Contractor, to make alterations to the original Contract.

19. Subcontracts. Contractor shall not enter into any subcontract, or issue any purchase order for the completed work, or any substantial part of the work, unless in each instance, prior written approval shall have been given by the Owner. Contractor shall be fully responsible to the Owner for acts and omissions of Contractor's subcontractors and all persons either directly or indirectly employed by them.

20. Cancellation for Conflict of Interest. This Contract is subject to the cancellation provisions of A.R.S. § 38-511.

21. Compliance with All Laws. Contractor shall comply with all applicable laws, statutes, ordinances, regulations, and governmental requirements in the performance of this Contract.

22. Contractor's Warranty. Contractor warrants that it complies with all Federal Immigration laws and regulations that relate to its employees and complies with A.R.S. § 23-214.A, Verification of Employment Eligibility. Contractor shall not employ aliens in accordance with A.R.S. § 34-301, Employment of Aliens on Public Works Prohibited. Contractor acknowledges that pursuant to A.R.S. § 41-4401, Government Procurement; E-Verify Requirement; Definitions, a breach of this warranty is a material breach of this Contract subject to penalties up to and including termination of this Contract, and that the Owner retains the legal right to inspect the papers of any employee who works on the Contract to ensure compliance with this warranty.

23. Jurisdiction and Venue. This Contract shall be administered and interpreted under the laws of the State of Arizona. Contractor hereby submits itself to the original jurisdiction of those courts located within Coconino County, Arizona.

24. Attorneys' Fees. If suit or action is initiated in connection with any controversy arising out of this Contract, the prevailing party shall be entitled to recover in addition to costs such sum as the court may adjudge reasonable as attorney fees, or in event of appeal as allowed by the appellate court.

25. Time is of the Essence. Contractor acknowledges that the completion of the Contract by the dates specified is critical to the Owner, time being of the essence of this Contract.

26. No Third-Party Beneficiaries. The Parties acknowledge and agree that the terms, provisions, conditions, and obligations of this Contract are for the sole benefit of, and may be enforceable solely by, the Parties to this Contract, and none of the terms, provisions, conditions, and obligations of this Contract are for the benefit of, or may be enforced by, any person or entity not a party to this Contract.

27. Headings. The article and section headings contained herein are for convenience in reference and are not intended to define or limit the scope of any provision of this Contract.

28. Severability. If any part of this Contract is determined by a court to be in conflict with any statute or constitution or to be unlawful for any reason, the Parties intend that the remaining provisions of this Contract shall remain in full force and effect unless the stricken provision leaves the remaining Contract unenforceable.

29. Records. The Owner and its employees, agents, and authorized representatives shall have the right at all reasonable times and during all business hours to inspect and examine Contractor's records related to this Contract. Contractor shall retain all records related to this Contract for a period consistent with the City of Flagstaff's records retention policy. This record retention requirement shall remain in effect following termination of the Contract.

30. Force Majeure.

30.1 There may be events that occur during the term of this Contract that are beyond the control of both the Owner and Contractor, including events of war, floods, labor, disputes, earthquakes, epidemics, pandemics, adverse weather conditions not reasonably anticipated, forest fires, and other acts of God ("Events"). These Events may result in a temporary delay of contractual deliverables, or the permanent inability to provide the contractual deliverables that are the subject of this Contract.

30.2 There shall be no claims arising from a temporary delay of contractual deliverables, or the permanent inability to provide the contractual deliverables caused by the Events, and the Owner shall not pay additional costs incurred by Contractor as a result of such Events.

30.3 The Parties shall act in good faith to extend the Contract completion date without any penalty to Contractor and the extension will be in an amount of time equal to any temporary

delay. This provision of the Contract supersedes all other terms regarding temporary delay, permanent shut down, or increased costs.

31. No Boycott of Israel. Pursuant to A.R.S. §§ 35-393 and 35-393.01, if a Party has over ten (10) employees and the Contract is worth at least one-hundred thousand dollars and no cents (\$100,000.00), the Party shall certify that it is not currently engaged in, and agrees, for the duration of the Contract, will not engage in a boycott of Israel.

32. Modification to Contract. This Contract shall not be modified within the first year after Contract award where: (a) an amendment may result in a competitive advantage that was not made available to other proposers/bidders; or (b) requests for changes may delay commencement of performance.

33. Forced Labor of Ethnic Uyghurs. If Contractor engages in for-profit activity and has ten (10) or more employees, pursuant to A.R.S. §35-394, the Contractor certifies that it does not currently, and agrees for the duration of the contract that it will not, use: 1) the forced labor of ethnic Uyghurs in the People's Republic of China; 2) any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China; and 3) any contractors, subcontractors, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China. If Contractor becomes aware during the term of the Contract that Contractor is not in compliance with the written certification, Contractor shall notify the Owner within five (5) business days after becoming aware of the noncompliance. If Contractor does not provide the Owner with a written certification that Contractor has remedied the noncompliance within 180 days after notifying the Owner of the noncompliance, this Contract terminates, except that if the contract termination date occurs before the end of the remedy period the Contract terminates on the Contract termination date.

34. Authority. Each Party warrants that it has authority to enter into the Contract and perform its obligations hereunder, and that it has taken all actions necessary to enter into the Contract.

(REMAINDER OF PAGE INTENTIONALLY BLANK)

IN WITNESS WHEREOF, the Owner and Contractor, by their duly authorized representatives, have executed this Contract as of the date written above.

(Please sign in blue ink. Submit original signatures – photocopies not accepted)

Owner, City of Flagstaff

Hope Construction, LLC

Greg Clifton, City Manager

Signature

Attest:

Printed Name

City Clerk

Title

Approved as to form:

City Attorney

Last Updated March 26, 2024

**CITY OF FLAGSTAFF, ARIZONA
PAYMENT BOND**

PROJECT NAME: Sport Courts at Bushmaster Park
BID NUMBER: 2025-150

STATUTORY PAYMENT BOND PURSUANT TO TITLE 34
CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES
(Penalty of this Bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____
(hereinafter called the "Principal"), as Principal, and, _____
_____, a corporation
organized and existing under the laws of the State of _____, with its
principal office in the City of _____ (hereinafter called the "Surety"), as
Surety, are held and firmly bound unto the City of Flagstaff, Arizona (hereinafter called the
"Obligee"), in the amount of _____ Dollars
(\$ _____) for the payment whereof, the said Principal and Surety bind
themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally,
firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee, dated
this _____ day of _____, 20____, to the City of Flagstaff, which Contract is
hereby referred to and made a part hereof as fully and to the same extent as if copied at length
herein.

Now, therefore, the condition of this obligation is such, that if the Principal promptly pays
all monies due to all persons supplying labor or materials to the Principal or the Principal's
subcontractors in the prosecution of the work provided for in the Contract, this obligation is void.
Otherwise, it remains in full force and effect.

Provided, however, that this bond is executed pursuant to the provisions of Title 34, Chapter
2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in
accordance with the provisions, conditions, and limitations of said Title and Chapter, to the same
extent as if it were copied at length in this Contract.

The prevailing party in a suit on this bond shall recover as a part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

Witness our hands this _____ day of _____ 20__.

Principal (Seal)

Surety (Seal)

By: _____

By: _____

Agency of Record

Agency Address

Last Updated March 26, 2024

**CITY OF FLAGSTAFF, ARIZONA
PERFORMANCE BOND**

PROJECT NAME: Sport Courts at Bushmaster Park
BID NUMBER: 2025-150

STATUTORY PERFORMANCE BOND PURSUANT TO TITLE 34
CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES
(Penalty of this Bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____
(hereinafter called the “Principal”), as Principal, and, _____
_____, a corporation organized and existing under the laws of the State of _____,
with its principal office in the City of _____
(hereinafter called the “Surety”), as Surety, are held and firmly bound unto the City of Flagstaff,
Arizona (hereinafter called the “Obligee”), in the amount of _____
_____ Dollars (\$ _____) for the payment whereof, the said Principal
and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns,
jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee,
dated this ___ day of _____, 20__ in the City of Flagstaff, which
Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at
length herein.

Now, therefore, the condition of this obligation is such, that if the Principal faithfully
performs and fulfills all of the undertakings, covenants, terms, conditions, and agreements of the
Contract during the original term of the Contract and any extension of the Contract, with or
without notice to the Surety, and during the life of any guaranty required under the Contract, and
also performs and fulfills all of the undertakings, covenants, terms, conditions, and agreements of
all duly authorized modifications of the Contract that may hereafter be made, notice of which
modifications to the Surety being hereby waived, the above obligation is void. Otherwise, it
remains in full force and effect.

Provided, however, that this bond is executed pursuant to the provisions of Title 34,
Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined

in accordance with the provisions of said Title and Chapter, to the extent as if it were copied at length in this Contract.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

Witness our hands this _____ day of _____ 20__.

Principal (Seal)

Surety (Seal)

By: _____

By: _____

Agency of Record

Agency Address

Last Updated March 26, 2024

EXHIBIT A - SPECIAL PROVISIONS

**SPORT COURTS
AT
BUSHMASTER PARK**

100% Submittal - Base Bid

**P.O. Number 24-001550
Requisition Number R24-000333**



City of Flagstaff
Parks Division



LOGAN SIMPSON
DESIGN INC.

222 South Mill Avenue
Suite 222
Tempe, Arizona 85281

January 10, 2025

**TECHNICAL SPECIFICATIONS
FOR
Pickleball Courts in Bushmaster Park**

**P.O. Number 24-001550
Requisition Number R24-000333**

City of Flagstaff
Parks Division

PROFESSIONAL SEALS:

The following section of specifications and related contract documentation represents the efforts of the following firm:

Logan Simpson Design Inc.

An appropriate representative from the firm has affixed their seal below, which attests that those portions of these Special Provisions that relate to the drawing numbers appearing with their seal were prepared under their direction.

Specification Sections

Section 02010	Site Clearing
Section 02470	Site Furnishings
Section 02471	Chain Link Fence and Gates, Metal Rail Fence
Section 02810	Irrigation System
Section 02901	Landscaping

Plan Sheets

LC 0.0	Cover Sheet
LD 1.0	Demolition Plan
LH 1.1	Hardscape Plan
LH 2.1	Hardscape Details
LL 1.1	Landscape Plan
LL 2.1	Landscape Details
LI 1.1	Irrigation Plan
LI 2.1	Irrigation Details



SECTION 02010
SITE CLEARING

All work shall comply with the most recent version of MAG Specifications and Details. In case of conflicts, the order of precedence shall be the City of Flagstaff Supplemental Specifications, these Technical Specifications, followed by the MAG Standard Specifications.

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The Contractor shall provide all material, equipment, and labor required to clear the construction site of sidewalks, trees, underground obstructions, and other items not scheduled to be part of the finished construction. Also included in this section is the staking of the proposed clearing limits for review, tagging of vegetation and items to remain after site clearing, enclosing the work area with chain link fencing, and proper disposal of all debris cleared from the site.
- B. The work of this section includes the salvage of selected equipment and materials as noted on the Drawings and as described in these Special Provisions and delivering the items to a City of Flagstaff facility to be identified at the Pre-Construction meeting.
- C. The contractor shall obtain coverage under and implement the requirements of the Arizona Pollutant Discharge Elimination System (AZPDES) for erosion control as specified in the "Construction General Permit For Discharge From Construction Activities To the Waters Of The United States" as issued by the Arizona Department of Environmental Quality (ADEQ). The contractor, with input from the City Representative, shall prepare a SWPPP, file a Notice of Intent (NOI), implement the SWPPP, and file a Notice of Termination (NOT), all as described herein. The contractor shall not begin clearing, grubbing, or earthwork until the SWPPP has been approved and documentation of coverage is received.
- D. Existing materials and/or equipment removed as part of the site clearing shall become the property of the contractor.

1.02 JOB CONDITIONS

- A. Special Provision Section 02810 – Irrigation System has requirements that affect the Work of this Section.
- B. Special Provision Section 02901 – Planting has requirements that affect the Work of this Section.
- C. Traffic: Conduct site clearing operations to ensure minimum interference to Bushmaster Park visitors, traffic on nearby City streets, and other adjacent occupied or used facilities. Do not close or obstruct existing facilities without permission from the City Representative.
- D. Protection of Existing Improvements: Provide protection as necessary to prevent damage to existing improvements indicated to remain in place. Restore damaged improvements to their original condition, as acceptable to the City

Representative.

- E. Provide a 6-foot chain link fence with visual screen to fully enclose the work area. Clearing cannot begin until the fencing has been installed and accepted. Fence location shall be confirmed through the field review of the staked clearing limits as noted above. Provide City Representative with two keys to all locks and gates used for access to the site. Fencing shall be removed only when directed by the City Representative.
- F. Surface soils may be stripped and stockpiled by the contractor for subsequent use during the landscaping operation.
- G. The concrete slab under the existing tennis courts is to remain as is after clearing has been completed.
- H. Contractor shall salvage all basketball rims/backboards/poles; tennis nets and posts; benches; and signboards within the area to be cleared. Footings are not to be salvaged but shall be removed from the site.

PART 2 – PRODUCTS – N/A

PART 3 – EXECUTION

GENERAL

- A. Remove concrete, chain link fencing, dirt, rock, trees, vegetation, irrigation components, electrical poles, sundry appurtenances, and obstructions interfering with the installation of new facilities and improvements. Removal includes digging out stumps and roots to a minimum of 12" below finish grade.
- B. Any site elements that are identified as Salvage shall be removed from the site and transported to a to-be-determined location by the City.

3.02 SURFACE SOIL

- A. Surface soil may be salvaged and utilized as part of the landscaping plant backfill mix. Surface soil is defined as in-situ soil found at a depth of not more than 4"-6" with the Project area. Satisfactory surface soil shall be reasonably free of subsoil, clay lumps, stones, and other objects over 2" in diameter, and without weeds, roots, pine needles, and other objectionable material.
- B. Remove turf grass or grass infestations from stripping areas before stripping.
- C. Stockpile surface soils in piles as approved by City Representative. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent wind-blown dust.

3.03 DISPOSAL OF WASTE MATERIALS

- A. Remove all waste materials, including unsuitable and excess materials, from the

site and dispose of off-site in a legal manner.

END OF SECTION

SECTION 02470

SITE FURNISHINGS

All work shall comply with the most recent version of MAG Specifications and Details. In case of conflicts, the order of precedence shall be the City of Flagstaff Supplemental Specifications, these Technical Specifications, followed by the MAG Standard Specifications.

PART 1 GENERAL

1.01 SUMMARY

- A. The work under this Section shall consist of furnishing all labor, materials, equipment and incidentals to install the following site furnishings complete in place and ready for intended use in accordance with the manufacturer's specifications, these Special Provisions and the project Drawings.
 - 1. First Team Brute Max In Ground Basketball Goal – 36" x 54", aluminum
 - 2. Douglas Premier XS Tennis Posts, 2 7/8" O.D., Brass Gears, Green color, with PVC sleeve.
 - 3. Douglas TN-36T Tennis Net, tapered, 42' x 3'6", 3.5mm thickness
 - 4. Douglas Premier XS-36 Pickleball Posts, 2 7/8" O.D., Brass Gears, Green color, with PVC sleeve
 - 5. Douglas PN-30 Pickleball Net – 31" x 21'9"

1.02 RELATED WORK

- A. Striping and colorizing the court surfaces will affect the Work of this Section.

1.03 SUBMITTALS

- A. Submit for approval full product data cut sheets and technical information on all furnishings to be installed. If the manufacturer recommends anchoring or footing details, submit copies of the details to the Owner's Representative for review and approval prior to construction. Manufacturer recommendations shall take precedence over the Drawings and these Special Provisions.

PART 2 PRODUCTS

2.01 GENERAL

- A. These materials specifications are based on the proprietary products shown on the Drawings to establish a standard of quality and installation procedures. Other manufacturers meeting or exceeding the quality standards of the specified product may be submitted for approval.

2.02 MATERIALS

- A. Site furnishings shall be as specified herein or as approved via the material submittals. Furnishings shall be permanently anchored at locations shown on

Drawings or shop drawings, per manufacturer's specifications or the geotechnical report, whichever is applicable and most stringent.

- B. Paint shall be as specified by the furnishing manufacturer.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install all components at approved locations, properly aligned and spaced, plumbed vertically, complete and ready for use.

END OF SECTION

SECTION 02471
FENCES, GATES, AND RAILS

All work shall comply with the most recent version of MAG Specifications and Details. In case of conflicts, the order of precedence shall be the City of Flagstaff Supplemental Specifications, these Technical Specifications, followed by the MAG Standard Specifications.

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work under this Section shall consist of furnishing all labor, materials, and incidentals to prepare shop drawings and install the fencing and rail as described herein where shown on the plans:
1. Chain link fence of different heights and gates for tennis and pickleball courts.
 2. Chain link fence to separate pickleball courts, including fence topper.
 3. FUTS fence at the basketball courts.
 4. Safety Rail along the sidewalk ramp.

The items identified above shall be installed complete in place and ready for intended use in accordance with the manufacturer's specifications, these Special Provisions, and the approved shop drawings.

All materials, products, and Work shall conform to the 2024 Revision to the 2020 Edition of the Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction (Standards) or as superseded by these contract documents (Drawings and these Special Provisions) or the shop drawings. If there is a conflict between these references, the precedent governing order shall be the shop drawings, the contract documents, then the Standards.

1.02 SUBMITTALS

- A. Product Data: Provide cut sheets, materials descriptions, and or certifications to demonstrate that all chain link components, including nuts and bolts, meet the requirements of MAG Sections 420 and 772 (Type B) or as approved by the City Representative through the shop drawing process. Provide cut sheets or certifications that Corten meets the requirements of Corten A. Steel pipe shall meet the requirements of applicable MAG sections.
- B. Shop Drawings: Provide shop drawings of the chain link, FUTS fence, and safety rail elements for approval. The shop drawings shall show the layout, THICKNESS, dimensions, materials, colors, equipment, and finishes, including construction details showing the horizontal and vertical dimensions/elevations of proposed individual components such as handrails, posts, post caps, tension bars, top and bottom rail or tension wire, gates, fabric opening sizes, anchoring/footings, expansion protection, welds and connections, bracing members, fence topper, and hardware. Fence post footing designs shall be signed and sealed by a structural engineer. The shop drawings shall demonstrate that the chain link fence and FUTS fence locations are not in conflict with the back and side space guidelines of the US Tennis Court and Track Builders Association, USA Pickleball, or other applicable guidance documents unless specifically approved by the City Representative. The Safety

Rail shop drawings shall demonstrate compliance with the applicable guidelines of the Americans with Disability Act (ADA).

- C. Samples for Verification: For the following products, in sizes indicated, showing the full range of color, texture, and pattern variations expected. Prepare samples from the same material to be used for the Work.
 - 1. Fence Topper: 4 ½ inch diameter pre-split, polyethylene or heavy duty foam, and weather and mildew resistant topper. Provide a 3-foot sample for approval. Color shall be complimentary to the court colors and will be selected from manufacturer's standard colors.

PART 2 - PRODUCTS

2.01 HEIGHT

- A. The height of chain link fences shall be as shown on the Drawings.
- B. The height of the FUTS fence shall be as shown on the Drawings.
- C. The height of the Safety Rail shall be as approved in the shop drawings.

2.02 CHAIN LINK FABRIC

- A. Chain link fabric for tennis courts shall be produced from 9-gauge wire with 1 ¾-inch diamond mesh. Pickleball fencing fabric shall be 9-gauge wire with 2-inch mesh. Top and bottom selvage of fabric shall be knuckled. Bottom of chain link fence shall hang above the court surface elevation as shown on the Drawings.

2.03 CHAIN LINK POSTS, RAILS, BRACES, ACCESSORIES, AND APPURTENANCES

- A. Method of Manufacturing: Round steel pipe per MAG 772.
- B. Accessories and appurtenances:
 - 1. Fabric Ties: 9-gauge (min.) galvanized steel tie wire to fasten fabric to framework.
 - 2. Tensioned Bands: Pressed steel, beveled edge type with nuts and bolts.
 - 3. Tension Bars: One-piece, length no more than 2 inches less than fabric height.
 - 4. Clamps: As approved.
 - 5. Line Post Tops: Heavy galvanized cast from eye top fitting.
 - 6. Terminal Post Tops: Heavy galvanized iron tops of bullet type construction.
- E. Gates: Pre-fabricated, round, welded frame corners and horizontal stiffener.
 - 1. Gate Dimensions: 3' (width) x 7' (height).
 - 2. Gate fabric to match adjacent chain link fence gauge and opening size.
 - 3. Hardware: Fork-type latches shall permit operation from both sides of gate, and hinges. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.
- F. Concrete: Concrete for footings shall be MAG Class A.

2.04 FUTS FENCE

- A. Fence shall be an atmospheric corrosion resistant steel alloy using a combination of hollow tube components with a naturally appearing weathered color and A588 finish meeting the ASTM G101 of 6 or higher.
- B. Concrete: Concrete for footings shall be MAG Class A.

2.05 SAFETY RAIL

- A. Rail shall be high strength heavy industrial steel pipe conforming to ASTM F1043 Material Group IA-2 (2.72 lb/ft, minimum yield strength = 50 KSI (MAG Detail 145).
- B. Rail shall be anchored to the sidewalk finished surface per the approved shop drawings.
- C. Paint: Shall be a long-lasting, flat exterior paint as approved, complimentary to the FUTS fence color and selected from manufacturer's (i.e. Behr, Dunn Edwards, Benjamin Moore, etc.) standard color palette.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. The complete chain link fence shall be plumb, both in line and transverse to fence, straight and rigid with fabric tightly stretched and held firmly in place. Details of construction not specified, shall be performed in keeping with standard good fencing practices.
- B. FUTS fence and safety rail shall be plumb, aligned, and secure as shown on the shop drawings. They shall not have any burrs, scratches, welds, or marks that detract from the visual appearance of the items.
- C. Protect improvements from paint overspray.

3.02 CHAIN LINK POSTS, FABRIC, RAILS, FABRIC TIES, AND TENSION BENDS

- A. Space all posts and set in concrete as indicated on the approved drawings. Posts shall be set plumb and aligned prior to placing the fabric.
- B. Stretch fabric taut between posts and secure.
- C. As applicable, set top, middle and bottom rails as nearly parallel to the finish grade as possible and at the specified height of the fence.
- D. Provide ties every 18" O.C. maximum for rails and every 12" O.C. for posts. Ties to bottom rail shall be every fourth knuckle.
- E. Provide one tension band for each 1 foot of fabric height.

3.07 CHAIN LINK GATES

- A. General: Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware

using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage.

- B. Adjust gate and hardware to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Lubricate hardware, and other moving parts.

END OF SECTION

Section 02810

IRRIGATION SYSTEM

All work shall comply with the most recent version of MAG Specifications and Details. In case of conflicts, the order of precedence shall be the City of Flagstaff Supplemental Specifications, these Technical Specifications, followed by the MAG Standard Specifications.

PART 1 GENERAL

Work for this Section includes modification and restoration of the existing underground irrigation system (drip and spray irrigation) to accommodate the new sports courts, including the following:

- A. Trenching, stockpiling excavation materials and refilling trenches.
- B. Complete system including but not limited to providing and installing piping, valves, fittings, emitters, existing controller wiring, temporary bypass piping as necessary, relocating or installing new drip and sprinkler heads, and testing the system as shown on the Drawings and final adjustments to insure complete coverage.
- C. Water connections.
- D. Replacement of unsatisfactory materials.
- E. Clean up, inspection and approval.
- F. Tests.
- G. Watering Plan

1.01 REFERENCES

Perform Work in accordance with requirements of Conditions of the Contract and Division 1 - General Requirements as well as provisions of all applicable laws, codes, ordinances, rules and regulations.

All materials, products, and Work shall conform to the 2024 Revision to the 2020 Edition of the Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction (Standards), the contract documents (Drawings and these Special Provisions), and the City of Flagstaff Details 19-01-020 thru 19-02-037. If there is a conflict between these references, the precedent governing order shall be the Details, the contract documents, then the Standards.

Conform to requirements of reference information listed below except where more stringent requirements are shown or specified in Contract Documents.

- A. American Society for Testing and Materials (ASTM) - Specifications and Test Methods

specifically referenced in this Section.

- B. Underwriters Laboratories (UL) - UL Wires and Cables.

1.02 RELATED SECTIONS

- A. The Civil Drawings contain requirements that may affect the irrigation Work.
- B. Section 02010 Site Clearing contains requirements that affect the irrigation Work.
- C. Section 02901 Planting contains requirements that affect the irrigation Work.

1.03 SUBMITTALS

- A. Watering Plan. At the completion of the Work, the existing and restored irrigation components shall produce a complete, operating automatic system providing 100 percent coverage to all existing and installed plant material. The contractor shall investigate the water supply and static water pressure at the intended connection point(s) and determine that the source(s) or other sources will be required to satisfy the Project needs and include in his/her bid all necessary labor, equipment, materials, and fees required to install a fully functioning irrigation system as expressed in these Special Provisions. The Work shall include acquisition of as-builts from the City, development of a Watering Plan and shop drawings indicating the proposed restoration materials and equipment and pipeline layout (if different than the Drawings), a determination of water and power connections as necessary, excavation and backfill, furnishing and installing, as required by the City Representative, all plastic or polyethylene pipe and fittings, control wiring, automatic control valves, valve access boxes, pipe sleeves, temporary watering bypass connections, and/or flushing and testing the existing system delivery lines scheduled to remain but that are affected by the Work, and newly installed system components, as required to produce a single, joined system, as shown on the Drawings or as directed, and other Work as required to provide for proper operation of the installed components and the overall irrigation system resulting from the Project. The existing landscaping and turf affected by the courts installation shall be watered through the construction period as required to maintain their health and vigor. They will be allowed to skip no more than two (2) watering cycles during any one-week period; temporary bypass pipe routing/configurations may be required to meet this requirement.
- B. Operation Instructions - Submit 3 written operating instructions, including start-up with cut sheets of products, and coordinate controller/watering operation with City Representative or maintenance personnel.
- C. Do not prepare charts until as-builts have been reviewed by City Representative.
- D. Provide one controller chart for each of the affected zones on the existing controller.
 - a. Chart may be reproduction of record drawings, if scale permits fitting of controller door. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.

- b. Chart shall be blueline print of actual "as-built" system, showing area covered by the affected controller zones.
 - c. Identify area of coverage of each remote control valve, using a distinctly different pastel color, Drawings over entire area of coverage.
 - d. Following review of charts by City Representative, they shall be hermetically sealed between two layers of 20 mm thick plastic sheet.
 - e. Charts shall be completed and reviewed prior to final review of irrigation system.
- E. As-built Drawings: At onset of irrigation installation, secure reproducible copies of original irrigation design from City Representative. Make blueline or blackline prints as required. As-built blueprints shall be brought up to date at close of working day on every Friday by a qualified draftsman. A print of as-built drawings shall be available at project site. Indicate zoning changes on weekly as-built drawings. Indicate non-pressure piping changes on as-builts. Upon completion of project, submit for review, prior to final acceptance, final set of as-built blueprints. Dimension, from two permanent points of reference (building corners, sidewalks, road intersections or permanent structures), location of following items:
- a. Connection to existing water lines
 - b. Routing of irrigation pressure lines (dimension maximum 100 feet along routing)
 - c. Irrigation control valves
 - d. Relocated or new heads
 - e. Drip line blow out stubs
 - f. Connection to existing control wires
 - g. Control wire routing if not in mainline trench
 - h. Irrigation Sleeves
 - i. Other related equipment as directed

City Representative will not certify any pay request submitted by the contractor if the as-built drawings are not current, and processing of pay request will not occur until record Drawings are updated and current.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications - Installer shall have had considerable experience and demonstrate ability in the installation of irrigation system(s) of specified type(s) in a neat, orderly and responsible manner in accordance with recognized standards of workmanship with five (5) consecutive years of documented service.
- B. Special Requirements
 - 1. Tolerances - Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, re-compaction and repair of finish grade treatment.
 - 2. Coordination With Other Contracts - Protect, maintain and coordinate Work with Work under other Sections.

3. Damage to Other Improvements - Contractor shall replace or repair damage to grading, soil preparation, seeding, or planting done under other Sections during Work associated with installation of irrigation system at no additional cost to Owner.
- C. Pre-Construction Conference - Contractor shall schedule and conduct a conference to review in detail quality control and construction requirements for equipment, materials and systems used to perform the Work. Conference shall be scheduled not less than ten (10) days prior to commencement of Work. All parties required to be in attendance shall be notified no later than seven (7) days prior to date of conference. Contractor shall notify qualified representatives of each party concerned with that portion of Work to attend conference, including but not limited to City Representative and installer. Minutes of conference shall be recorded and distributed by Contractor to all parties in attendance within five days of conference.

As part of the pre-construction conference, the contractor shall meet with the City to identify the process and schedule for completing the work. A field review of the areas of work and equipment will be conducted as part of the conference. The contractor shall identify in the field review his proposed approach to completing the work and indicate evidence of coordination with other work on the project. The contractor will accept comments from the others on the proposed activities. Within three days of the meeting, the contractor shall provide a written schedule of the proposed work for the City Representative to review. Once a strategy and schedule are agreed upon, amend the schedule only as approved by the City Representative.

1.05 DELIVERY, STORAGE AND HANDLING

Deliver, unload, store and handle materials, packaging, bundling, and products in dry, weatherproof, waterproof condition in manner to prevent damage, breakage, deterioration, intrusion, ignition and vandalism. Deliver in original unopened packaging containers prominently displaying manufacturer name, volume, quantity, contents, instructions and conformance to local, state and federal law. Remove and replace cracked, broken or contaminated items or elements prematurely exposed to moisture, inclement weather, temperature extremes, fire and/or jobsite damage.

- A. Handling of PVC Pipe - Exercise care in handling, loading and storing of PVC pipe. All PVC pipe shall be transported in a vehicle that allows length of pipe to lie flat so as not to subject it to undue bending or concentrated external loads. All sections of pipe that have been dented or damaged shall be discarded, and, if installed, shall be replaced with new piping.

1.06 JOB SITE CONDITIONS

- A. Protection of Property:

Preserve and protect all monuments, structures and paved areas from damage due to Work of this Section. In the event damage does occur, all damage to inanimate items shall be completely repaired or replaced to satisfaction of City Representative. All costs of such repair shall be charged to and paid by contractor.

Protect buildings, walks, walls and other property from damage. Flare and barricade open ditches. Damage caused to asphalt, concrete or other building material surfaces shall be repaired or replaced at no cost to City. Restore disturbed areas to original condition.

B. Protection and Repair of Underground Lines

Request proper utility company to stake exact location (including depth) of all underground electric, gas or telephone lines. Take whatever precautions are necessary to protect these underground lines from damage, and, in the event damage does occur, contractor shall repair all damages. Contractor shall pay all costs of such repairs unless other arrangements have been made.

Contractor is to request City, in writing, to locate all private utilities (i.e., electrical service to outside lighting) before proceeding with excavation. If, after such request and necessary staking, private utilities that were not staked are encountered and damaged by Installer, City shall repair them at no cost to Installer. If Contractor damages staked or located utilities, Contractor shall repair them unless other arrangements have been made.

C. Replacement of Paving and Curbs

Where trenches and lines cross-existing roadways, paths, curbing, etc., damage to these shall be kept to a minimum and shall be restored to original condition.

1.07 WARRANTY

- A. Manufacturer shall warranty materials against defects for a period of one year from date of Substantial Completion. Installer(s) shall guarantee workmanship through the one (1) year Plant Establishment and Maintenance Period.
- B. Settling of backfilled trenches that may occur during warranty period shall be repaired at no expense to City, including complete restoration of damaged property.
- C. City will not maintain planting areas until after completion of Plant Establishment Period.

1.08 MAINTENANCE

- A. Furnish the following maintenance items to City Representative prior to Final Acceptance:
 - 1. Two sets of special tools required for removing, disassembling and adjusting each type of valve supplied on this Project.
 - 2. Ten emitters of each type used on the Project.
 - 3. Five spray heads of each type used on the Project.

PART 2 PRODUCTS

2.01 MATERIALS

A. General Piping: Used pipe shall not be reused on the project. All components and practices must meet the requirements and standards stipulated by Maricopa County and these Special.

1. Pressure Supply Lines (downstream of backflow prevention units) – per Drawings.
2. Non-pressure Lines - Per Drawings.
3. Emitter Tubing - As recommended by emitter manufacturer.

B. Plastic Pipe and Fittings:

Identification Markings:

1. Identify all pipes with following indelible markings:
 - a. Manufacturer's name
 - b. Nominal pipe size
 - c. Schedule of class
 - d. Pressure rating psi
 - e. NSF (National Sanitation Foundation) seal of approval
 - f. Date of extrusion
2. Solvent Weld Pipe - Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12454-B, Type 1, Grade 1.
 - a. Fittings - Standard weight, Schedule 40, injection molded PVC; complying with ASTM D1784 and D2466, cell classification 12454-B.
 - i. Threads - Injection molded type (where required)
 - ii. Tees and ells - Side gated
 - b. Threaded Nipples - ASTM D2464, Schedule 40 with molded threads.
 - c. Joint Cement and Primer - type as recommended by manufacturer of pipe and fittings.
 - i. Clamps per joint on 1-1/2 inch and 2 inch fittings.

C. Low Pressure/Volume Systems:

1. Drip Tubing - Manufactured of flexible polyvinyl chloride compound conforming to ASTM D1248, Type 1, Class C, Category 4, P14 and ASTM D3350 for PE 122111C.

2. Fittings - Type and make recommended by tubing manufacturer.

D. Drip Control Valve Assembly - type and size shown on Drawings.

1. Wye Strainer – Per Plans.
2. Control Valve - Per Plans.
3. Pressure Reducing Valve – Per Plans.
4. Emitter - Per Drawings.

E. Valve Boxes:

1. Drip Line Blow-out Stubs - Per Drawings.
2. Drip Valve Assemblies - Per Drawings.
3. Control Wiring Splices - Carson #910-12, Brooks #1100 or as shown on the Drawings.

F. Electrical Control Wiring:

1. Low Voltage:
 - a. Electrical Control Wire - AWG UF UL approved No. 14 direct burial copper wire or larger, if required to operate system as designed. Control wire for restored irrigation system components shall match the existing wire or as approved.
 - b. Wire Colors:
 - i. Control Wires – Red
 - ii. Common Wires – White
 - c. Control wire connections and splices shall be made with 3M direct bury splice, Rainbird Pentite connectors, or similar dry splice method.

G. Automatic Controller - Existing.

H. Electric Drip Valves - Size and type shown on Drawings. Solenoid shall be compatible with existing controller and control wiring used on the project.

PART 3 EXECUTION

3.01 INSPECTION

A. Staking shall occur as follows:

1. Mark, with powdered lime, routing of pressure supply line and flag heads for first

few zones. Contact City Representative 48 hours in advance and request review of staking. City Representative will advise installer as to the amount of staking to be prepared. City Representative will review staking and direct changes if required. Review does not relieve installer from coverage problems due to improper placement of heads after staking.

2. If Project has significant topography, free-form planting beds, or other amenities that could require alteration of irrigation equipment layout as deemed necessary by City Representative, do not install irrigation equipment in these areas until City Representative has reviewed equipment staking.
3. Install sleeving under asphalt paving and concrete walks, prior to concreting and paving operations, to accommodate piping and wiring. Compact backfill around sleeves to 95% Modified Proctor Density within 2% of optimum moisture content in accordance with ASTM D1557.
4. Trenching - Trench excavation shall follow, as much as possible, layout shown on Drawings. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris removed.
 - a. Clearances:
 - i. Piping Smaller than 3 Inches - Trenches shall have a minimum width of 7 inches.
 - ii. Line Clearance - Provide not less than 6 inches of clearance between each line, and not less than 12 inches of clearance between lines of other trades.
 - b. Pipe and Wire Depth
 - i. Pressure Supply Piping - 18 inches from top of pipe.
 - ii. Control Wiring - Side of pressure main

3.02 INSTALLATION

- A. Locate other equipment as near as possible to locations designated. City Representative shall review any deviations to Drawings prior to installation.
- B. PVC Piping - Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40°F. When pipe laying is not in progress, or at end of each day, close pipe ends with tight plug or cap. Perform work in accordance with good practices prevailing in piping trades.
- C. Solvent Weld PVC Pipe - Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations.
- D. Drip Tubing:
 1. Install all drip tubing per the Drawings before installation of mulch.
 2. Install drip line blowout stubs at all dead ends of emitter laterals.

E. Control Wiring

1. Low Voltage Wiring:

- a. Bury control wiring between the existing wire junction box and electric valves in trench condition with a minimum of 18" cover. Install warning tape 6" above new control wires.
- b. Bundle all 24-volt wires at 10-foot intervals and lay with pressure supply line pipe to one side of the trench.
- c. Provide an expansion loop at every pressure pipe angle fitting, every electric control valve location (in valve box), and every 500 feet. Form expansion loop by wrapping wire at least 8 times around a 3/4-inch pipe and withdrawing pipe.
- d. Make all splices and E.V.C. connections using Rainbird Pentite connectors or similar dry splice method.
- e. Install all control wire splices not occurring at control valve in a separate splice valve box.
- f. Install control wire for each control valve.

F. Automatic Controller

1. Automatic controller is existing, connect new remote control valve to controller in continued sequence and number valve box.
2. All above ground conduits shall be rigid galvanized with appropriate fittings.

G. Electric Control Valves - Install 3 inches below finished grade where shown on Drawings and as detailed. When grouped together, allow at least 12 inches between valve boxes. Install each remote control valve in a separate valve box. Install individual valve box flush with ground. Place gravel in bottom of each box below valve with a minimum of 2 cubic feet of 3/4 inch crushed gravel.

H. Drip Valve Assemblies - Install drip valve assembly as detailed.

I. Drip Emitters - Install all surface emitters as detailed and stake with acceptable tubing stakes.

J. Valve Boxes:

1. Install one valve box for each type of valve installed as detailed. Install gravel sump after compaction of all trenches. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
2. Brand controller letter and station number of lid on each valve box. Letter and number size shall be no smaller than 1 inch and no greater in size than 1-1/2 inches. Depth of branding shall be no more than 1/8 inch into valve box lid.

- K. Gate Valves - Install where shown on Drawings as detailed.
- L. Backfilling - Do not begin backfilling operations until required system tests have been completed. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Trenches shall be finish graded prior to walk-through of system by City Representative.
 - 1. Materials - Excavated material is generally considered satisfactory for backfill purposes. Backfill material shall be free of rubbish, vegetable matter, and stone larger than 1 inch in maximum dimension. Do not mix subsoil with topsoil. Material not suitable for backfill shall be hauled away. Contractor shall be responsible for providing suitable backfill if excavated material is unacceptable or not sufficient to meet backfill, compaction and final grade requirements.
 - 2. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
 - 3. Compact backfill to 90% maximum density, determined in accordance with ASTM D155-7 utilizing the following methods:
 - a. Mechanical tamping.
 - b. Puddling or ponding. Puddling or ponding and/or jetting is prohibited within 20'-0" of building or foundation walls.

M. Piping Under Paving:

- 1. Provide for a minimum cover of 18 inches between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed under asphaltic concrete or concrete paving.
- 2. Piping located under areas where asphalt or concrete paving will be installed shall be bedded with sand (a layer 6 inches below pipe and 3 inches above pipe).
- 3. Compact backfill material in 6 inch lifts at 90% maximum density determined in accordance with ASTM D155-7 using manual or mechanical tamping devices.
- 4. Set in place, cap and pressure test all piping under paving, in presence of City Representative prior to backfilling and paving operations.

- N. Water Supply and Point of Connection - Water supply shall be extended as shown from water supply lines.

3.03 FIELD QUALITY CONTROL

- A. Flushing - After piping, risers and valves are in place and connected, but prior to installation of emitters, thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthest valves. Cap risers after flushing.

B. Testing - Notify 48 hours in advance and arrange for presence of City Representative in advance of all testing. Conduct tests in presence of City Representative. Supply force pump and all other test equipment.

1. After backfilling and installation of all control valves, fill pressure supply line with water and pressurize to 40 PSI over the designated static pressure or 120 PSI, whichever is greater, for a period of 2 hours..
2. Leakage, Pressure Loss - Test is acceptable if no leakage or loss of pressure is evident during test period.
3. Leaks - Detect and repair leaks.
4. Retest system until test pressure can be maintained for duration of tests.
5. Before final acceptance, pressure supply line shall remain under pressure for a period of 48 hours.

C. Substantial Completion/Pre-Plant Establishment Inspection

1. Arrange for City Representative's presence 48 hours in advance of walk-through.
2. Entire system shall be completely installed and operational prior to scheduling of walk-through.
3. Operate each zone in its entirety for City Representative at time of walk-through and, additionally, open all valve boxes if directed.
4. Generate a list of items to be corrected.
5. Furnish all materials and perform all Work required to correct all inadequacies of coverage due to deviations from contract documents.
6. During walk-through, expose all drip emitters under operations for observation by City Representative to demonstrate that they are performing and installed as designed; prior to placing of all mulch material. Schedule separate walk-through if necessary.

D. Final Maintenance Inspection:

1. Arrange for City Representative's presence 48 hours in advance of walk-through.
2. Show evidence that City Representative has received all accessories, charts, record Drawings, and equipment as required before Final Completion walk-through is scheduled.
3. Operate each zone, in its entirety for City Representative at time of walk-through to insure correction of all incomplete items.

4. Items deemed not acceptable by City Representative shall be reworked to complete satisfaction of City Representative.
5. If after request to City Representative for walk-through for Final Completion of irrigation system, City Representative finds items during walk-through that have not been properly adjusted, reworked or replaced as indicated on list of incomplete items from previous walk-through, contractor shall be charged for all subsequent walk-throughs. Funds will be withheld from final payment and/or retainage to contractor, in amount equal to additional time and expenses required by City Representative to conduct and document further walk-throughs as deemed necessary to insure compliance with contract documents.

3.04 ADJUSTING

- A. Upon completion of installation, "fine-tune" entire system by regulating valves, adjusting drip-tubing ports , and setting pressure reducing valves at proper and similar pressure to provide efficient and adequate irrigation.
- B. If it is determined that irrigation adjustments will provide proper and more adequate coverage, make such adjustments prior to Final Acceptance, as directed, at no additional cost to City. Adjustments may also include changes in control valve throttling.
- C. Areas that do not conform to designated operation requirements due to unauthorized changes or poor installation practices shall be immediately corrected at no additional cost to the City.

3.05 CLEANING

Maintain continuous cleaning operation throughout duration of Work. Dispose of, off-site at no additional cost to Owner, all trash or debris generated by installation of irrigation system.

END OF SECTION

Section 02901

LANDSCAPING

All work shall comply with the most recent version of MAG Specifications and Details. In case of conflicts, the order of precedence shall be the City of Flagstaff Supplemental Specifications, these Technical Specifications, followed by the MAG Standard Specifications.

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Scope:
1. Provide all materials, equipment, labor, and incidentals required for supplying and placing trees, shrubs, and plants; concrete edging, rock; and native seed, all as shown on the Drawings and specified herein.
 2. Types of products required include the following:
 - a. Contractor-provided trees, shrubs and plants, including staking.
 - b. Planting pit backfill mix from in-situ, imported or topsoil, amended as required.
 - c. 3"-6" Rock (Table Mesa Brown) from Flagstaff Landscape Products or approved equal.
 - g. Native seed and mulch.
 - h. Soil amendments and conditioners.
 3. The Civil Drawings and Section 02810 have requirements that relate to the Work of this Section.
 7. Applicable publications listed below form a part of these Special Provisions to the extent referenced:
 1. American Association of Nurserymen, Inc. (AAN): American Standard for Nursery Stock (ASNS), 1986 Edition.
 2. American Joint Committee on Horticultural Nomenclature (AJCHN): Standardized Plant Names (SPN), Second Edition, 1942.
 3. Arizona Nursery Association Growers Committee (ANA): Recommended Tree Specifications, latest edition.
- B. Coordination:
1. Review the Work and procedures described under the civil Drawings and other Sections, and coordinate all Work required for the planting operation with that of other trades.

1.2 QUALITY ASSURANCE

- A. All materials, products, and Work shall conform to the 2024 Revision to the 2020 Edition of the Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction (Standards), the contract documents (Drawings and these Special Provisions), and the City of Flagstaff Details 18-03-050 and 18-04-050. If there is a conflict between these references, the precedent governing order shall be the Details, the contract documents, then the Standards.

- B. A single firm specializing in landscape installation and maintenance, with the appropriate State of Arizona contractor's license in force, and a minimum of five years of experience in the type of Work described in this Section.
- C. Perform Work in accordance with all applicable laws, codes, and regulations required by authorities having jurisdiction over such Work and provide for all inspections and permits required by Federal, State, and local authorities in furnishing, transporting and installing materials as shown or for completing the Work identified herein.
- E. The contractor may not work outside the established construction limits without the approval of the City Representative. Trees, individual shrubs and shrub masses, native grasses, topography, ground surface, and rock outcrops that occur outside of the limit of construction which are damaged or destroyed by the contractor during the Work (at the sole discretion of the City Representative) shall be replaced with equal-size, like-kind materials and provided water through the temporary irrigation system to be installed by the contractor at no additional cost to the project.
- F. Finished grades of the landscaped areas within 10' of any sidewalk, pathway, or paved surface, inclusive of the stabilized granite path, shall have a vertical tolerance of ± 0.1 -foot from the specified and/or existing grade and cross-section.
- H. Protect landscape Work and materials from damage due to landscape installation, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat repair or replace contractor-damaged Work as directed by the City Representative. Remove all debris, trash, and excess materials generated by the Work of this Section.
- I. The cost of water used for the landscape planting and/or restoration of the existing landscape is the contractor's responsibility, whether an on-site source is or is not used, until approval at the Substantial Completion inspection. The contractor shall provide written evidence to the City Representative that he/she has reached an agreement with the City of Flagstaff (City) on how to pay for water provided through the existing Bushmaster Park system.
- J. Except as noted in the Standards, plantings (or their replacements) shall have a 100% survivability through the completion of the Plant Establishment and Warranty and Guarantee Period.

1.3 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 - 1. Submit the planting schedule, indicating dates for each type of landscape Work during landscape installation. Correlate with specified planting and maintenance periods to provide maintenance through the Plant Establishment Period. Once accepted, revise dates only as approved in writing, after documentation of reasons for a delay
 - 2. Manufacturer's specifications and installation instructions for all materials required.

- B. Test Reports: Submit for approval the following:
1. An analysis made by an approved laboratory stating the fertility analysis of representative samples of the imported and in-situ soil utilized in the planting areas.
 2. Include recommendations for amending the analyzed soils into an acceptable growing medium and as a component of planting backfill mix.
- C. Certificates: Submit for approval the following:
1. Ship materials with Certificate of Inspection required by governing authorities. Before delivery, Certificates of Compliance shall be submitted, certifying that materials meet the requirements specified. Certified copies of the reports for the following materials shall be submitted:
 - a. Native seed mix, hydromulch, and tackifying agent
 - b. Backfill amendments, fertilizers, and conditioners
 - c. 3"-6" Rock (also submit 5-gallon sample)
 2. The seed mix certificate shall include seed vendor's certified statement for the seed mixture required, stating botanical and common name, net weight, percentages by weight, and percentages of purity, germination, and weed seed for each seed species
 3. For standard products, submit other data certifying that materials comply with specified requirements.
 4. The Certification shall indicate the supplier's name, address, telephone number, date of purchase, name and technical description of the item purchased, and quantity of each item purchased.
 5. Material samples shall be forwarded in a single package to the City Representative within three weeks after the Notice To Proceed. Soils test results shall accompany the samples of the materials.
 6. The City Representative reserves the right to take and analyze samples of materials for conformity to these Special Provisions at any time. Contractor shall furnish samples upon request. Rejected materials shall be immediately removed from the site at the contractor's expense. The contractor shall pay the cost of removing materials, not meeting Special Provisions.
- D. Care and Maintenance Data: Submit the following:
1. Report with instructions recommending procedures to be established by City for full care, vigorous growth, and maintenance of each category of plant specified, with specific recommendations for the type of care, insect, and disease prevention for each quarter of the year.
 2. Submit prior to the expiration of landscape establishment period.
 3. Provide suggested monthly watering schedule for establishment and maintenance of each planting type. The watering schedule shall attempt to account for seasonal temperature change and its effect on each type of planting.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:
1. Assign at least one person to serve as Project Supervisor. This person shall be thoroughly familiar with the materials, equipment, and techniques of the

planting operation, and shall be on-site at all times to direct the Work described in this Section.

2. All herbicide/pesticide applicators shall be properly licensed by the Registrar of Contractors and for application of non-restricted use chemicals by the Pest Management Division (PMD) of the Arizona Department of Agriculture. Furnish a copy of the applicator's license, which shall list the names of those employees, approved as applicators by the PMD. Application of non-restricted use pesticides shall not take place until the City Representative receives a copy of the application.
- B. Soil-Testing Laboratory Qualifications:
1. An independent laboratory with the experience and capability to conduct testing indicated and that specializes in types of soil tests to be performed.
- C. Soil Analysis: As soon as possible after all or portions of site becomes available for landscaping, contract with a licensed soils lab to analyze a minimum of one (1) soil sample (0-1 foot depth) of the existing in-situ soil or one (1) cubic foot of imported soil as applicable for agricultural fertility analyses as approved by the City Representative. The soil analysis shall include all characteristics necessary to make fertility recommendations for landscape, lawn, and garden applications. Perform and include a soil analysis in the report showing parts per million (ppm) of Ca, Mg, Na, K, Fe, Zn, Mn, Cu, nitrate, nitrogen, and phosphorus at the test locations. The report shall also include levels of salinity, pH, sodium, and free lime. Also, recommendations for soil amendments to correct any nutrient deficiencies, to eliminate conditions detrimental to plant growth, and to improve soil fertility. Provide the test results and recommendations to the City Representative for review.

If, in the opinion of the City Representative, the testing warrants a change in the soil amendments, the City Representative may request a proposal for incorporating the additional/substituted amendments into the Project. At the sole discretion of the City Representative, changes to soil amendments from those shown in these Drawings and Special Provisions may be paid for through an adjustment in the contract price for the affected items as approved by the City Representative.

- D. The analysis shall include all testing necessary to identify compliance with these Special Provisions.
- E. The City Representative reserves the right to take and analyze samples of materials for conformity to the Special Provisions at any time. Rejected materials shall be immediately removed from the site at the contractor's expense. The contractor shall pay the cost for all testing and the removal and replacement of materials not meeting the Special Provisions.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery of Materials:
1. Prior to delivery of any plant material to the Project site, the contractor shall make the necessary arrangements with the City Representative for an inspection of the plant material at the source. The contractor will pay for each trip to nurseries located greater than 30 miles from the Project area.

Any plants found to be unsuitable in growth or condition, or plants that are not true to the specification, shall be removed and replaced with acceptable ones.

2. The contractor shall notify the City Representative at least 72 hours in advance for inspection of the plant material at the off-site location. Prior to notification of the City Representative, the contractor shall physically verify that the plant materials meet the size specified. Subsequent to the delivery of the plants to the site, the City Representative shall, at his option, re-inspect the plant material. Plants that do not meet the requirements herein shall be removed from the site and new material provided until the replacement plants have been accepted.
 3. Deliver each type of plant as the Work progresses, after preparations for planting that specific type of plant is completed, and when plants will be planted immediately upon arrival at the site. Do not stockpile plants on-site.
 4. Deliver packaged materials in original, unopened containers, legibly showing weight, analysis, and name of the manufacturer. Protect materials from deterioration during delivery. Provide protective covering.
 5. Do not drop plants during delivery.
 6. Immediately remove unacceptable material from the site.
- B. Storage of Materials:
1. If planting is delayed more than six hours after delivery, set plants in the shade. Protect from weather and mechanical damage and keep roots moist.
 2. Store and cover materials to prevent deterioration. Remove packaged materials that have become wet, or show deterioration or watermarks, from site.
- C. Handling of Materials:
1. Do not remove container-grown plants from containers until planting time.
 2. Do not lift or drag plants by stems or trunks. Handle plants by lifting root ball or container.
 3. Water as necessary to maintain plant root systems in a viable condition.

1.6 PROJECT CONDITIONS

- A. Existing Conditions:
1. Obstructions Below Ground and Utilities: Comply with MAG and Arizona 811 requirements as related to the staking of underground utilities. Determine the location of underground utilities through Arizona 811 or other approved methods and perform Work in a manner that will avoid possible damages. Maintain stakes by others until removal is mutually agreed upon by the affected parties. Hand excavate as required when working in close proximity to any underground utilities. At no additional cost to the Project, repair any damages to staked utilities.
 2. Subsurface Soils: The Project area in-situ soils may have a hard rock subsurface. The contractor shall review the site conditions to satisfy his/her understanding of the conditions at the Work locations. Because of the subsurface rock, more robust equipment may be required to complete the Work. If encountered, install drainage chimney per the Drawings and/or as directed, All excess debris and materials, including material excavated from

the planting activities, shall become the property of the contractor and shall be removed from the site.

B. Environmental Requirements:

1. Proceed with and complete the Work as rapidly as portions of the site become available and as agreed upon in the approved Project schedule.
2. Apply chemical insect and disease measures locally and specifically to the area and type of planting in need of such insect and disease control, as recommended by the herbicide/pesticide applicator
3. Plantings exhibiting a broad and/or a heavy infestation of insects or diseases, or where insects or diseases have disfigured plantings so that they no longer provide their intended purpose or aesthetic effect, shall be replaced with new plantings.

C. Scheduling:

1. Coordinate the plantings with the development of the temporary irrigation system and the permanent irrigation restoration installations so that no plantings skip more than one irrigation cycle once installed.
2. Do not begin planting until water, acceptable for use and adequate in supply, is available on-site and can be successfully transported to the areas of Work. Coordinate the provision of adequate and acceptable water supply with Project Schedule.
3. Plant after final grades have been established, unless otherwise acceptable to City Representative.

1.7 WARRANTY

- A. General Warranty: Warranty, guarantee, and maintenance shall be as described in the Plant Establishment Maintenance and Guarantee subsection of these Special Provisions.

PART 2 - PRODUCTS

2.1 PLANTS

- A. Plants shall mean all trees, shrubs, and groundcover required to comply with the Contract Documents. They shall be contractor-provided nursery grown from a local source or grown in similar climatic conditions to the Project site.
- B. All plants shall be representative of their normal species or varieties. Unless otherwise specified, plants shall have average or normally developed branch systems and vigorous root systems. Plants shall be free from scale, disfigured knots, sun scale injuries, abrasions of the bark, rough/craggy bark, or other objectionable blemishes. Weak plants will not be accepted. Plants shall show the appearance of normal health and vigor in strict accordance with these Special Provisions.
- C. Tree sizes shall conform to the Arizona Nursery Association's recommended average tree specifications or as shown on the Drawings.

- D. Plants with undeveloped, loose, or broken rootballs will not be accepted.
- E. Rootbound plants will not be accepted.

2.2 BLUEGRASS SOD

- A. Sod shall be 80-90% Kentucky Bluegrass (*Poa pratensis*) with a maximum of 20% Perennial Ryegrass (*Lolium perenne*) unless otherwise approved by the City Representative. Provide strongly rooted sod, not less than two years old, free of weeds and undesirable native weeds. Machine cut to pad thickness of $\frac{3}{4}$ " , excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted. Sod shall be provided in pads of uniform size with a maximum 5% deviation in size when suspended vertically with a firm grasp on the upper 10% of the pad.

2.3 BACKFILL MIX, SOIL AMENDMENTS, AND CONDITIONERS

- A. Per Details 18-03-050 and 18-04-050, excavated soil generated through the planting activities is the preferred primary component of the backfill mix used on the Project. However, excavated in-situ soil may contain substantial rock pieces that are not desired in the backfill mix, thereby possibly requiring the use of materials from alternative sources. Topsoil, salvaged surface soil, or imported soils, modified as required per the soils analysis described herein, may be used on the project. Topsoil and/or imported soil used in the planting operation shall not have a pH factor greater than 7.0. The contractor may elect to generate the backfill mix using a combination of sources if approved by the City Representative.
- B. The gradation and composition of the backfill mix shall be similar to a 1-foot deep grab sample of surface soils taken at a location within the Bushmaster Park approved by the City Representative.
- C. Backfill shall not have rocks or stones greater than 2" in any dimension.
- D. The City Representative may waive, at his/her sole discretion, variations to the backfill requirements if they are of benefit to the Project.
- E. Amendments and conditioners shall meet Section 795 of the Standards, as shown on the Drawings, and as described in these Special Provisions.
- F. Additional fertilizer/amendments, as recommended by contractor's soils laboratory.

2.4 ORGANIC SOIL AMENDMENTS

- A. Amendments to be incorporated into the backfill mix and for soil preparation for sod shall meet Section 795 of the Standards and as shown on the Drawings. Cow manure is not permitted for use on the Project.

2.5 CHEMICAL CONDITIONERS AND FERTILIZERS

- A. Conditioners and fertilizers to be incorporated into the backfill mix shall meet Section 795 of the Standards and as shown on the Drawings. The contractor shall recommend the N-P-K ratios for the fertilizers to be used.

2.6 TREE STAKES, GUYS, AND TIES

- A. Stake trees as shown on the Drawings.
- B. The City Representative has the final approval of all staking and tying methods.

2.7 3"-6" ROCK (Table Mesa Brown)

- A. Rock shall meet the gradation requirements of the rock producer and the approved sample.

2.8 CONCRETE EDGE

- A. Concrete shall MAG Class B.
- B. The edge is to be installed and accepted prior to the installation of adjacent rock.

2.9 NATIVE SEED

- A. Seed mix shall consist of the following varieties, and shall be applied at the rates shown below:

<u>Botanical Name</u>	<u>Common Name</u>	<u>PLS Pounds/Acre</u>
x Triticosecale	Triticale (nurse crop)	7.5
Pascopyrum smithii	Western Wheatgrass	3.0
Bromus ciliatus	Fringed Brome	3.5
Elymus trachycaulus	Slender Wheatgrass	1.5
Poa fendleriana	Muttongrass	1.0
Bouteloua gracilis	Blue Grama	1.0
Festuca arizonica	Arizona Fescue	2.0
Achillea millefolium	Western Yarrow	0.1
Heliomeris multiflora	Showy Goldeneye	0.2
Eschscholzia californica	California Poppy	0.5
Rudbeckia hirta	Black-eyed Susan	0.15

PART 3 - EXECUTION

3.1 GENERAL

- A. Prior to all Work of this Section, carefully inspect the installed Work of all other trades and verify that all such Work is complete to the point where this installation may commence. Also, the contractor shall verify the location and

depth below ground level of all utilities, footing, underground piping, and conduit by calling Arizona 811.

- B. Verify that planting may be completed in accordance with the design and references.
- C. Planting areas shall not be cultivated when they are so dry as to cause excessive dust or so wet as to cause the formation of large clods.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and existing exterior plants from damage caused by planting operations.
- B. Layout the individual tree, shrub, and groundcover locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain City Representative's acceptance of layout before planting. Make minor adjustments as required.

3.3 TURF SOIL PREPARATION

- A. The contractor shall flag the area to be sodded and coordinate the subgrade preparation with the general excavation activities to provide preparation for all areas to receive sod.
- B. Unless recommended otherwise by the soil tests, provide the following soil amendments and fertilizer for the sod areas:
 - a. Three (3) cubic yards of Wood Derivatives (MAG 795.4.4) per 1,000 square feet
 - b. Ammonium phosphate with an N-P-K value of 16-20-0, or as indicated in the soil tests
 - c. Top-dress fertilizer as approved for post-installation use
- C. Soil amendments and fertilizers shall be incorporated into the subgrade area by tilling, discing, dragging, or other means approved by the City Representative that loosen the seedbed area and produces a condition for successful root development.
- B. City Representative shall inspect and approve final grading after incorporating soil amendments. Contractor is responsible for vertical control.
- C. Moisture Content: The sod area is not to be worked when the moisture content is so great that excess compaction will occur, nor when it is so dry that dust will form in the air or that clods will easily break. Water shall be applied, if necessary, to provide ideal moisture content for tilling, dust control, and for planting.
- D. Rake and remove all rock, clods, and debris larger than 1" diameter from the finished grades.
- E. Finished grade shall be firm and smooth, free of undulation, and any other irregularities to a minimum of 1/2" of the proposed grade or cross section.

- F. Water settle and saturate the turf area prior to installing sod.
- G. After final grade preparation, no heavy objects except lawn rollers shall be operated over these areas.

3.4 BLUEGRASS SOD

- A. Sod thickness shall be considered when adjacent to hardscape elements. Prepare all edge conditions to accommodate sod thickness and to ensure a level transition (flush) between sodded lawn and nearby walks, curbs, fence lines, turf edges, etc.
- B. Place sod strips parallel to each other with staggering joints, lay perpendicular-to-slope when possible. Install with tight-fitting joints.
- C. Roll in two (2) directions after an initial watering to create uniform grade and eliminate any irregularities. Use care not to over-water and create saturated conditions. After rolling, water thoroughly to penetrate subsoil at least 2-4-inches. Repeat watering at regular intervals to keep material moist.
- D. Finish grade between the newly planted sod and existing turf shall be smooth, level, and without any irregularities. The line of transition between new sod and existing lawn shall be straight and consistent, avoiding any visible horizontal or vertical anomalies. Sod installation shall not impede drainage or create ponding conditions.

3.3 TREE, SHRUB, AND GROUNDCOVER EXCAVATION

- A. Pits: Excavate the plant pits per the Drawings. Scarify sides of plant pit. Dispose of excess excavated material removed from pits or at an on-site location agreed to by the City Representative.
- B. Obstructions: Notify City Representative if rock or obstructions detrimental to trees or shrubs are encountered in excavations. If necessary, the City Representative will issue guidance on where to relocate plants to a suitable location within the Project area.
- C. Drainage: Notify City Representative if subsoil conditions evidence unexpected water seepage or retention in planting pits. Unless relief is granted by the City Representative, construct drainage chimney as shown on the Drawings.

3.4 TREE, SHRUB, AND GROUNDCOVER PLANTING

- A. Set plants plumb and in center of the pit with top of root ball set such that it will be at the finished grade shown on the Drawings after backfill has settled.
 - 1. Carefully remove the rootball from the container or burlap without damaging root ball or plant. Fully remove burlap, nylon, pallets, containers, or side boxes before backfilling. Do not handle container plants by foliage, branches, or trunks.

2. After removing plants from containers, scarify side of rootball to eliminate root bound condition. Do not plant stock if rootball is cracked or broken. When set, place backfill mix around the plant and stake/brace per the Drawings and these Special Provisions. Work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing the remainder of backfill. Repeat watering until no more is absorbed. Water again after placing the final layer of backfill.
3. Remove all soil from around the base of each plant stem and from the top of the root ball to ensure that rootball is at the planned finished grade.

3.5 BACKFILLING

A. All trees, shrubs, and groundcovers shall be backfilled with a backfill mix shown on the Drawings.

3.6 TREE AND SHRUB PRUNING

- A. Prune, thin out, and shape nursery-grown trees in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by City Representative, do not cut tree leaders. Remove only injured or dead branches from flowering trees, if any. Prune to retain the natural character and accomplish their use in the landscape design. Required tree sizes are the size after pruning. Remove all dead wood, suckers, and broken and badly bruised branches.
- B. Remove and replace excessively pruned or misformed stock resulting from improper pruning.
- C. Paint cuts over 1/2-inch in size with standard tree wound compound, covering exposed, living tissue.
- D. All pruning wounds shall show vigorous bark on all edges at the time of harvest.

3.7 GUYING AND STAKING

- A. All trees shall be staked per the Drawings immediately after planting.
- B. Set stakes vertically and spaced to avoid penetrating balls or root masses. Place tree ties for maximum support with top tie above scaffold branches and second ties midway to the ground level. Avoid "rigid" restraint of tree and allow for some trunk movement.
- C. Stakes shall penetrate at least 18-inches below the bottom of the backfilled excavation and extend at least 72-inches above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.

3.8 3"-6" ROCK

- A. Stake out for approval all areas to receive rock. Make adjustments in the boundaries and concrete edge as directed by the City Representative.

- B. The subgrade shall be graded to the proper depth and compacted prior to the placement of any rock. Rock pieces larger than 2" in diameter, within the top 1" of subgrade soil, shall be removed and properly disposed of. Prepare the ground surface immediately before applying pre-emergent.
- C. Prior to placing rock, all areas are to receive pre-emergent herbicide. Do not apply herbicide on any areas designated to receive seeding. Apply pre-emergent in strict compliance with manufacturer's recommended dosages and application instructions.
- D. A second application of pre-emergent shall be applied after placement of the rock. Water spray rock to remove dust and to produce the desired surface character.

3.9 CONCRETE EDGE

- A. Stake out the concrete edge horizontal and vertical alignment for approval. Make adjustments as directed by the City Representative.

3.9 NATIVE SEED

- A. Native seed shall be installed in accordance with Section 430.7 of the Standards.

4.0 PLANT ESTABLISHMENT GUARANTEE AND MAINTENANCE (PLANT ESTABLISHMENT PERIOD) ACCEPTANCE CRITERIA

- A. Add the following to the City Standards Subsection 430.3.
 1. The Plant Establishment Period shall be 90 days.
 2. Warranty all plant material after acceptance of landscape installation at the Substantial Completion inspection for one (1) year against defects including death and unsatisfactory growth, except for defects resulting from neglect by the City, vandalism, abuse or damage by others, or unusual phenomena or incidents which are beyond contractor's control. Remove and replace plant material found to be dead or in unhealthy condition at any time during the warranty period or as directed by the City Representative. Replace plant material that is in doubtful condition at the end of warranty period, unless, in the opinion of City Representative, it is advisable to delay replacement. If a replacement is delayed, another inspection will be conducted at an agreed-upon date to determine acceptance or rejection.
 3. Only one replacement (per tree, shrub, or groundcover) will be required during the warranty period, except for loss or replacements due to failure to comply with specified requirements.
 4. There are no limitations to the number of replacements during the Plant Establishment Period except for damage, unusual phenomena, or incidents noted above that are out of the contractor's control. Replacements made during the Plant Establishment Period shall be completed within seven (7) days of written notice from the City Representative in accordance with the Drawings and Special Provisions. The City Representative shall approve replacement material prior to planting. Unless otherwise authorized, the contractor shall maintain all landscaping during the Plant Establishment

Period on a continuous basis as it is completed during the course of the Work and until final acceptance by the City Representative. Maintenance shall include control of noxious and undesirable weeds and vegetation or pest infestations that would jeopardize the growth of planted materials, fertilization as needed, and cultivating the planting areas. Remove dead or damaged plants within seven days of notification. Replacements shall be of the same kind and size as originally specified and shall be installed as shown on the Drawings and as described in these Special Provisions. Replacement of dead or damaged plants that are the result of vandalism will be measured and paid for separately as approved by the City Representative.

5. After planting, the landscape areas shall be maintained in accordance with these Special Provisions and Subsection 430 of the Standards. Plants shall be kept in a healthy, growing condition by watering, pruning, spraying, weeding, and any other necessary operation of maintenance. Plant saucers and beds shall be kept free of weeds, grass and other undesirable vegetation. Pruning and restaking are to include removal of any growth conflicting with vehicular or pedestrian movement.
6. Plants shall be inspected by the contractor at least once every two weeks and appropriate maintenance performed. The City Representative will conduct monthly inspections which the contractor is expected to participate in to observe the installation work.
7. The contractor shall warranty sodded areas until accepted by the City Representative. At the Substantial Completion inspection, the City Representative will make an inspection to determine the turf installation acceptability. The sodded areas shall have been mowed at least twice prior to the Substantial Completion inspection. The turf will be acceptable provided requirements, including maintenance, have been complied with; a vigorous, healthy, well-rooted turf is established, free of weeds; no bare areas greater than 2" in diameter, and there are no surface irregularities within the turf areas. This guarantee/warranty will not be enforced should the turf die or be damaged due to vandalism; fire; flood; or hail; force majeure; or other similar circumstances; detrimental activities undertaken by City personnel such as over- or under- watering or over-fertilization, which are beyond the control of the contractor.

Begin maintenance of turf immediately after each area is planted and continue until the lawn is established and accepted. Maintenance and Establishment Period of turf areas shall extend from initial sod installation to the second mowing unless the establishment period has been extended by the City Representative. Immediately after the second mowing is complete the contractor shall inspect the turf area with the City Representative to determine final completion and turnover of maintenance activities to the City. Mow turf as soon as there is enough top growth to cut with the mower set at the height specified by Madison Heights Elementary School facilities representatives. Remove no more than 40% of grass leaf growth in initial or subsequent mowings. Do not delay mowing until the grass blades bend over and become matted. Do not mow when the grass is wet. Time initial mowing to maintain specified grass height. Prior to final acceptance, a topdressing fertilizer shall be applied to lawn areas during the growing

season at a rate of (1) pound of actual nitrogen per 1,000 square feet of lawn area.

8. The contractor shall maintain the existing and permanent irrigation systems and make any necessary repairs regardless of cause to assure a complete and operational system as originally designed and constructed. Repairs shall be made within 48 hours of detection. The contractor shall notify the City Representative immediately if the repairs are a result of damage and vandalism by others; irrigation repairs that are the result of vandalism will be measured and paid for separately as directed by the City Representative.
9. If the landscape and sod areas are improperly maintained, if appreciable plant replacement is required (for whatever reason), if corrective Work is required for the operation of the irrigation system, or if other corrective Work is necessary, the Plant Establishment Period may be extended at the sole discretion of the City Representative. The contractor shall continue to maintain the entire site at no increased cost until final acceptance by the City Representative.
10. Chemical mixing and method of application for weed control shall be done in the presence of the City Representative. Chemical applications for weed control are not applicable to areas that have been seeded; hand or mechanical weed removal is required in those portions of the construction limits.
11. Substantial Completion Inspection: A pre-Plant Establishment Period inspection will be performed upon substantial completion of the Work under this Section. The contractor shall notify the City Representative within five days of inspection to arrange the schedule. The City Representative, contractor and such others as the City Representative shall direct, shall be present at the inspection. The City Representative shall issue the effective beginning date for the Plant Establishment Period for all or portions of the landscaping (lots). It is expected that the lots can/will have separate start dates for the lots identified above. Work requiring corrective action in the judgment of the City Representative shall be performed within five days after the Substantial Completion inspection. Corrective Work and materials replacement shall be in accordance with the Drawings and Special Provisions and shall be made at no cost to the Project.
When inspected Work does not comply with requirements, replace rejected Work and continue specified maintenance until re-inspected by City Representative and found to be acceptable. Remove rejected plants and materials promptly from the Project area. If, after the inspection, the City Representative is of the opinion that all Work has been performed as per the Drawings and Special Provisions, and that all plant materials are in satisfactory growing condition, he/she will give the contractor written notice of acceptance of the installation Work and commencement of the Plant Establishment Period.
12. Final Landscape Establishment Period Inspection: At the end of the Plant Establishment Period, a final inspection will be performed to accept the Work under this Section. At the time of final maintenance inspection, all planting areas under this contract shall be free of weeds and neatly cultivated. All plants shall be alive and healthy, without signs of stress. Granite shall be free of rills, rivulets, or erosion. At the end of the Plant Establishment Period, an inspection will be made by the City Representative in the presence of the contractor to substantiate that the completed Work is

in compliance with the requirements of the Project. At the City Representative's option, the acceptance period for replacements and/or individual plants in question at the end of the Plant Establishment Period may be extended for up to one month before a final determination is made, without additional cost to the Project. Replacements will be governed by these Special Provisions as if they were new installations. Work requiring corrective action or replacement in the judgment of the City Representative shall be performed within seven (7) days after the final inspection. Corrective Work and materials replacement shall be in accordance with the Drawings and these Special Provisions and shall be made by the contractor at no additional cost to the Project. If, after the inspection, the City Representative is of the opinion that all Work has been performed as per the Drawings and Special Provisions and that all plant materials are in satisfactory growing condition, he/she will give the contractor written notice of final acceptance of the Work which satisfies the contract requirements of this Section.

5.0 CLEANUP AND PROTECTION

- A. Protect plants from damage due to landscape operations, operations by other CONTRACTORS and trades, and others. Maintain protection during installation and extended service periods. Treat, repair, or replace damaged planting or sod.
- B. Protection includes all temporary fences, barriers, and signs and other Work incidental to proper maintenance.

6.0 INSPECTION AND ACCEPTANCE

- A. Where installed materials do not comply with specified acceptance criteria, replace plants and sod, and continue extended service period until installation complies with criteria for acceptance.

END OF SECTION

EXHIBIT B -
CITY AMENDMENTS TO MAG STANDARD
SPECIFICATIONS



**CITY OF FLAGSTAFF
AMENDMENTS
to
MAG STANDARD SPECIFICATIONS
FOR PUBLIC WORKS CONSTRUCTION
(General Provisions)**

The
MAG UNIFORM STANDARD SPECIFICATIONS
for
PUBLIC WORKS CONSTRUCTION
is hereby amended to include the following:

PART 100 - GENERAL CONDITIONS

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS

102.1 ELIGIBILITY AND PREFERENCE:
(revise to include the following)

If requested by the City, a Bidder shall furnish satisfactory evidence of the Bidder's competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the Bidder's experience on similar work, a list of equipment that would be available for the work and a list of key personnel that would be available.

In addition, if requested, a Bidder shall furnish the City of Flagstaff with satisfactory evidence of the Bidder's financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the Bidder's financial resources and liabilities as of the last calendar year or the contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the Bidder shall further certify whether the Bidder's financial responsibility is approximately the same as stated or reported by the public accountant. If the Bidder's financial responsibility has changed, the Bidder shall qualify the public accountant's statement or report to reflect the Bidder's true financial condition at the time such qualified statement or report is submitted to the City of Flagstaff.

The Bidder shall submit such "evidence of competency" and "evidence of financial responsibility" to the City of Flagstaff no later than five (5) working days after receipt of a written request by the City of Flagstaff.

Each bidder, contractor and subcontractor shall possess and maintain the appropriate contractor's license for the work included in this contract. The appropriate license shall be as required by the Arizona State Registrar of Contractors and as required by Arizona Revised Statutes Chapter 10, Title 32.

102.2 CONTENTS OF PROPOSAL PAMPHLET:

(revise to include the following)

The Plans, Specifications and other Documents designated in the Contract Documents shall be considered a part of the Contract whether attached or not.

The City of Flagstaff reserves the right to refuse to issue a proposal form or accept a proposal form from a prospective Bidder if they are in default for any of the following reasons:

- (A) Failure to comply with any prequalification regulations of the City of Flagstaff, if such regulations are cited or otherwise included in the Proposal as a requirement for bidding;
- (B) Failure to pay or satisfactorily settle all bills due for labor and materials on former contracts in force (with the City of Flagstaff) at the time the City of Flagstaff issues the Proposal to a prospective Bidder;
- (C) Contractor, as a company owner, has defaulted under previous contract(s) with the City of Flagstaff in the prior five calendar years;
- (D) Record of unsatisfactory work on previous contract(s) with the City of Flagstaff in the prior five calendar years.

102.2 CONTENTS OF PROPOSAL PAMPHLET:

(third paragraph, revise last sentence to read as follows)

The work embraced herein shall be done in accordance with the requirements of:

City of Flagstaff Amendments to MAG Standard Specifications for Public Works Construction (General Provisions).

City of Flagstaff (City) Engineering Standards (Current Version and adopted revisions).

Maricopa Association of Governments (MAG), *Uniform Standard Specifications for Public Works Construction*, Current Version (MAG Specifications).

MAG Standard Details for Public Works Construction, Current Version and adopted revisions (MAG Details).

Arizona Department of Transportation (ADOT) Standard Specifications for Road and Bridge Construction, Current Version and adopted revisions.

In the case of conflict, the following order of precedence shall govern:

1. Special Provisions
2. Construction Plans and Addenda
3. General Provisions and MAG Revisions
4. City of Flagstaff Standards and Specifications
5. MAG Standards and Specifications
6. ADOT Standards and Specifications
7. FHWA Manual of Uniform Traffic Control Devices

102.4 EXAMINATION OF PLANS, SPECIAL PROVISIONS AND SITE OF WORK:
(revise to include the following)

Before submitting a bid, each bidder shall examine the site and obtain information that pertains to the physical conditions of the site that may affect the cost, progress or performance of the work. Any restrictions or difficulties relating to the completion of the work shall be considered in accordance with the terms and conditions of the contract documents.

102.7 IRREGULAR PROPOSALS:
(revise to include the following)

The City of Flagstaff reserves the right to reject any irregular Proposal and the right to waive technicalities for acceptance of Proposals, if such waiver is in the best interest of the City of Flagstaff and conforms to local laws and ordinances pertaining to the letting of construction contracts. Proposals shall be considered irregular for the following additional reasons:

- (A) If the Proposal contains unit prices that are obviously unbalanced.
- (B) If the Proposal is not accompanied by the proposal guaranty specified by the City.

102.12 DISQUALIFICATION OF BIDDERS:
(revise to include the following)

A Bidder shall also be considered disqualified if the Bidder is considered in default for any reason specified in Subsection 102.2 as amended by this MAG Amendment.

102.13 SUCCESSFUL BIDDERS:
(revise paragraph to read as follows)

The City of Flagstaff shall provide six (6) sets of plans and Contract Documents at no cost. A direct expense fee shall be charged for any additional copies.

SECTION 103 - AWARD AND EXECUTION OF CONTRACT

103.6 CONTRACTOR'S INSURANCE:

103.6.1 GENERAL: (revise subsection to read as follows)

The Contractor and its Subcontractors, at Contractor's and Subcontractors' own expense, shall purchase and maintain the herein stipulated minimum insurance with companies duly licensed, possessing a current A.M. Best, Inc. Rating of A-, 7, or approved by the City. The insurance company shall be licensed in the State of Arizona. Policies and forms shall be satisfactory to the City.

All insurance required herein shall be maintained in full force and effect until all work and/or services required to be performed, under the terms of the Contract, are satisfactorily completed and formally accepted. At the sole discretion of the City, failure to do so may constitute a material breach of this Contract.

The Contractor's insurance shall be primary insurance as respects the City. Any insurance or self-insurance maintained by the City shall not contribute to it.

Contractor shall not fail to comply with the claim reporting provisions of the insurance policies or cause a breach of any insurance policy warranty that would affect coverage afforded under insurance policies to protect the City.

The insurance policies (except Worker's Compensation) shall contain a waiver of transfer of rights of recovery (subrogation) against the City, its agents, representatives, directors, officers, and employees for any claims arising out of the Contractor's acts, errors, mistakes, omissions, work or service.

The insurance policies may provide coverage, which contains deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to the City under such policies. The Contractor shall be solely responsible for the deductible and/or self-insured retentions, and the City, at its option, may require the Contractor to secure payment of such deductibles or self-insured retentions by a Surety Bond or an irrevocable and unconditional letter of credit.

The City reserves the right to request and to receive, within 10 working days, certified copies of any or all of the herein required insurance policies and/or endorsements. The City shall not be obligated, however, to review same or to advise Contractor of any deficiencies in such policies and endorsements, and such receipt shall not relieve Contractor from, or be deemed a waiver of the City's right to insist on, strict fulfillment of Contractor's obligations under this Contract.

Except for Worker's Compensation, the insurance policies, required by this Contract shall name the City, its agents, representatives, officers, directors, officials and employees as additional insureds.

Required Coverage

A. COMMERCIAL GENERAL LIABILITY

The Contractor shall maintain Commercial General Liability insurance with a limit of not less than \$1,000,000 for each occurrence with a \$2,000,000 Products/Completed Operations Aggregate and a \$2,000,000 General Aggregate Limit. The Policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage. Coverage will be at least as broad as Insurance Service Office, Inc. Policy Form CG 00011093 or any replacements thereof. The coverage shall not exclude X, C, U.

Such policy shall contain a severability of interest provision and shall not contain a sunset provision or commutation clause, nor any provision, which would serve to limit third party action over claims. The Commercial General Liability additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc. Additional Insured, Form B, CG 20101185, and shall include coverage for Contractor's operations and products and completed operations.

B. OWNERS AND CONTRACTOR'S PROTECTIVE LIABILITY

The Contractor shall purchase and maintain, at all times during prosecution of the work, services or operations under this Contract, an Owner's and Contractor's Protective Liability insurance policy for bodily injury and property damage, including death, which may arise in the prosecution of the Work or Contractor's operations under this Contract. Coverage shall be on an occurrence basis with a limit not less than \$1,000,000 per occurrence, and the policy shall be issued by the same insurance company that issues the Contractor's Commercial General Liability insurance.

C. AUTOMOBILE LIABILITY

Contractor shall maintain Commercial/Business Automobile Liability insurance with a combined single limit for bodily injury and property damage of not less than \$1,000,000 each occurrence with respect to the Contractor's any auto, all owned autos, scheduled autos, hired autos, non-owned autos assigned to or used in performance of the Contractor's work. Coverage will be at least as broad as coverage code 1, "any auto", (Insurance Service Office, Inc. Policy CA 00011293, or any replacements thereof). Such insurance shall include coverage for loading and off-loading hazards. If hazardous substances, materials or wastes are to be transported, MCS 90 endorsement shall be included and \$5,000,000 per accident limits for bodily injury and property damage shall apply.

D. WORKER'S COMPENSATION

The Contractor shall carry Worker's Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Consultant's employees engaged in the performance of the work or services; and Employer's Liability insurance of not less than \$100,000 for each accident, \$100,000 disease for each employee, and \$500,000 disease policy limit.

In case any work is subcontracted, the Contractor will require the Subcontractor to provide Worker's Compensation and Employer's Liability to at least the same extent as required of the Contractor.

E. BUILDER'S RISK (PROPERTY) INSURANCE (AS REQUIRED)

When the project includes construction of a new building, an addition to an existing building, modifications to an existing building, or as otherwise may be required by the contracting agency, the Contractor shall purchase and maintain, on a replacement cost basis, Builder's Risk insurance in the amount of the initial Contract Amount as well as subsequent modifications thereto for the entire work at the site. At a minimum, the policy limits of such insurance shall be equal in face amount to the full Contract Amount. Such Builder's Risk insurance shall be maintained until final payment has been made or until no person or entity other than the City has an insurable interest in the property required to be covered, whichever is earlier. This insurance shall include interests of the City, the Contractor, and all Subcontractors and Sub-Subcontractors in the work during the life of the Contract and course of construction, and shall continue until the work is completed and accepted by the City. For new construction projects, the Contractor agrees to assume full responsibility for loss or damage to the work being performed and to the buildings under construction. For renovation construction projects, the Contractor agrees to assume responsibility for loss or damage to the work being performed at least up to the full Contract Amount, unless otherwise required by the Contract Documents or amendments thereto.

Builder's Risk insurance shall be on an all-risk policy form and shall cover false work and temporary buildings. Builder's Risk insurance shall insure against risk of direct physical loss or damage from external causes including debris removal, demolition occasioned by enforcement of any applicable legal requirements and shall cover reasonable compensation for Architect's service and expenses required as a result of such insured loss and other "soft costs" as required by the Contract.

Builder's Risk insurance must provide coverage from the time any covered property becomes Contractor's control and/or responsibility, and continue without interruption during construction

or renovation or installation, including any time during which the covered property is being transported to the construction installation site, and while on the construction or installation site awaiting installation. The policy will provide coverage while the covered premises or any part thereof is occupied. Builder's Risk insurance shall be primary and not contributory.

If the Contract requires testing of equipment or other similar operations, at the option of the City, the Contractor will be responsible for providing property insurance for these exposures under a Boiler Machinery insurance policy.

Required coverage may be modified by an amendment to the Contract Documents.

CERTIFICATES OF INSURANCE

Prior to commencing work or services under this Contract, Contractor shall furnish the City with Certificates of Insurance, or formal endorsements as required by the Contract, issued by Contractor's insurer(s), as evidence that policies providing the required coverage, conditions and limits required by this Contract are in full force and effect.

In the event any insurance policies required by this contract are written on a "claims made" basis, coverage shall extend for two years past completion and acceptance of the Contractor's work or services and as evidenced by annual Certificates of Insurance.

If a policy does expire during the life of the Contract, a renewal certificate must be sent to the City fifteen (15) days prior to the expiration date.

All Certificates of Insurance shall be identified with bid/project number and project name. A \$25.00 administrative fee will be assessed for all certificates received without the appropriate bid serial number and title.

CANCELLATION AND EXPIRATION NOTICE

Insurance required herein shall not expire, be canceled, or materially changed without thirty (30) days written notice to the City.

SECTION 104 - SCOPE OF WORK

104.1.3 WATER SUPPLY: (revise to include the following)

Potable water may not be used for major construction activity, such as dust control, soil compaction, or street cleaning. Reclaimed water is available at the Wildcat Hill Wastewater Treatment plant on East Highway 66 and at the south end of Babbitt Drive at the Rio De Flag Water Reclamation Plant. Additional reclaimed water bulk loading sites are located in other areas of the city. The contractor

should obtain current locations from the Water Services Department. **Current rates for the reclaimed water shall apply.** The Contractor is responsible for the cost of construction water and it is considered incidental to the cost of the contract.

Prior to loading, hauling and applying reclaimed water, the Contractor shall be required to obtain the necessary no fee permit at the Wildcat Hill Wastewater Treatment Plant or from the Rio De Flag plant and shall be responsible for complying with all permit and ADEQ requirements regarding the use of reclaimed water.

104.1.4 SPECIAL ACCESS REQUIREMENTS:
(revise to include the following)

The Contractor shall maintain access to all side streets, access roads, driveways, alleys, parking lots and to adjacent properties during their hours of operation. The Contractor shall coordinate with residents and ensure access to all driveways be provided during all non-working hours. Where a property has more than one driveway, no more than one access will be restricted or closed at one time. Should it be necessary to close access to private property, driveways or alley entrances, the closure must be for as short a time as possible and be restored at the end of the work shift. If primary business access cannot be restored, the Contractor shall provide an alternate access, which will be coordinated with the business and pre-approved by the Owner prior to any restrictions being implemented.

104.1.5 SANITATION PICKUP:

When construction activity interferes with pickup, the contractor shall provide for sanitation and recycling vehicle access to the affected properties or relocate the containers where access is acceptable.

104.1.6 EMERGENCY ACCESS:

Street closure information shall be submitted to the City's Project Representative who will forward the information to the Fire Department and Police Department. All notices shall be submitted at least 72 hours in advance of the closures.

104.1.7 POSTAL SERVICE ACCESS:

The contractor shall be responsible for maintaining access for Postal Service within the project area at all times.

104.1.8 SCHOOL BUS ACCESS:

The contractor shall be responsible for maintaining access for bus access within the project area.

104.2 ALTERATION OF THE WORK:

104.2.3 DUE TO EXTRA WORK:
(revise to include the following)

When Allowance and/or Contingency items are provided for in the contract, the funds are encumbered for use at the discretion of the Project Manager. The funds are to cover unanticipated costs to complete items of work not included in the Contract Documents or may be applied to any work deemed necessary by the Owner. Work would include, but not limited to, unanticipated conditions, scope changes, addressing errors or omissions, and/or construction changes that are warranted for project completion consistent with the purpose of the work.

The amount of the allowance item is determined by the City and is not subject to individual bid pricing. The allowance is not part of the bidding process and per the City of Flagstaff Procurement Manual, will be added to the contract amount, if approved by the City Council.

The allowance item provides an estimated funding to cover unforeseen changes that may be encountered and corresponding extra work needed to complete the contract. Any work which is to be paid out of this allowance shall be authorized in writing and approved by Field Order prior to proceeding with the work. Extra work shall be paid for in the following order of precedence:

1.) by extension of unit bid prices, 2.) by negotiated price or 3.) by a time and materials basis in accordance with MAG Section 109.5.

It shall be understood that the amount for this item in the proposal is an estimate only and no guarantee is given that the full amount or any portion thereof will be utilized. It shall not be utilized without first obtaining an approved Field Order signed by the Contractor and the Project Manager.

105.2.1 RECORD DRAWING PREPARATION AND COORDINATION
(revise to include new subsection as follows)

Record drawing preparation shall be the obligation of the Contractor whose purpose is to accurately record and depict the as-built conditions. During the construction phase and prior to backfilling or covering of improvements, the Contractor shall have the work surveyed and recorded for record drawing preparation.

The Contractor shall maintain a redline working copy of the project plans which shall include changes made in construction of the project. The redline copy of the plans shall be updated weekly.

105.2.2 RECORD DRAWING (As-Built Plans)
(revise to include new subsection as follows)

The Contractor shall retain an Arizona licensed civil engineer to record as-built information per Arizona Revised Statute § 32-152. Water and sewer record drawing certification shall comply with ADEQ R18-5-508 (drinking water) and ADEQ R18-9-E301 (sewage collection) requirements for as-built drawings. Unless otherwise noted, the City will complete and submit the Engineer's Certificate of Completion to ADEQ.

Prior to the City's final approval and acceptance of public improvements (sanitary sewer, water, storm sewer, streets) record drawings (as-built plans) must be submitted to the City for review and acceptance per Engineering Standard Specifications.

A redline submittal shall be a .pdf and/or two sets of blue or black line paper sets, copied from the originally approved plan set. Redline submittal will be reviewed by the City and returned with applicable comments. Comments are to be addressed and resubmitted for the City's final approval. A reference checklist is available from the Office of the City Engineer.

Upon City and ADEQ (when applicable) review and approval of the submittal, an electronic .pdf of the plans shall be submitted to the City as a permanent record. All record drawing plan sets shall contain a statement by a licensed professional engineer, currently registered to practice in Arizona, certifying that the drawings are per the as-built condition. The record set requires the seal and signature of the registrant per Arizona Revised Statutes § 32-152. All survey data given by the record drawings shall be performed by a land surveyor who is currently registered in the State of Arizona. Plans must show seal and signature of registrant.

Payment shall be lump sum for all work required to develop the necessary documents, including but not limited to coordination, field inspection, survey, drafting, printing and engineer's seal. The fee shall include as-built information for all record changes within the project area.

SECTION 105 - CONTROL OF WORK

105.8 CONSTRUCTION STAKES, LINES AND GRADES:
(revise entire subsection to read as follows)

The Contractor shall be responsible for all required construction staking, including preconstruction staking for relocation of existing utilities. All construction staking is to be done under the direct supervision of a Registered Land Surveyor or Civil Engineer. All costs associated with this work are

to be included in the amount bid for the items of work to which it is incidental or appurtenant. No separate payment will be made for construction staking.

105.10 INSPECTION OF THE WORK
(revise to include the following)

The Contractor is responsible for Quality Control of the work. The City will perform Quality Assurance; frequency of testing will be determined by the City. The Contractor shall be responsible for coordinating and scheduling all inspections of the work and shall confirm that the required inspections and material testing are completed and accepted prior to proceeding with additional work. The Contractor is required to perform the work to a confidence level that the City's Quality Assurance will validate that the work meets specification(s).

105.11 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK:
(revise to include the following)

Any work and/or materials condemned by the Project Manager as inferior or not in compliance with the Contract, Specifications and Plans shall be immediately removed by the Contractor. Materials and/or work so condemned shall be removed and promptly replaced and executed in accordance with the Contract, Specifications and Plans without any expense to the Owner. The Contractor shall bear the expense of making good on all work of other contractors destroyed or damaged by such removal and replacement.

105.12 MAINTENANCE DURING CONSTRUCTION:
(revise to include the following)

The Contractor is responsible to provide adequate drainage for the construction area at all times. Damage to any portion of the work caused by the Contractor's failure to provide adequate drainage of the construction area shall be repaired at the Contractor's expense. A contract time extension will not be granted for any additional time required to make such repairs.

The Contractor shall control open excavations and stockpiling in a manner to prevent water from running into excavations. Obstructions of surface drainage shall be avoided and means shall be provided whereby storm water and wastewater can flow uninterrupted in existing or established pipes, flow courses, other surface drains, temporary drains or channels.

Material for backfill or for protection of excavations within public roads or easements shall be placed and shaped to cause the least possible interference to public travel. In no event shall any flows be allowed to enter private property.

The City shall provide snow removal operations on active traffic lanes, outside of Contractor traffic control, only. All other snow removal and maintenance operations shall be the responsibility of the

Contractor, including snow removal on adjacent, open and active streets that are only accessible by travel through project-related street closures, even when outside of project limits. All costs associated with snow removal and proper disposal shall be considered incidental to the work including the repair of temporary and permanent surface improvements due to damage by any snow removal operations. Snow removed from public roads or easements shall be placed and shaped to cause the least possible interference to public travel, parcel access, drainage, and parking. In no event shall snow be stored on private property.

105.16 MAINTENANCE DURING WINTER SUSPENSION OF WORK
(revise to include new subsection as follows)

The City retains the right to declare a winter shutdown, *for any reason*, on the Project including but not limited to adverse weather conditions. A winter shutdown period is typically December through March during which no work will be performed on the Project.

The Contractor shall shutdown, properly insulate and shelter the Project in a safe and workmanlike manner pursuant to local, state and federal laws.

If work has been suspended due to winter weather, the Contractor shall be responsible for maintenance and protection of the improvements and of partially completed portions of the work until final acceptance of the project. Winter suspension shall be by field order, change order or original contract. If repairs and/or maintenance are needed during the suspension, the Contractor is required to perform the repairs and/or maintenance within twenty-four (24) hours of notification from the City. If the needed repairs and/or maintenance are not addressed within the timeframe, the City will accomplish the work and deduct the cost from monies due or become due to the Contractor.

The City shall provide snow removal operations on active traffic lanes, outside of Contractor traffic control, only. All other snow removal and maintenance operations shall be the responsibility of the Contractor, including snow removal on adjacent, open and active streets that are only accessible by travel through project-related street closures, even when outside of project limits. All cost associated with snow removal and proper disposal shall be considered incidental to the work including the repair of temporary and permanent surface improvements due to damage from normal wear by any snow removal operations during the Winter Shutdown. Snow removed from public roads or easements shall be placed and shaped to cause the least possible interference to public travel, parcel access, drainage, and parking. In no event shall snow be stored on private property.

SECTION 107 - LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC

107.1 LAWS TO BE OBSERVED: (revise to include the following)

(G) TAX EXEMPTION: Certain material, machinery and equipment to be installed in this project is exempt from sales tax or use tax as allowed in Arizona Revised Statutes Section 42-5061, 42-5009 and Section 42-5159 and by the Administrative Rules and Regulations of the Arizona Department of Revenue; ACC R15-5-608, R15-5-120 and R15-5-2314.

The City wishes to rely upon the expertise of the contractor in the purchase of items that qualify for the tax exemption. With respect to purchase of the qualifying items, the Contractor is authorized to act as an agent for the City. This agency agreement is strictly limited to the purchase of the qualifying items to be used in the construction of the project and will not otherwise affect or alter the respective rights, responsibilities and remedies of the parties as specified under this contract. The contractor shall furnish the City a list of suppliers and the material, machinery and equipment to be furnished by each. The City will then issue the materials and equipment exemption certificate to each supplier pursuant to A.R.S. §42-5009 (A) (2). The contractor's applicable unit bid prices for items qualifying for this tax exemption should not include sales or use tax. The materials, machinery and equipment that are a part of this project and to which the exemption applies are listed below:

1. Pipes, valves and appurtenances four (4) inches in diameter or larger used to transport potable water,
2. Any additional material, machinery or equipment identified in the Special Provisions.

107.2.1 TEMPORARY USE PERMITS: (revise to include new subsection as follows)

A Temporary Use Permit (and Above Ground Fuel Storage Permit if applicable) is required prior to the establishment of any temporary construction yard, material storage area or staging area located within City limits and outside the public right-of-way or project limits. The Contractor is responsible for obtaining the necessary Temporary Use Permit from the agency with jurisdictional authority.

The time required to process the Temporary Use Permit is approximately twelve (12) calendar days. The Contractor shall submit the necessary permit application no later than ten (10) calendar days following the Notice of Award. Any delays experienced by the Contractor in acquiring the Temporary Use Permit shall not necessarily be grounds for delaying the project Notice to Proceed.

107.2.2 DISPOSAL OF WASTE AND SURPLUS MATERIAL:

(revise to include the following)

All disposal costs, regardless of disposal site, shall be included in the bid unit price for the related item of work and no direct payment will be made for disposal of waste or surplus materials. This right of disposal does not apply to any substance or items that are regarded as toxic and/or hazardous by the City, the State of Arizona or the United States Government.

Alternate disposal sites may be proposed by the Contractor but are subject to all applicable local ordinances and codes. In addition to the property owner's written authorization, all disposal sites within the city limits are subject to review and approval by the Temporary Use Permit process. The disposal of material at alternate disposal sites will not be allowed without written authorization of the owner, approval of the appropriate jurisdictional authority, and the issuance of all necessary permits.

107.2.3 ABOVE GROUND FUEL STORAGE PERMIT:

(revise to include new subsection as follows)

If required, Above Ground Fuel Storage Permits may be obtained from the City of Flagstaff Fire Department, located at 211 West Aspen Avenue, Flagstaff, AZ. The Contractor is responsible for obtaining the permit.

107.5 SAFETY, HEALTH, AND SANITATION PROVISIONS:

107.5.4 HANDLING, REMOVAL AND DISPOSAL OF SURPLUS MATERIAL AND ASBESTOS CONTAINING MATERIALS (ACM)

(revise to include new subsection as follows)

The Contractor is responsible for handling, removal and disposal of all soil material generated by the project as described in the General Provisions.

The City requires compliance with Environmental Protection Agency (EPA), Arizona Department of Environmental Quality (ADEQ) and Occupational Safety and Health Administration (OSHA) asbestos regulations for all City projects.

Utility pipes constructed of materials other than metal or polyvinyl chloride (PVC) require testing prior to any disturbance of the pipes to determine if regulated levels of asbestos are present in the pipe material. Suspect pipe materials requiring testing typically include vitrified clay and cement pipe (transite). Asbestos testing is not required for metal pipes.

City Public Works/Sustainability & Environmental Management staff are available to collect samples and submit the samples for analyses. The City of Flagstaff will provide testing free of charge. If the pipe does not contain regulated levels of asbestos, the contractor may disturb and remove the piping. If utility piping contains regulated levels of asbestos, an asbestos abatement contractor must perform any disturbance/removal of the pipe materials. This is required to ensure workers are not exposed to any asbestos fibers.

Work may require the proper handling, removal and disposal of regulated asbestos piping and materials generated by cutting or breaking the pipe to remove it from the ground. If asbestos containing materials (ACM) removal is necessary on the project, the City of Flagstaff requirements for handling, removal and disposal are as follows:

- If an infrastructure or building material that is not either wood, glass or metal is encountered during the project and has not yet been either assumed or positively identified to be ACM then the material(s) must be sampled in accordance with regulations generated by the EPA Asbestos Hazard and Emergency Response Act (AHERA) 40 CFR 763 as well as OSHA 29 CFR 1910.1101, by a certified AHERA Building Inspector and sent to a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory for analysis.
- Once materials of concern are assumed or properly identified to be ACM then material removal is required according to OSHA 29 CFR 1910-1926.1101 by a certified asbestos abatement worker, and NOT a general contractor (GC). However, if the GC holds the appropriate asbestos certifications (AHERA Asbestos Operations and Maintenance), which the City would need to verify is current, then the GC could perform the asbestos abatement.

The City requires the General Contractor arrange for abatement of assumed and/or identified ACM by a certified asbestos abatement contractor and to arrange area and/or clearance air monitoring by a third party certified asbestos consultant. If applicable to the project, copies of abatement activities and air monitoring shall be provided to City of Flagstaff Environmental Management staff.

In the event of large disturbances to ACM, compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61, Subpart M shall be followed. Notification would be required the Arizona Department of Environmental Quality 10 working days in advance of the start of a large project. This notification is not typically required for utility pipe work, but could be required for a very large project involving numerous saw cuts of utility pipes. <http://www.azdeq.gov/environ/air/asbestos/>

If ACM removal is necessary on the project, the City of Flagstaff requirements for ACM disposal at the City's Cinder Lake Landfill are as follows:

Only non-friable asbestos waste is accepted for disposal at Cinder Lake Landfill. PRIOR to disposal of non-friable ACM, obtain the necessary forms, which are:

- Non-Friable Asbestos Waste Acceptance Application and accompanying instructions
- Non-Friable Asbestos Waste Shipment Record (WSR)

The Asbestos Waste Acceptance Application is available at the City of Flagstaff's website or by contacting the City of Flagstaff Environmental Management staff. A Waste Shipment Record is required to accompany each load of non-friable asbestos waste taken to the Cinder Lake Landfill.

Assure the non-friable ACM is properly handled and wrapped. Non-friable ACM must be thoroughly wetted using amended water PRIOR to being wrapped in 6-millimeter poly and be tightly sealed with duct tape. If the material is heavy (such as transite pipe), has sharp edges, or may easily puncture the poly wrap, a double layer of poly will be necessary. The Cinder Lake Landfill scale house attendant will inspect the load to ensure it is properly wrapped. Containers holding non-friable ACM shall be carefully unloaded and placed in a designated location. Dumping using a hydraulically lifted bed of a truck is not permitted (dump truck), as the poly wrap may be torn open.

If using a large bin for disposal, attach a copy of the Waste Shipment Record to the disposal bin. If not using a City of Flagstaff disposal bin, make sure the delivery driver takes a copy of the SIGNED Non-Friable Asbestos Waste Acceptance Application and the Waste Shipment Record to the Cinder Lakes Landfill with the waste delivery.

If using a City of Flagstaff disposal bin call City Environmental Services at (928) 774-0668 to schedule a pick-up for the disposal bin. Please be sure to provide the driver with the SIGNED Non-Friable Asbestos Waste Acceptance Application and the Waste Shipment Record and be sure to clarify if you would like the disposal bin emptied and removed, or emptied and returned to the work site. When disposal is completed, the Landfill Manager will sign the Waste Shipment Record and landfill staff will provide or mail a copy of the Waste Shipment Record.

Cutting of utility pipes generates Regulated Asbestos Containing Material (RACM). RACM requires disposal at the Joseph City Landfill or at other landfills located in southern Arizona.

All work relating to the removal and disposal of unknown and unanticipated hazardous materials as described above shall be paid per MAG 109.4.3.

107.8 107 USE OF EXPLOSIVES:
(first paragraph, revise second sentence to read as follows)

The Contractor shall submit a blasting plan for approval and obtain a Blasting Permit from the City of Flagstaff Fire Department, located at 211 W. Aspen Avenue, Flagstaff, Arizona.

(revise to include the following)

The Contractor shall submit a copy of the approved blasting plan to the Project Manager. The plan shall include as a minimum; safety layout, drilling pattern, size and depth of bore, weight and type of charge, delay sequence, contractor's anticipated peak particle velocity at the right-of-way line or nearest structure, and the proposed seismograph locations.

A record of each blast shall be kept and all records including seismograph reports shall be available for inspection. Each record shall provide as a minimum; location, date and time of blast, name of person in charge, number of holes burdened, spacing, diameter and depth of holes, boring logs to determine top of rock, type and total amount of explosives used, direction and distance to nearest building, type of detonators and delay periods used, and exact locations of seismographs.

When blasting operations are to be conducted within 200 feet of a water line, sewer line or other underground utility, the Contractor shall take additional precautionary measures. The Contractor shall also coordinate with Franchise Utilities prior to blasting operations. The Contractor shall notify the owner of the facility a minimum of two weeks in advance that such blasting operations are intended. At their discretion, the Owner may perform pre-blast, post-blast pressure tests or other inspection of the facility. If any damage occurs because of blasting operations, the Contractor shall be responsible for the restoration of the facility to pre-blast conditions.

107.9 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE:

(revise to include the following)

The Contractor is responsible for replacing and/or restoring the site, landscaping and owner's improvements associated with the project to the pre-existing condition using in-kind materials. All cost shall be included in the bid as incidental to the work, unless otherwise specified in the bid schedule or plans.

Within easements, the Contractor is responsible for removing existing improvements and salvaging items (not identified for removal) for relocation after the public improvements are completed. Close coordination between the Contractor and property owners and/or residents is required.

107.11 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES:

(revise to include the following)

All power poles, pedestals, guy wires and underground facilities shall be removed and/or relocated by the respective owners of the facilities. The contractor is responsible for the notification and coordination with the utility companies to ensure that this work is accomplished in a manner

consistent with the construction schedule. Payment for Franchise Utility coordination and location is incidental to the cost of the work.

The Contractor shall perform utility potholes and identify potential conflicts prior to trenching. The utility pothole information and identification of potential conflicts shall be provided to the Project Manager at least two weeks prior to performing trenching or pipeline construction.

SECTION 108 - COMMENCEMENT, PROSECUTION AND PROGRESS

108.1 NOTICE TO PROCEED: (revise to include the following)

Time is of the essence in submitting the initial and revised construction schedule and traffic control plan. Each is a requirement that precedes the Contractor's right and the City's obligation to proceed with the agreement.

The Notice to Proceed shall be issued for a start date no later than twenty-seven (27) calendar days following receipt of the Notice of Award. The Contractor shall be required to submit a construction schedule and traffic control plan in accordance with the Contract Documents and the following:

The Contractor shall within seven (7) calendar days of receiving the Notice of Award, submit a construction schedule and traffic control plan to the Project Manager. The Project Manager shall promptly review the construction schedule and traffic control plan and either approve them, or provide a written list of the items that will require revision. The Contractor shall submit the revised construction schedule and traffic control plan within five (5) calendar days of receiving the Project Manager's list of required revisions. The corrected construction schedule and traffic control plan submittal shall address all comments from the Project Manager's list of required revisions.

108.3 CORRESPONDENCE TO THE CONTRACTOR: (revise to include the following)

In addition to written communication to the Project Manager, the Contractor shall provide and maintain a contact located within ten miles of the job site at all times throughout the duration of the Contract. The designated contact shall be accessible by telephone at all times to respond to agency requirements and emergencies. The local location and phone number(s) shall be provided to the Project Manager prior to issuance of the Notice to Proceed. Any changes of the location or phone number(s) shall be reported immediately to the Project Manager.

If a response is needed, the Contractor is required to respond and perform the repairs and/or maintenance within two (2) hours of notification from the City. If the needed repairs and/or

maintenance are not addressed within the timeframe, the City will accomplish the work and deduct the cost from monies due or become due to the Contractor.

108.4 CONTRACTOR'S CONSTRUCTION SCHEDULE:
(revise to include the following)

The Contractor's schedule shall include, as a minimum, the following:

- Identification of project tasks with assigned dates and durations, which reflect anticipated sequencing of construction activities on scheduled working days;
- All anticipated subcontractors that will be used during the course of the work;
- The anticipated number of crews to expedite the progress and ensure prompt completion of the work;

Definition of a crew;

- personnel (*e.g. operator, laborer*)
- equipment (*e.g. Cat 325 Excavator, 950 Loader*)
- workdays anticipated or scheduled per week (*e.g. Monday through Friday*)
- work hours anticipated or scheduled per day (*e.g. 7:00 am to 3:30 pm*)
- Anticipated adverse weather days for weather dependent activities, weekends and holidays.
- Specific long lead times for delivery of equipment and materials;
- Critical path project schedules may be required as provided for by the Special Provisions or Project Addenda.

108.5 LIMITATION OF OPERATIONS:
(third paragraph, revise to read as follows)

Except in emergencies endangering life or property, written permission shall be obtained from the City prior to performing any work on weekends, legal holidays or after regular work hours (hereinafter defined as 7:00 a.m. to 5:00 p.m. - Monday through Friday). Work on Saturdays will be permitted with prior approval by the City's Engineering Inspection Supervisor. 72 hours advance notice will be required. Work on Sundays and legal City Holidays will not be permitted except in emergencies or as approved by the owner. Inspection and testing will not be provided on Sundays or City legal holidays without prior approval from the Project Manager (72-hour advance notice) and full compensation by the Contractor for any necessary personnel, equipment and services.

Overtime compensation for City personnel shall be as follows:

Construction Supervisor @ \$ 43.00/hour
Inspector II @ \$ 35.00/hour
Inspector I @ \$30.00/hour
Lab Tech I @ \$ 25.00/hour

Vehicle @ \$1.80/hour

108.7 DETERMINATION AND EXTENSION OF CONTRACT TIME:
(revise to include the following)

The contract time, including final clean-up of the project site and storage areas, may be extended because of weather conditions that cannot be reasonably anticipated. The number of actual days that the scheduled work is impacted by adverse weather shall be recorded weekly during the construction period.

The Contractor will be entitled to a contract time extension if the actual adverse weather days experienced during the work exceed the anticipated adverse weather days shown. The following is the monthly schedule of adverse weather days that shall be anticipated by the Contractor in scheduling the work:

TABLE 108.7 MONTHLY CALENDAR DAYS for ANTICIPATED ADVERSE WEATHER

<i>MONTH</i>	<i>JANUARY</i>	<i>FEBRUARY</i>	<i>MARCH</i>	<i>APRIL</i>	<i>MAY</i>	<i>JUNE</i>
Monthly Calendar Days for Anticipated Adverse Weather	7 Days	7 Days	8 Days	6 Days	4 Days	3 Days
Average Monthly Precipitation	1.98"	1.96"	2.05"	1.34"	0.68"	0.51"
<i>MONTH</i>	<i>JULY</i>	<i>AUGUST</i>	<i>SEPTEMBER</i>	<i>OCTOBER</i>	<i>NOVEMBER</i>	<i>DECEMBER</i>
Monthly Calendar Days for Anticipated Adverse Weather	12 Days	11 Days	7 Days	5 Days	5 Days	6 Days
Average Monthly Precipitation	2.78"	2.68"	1.82"	1.52"	1.49"	1.90"

The above schedule of anticipated adverse weather days establishes the base line for the project's monthly weather impacts based on historical records, as recorded by the National Weather Service at Pulliam Airport, for precipitation in excess of 0.01 of an inch per calendar day.

The number of actual days that scheduled work is impacted by adverse weather as defined above shall be recorded weekly during the contract period. It is the Contractor's responsibility to request in writing any adverse weather delays experienced during the prior week no later than the normally scheduled weekly project meeting. Any adverse weather day requests that are not received, as stated above, shall neither be considered nor approved. Once the number of approved actual adverse weather days exceeds the number of anticipated adverse weather days in the schedule above, the Contractor is entitled to a contract time extension.

Actual adverse weather days must also prevent work for fifty (50) percent or more of the Contractor's work day and delay scheduled work critical to the timely completion of the project. The

City will convert any delays meeting the above requirements to calendar days and extend the contract period as necessary. No additional compensation will be allowed for direct and indirect overhead expenses associated with any such contract time extensions. The Contractor's schedule must include the above anticipated adverse weather delays for all weather dependent activities and shall show all weekends and holidays.

108.8 GUARANTEE AND WARRANTY PROVISIONS:
(revise to include the following)

If requested by the City, the Contractor shall return to the project site eleven months after acceptance of the project and visually inspect, in the presence of the Owner's Representative, all accessible construction items and appurtenances. All defective materials and/or workmanship shall be satisfactorily repaired or replaced at the sole expense of the Contractor.

All costs for the 11-month inspection and repair shall be borne by the Contractor and in figuring his or her bid, the Contractor shall include an appropriate amount for such inspection and possible required repair, and no additional payment will be allowed.

108.10 FORFEITURE AND DEFAULT OF CONTRACT:
(revise to include new section)

Due to Failure to Prosecute the Work

If the Contractor fails to prosecute the work in accordance with the contract, including requirements of the progress schedule, the City may correct these deficiencies after three days after providing written notice to the Contractor. The cost of these remedies shall be charged against the Contractor. A change order may be issued to make the necessary changes in the contract and to make an appropriate reduction in the contract price. Such a change order shall not require the signature or approval of the Contractor. The remedy shall not prejudice the City's use of any other remedy, which the City may be entitled to use.

108.12 AUTHORIZED SIGNATURES:
(revise to include new section)

The Contractor shall provide a notarized list of all authorized signatures for project related documents. Only those individuals listed by the Contractor on the project Authorized Signature form shall be authorized to sign the contract, contract change orders, time extensions, bonds, securities, pay requests, certifications or other documents that affect the execution of the Contract.

108.13 SUBSTANTIAL COMPLETION:
(revise to include new section)

The project is substantially complete within the contract time and liquidated damages will no longer be assessed when the following have occurred:

(A) All contract items of work have been substantially completed and pedestrian and vehicular traffic can move unimpeded through the project;

(B) The only work left for completion is incidental, causes no disruption to pedestrian and vehicular traffic, and does not affect the safety and convenience of the public;

The decision whether the project is substantially complete is within the sole discretion of the Project Manager. At that time, a *Substantial Completion* letter will be issued by the City to the Contractor.

The remaining incidental work shall be completed within 15 calendar days from the issuance of the *Substantial Completion* letter. Failure to prosecute the remaining work within this time-period will result in the resumption of time charges and the application of liquidated damages from the date scheduled for final acceptance and start of warranty.

The start of the project warranty period will be established in the *Notice of Final Acceptance* and does not begin with substantial completion.

The Contractor is responsible for correction and repair of any project deficiencies until the end of the warranty period established in the *Notice of Final Acceptance* at which time the City will accept the improvements for operation and maintenance.

108.14 SUSPENSION and TERMINATION:
(revise to include new section)

CITY'S RIGHT TO STOP WORK

The City may, at its discretion and without cause, order the Contractor in writing to stop and suspend the Work. Such suspension shall not exceed one hundred and eighty (180) consecutive days.

The Contractor may seek an adjustment of the Contract Price and/or Contract Time if its cost or time to perform the Work has been adversely impacted by any suspension or stoppage of Work by the City.

TERMINATION FOR CONVENIENCE

Upon receipt of written notice to the Contractor, the City may, at its discretion and without cause, elect to terminate this Agreement. In such event, the City shall pay the Contractor only the direct value of its completed Work and materials supplied as of the date of termination. The Contractor shall be entitled to profit and overhead on completed Work only but shall not be entitled to anticipated profit or anticipated overhead.

If the City suspends the Work for one hundred eighty-one (181) consecutive days or more, such suspension shall be deemed a termination for convenience.

Upon such termination, the Contractor shall proceed with the following obligations.

1. Stop Work as specified in the notice.
2. Place no further subcontracts or orders.
3. Terminate all subcontracts to the extent they relate to the work terminated. The Contractor shall ensure that all subcontracts contain this same termination for convenience provision.
4. At the City's sole discretion and if requested in writing by the City, assign to the City all right, title and interest of the Contractor under the subcontracts subject to termination.
5. Take any action that may be necessary for the protection and preservation of the property related to this Agreement that is in the possession of the Contractor and in which the City has or may acquire an interest.
6. The Contractor shall submit complete termination inventory schedules no later than one hundred twenty (120) days from the date of the notice of termination.

The City shall pay the Contractor the following:

1. The direct value of its completed Work and materials supplied as of the date of termination.
2. The reasonable and direct, actual costs and expenses attributable to such termination. Reasonable costs and expenses shall not include, among other things, anticipated profit, anticipated overhead, or costs arising from the Contractor's failure to perform as required under this Agreement.
3. The Contractor shall be entitled to profit and overhead on completed Work only but shall not be entitled to anticipated profit or anticipated overhead. If it is determined that the Contractor would have sustained a loss on the entire Work had they been completed, the Contractor shall not be allowed profit and the City shall reduce the settlement to reflect the indicated rate of loss.

The Contractor shall maintain all records and documents for three (3) years after final settlement. These records shall be maintained and subject to auditing as prescribed in Section 7.7.

THE CITY'S RIGHT TO PERFORM AND TERMINATE FOR CAUSE

If the City provides the Contractor with a written order to provide adequate maintenance of traffic, adequate cleanup, adequate dust control or to correct deficiencies or damage resulting from abnormal weather conditions and the Contractor fails to comply in a time frame specified, the City may have work accomplished by other sources at Contractor's sole expense.

If the Contractor persistently fails to

1. provide a sufficient number of skilled workers,
2. supply the materials required by the Contract Documents,
3. comply with applicable Legal Requirements,
4. timely pay, without cause, sub-consultants and/or subcontractors,
5. prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time, as such times may be adjusted, or
6. perform material obligations under the Contract Documents, then the City, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth below.

Upon the occurrence of an event set forth above, the City may provide written notice to the Contractor that it intends to terminate this Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of the Contractor's receipt of such notice.

If the Contractor fails to cure, or reasonably commence to cure, such problem, then the City may give a second written notice to the Contractor of its intent to terminate within an additional seven (7) day period.

If the Contractor, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then the City may declare this Agreement terminated for default by providing written notice to the Contractor of such declaration.

Upon declaring this Agreement terminated and for the purpose of completing the Work, the City may enter upon the premises and take possession of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work. The Contractor hereby transfers, assigns and conveys all items, which have been purchased or provided for the performance of the Work to the City for such purpose and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items.

In the event of such termination, the Contractor shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, the Contractor shall be entitled to be paid only for Work performed and accepted by the City prior to its default.

If the City's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then the Contractor shall be obligated to pay the difference to the City. Such costs and expenses shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by the City in connection with the re-procurement and defense of claims arising from the Contractor's default.

If the City improperly terminates the Agreement for cause, the termination for cause shall be converted to a termination for convenience in accordance with the provisions of 108.14

SECTION 109 - MEASUREMENTS AND PAYMENTS

109.1 MEASUREMENT OF QUANTITIES: (revise to include the following)

It is the responsibility of the Contractor to conform to the Contract Documents, including plans, typical sections and specifications including but not be limited to dimensions, materials, application rates and densities. The Contractor shall take all actions necessary to ensure that the work conforms to the contract documents. The Contractor shall cooperate fully with the Project Manager or Project Manager's representative to correct any known nonconformity to the contract documents.

109.1 MEASUREMENT OF QUANTITIES: (delete the second paragraph)

Unless otherwise specified, longitudinal and surface (plane) measurements will be made in a horizontal plane.

PART 200 - EARTHWORK

SECTION 201 - CLEARING AND GRUBBING

201.3 CONSTRUCTION METHODS: (revise to include the following)

The Contractor shall make every effort possible to avoid damaging existing trees. In the event that any trees suffer limb damage, the Contractor shall cut branches to the nearest branch crotch or to the branch collar at the trunk.

No separate payment will be made for trimming trees. The cost shall be considered incidental to the work.

SECTION 205 – ROADWAY EXCAVATION

205.1 DESCRIPTION (revise to include the following)

The bid schedule unit cost for excavation, backfill and embankment work shall include the cost of rock excavation, handling rock or disposing of rock and no separate measurement or payment shall be made. Rock shall be defined as any highly cemented or hard material that may require additional efforts for removal, handling or disposal.

205.2 UNSUITABLE MATERIAL: (third paragraph, revise to read as follows)

Should unsuitable material be encountered at subgrade elevation in cut areas or at existing grade in fill areas, the unsuitable material shall be removed and replaced with suitable fill material in accordance with MAG Section 210 and MAG Section 211.

Determination of unsuitable material and the limits and depths of required removal and replacement shall be at the sole discretion of the Project Manager. In no case shall any unsuitable material be removed without prior written consent of the Project Manager.

Measurement and payment for removal and replacement of unsuitable material will be by the cubic yard as shown in the proposal. Payment shall be compensation in full for the work complete and in-place including any borrow, permits, pit royalties, all excavation, hauling, placing, compacting, conditioning, watering and proper disposal, together with all appurtenant costs.

205.3 MEASUREMENT (revise to include the following)

Earthwork is incidental to the roadway construction and no additional payment will be made for roadway excavation. The Contractor shall be responsible for estimating and accounting for earthwork import and haul off. It is recommended that the Contractor review the report on geotechnical investigation and sampling results.

PART 300 -- STREETS AND RELATED WORK

SECTION 301 - SUB-GRADE PREPARATION

301.1 DESCRIPTION:

(revise to include the following)

The untreated base or prepared subgrade shall be test rolled in the presence of the Project Manager prior to the placement of asphalt paving materials. The equipment used to perform the test roll shall be approved by the Project Manager. The Contractor shall be responsible for scheduling this test roll with the Inspector during regularly scheduled work. All costs associated with the test roll shall be considered incidental to and included in the cost of sub-grade preparation.

SECTION 336 - PAVEMENT MATCHING AND SURFACING REPLACEMENT

336.1 DESCRIPTION:

(first paragraph, revise to include the following)

The exact points of pavement matching shall be determined in the field by the Project Manager.

336.2 MATERIALS AND CONSTRUCTION METHODS:

336.2.1 PAVEMENT WIDENING OR EXTENSIONS:

(first paragraph, revise second sentence to read as follows)

The minimum depth of cut shall be four (4) inches or Depth/4, whichever is greater.

PART 400 -- RIGHT-OF-WAY AND TRAFFIC CONTROL

SECTION 401 - TRAFFIC CONTROL

401.5 GENERAL TRAFFIC REGULATIONS:

(revise to include the following)

Within seven (7) calendar days following receipt of the Notice of Award and in accordance with Section 108.1 of these General Provisions, the Contractor shall submit to the Project Manager a traffic control plan that shows the control of traffic in accordance with Part VI of the FHWA Manual on Uniform Traffic Control Devices for all phases of the work. The plan should include nights, weekends, shut down periods and an approximate schedule of street closures and detours.

The Traffic Control Plan is to detail the Contractor's proposal for routing traffic and pedestrians around the areas of construction. The Plan shall be coordinated with the proposed construction schedule and show how the locations of the various traffic and pedestrian control devices will

change as construction progresses. The Plan shall allow for complete detours around the work areas.

Private and commercial driveways shall not be closed for any period exceeding eight hours during any twenty-four-hour period. The affected resident and the City shall be notified 48 hours in advance of any closure. Convenient access to driveways, houses and buildings along the line of work shall be maintained and temporary crossings or alternate access shall be provided and maintained in good condition, except during that period mentioned above. **Business access shall be maintained at all times by at least one driveway.**

(eleventh paragraph, revise to read as follows)

The Contractor will reinstall all permanent traffic control devices as required by the approved construction plans and specifications.

(twelfth paragraph, delete the last sentence)

Delete - The Traffic Engineering Department will reinstall all traffic signs.

401.7 PAYMENT:

(revise paragraph to read as follows)

Payment for all work and materials required to prepare a traffic control plan and provide traffic control during construction shall be made at the lump sum price shown on the Bid Schedule. Full compensation for any required traffic control devices, flaggers, uniformed off-duty law enforcement officers, pilot cars and drivers shall be included in the lump sum contract price and no additional payment shall be allowed. Progress payments shall be made based on the Contractor's estimate for percent complete as approved by the Owner.

SECTION 425 TOPSOIL

425.2 MATERIALS:

(revise to read as follows)

Overburden topsoil shall be salvaged and reused when possible. All topsoil, whether overburden or imported, shall be free of roots, heavy clay, clods, noxious weed seeds, coarse sand, large rocks, sticks, brush, litter and other deleterious material and meet the requirements of MAG Section 795. The Project Manager's approval of the proposed topsoil shall be obtained before delivery to the project.

425.4 MEASUREMENT:
(revise paragraph to read as follows)

Topsoil shall be measured lump sum, complete and in place unless indicated otherwise by the bid schedule.

425.5 PAYMENT:
(revise to read as follows)

Topsoil will be paid for in accordance with the contracted price for furnishing and placing topsoil, as described and specified. Progress payment shall be made based on the Contractor’s estimate for percent complete as approved by the Owner.

SECTION 430 – LANDSCAPING AND PLANTING
(revise to include section as follows)

430.3 LAWN AREAS

430.3.1 Preparation of In Place Soil
(delete the second paragraph and revise to read as follows)

After clearing, grubbing and initial cultivation has been completed, a slow release chemical fertilizer shall be mechanically spread over the turfgrass area at an average rate of 1 pound of actual nitrogen per 1000 square feet. After spreading, the fertilizer shall be cultivated into the top four inches of soil using suitable equipment. The resulting soil shall be in a friable condition suitable for planting. (Actual nitrogen is determined by using the nitrogen ratio number x weight of the bag/100).

430.3.2 Seeding
(delete the first and second paragraph revise to read as follows)

The rate of seeding shall be three pounds of seed per 1000 square feet using the following seed mixture;

Poa pratensis	Kentucky Bluegrass (mix of three varieties)	70%
Lolium perenne	Perennial Rye Grass	10%
Festuca rubra	Creeping Red Fescue	20%

Alternative species may be acceptable but are subject to prior approval from the City Project Manager or duly authorized representative.

SECTION 431 – EROSION CONTROL

(revise to include new section as follows)

431.1 DESCRIPTION

Erosion control applies to improvements within the city and as part of the erosion control section of a Storm Water Pollution Prevention Plan (SWPPP). Materials, means and methods for erosion control and stabilization, Best Management Practices (BMPs), Erosion Control Plans (ECPs) and SWPPPs are described in the City of Flagstaff Stormwater Design Manual.

The Contractor shall stabilize all disturbed areas within the project site and as shown on the plans. Work shall be performed according to the provisions of this Section and shall include but not be limited to the furnishing, hauling, placement and application of erosion control materials.

The Contractor is responsible for complying with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit program. This generally includes submittal of a Notice of Intent to the Arizona Department of Environmental Quality (ADEQ) and Notice of Termination to ADEQ for the project. Preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for the site is required per ADEQ and City of Flagstaff standards.

The cost for complying with the NPDES permit and the SWPPP, including the erosion control devices, shall be included in the NPDES & SWPPP Requirements portion of the Contractor's bid. It is recommended that contractors see the ADEQ Smart NOI (Notice of Intent) program website (<http://az.gov/webapp/noi/main.do>) for information and processes.

Progress payment shall be made based on the Contractor's estimate for percent complete as approved by the Owner.

432.1 NATIVE SEEDING

All areas to be seeded that are accessible to machinery shall be tilled to a minimum depth of four (4) inches. Areas inaccessible to machinery shall be hand tilled and prepared to a minimum depth of two (2) inches. Cut slopes of 2:1 or steeper do not require tilling. Cultivation on sloping terrain shall run perpendicular to the direction to the slope. If weeds or herbaceous plant material interferes with proper seedbed preparation, the contractor shall remove them from the seedbed.

Contractor shall remove and dispose of all debris and other objectionable material that may interfere with seeding operations.

The area to be seeded shall be relatively smooth and all surface irregularities (e.g. rills, tire marks) shall be filled and firmed to conform to the desired cross sections. The seedbed shall be rolled both before and after the seeding operation with a minimum of one pass of a cultipacker or drag harrow.

Seed shall be sown when conditions will promote germination and growth. Normal non-irrigated permanent native seed application dates are between April 1 and June 15, between August 15 and September 20 and after the first frost (recurring overnight temperature of 28 degrees F) until snowfall. Seeding work shall be performed only after planting and other work affecting ground surface is complete.

To assist in establishment of the permanent seed mix, a nurse crop shall be used for this work. Preapproved nurse crop seed shall be one of the following, incorporated with the specified permanent seed mix;

Annual ryegrass	<i>(Lolium multiflorum)</i>	30 lbs/acre
Oats	<i>(Avena sativa)</i>	60 lbs/acre
Regreen©	<i>(Triticum aestivum x Elytrigia elongata)</i>	30 lbs/acre

Alternative species may be acceptable but are subject to prior approval from the City Project Manager or duly authorized representative.

When cut or fill slopes are greater than six (6) feet in height and steeper than 3H:1V, the seeded area shall be covered with American Excelsior Company straw/coconut blanket or an approved equal. Installation shall be per the manufacturer's written directions.

440.10. (D) SEQUENCING
(add the following section)

The irrigation system shall be installed, inspected, approved and operable prior to the installation of plant materials, landscape fabric and ground plane treatments (*decomposed granite, landscape rock, mulch, etc.*)

PART 600 - WATER AND SEWER

SECTION 601 - TRENCH EXCAVATION, BACKFILLING AND COMPACTION

601.2 EXCAVATION:

601.2.1 GENERAL:
(revise to include the following)

All excavation, including trench excavation, shall be performed in any substance and material encountered. The cost is considered incidental to and is to be included in the price for the bid item to be constructed or installed. No special payment shall be made for trench excavation other than rock excavation as specified under Trench Rock Excavation.

Trench Rock Excavation

Trench rock is defined as consolidated igneous, metamorphic and/or sedimentary material in the original bed and/or in well-defined ledges that cannot be removed by a mechanical method and therefore requires pneumatic hammering, drilling or blasting for removal. Example of mechanical methods include hand tools, trenching machine, backhoe, ≥ 195 horsepower hydraulic excavator with ripping teeth or equivalent.

Boulders and pieces of rock having a volume of more than 27 cubic feet (1 cubic yard) shall be considered rock.

For projects where trench rock excavation is anticipated, the estimated contingent quantity is shown in the proposal under the applicable bid item. The contingency quantity is an estimate only and no guaranty is given that any portion will be utilized. Trench rock excavation will be paid for separately at the unit price bid per cubic yard for Trench Rock Excavation.

Measurement of Trench Rock Excavation shall be per cubic yard in place. This volume of rock will be measured by the City representative, using the maximum trench width allowed in accordance with MAG Table 601-1, the lineal footage of actual rock excavation required and the actual depth of rock as determined by inspection of the trench after rock excavation and before backfilling.

SECTION 611 – WATER, SEWER AND STORM DRAIN TESTING

611.2 DISINFECTING WATER MAINS:

611.2.13 Fire Flow Testing: (revise to include the following new section)

All water lines that have new fire hydrants shall require a fire flow test per CoF Engineering Standard 13-09-006-0006.1.

Fire flow testing shall be performed by a certified tester. Results shall be sealed by an Arizona Professional Engineer.

The City Water Services Section requires a 72-hour notice via e-mail to schedule hydrant operation and testing observation. A digital copy of the test results shall be submitted to the City Project Manager.

SECTION 631 WATER TAPS AND METER SERVICE CONNECTIONS

(revise to add the following)

631.3 INSTALLATION:

New water service lines shall be installed to replace the existing water service lines. Construction includes replacement of all water services to COF Engineering Standards, including the service saddle at the main, corporation stop, pipe and curb stop to the meter and adjust the customers' service to the new outlet meter coupling elevation. The lines shall be extended to the new polymer meter box location and a new meter box shall be installed and shall connect to the existing meter. If the existing meter is not at the City's standard depth; the contractor shall adjust the elevation of the meter. In cases where the meter box moves, the contractor shall salvage the existing meter and shift it to the proposed location. At each of these locations the contractor is required to connect the existing water services on the private side of the meter. The Contractor shall coordinate with each homeowner where private construction is required to verify the water line rerouting and to restore landscaping to its original condition.

The City will provide the contractor with Temporary Rights of Entry for the water service connection, replacement/adjustment of water meter boxes and associated work. If the contractor needs to go outside the Temporary Right of Entry limits they will have to provide the City with written permission from the property owner prior to conducting the work.

A residential plumber's license will be required for all work that is done on the private service side of the meter.

City of Flagstaff utility tapping fees are the responsibility of the contractor. The contractor shall perform all work and coordinate payment directly with the City Water Services Department. All costs for utility tap work and fees shall be included in the line item for installation of the new service, including but not limited to all labor and materials for complete installation. Repair associated within any abandoned or new tap shall be included in the contract bid item.

SECTION 710 - ASPHALT CONCRETE

710.1 GENERAL:
(revise to include the following)

The asphaltic concrete designation shall be 3/4 inch, except as required by the project plans or Special Provisions.

End of Document

EXHIBIT C - BID SCHEDULE

NAME OF BIDDER HOPE CONSTRUCTION ONE

SPORT COURTS AT BUSHMASTER PARK BASE BID

City of Flagstaff PO No. 24-001550

Requisition No. R24-000333 BID SCHEDULE

NOTE: All pricing blanks must be filled in. Empty or unfilled spaces in the Bid Price Sheet shall result in a determination that a Bid is non-responsive.

No.	Description	Quantity	Unit	Unit Price	Extended Price
1	As-builts	1	LS	\$1,500.00	\$1,500
2	Construction Staking, Survey, and Layout	1	LS	\$35,000.00	\$35,000
3	Mobilization (Includes Demobilization, Temporary Fence, Traffic Control, Dust Control, SWPPP, Other Agency Permits, And General Conditions)	1	LS	\$125,000.00	\$125,000
4	Clearing and Grubbing	1	LS	\$6,720.00	\$6,720
5	Install Tree Protection Measures	1	LS	\$2,000.00	\$2,000
6	Remove Existing Tennis Court Fencing, Salvage Nets and Posts	1	LS	\$4,200.00	\$4,200
7	Demolish Existing Basketball Court and Fencing	1	LS	\$4,200.00	\$4,200
8	Remove and Salvage Existing Basketball Court Goals and Lighting	1	LS	\$1,800.00	\$1,800
9	Remove and Salvage Existing Benches, Signs, and Animal Waste Canisters	1	LS	\$2,718.00	\$2,718
10	Remove and Salvage Existing Light Poles and Demolish Footings (as noted)	1	LS	\$7,200.00	\$7,200
11	Earthwork (includes placement & compaction and subgrade preparation)	7,752	CY	\$51.52	\$399,352
12	Remove and Dispose of Concrete Courts Tennis Court Tennis Court to Remain	25080 13200	SF	\$3.00	\$39,600
13	Remove and Dispose of Concrete	11,340	SF	\$3.00	\$34,020
14	Relocate Equipment Box	1	EA	\$0.00	\$0
15	Remove and Salvage Riprap	10	SF	\$240.00	\$2,400
16	Remove and Dispose Tree	22	EA	\$390.00	\$8,580
17	Adjust Utility Apurtenance	4	EA	\$318.00	\$1,272
18	2' Wide Earthen Berm	215	LF	\$9,600.00	\$9,600

19	Concrete Spillway and Overflow Weir	400	SF	\$18.90	\$7,560
20	30" Arch SRP Pipe	20	LF	\$5,040.00	\$5,040
21	Sheet Flow Spreader (MAG Type A Single Curb)	60	LF	\$38.40	\$2,304
22	LID Mix, 4" Underdrain and Cleanouts	2	EA	\$13,104.00	\$26,208
23	4" PCC / 3" ABC Concrete Sidewalk	11,800	SF	\$14.08	\$166,097
25	Concrete Ramp Walkway and Joints (4" Deep) Standard Gray	1000	SF	\$14.08	\$14,076
26	Pipe Railing at Ramp	238	LF	\$181.51	\$43,200
27	Concrete Header (6" Deep)	480	LF	\$38.40	\$18,432
28	Angular Rock (3"-6") Depth	19,430	SF	\$0.79	\$15,389
29	Tree (24" Box)	13	EA	\$708.00	\$9,204
30	Shrub and Groundcover (5 Gallon)	73	EA	\$92.40	\$6,745
31	Turf – Sod, Mid-Iron Bermuda	5,000	SF	\$2.58	\$12,900
32	SCH 40 Drip Lateral	1,350	LF	\$1.80	\$2,430
33	SCH 40 Turf Lateral	500	LF	\$1.80	\$900
34	SCH 40 Sleeve	200	LF	\$16.80	\$3,360
35	Drip Control Valve Assembly	2	EA	\$360.00	\$720
36	Turf Control Valve Assembly	1	EA	\$360.00	\$360
37	Spray Head	28	EA	\$78.00	\$2,184
38	Multi-Outlet Emitter	33	EA	\$84.00	\$2,772
39	Flush Cap Assembly	3	EA	\$588.00	\$1,764
40	14 Gauge Wire	270	LF	\$2.40	\$648
41	Pickleball Court Fence (4') Tall, Side Court Divider	250	LF	\$79.18	\$19,794
42	Pickleball Court Fence (6') Tall, Mid-Court Divider	124	LF	\$103.80	\$12,871
43	Pickleball Court Perimeter Fence (8') Tall	830	LF	\$66.60	\$55,278

44	Pickleball Court Gates	5	EA	\$780.00	\$3,900
45	Pickleball Court (4,555 SF) Post tension slab, acrylic finish, Two Courts	1	LS	\$93,511.20	\$93,511
46	Pickleball Court Net System, Two Courts	2	EA	\$1,080.00	\$2,160
47	Pickleball Court (13,398 SF Existing Slab) Acrylic Finish, Six Courts	1	LS	\$53,674.80	\$53,675
48	Pickleball Court Net System, Six Courts	6	EA	\$1,380.00	\$8,280
49	Tennis Court Fence (10')	590	LF	\$80.28	\$47,365
50	Tennis Court Gates	3	EA	\$780.00	\$2,340
51	Tennis Court (14,650 SF) Post tension slab, acrylic finish, Two Courts	1	LS	\$244,522.80	\$244,523
52	Tennis Court Net System, Two Courts	2	EA	\$1,110.00	\$2,220
53	Basketball Court (11,525 SF) Post tension slab, acrylic finish, Two Courts	1	LS	\$195,823.20	\$195,823
54	Basketball Court Goal	4	EA	\$6,674.40	\$26,698
55	Construction Access Road (Restore concrete walkways, landscape, irrigation, curbs, grade)	1	LS	\$5,000.00	\$5,000
56	Electrical System/Lighting	1	LS	\$368,000.00	\$368,000
TOTAL CONSTRUCTION COST					\$2,168,892

* All bids are presumed to include all applicable permits and taxes.

1 Bid assumes all site concrete to be crushed on site for AB for the new site concrete