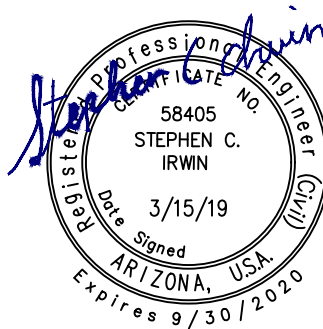


**SPECIAL PROVISIONS FOR THE**  
**N. AZTEC STREET IMPROVEMENTS**  
**ROAD REPAIR AND UTILITY REPLACEMENT**

**PREPARED BY SHEPHARD - WESNITZER, INC.**  
**SWI PROJECT NUMBER 15304**  
**MARCH 15, 2019**

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## **PART 000 – INTRODUCTION**

The contractor is responsible for obtaining, at his/her own expense, a copy of each of the most recent specifications and details listed below:

City of Flagstaff Revisions to MAG Uniform Standard Specifications and Standard Details

City of Flagstaff General Provisions

City of Flagstaff Engineering Design Standards and Specifications

MAG Specifications and General Provisions

**ATTACHED GEOTECH REPORT AND ADDENDUM**

**MAG UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS AND CONSTRUCTION (WITH REVISIONS THROUGH JANUARY 2017) AND C.O.F. GENERAL PROVISIONS ARE HEREBY AMENDED TO INCLUDE THE FOLLOWING:**

**PART 100 – GENERAL CONDITIONS**

**SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS**

**102.6 SUCONTRACTORS’ LIST**

(Revise to include)

The Contractor shall submit a subcontractor list to the City with the proposal pamphlet. It shall include the list of anticipated subcontractors and the dollar amount and percentage of contract work that each subcontractor will perform.

**102.4 EXAMINATION OF PLANS, SPECIAL PROVISIONS AND SITE WORK:**

(Revise the second paragraph to read)

The bidder shall examine the site of the proposed work and all documents pertaining to the work. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the bidder has made such examination and is familiar with the character, quality and quantity of the work to be performed and material to be furnished.

**102.6 SUBCONTRACTORS LIST:**

(Revise to include)

The Contractor shall submit a subcontractor list to the City with the proposal pamphlet. It shall include the list of anticipated subcontractors and the dollar amount and percentage of contract work that each subcontractor will perform.

**SECTION 104 – SCOPE OF WORK**

**104.1.1 GENERAL:**

(Revise MAG to include the following)

The N. Aztec Street Improvements project is Bundle 1 of the City of Flagstaff’s Road and Repair and Street Safety Program. The project limits extend north from W. Santa Fe. Avenue to the Francis Short Duck Pond near Thorpe Park. Utility improvements include the replacement of the existing 8” water main and services from W. Santa Fe. Avenue to W. Birch Avenue and the replacement of the existing 8” sewer main and sewer services from W. Birch Avenue to the alley between W. Aspen Avenue and W. Birch Avenue. Surface improvements include: asphalt overlay, asphalt pavement removal and replacement, asphalt swale removal and replacement, and the replacement of select existing sidewalk and sidewalk ramps

*Pre-Construction Video*

**The Contractor shall record and provide the City with a pre-construction video (in readable format) of the full construction area prior to mobilization, paying special attention to the private property boundaries, private improvements, and adequately documenting the existing conditions within the project corridor. This video will serve as a record of pre-existing conditions and it is in the best interest of the Contractor to record a thorough document for the record.**

104.1.2 MAINTENANCE OF TRAFFIC:  
(Revise MAG to include the following)

Prior to the Notice to Proceed, the Contractor is responsible for preparing, submitting and obtaining approval of a detailed traffic control plan, including all traffic control for street/lane closures, work phasing, detours, etc., by the City of Flagstaff Traffic Department. A Right of Way Permit will not be issued until the Traffic Control Plan is approved By the City of Flagstaff.

Detailed traffic control plans shall include provisions for access to all adjacent private properties within the project area. Access to all residential driveways shall be provided during non-working hours. Where property has more than one driveway, no more than one access will be restricted or closed at on time. The Contractor may temporarily limit access to properties through advance written notice and coordination with the City's Project Representative and the property owners. Should it be necessary to close access to a private property, driveway, or alley entrance the closure must be for as short a time as possible and be restored at the end of the work shift. If primary access cannot be restored, the Contractor shall provide an alternative, which will be coordinated with the resident and preapproved by the City's Project Manager prior to any restrictions being implemented.

Any full street closures will require the approval of the City, re-routing through the Neighborhood with adequate temporary signage/signals, notification to emergency responders, notification to the Flagstaff Unified School District, notification to residents in the project area, and notification to the residents along the proposed route. All street restrictions or closures must be coordinated with emergency responders.

The Contractor shall be required to provide at least one (1) week advance written notice of all street closures and traffic restrictions to all affected residents, property owners, business owners, including those properties on a detour route and to the City. The notice shall be submitted to the City for review and shall include the projected date, and duration of the closure and alternate detour routes. Each notice shall include the Contractor's name, contact person and local 24-hour telephone number as well as the City Project Manager's name and telephone number.

Existing pedestrian and bicycle facilities shall be continued through or around the construction zone. The Contractor is responsible for securing the construction site and maintaining safe passage for pedestrian and bicycle traffic.

Transit stops and pedestrian access thereto shall be maintained. Should construction occur during the school year, any existing school bus stops will need to be temporarily relocated to another location acceptable to the Flagstaff Unified School District Transportation Director. The

Contractor shall coordinate any school bus stop relocations through the Flagstaff Unified School District Transportation Director, Joe Martin at 928-527-2300.

**Special Access Requirements:**

**School Access:**

The Contractor shall be required to maintain vehicular access to south parking lot to Flagstaff Middle School and Flagstaff Community Christian Schools, at the north end of the project, throughout the construction duration. Should the Contractor determine that a temporary closure will be need to perform the required work the Contractor shall coordinate any activities that may impact the schools a minimum of 1 week prior to the scheduled activities.

**Thorpe Park Access:**

Thorpe Park is a community park located at the north end of the project. Access to the southeast parking lot of the Park is made from N. Aztec St. The Contractor shall maintain access to the southeast parking lot of Thorpe Park throughout the construction duration. Should the Contractor determine that a temporary closure will be needed to perform the required work the Contractor shall coordinate the request with the City Project Manager. The City Project Manager will coordinate the request with appropriate City Staff to determine if the requested temporary closure is acceptable.

**Sanitation Pickup:**

Trash and recycle pickup in the project area is scheduled every Monday and Thursday, respectively. When construction activity interferes with pickup, the Contractor shall provide for sanitation vehicle access to the affected properties or relocate the trash containers where access is acceptable. The Solid Waste Division of the Public Works Department contact is 213-2110. The contact number for Waste Management is (928) 779-6050. If trash or recycle pick up is obstructed by the construction activity, the Contractor will be responsible for proper disposal.

**Traffic Control and Safety:**

At the time of the Pre-construction Conference, the Contractor shall designate an employee who is well qualified and experienced in construction traffic control and safety, to be available on the project site during all periods of construction to coordinate and maintain safe barricading whenever construction restricts traffic. The Contractor shall designate and provide the contact information of one person who shall be available during non-construction hours in case any traffic control and/or safety items that need to be handled in an urgent manner. This representative must be within 20 minutes response time from the project area and must be able to operate equipment.

**Emergency Access:**

Street closure information shall be coordinated by the Contractor and submitted to the Traffic Engineering Group, the City's Project Manager, and upon approval will forward the information to all First Responders. All notices shall be submitted at least 1 week in advance of the closures. First Responders contact is Lisa Bartlett Lisa.Bartlett@nahealth.com.

**U.S. Postal Service Access:**

The Contractor shall be responsible for maintaining access for Postal Service within the project area at all times. The Contractor shall coordinate this work with Jessica Moore, 928-714-0524 [jessica.h.moore@usps.gov](mailto:jessica.h.moore@usps.gov), at the U.S. Postal Service to avoid interruption of mail service. Mailboxes shall be protected in place. Should an existing mailbox be damaged by construction activity, the Contractor shall promptly remove and replace the damaged mailbox with like kind; including post and foundation, at no cost to the resident or the City. Placement of any mailbox shall be in accordance with USPS requirements. The Contractor shall maintain mailboxes so that no disruption of mail service shall occur. If mail disruption is anticipated, the Contractor shall notify the City's Project Manager, Inspector, affected property owner and/or resident(s) at least 48 hours in advance.

**104.2 ALTERATION OF THE WORK:****104.2.3 Due to Extra Work**

(Revise to include the following)

At the pre-construction meeting, the Contractor will submit for review and approval of equipment and personnel rates that will be used to determine compensation for all extra work performed. These rates will be used when determining the cost of extra work if bid unit line item prices are not practical. Profit, taxes and markup for all extra work will be in accordance with the appropriate MAG sections if bid unit line item prices are not used.

The following Contingencies are included and hereby incorporated into the contract documents as follows:

Trench Rock Excavation shall include all equipment, labor and materials necessary to conduct trenching activities sufficient to install all proposed underground improvements. The Trench Rock Excavation Contingency bid item includes an estimated quantity in the Bid Schedule and has the same requirements and restrictions as the Contract Allowance.

Unsuitable Material shall include all equipment, labor and materials necessary to remove unsuitable materials and replace with materials that conform to the project specifications. The Unsuitable Material Allowance bid item includes an estimated quantity in the Bid Schedule and has the same requirements and restrictions as the Contract Allowance.

Subgrade Stabilization shall include all equipment, labor and materials necessary to stabilize the subgrade after unsuitable material has been removed and replaced with materials that conform to

the project specifications. The Contractor is responsible for coordinating proposed solutions that may be acceptable to the City of Flagstaff. Proposed solutions (including the use of geogrid) will be paid out of the Subgrade Stabilization Allowance bid item.

## SECTION 105 – CONTROL OF WORK

### 105.2.1 RECORD DRAWING (As-Built Plans)

(revise to include new subsection as follows)

The CONTRACTOR shall maintain a set of redlined copy of the project plans including changes made in construction of the project. The redline copy shall be updated on a weekly basis in preparation for the weekly construction meeting. The CONTRACTOR shall provide the ENGINEER with a copy of the redline plans upon completion of the project to be submitted with the final as-built plans.

No separate measurement and payment shall be made for the redlined copy of the project plans. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

### 105.5 COOPERATION OF CONTRACTOR

(revise to include the following)

The Contractor's Project Manager and Project Superintendent shall attend weekly construction progress meetings. The Contractor shall be prepared to discuss construction schedule, construction activities planned for the upcoming three (3) weeks (submit proposed three (3) week schedule), problems, issues, any information required by the City's Project Representative, construction staking, business/residence/citizen complaints, safety, traffic control and pedestrian access requirements, weather delays experienced during the previous week, disposal of materials, access/construction coordination with businesses/residences, inspection/testing, overtime worked during the previous week, payments, water/sewer service disruption, submittals, field orders/field changes and any other business as necessary. The Contractor may need to prepare meeting agendas and meeting minutes if required by the City's Project Representative. If required, minutes shall be distributed within four (4) working days after the meeting.

**Public Involvement:** At the time of the Pre-construction Conference, the Contractor shall designate an employee that is fully responsible for coordination with the public, including but not limited to; the property owners, renters, leasers, Public media, the City of Flagstaff Public Information Officer and Mayor/Council. This person shall be qualified and experienced in public coordination and shall be available during all periods of construction to coordinate any issues.

### 105.6 COOPERATION WITH UTILITIES

(Revise MAG to include the following)

Existing utilities have been shown on the plans to the greatest extent possible, but there is no guarantee that all utility conflicts have been identified. The Contractor shall notify all Franchise Utility Companies of the Contractor's intent to begin work. In particular, the Contractor shall make use of the Blue Stake service by calling 1-800-STAKE-IT at least 2 working days before

beginning work. The Contractor shall exercise all care to avoid damaging utilities whether shown on the plans, staked in the field, or not.

#### 105.8 CONSTRUCTION STAKES, LINES AND GRADES

(Revise MAG to include the following)

Unless noted otherwise in the contract documents, the Contractor shall layout the work from the lines, grades and dimensions shown on the drawings. The Contractor shall be responsible for all such work for the duration of the project. The Contractor shall provide all construction staking necessary for the project based upon control points shown on the plans or provided by the Engineer. The Contractor shall provide appropriate identification and verification of furnished control points prior to commencing survey. The Contractor shall immediately notify the City in writing of any dimension or grade errors, before proceeding with the work.

#### 105.12 MAINTENANCE DURING CONSTRUCTION

(Revise City of Flagstaff General Provisions to include the following)

The Contractor is required to protect work during inclement weather. Construction drains shall be provided as needed to enable water to drain from the construction area rapidly and without damaging work in progress or adjacent properties. To further promote good drainage of the site, drainage channels, culverts, and structures, shall be constructed from downstream to upstream in such a way that, during construction, they do not impede the flow of water from the construction area. The Contractor shall utilize pumps to remove ponding water immediately during all stages of construction during both working and non-working hours.

Damage to any portion of the work caused by the contractor's failure to provide adequate drainage of the construction area, or to order the work so as to minimize the possible extent of such damage, shall be repaired at the Contractor's expense. No extension of time shall be granted on account of the time required to make such repairs.

### SECTION 107 – LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

#### 107.2 PERMITS

(Revise MAG to include the following)

The City of Flagstaff Capital Improvements Program will prepare Temporary Entry Permits for the work to be done on private property as needed. A copy of these permits will be provided to the Contractor and shall be kept on site during construction.

The Contractor shall be required to obtain City, ADEQ, and other required permits.

#### **Erosion Protection and Site Restoration**

The size of the project is greater than one (1) acre. The Contractor is required to submit a Notice of Intent and Notice of Termination to the Arizona Department of Environmental Quality. The Contractor shall use best management practices (BMP) in controlling stormwater runoff. A stormwater pollution prevention plan (SWPPP) has been included in the construction documents for the Contractor's use. The Contractor shall develop and maintain a SWPPP inspection and maintenance binder that is to be kept on site during construction.

## **Measurement and Payment**

Measurement shall include all items required to comply with the requirements of the AZPDES permit program and City of Flagstaff requirements. The cost for obtaining and complying with the AZPDES permit, inspection documentation, erosion control devices and all work associated with stormwater protection shall be included in the pay item for SWPPP.

### **107.5.1 ASBESTOS MATERIALS:** (Revise MAG to include the following)

The Contractor is cautioned that there could be existing asbestos-concrete (AC) waterline piping within Aztec Street. One block of water main on this project is scheduled to be abandoned in place and one block of pipe is scheduled to be removed and replaced. Asbestos concrete piping may or may not be present in other portions of the project(s).

The Contractor is responsible for all work associated with these activities to complete the project as shown on the construction documents.

The Contractor shall strictly follow City of Flagstaff requirements regarding the handling, removal and disposal of asbestos containing materials, see CITY OF FLAGSTAFF AMENDMENTS to MAG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION Section 107.5.4 HANDLING, REMOVAL AND DISPOSAL OF SURPLUS MATERIAL AND ASBESTOS CONTAINING MATERIALS (ACM).

All work relating to the removal and disposal of materials as described above shall be incidental to the project and no separate payment shall be made for this work.

### **107.6 PUBLIC CONVENIENCE AND SAFETY REMOVAL OF PARKED VEHICLES** (revise to include the following)

The Contractor shall give written notice, describing the proposed work and parking restrictions, to each adjacent business or residence. Written notice (with specific dates of anticipated construction work) shall be provided at least one (1) week in advance of the work. In the event that the work requires removal of parked vehicles, they will be removed to the nearest convenient side street at the Contractor's expense. No separate payment will be made for this work.

### **107.9 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE** (Revise MAG to include the following)

Prior to construction commencing, the Contractor shall prepare a video recording of the project area that adequately shows each private property within the project corridor to document existing conditions. A copy of this video shall be provided to the City in a viewable format.

The Contractor shall take special care to control construction-related dust and noise and to keep the project site cleaned up to the greatest extent possible. The Contractor is responsible to

coordinate alternate measures for any impacted operations as mentioned which are acceptable to the parties involved.

Survey monuments and property corners shall be protected and not disturbed unless specifically called out on the plans for replacement. All costs associated with protecting or re-establishing disturbed survey monuments and property corners shall be borne solely by the Contractor.

The Contractor is responsible for replacing and/or restoring landscaping (including but not limited to fences, retaining walls, landscape walls, pavers, aggregate rock ground cover, plantings, sod) and owner improvements associated with the project to a pre-construction condition. Due to the diverse nature of landscaping improvements within the corridor, each specific type of landscaping has not been separately quantified, but shall be included in the bid as incidental to the work, unless specified in the bid schedule or plans.

The Contractor is responsible for removing existing improvements and salvaging items for relocation after the public improvements are finished. This may necessitate close coordination with property owners. The contractor is responsible for replacing materials in like kind. All cost shall be included in the bid as incidental to the work.

The curb, gutter and sidewalk on the east side of Aztec Street shall be protected in place. With the exception of areas disturbed by proposed utility work, the existing improvements beyond the edge of pavement shall remain in current condition.

#### 107.11 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

(Revise MAG to include the following)

The Contractor is responsible for providing written notification to each affected resident at least 48 hours prior to any disruption to water or sewer service in the construction area. The notice must include the exact time of the disruption of service and the expected duration of the loss of service. The Contractor shall schedule shut offs as to minimize disruption to the public.

The Contractor shall protect existing water, sewer, and gas service lines where the proposed work crosses individual service lines.

**Not all service lines are shown on the plans and it is the Contractor's responsibility to determine their location in the field at the beginning of the project. The Contractor shall coordinate all necessary utility relocations directly with the appropriate utility franchise and provide sufficient time for response prior to construction of the improvements.**

Protection or repair of existing service lines not in conflict with the work is also considered incidental. In the event that there is a physical conflict between an existing service line and the proposed work, the Contractor shall immediately notify the Engineer of the Conflict. The Owner will make a determination as to how the conflict will be resolved. Any extra work required as a result of an unforeseen service conflict will be ordered and paid for in accordance with General Provision Section 104.2.3.

**Locations of underground utilities shown on the plans are to be regarded as approximate only. Cable, telephone, and power utilities are generally overhead in the alley ways.**

If determined necessary, the Contractor shall coordinate utility relocations with the appropriate utility franchise and provide sufficient time for response prior to construction of proposed improvements (6 weeks minimum).

Utility company contacts are listed below:

Arizona Public Service	Ryan Weisner	(928) 773-6414
CenturyLink	Manuel Hernandez	(928) 779-4935
SuddenLink	Sanford Yazzie	(928) 266-0672
Unisource	Martin Conboy	(928) 525-8143
City of Flagstaff Sewer	Joe Almanderz	(928) 853-4876
City of Flagstaff Water	Jim Davis	(928) 213-2411

The Contractor is responsible for locating and coordinating all utility conflicts/relocations in a timely manner as to not delay construction work. Coordination shall include, but not be limited to, direct contact and coordination with all public and private utilities, potholing, survey staking of new improvements, coordination between separate utilities, coordination between sub-contractors and utilities.

**107.12 FURNISHING RIGHT OF WAY**  
(Revise MAG to include the following)

The Contractor shall insure that all employees of the Contractor, subcontractors, agents, or invitees are clearly informed regarding the proximity of private property boundaries that **UNDER NO CIRCUMSTANCES** shall any worker cross that boundary into private property, exceptions described below.

Temporary Entry Permits will be obtained from the property owners adjacent to Aztec Street in order to allow for grading, sidewalks, driveway connection, utility connections, and fence relocations.

**SECTION 108 – COMMENCEMENT, PROSECUTION AND PROGRESS**

**108.4 CONTRACTOR’S CONSTRUCTION SCHEDULE**  
(Revise MAG to include the following)

There are several contingency items included in the contract bid schedule. Time to perform these established work items at their indicated quantities shall be included in the Contractor’s original work schedule. The contract duration has been established to include time to perform the contingency work and the Contractor shall be prepared with appropriate labor and equipment to perform the work in the time allotted. Additional contract time may be requested if these contingency quantities over run the original quantities.

SECTION 109 – MEASUREMENTS AND PAYMENTS

109.4 COMPENSATION FOR ALTERATION OF WORK  
(Revise MAG to include the following)

Allowance and Contingency items will only be paid if explicitly authorized in writing by the City's Project Manager.

**PART 200 – EARTHWORK**

SECTION 205 – ROADWAY EXCAVATION

205.5 SLOPES  
(revise to include the following)

Grading limits and slope construction need to be smooth transitions without rocks, drop offs, or other obstructions. Tolerance on slope matchup is 0.1 FT.

205.7 MEASUREMENT:  
(revise to include the following)

Earthwork is incidental to the roadway construction. No additional payment will be made for roadway excavation.

The Contractor is responsible for estimating and accounting for earthwork, import/haul off. It is recommended that the Contractor review the report on geotechnical investigation and sampling results.

SECTION 211 – FILL CONSTRUCTION

211.3 COMPACTING  
(Revise the last sentence of the fifth paragraph to read)

Each layer shall be compacted to a uniform density of not less than 95 percent, or as directed by the Engineer.

**PART 300 – STREETS AND RELATED WORK**

SECTION 301 – SUBGRADE PREPARATION

301.2 PREPARATION OF SUBGRADE  
(Revise to include)

The subgrade shall be scarified and loosened to a depth of 9 inches, moisture conditioned to optimum ( $\pm 2$  percent) and compacted to at least 95 percent of the maximum dry density as determined by ASTM D-698. The subgrade should be proof rolled with a heavy rubber tired vehicle such as a loaded water truck to locate unstable areas per MAG 301.

301.4 SUBGRADE TOLERANCES:

(revise to read)

Subgrade upon which pavement, sidewalk, curb and gutter, driveways, or other structures are to be directly placed shall not vary more than ¼ inch from the specified grade and cross-section. Subgrade upon which sub-base or base material is to be placed shall not vary more than ¼ inch from the specified grade and cross-section. Variations within the above specified tolerances shall be compensating so that the average grade and cross-section specified are met.

301.8 PAYMENT

(revise to read)

No separate payment shall be made for base material or subgrade preparation. 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.

SECTION 306 – MECHANICALLY STABILIZED SUBGRADE

306.1 DESCRIPTION

(Revise MAG to read)

Geogrid Reinforcement is included in the contract as a contingency and installed per manufacturer's recommendations to aid stabilization of subgrade if necessary per City representative direction.

Geogrid shall be Tensar Geogrid BX1200, or equivalent polypropylene welded grid meeting 2014 MAG Section 796 Type 2 or ADOT 2008 Standard specification 1014-3.

SECTION 310 PLACEMENT AND CONSTRUCTION OF AGGREGATE BASE COURSE

310.1 DESCRIPTION:

\*Add to the end of this section:

Cinders are not suitable base material and shall be removed from the roadway base. Removal of cinders is incidental to construction.

The Contractor may use crushed/milled asphalt concrete for roadway base course material if it complies with City of Flagstaff and MAG 702 specifications. The Contractor is required to provide testing data to the City on each batch of processed material and as requested by the City to assure consistent quality.

310.2 PLACING:

(Revise the fourth paragraph to read:)

All curb and gutter, sidewalk, driveways and sidewalk ramps shall be constructed on a minimum 3 inches of aggregate base course (ABC).

310.5 PAYMENT:

(revise to include the following)

No separate payment will be made for base material. The cost thereof shall be included in the appropriate bid item for which aggregate base is required.

SECTION 321 – PLACEMENT AND CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT

321.2 MATERIALS AND MANUFACTURE:

For patching and remove and replacement areas asphalt concrete shall be a 3/4” dense surface course PG 58-28 mix, and per MAG Section 710 unless modified by the Engineer.

321.3 WEATHER AND MOISTURE CONDITIONS:

(Revised to read)

Asphalt concrete shall be placed only when the surface is dry, and when the ambient temperature in the shade is 40 degrees F or above and rising, or above 50 degrees F if falling. No asphalt concrete shall be placed when the weather is foggy, or rainy, or when the base on which the material is placed is unstable, is in a wet condition (in excess of optimum), or in a frozen condition. Asphalt concrete shall be placed only when the Engineer determines that weather conditions are suitable.

The determination by the Engineer of unsuitable weather conditions for paving operations shall not be the cause for extension of the Contract Time. The Contractor must show that such weather conditions were not reasonably anticipated. Any request for an extension of the Contract Time shall be in accordance with Section 108.7 of the MAG Standard Specifications and Section 108.7 of the City’s General Provisions.

321.7 TRANSPORTATION

(Revise MAG to include the following)

Sufficient trucks shall be available to enable paving to proceed continuously. Failure to provide a sufficient number of trucks may be considered a failure of the Contractor’s responsibilities under Section 108.6 of the MAG Standards Specifications.

321.8.2 JOINTS

(Revised the third sentence of the first paragraph to read)

The surface in the area of the joint shall not deviate more than ¼ inch from a 12-foot straightedge, when tested with the straightedge placed across the joint, parallel to the centerline.

321.8.4 COMPACTION; ASPHALT BASE COURSE AND SURFACE COURSE

(Revise the fourth paragraph to read)

Achieving the required compaction is the responsibility of the Contractor. The Contractor shall determine the equipment pattern of rolling that will provide the proper compaction, at his expense. The Engineer will determine the acceptability of the pavement compaction in accordance with Section 321.10 of the MAG Standard Specifications.

321.8.5 SMOOTHNESS

(Revise MAG to read)

The completed surfacing shall be thoroughly compacted, smooth, true to grade and cross-section, of uniform texture and appearance, and free of ruts, humps, roller marks, depressions or irregularities. An acceptable surface shall not vary more than one-fourth (1/4) inch from the lower edge of a 12-foot straightedge when the straightedge is placed parallel to the centerline of the roadway.

321.13 PAYMENT  
(revise to include the following)

Payment for asphalt construction will be paid for at the contract price per square yard for asphalt concrete pavement section.

#### SECTION 329 – TACK COAT

PAYMENT:  
(replace with the following)

No separate payment shall be made for Tack Coat. Payment for Tack Coat is incidental to the cost of the asphalt pavement section construction.

#### SECTION 340 – CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY, AND ALLEY ENTRANCE

340.1 DESCRIPTION  
(Revise MAG to read)

The various types of concrete curb, gutter, sidewalk, sidewalk ramps, driveways, and alley entrances shall be constructed to the dimensions indicated on the plans and MAG Standard Details with all applicable modifications as per the City of Flagstaff Standard Details as referenced on the plans.

All curb and gutter, sidewalk, driveways, and sidewalk ramps shall be constructed on a minimum three (3) inches of aggregate base course (ABC). The ABC shall be compacted to 95% relative density.

Valley gutters shall be constructed on a minimum of eight (8) inches of ABC compacted to 95% relative density.

Unless otherwise noted for removal and replacement, the Contractor shall protect all curb and gutter that is to remain in place. Removals outside the plan limits not approved by the Owner shall be replaced at the Contractor's expense.

340.2.1 DETECTABLE WARNINGS  
(Revise MAG to include the following)

All detectable warning devices used on the project shall be cast iron uncoated, in accordance with City of Flagstaff Engineering Detail 10-10-043. City approved manufacturers are East Jordan Iron Works and Neenah Foundry Co. The Contractor shall submit shop drawings for approval prior to installation from East Jordan Iron Works, Neenah Foundry, Co, or approved equal.

340.3.7 FORM REMOVAL AND FINISHING:  
(New Section)

In accordance with Section 107.10, the Contractor is responsible for protecting the finish surface of concrete by keeping footprints, names, etc., from becoming part of the finished product. This may require special scheduling of materials, delivery and/or manpower. All defaced concrete will be replaced by the Contractor at no extra cost to the City. Patching is not acceptable.

340.5 MEASUREMENT:

Measurement of sidewalk ramps includes the ramp, wings and curb along the back of the ramp, if required.

Measurement for work under this Section shall be in accordance with Section 340 of the MAG Standard Specifications. Measurement for all Curb & Gutter types, sidewalks, driveways and driveway match-ups includes all work necessary for a complete installation, including ABC material.

340.6 PAYMENT:

No direct payment will be made for aggregate base course. 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.

The cost of detectable warnings is included in the cost of the construction of the new sidewalk ramp.

**SECTION 345 – ADJUSTING FRAMES, COVERS, VALVE BOXES, AND WATER METER BOXES**

345.1 DESCRIPTION  
(modify to add)

The Contractor is cautioned that only straight, centered (relative to adjustment pavement or concrete) valve boxes that conform to City Detail 9-03-060 will be acceptable. The Engineer will provide the Contractor necessary direction for the appropriate adjustment or replacement of each valve box and cover.

At all water valve locations where existing valves are to remain in service, the entire valve box and cover shall be excavated, removed and replaced with a new complete valve box and cover as well as the adjustment to grade. The water valve box and covers that require removal and replacement shall be excavated and installed prior to paving or overlay. Final adjustments shall be made after completion of final surfacing.

**SECTION 350 – REMOVAL OF EXISTING IMPROVEMENTS**

## 350.4 PAYMENT

The cost of saw cutting the necessary items for removal is to be included in the related work items shown on the Bid Schedule.

### **PART 400 – RIGHT OF WAY TRAFFIC CONTROL**

#### SECTION 401 – TRAFFIC CONTROL

##### 401.1 DESCRIPTION:

(Revise City of Flagstaff General Provisions to include the following)

At all times, the Contractor shall conduct the construction activities to safeguard pedestrians and vehicular access in the vicinity of the project. All holes or trenches left open overnight shall be surrounded by Type II barricades and Type A flashing warning lights, connected by warning tape or rope, as directed by the Engineer. The Contractor shall provide plywood coverings, traffic panels, or some other protection over holes to satisfy the Engineer. There will be no direct measurement or additional payment for providing coverings or the warning tape, Type II barricades or rope, the costs being considered as included in the original cost of the contract.

For all streets, Contractor shall at a minimum allow for local traffic into and through the project site when practical. Flagmen shall be placed at either end of the project as necessary.

#### SECTION 405 – SURVEY MONUMENTS

##### 405.3 CONSTRUCTION

(revise to read)

Existing survey monuments shall be referenced, and if necessary reestablished by a surveyor registered in the State of Arizona.

The surveyor shall provide reference marks and dimensions to the survey monuments. A minimum of two “permanent” reference marks shall be established for each right-of-way control monument. The angle formed by the control point and the two reference points shall be approximately 90 degrees. Examples of permanent reference marks include an “x” chiseled into curb, PK nail in concrete and a nail in a power pole. Any existing suitable reference marks may be used.

Alternatively, the surveyor may determine and record the location of existing survey monuments using global positioning satellite (GPS) equipment and procedures of appropriate survey-grade accuracy.

No new survey monument locations shall be incorporated into this project without prior approval from the City Engineer or representative.

New survey monuments shall be reinstalled 1/4" minimum below new pavement grade at the accurate location. An elevation shall be established on survey monuments that replace survey monuments with a City established elevation. This work shall be done in accordance with good

surveying practices and shall be in accordance with City Detail 11-01-010. The surveyor shall prepare and record a Results of Survey map showing the monuments found and set. This map shall include the City's unique identifying number for each point. The Result of Survey shall be reviewed and accepted by the City prior to recordation.

Any survey monuments with boxes and covers shall be adjusted to grade by the Contractor without disturbing the survey monument.

## **PART 600 – WATER, SEWER, STORM DRAIN AND IRRIGATION**

### **SECTION 601 – TRENCH EXCAVATION, BACKFILLING AND COMPACTION**

#### **601.2.3 TRENCH GRADE** (Revise the first paragraph to read)

Alignment and elevation stakes shall be furnished by the Contractor at set intervals and agreed-upon offsets including grade breaks, valve locations, and service locations. On water mains, cut stakes will be furnished only when deemed necessary by the Engineer. In all cases where elevation stakes are furnished, the Contractor shall also furnish the Engineer with cut sheets.

(revise first sentence of second paragraph to read)

For all pipe or conduit, the contractor shall excavate for and provide an initial granular bedding of at least 6 inches thick; per the applicable details (9-01-030 through 9-01-033) shown on the plans.

### **SECTION 610 – WATER LINE CONSTRUCTION**

#### **610.4 CONSTRUCTION METHODS** (Revise to include the following)

It is the intent of part of this project to remove existing water mains where shown on the plans and to install new water mains in the same horizontal location/trench as the old mains and to provide a minimum cover of 36 inches over the top of the pipe as measured from the top of pavement subgrade. The Contractor shall maintain full water service to the residence currently serviced off the Aztec Street water main. After removing the existing water main, the Contractor shall excavate the trench to the lines and grades shown on the plans, including space for new bedding to the depth shown on City of Flagstaff Details Nos. 9-10-030 through 9-10-033, as appropriate. The Contractor is cautioned that the existing water mains and water service connections cross other underground utilities in the project area and that it is the responsibility of the Contractor to protect those utilities in place in conformance with the requirements of Section 107.11 of the MAG Standard Specifications as amended by these Special Provisions.

The Contractor may choose to maintain water service during the construction period by means of a temporary water system. The temporary water system shall be installed, tested, disinfected, and connected to the existing water services prior to removal of existing water main. The temporary water system shall be dismantled after each phase of water line reconstruction has been completed.

Temporary piping and valves shall meet the requirements of specifications for piping and valves in the MAG Standard Specifications, the City of Flagstaff Revisions to same, and the City of Flagstaff Standard Details. The Contractor shall prepare plans showing the location of temporary pipelines, valves, and other appurtenances for review and approval of the City of Flagstaff Utilities Department. Evaluation of system pressures for the plan may require phasing of the above-ground temporary system. The use of fire hydrants as a water source is prohibited.

The temporary water system shall be dismantled after the water line reconstruction has been completed. Any buried temporary piping and valves shall be removed after completion of the work.

Any above-ground temporary piping and valves shall be adequately restrained and/or anchored. The Contractor shall be responsible for the design of all restraints and anchoring to adequately hold the piping in place while it is in temporary service. The Contractor may be required to provide security for temporary piping and appurtenances in the form of fencing and/or guards. Any failure and its consequent impact to the environment and public shall be the responsibility of the Contractor.

Above-ground water lines shall be covered or cooled to maintain the water temperature less than 90 degrees F delivered to the customer.

All pressure piping, joints and accessories shall be designed to withstand at least twice the maximum system pressure or 50 psi, whichever is greater.

When the temporary system goes into effect, the contractor is to review the system pressures and make adjustments as necessary to ensure the distribution system is delivering adequate pressure (>20PSI) to all customers.

#### 610.4.3 BLOCKING AND RESTRAINTS (Revise the fifth paragraph to read)

Unless noted otherwise on the plans, all thrust restraint shall be accomplished through the use of a joint restraint system approved by the City of Flagstaff.

#### 610.11 CONNECTIONS TO EXISTING MAINS (Revise MAG to include the following)

Contractor shall verify location and depth of existing waterlines and notify the City's representative of any conflict with any proposed improvements.

#### 610.13 METER SERVICE CONNECTIONS: (revise to include the following)

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

Resetting water meters and connection to the private service line is included in the remove and replace service bid items.

## 610.1 MEASUREMENT AND PAYMENT

(Revise final sentence of paragraph G)

The cost of the fire hydrant shall be the cost per complete assembly, and shall include full payment of the isolation valve, hydrant run-out, as well as any required fittings, thrust blocking or restraint.

(revise to include new subsection)

(I): No separate measurement or payment will be made for temporary water supply, including all materials or other appurtenances, labor, equipment, procedures, permits, design, install, disinfect, operation, maintenance, security, temporary pavement, and disassembly of the a temporary water system or systems required for the construction of new water mains and water services. The cost is considered incidental to and is to be included in the price for the bid item to construct and install the new water main.

## SECTION 615 – SANITARY SEWER LINE CONSTRUCTION

### 615.1 DESCRIPTION

(modify to add)

Contractor shall maintain full sewer service to the adjacent community, with the exception of minimal shutdown as required to install replacement sewer line and new connections. Contractor shall ensure that full sewer service is restored to all customers at the close of business each day.

### 615.5.1 SEWAGE BYPASS

(revise to include new subsection)

It is the intent of part of this project to remove existing sewer main on Mesa Drive where shown on the plans and to install a new sewer main in the same horizontal location/trench as the old main and to provide a minimum cover of 48 inches over the top of the pipe as measured from the top of the subgrade (bottom of the pavement structural section). The Contractor shall maintain full sewer service to the residence currently serviced off the Mesa Drive sewer main.

If needed for the construction of the new sewer main the Contractor may choose to maintain sewer service during the construction period by means of a sewage bypass system. The temporary sewer system shall be installed and tested prior to the removal of existing sewer main. The Contractor shall design and provide all labor, materials, and equipment to install and operate a sewage bypass system that bypasses sewage flows around each sewer rehabilitation work area. Each bypass system shall extend the entire length of the section of pipeline rehabilitation and shall remain in operation until the sewer rehabilitation work is complete and accepted by the Engineer. All bypass flows shall be discharged into a downstream sanitary sewer manhole. Bypass flows shall not be directed to ground surface receiving waters, storm drains, or wherever groundwater contamination is possible. The bypass system shall maintain flow to prevent wastewater backup into customer fixtures or discharge to the environment.

The design of the bypass system is the responsibility of the Contractor and shall be prepared and submitted to the Engineer for review and approval. The Contractor shall have each bypass

system in place and tested before bypassing any sewage. The Contractor shall notify the Engineer 48 hours prior to shutting down or bypassing the pipeline to be rehabilitated.

Equipment shall be equipped with a specially designed, acoustically-silenced enclosure intended for use in any application where pumping is required and engine and other noise must be kept to a minimum. The sound levels shall be within the limits specified in the City of Flagstaff codes or 69dBA at 30 feet. The bypass pumping system shall be of adequate capacity and size to handle the required flows with redundancy to bypass if the largest temporary pump is out of service.

The Contractor shall consider the existing conditions and ground features when designing and installing the aboveground discharge pipe system. Access to driveways shall be maintained.

#### 615.5.1.2 MATERIALS

Bypass piping shall be polyethylene pipe with Standard PE Code Designation PE3408 as defined in AWWA C906, have a minimum Cell Classification of PE 33443C as defined in ASTM D3350, designed using Hydrostatic Design Basis of 1,600 psi as specified in ASTM D2837.

#### 615.5.1.3 SYSTEM MONITORING

The wastewater levels in the upstream and discharge manholes shall be continuously monitored for the first 24-hours of operation by an on-site representative of the Contractor. After the first 24-hours of monitoring, the Engineer may allow the Contractor to perform monitoring only during daytime hours so long as the site is secured. The representative shall be Contractor staff and/or a subcontractor that has been directly responsible for the bypass pumping of sewage flows during completion of a similar pipeline rehabilitation project. The qualifications of the staff or subcontractor shall be submitted to the Engineer for approval 10 business days prior to any bypass pumping work.

The Engineer may also allow for the bypass pumping system to be removed at the end of construction each day and or week, provided the new sewer main in the sewer rehabilitation work area has been connected to the existing sewer main and sewage flow has been confirmed.

#### 615.5.1.4 SYSTEM MAINTENANCE

The Contractor shall provide qualified personnel on-site 24 hours per day to maintain the bypass system, or just during the day if the bypass pumping system is removed and the new sewer main has been connected to the existing sewer main. The Contractor shall maintain sufficient on-site equipment and materials to ensure continuous and successful operation of the bypass system. This includes a sufficient number of valves, tees, elbows, connections, tools, sewer plugs, piping, fuel, and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.

All equipment shall be placed on a new plastic tarp, adequately sized and bermed to protect against fuel, oil, and hydraulic fluid spills. The Contractor is responsible to notify the Engineer for immediate and proper cleanup should any spill occur, regardless of amount. The Contractor shall repair, without cost to the Owner, any damage that may result from its negligence, inadequate or improper mechanical or electrical failures.

615.8 SANITARY SEWER SERVICE TAPS:

(Revise to include)

The project includes replacement of all sewer services from the main to the property line. This includes connecting to the existing wye, for the portion of main shown on the plans that is not being replaced, and connecting to the existing service at the property line with a 2 way cleanout. If the service is an unconventional connection, the line will be repaired and a wye will be installed to have a typical sewer service connection.

The service lines are shown perpendicular to the main unless a sewer cleanout was found with the field investigation. This may or may or may NOT represent the lines correctly.

615.9 SEWER SERVICE CLEANOUTS:

Sanitary sewer services will be installed per M.A.G. Detail No. 440-3 – Type ‘C’ Sewer Building Connection as modified by the City of Flagstaff Engineering Standards and Specifications Section 13-21-002-0440 and as follows:

The cleanout assembly shall be located on the property owners side of the property line.

615.16 MEASUREMENT AND PAYMENT:

All work to locate or determine active or abandoned sewer services is incidental to the contract and shall be included in the cost of the appropriate bid item.

Bypass pumping required to install the sewer system as shown on the plans while keeping the mains in service is considered incidental to the sewer items on the bid form with no additional compensation.