



TOWN OF CAREFREE, ARIZONA

SPECIFICATIONS AND CONTRACT DOCUMENTS

Project Number: 2024-01

PEDESTRIAN CROSSWALK IMPROVEMENT PROJECT

TOWN ADMINISTRATOR: Gary S. Neiss
480-488-1471

CONTRACT ADMINISTRATOR: Will Holoman, P.E.
480-640-6221

TOWN ENGINEER: Will Holoman, P.E.
8 Sundial Circle
PO Box 740
Carefree, AZ 85377
Email: engineer@carefree.org

BID OPENING: Friday
5/30/2024
TIME: 9:00 AM MST

LOCATION: Town Hall
8 Sundial Circle
Carefree, Arizona 85377



TOWN OF CAREFREE, ARIZONA

STREETS & RIGHT-OF-WAY DEPARTMENT

PROJECT SPECIFICATIONS AND BID DOCUMENTS

Project Number: **2024-01**

PEDESTRIAN CROSSWALK IMPROVEMENT PROJECT

- Pedestrian Crosswalk Improvements
- Slurry Seal
- Striping and Pavement Markings

Mayor: John Crane

Vice Mayor: Cheryl Kroyer

Council Members:

Sheila Amoroso

Vince D'Aliesio

Clint Miller

Stephen Hatcher

Michael Johnson

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PROJECT NUMBER: 2024-01

PROJECT NAME: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

NOTICE INVITING BIDS

The proposed work is located in the Town of Carefree, Arizona at various locations and consists of furnishing all labor and materials.

Overview:

1. Pedestrian Crosswalk Improvements
2. Slurry Seal
3. Striping and Pavement Markings

SEALED BIDS WILL BE RECEIVED BY THE TOWN UNTIL BUT NO LATER THAN 9:00 AM MST on Thursday May 30, 2024. Each bidder must deliver its bid to the Carefree Town Hall located at 8 Sundial Circle, Carefree, AZ 85377. The Town will not be responsible for oral instructions or information. In the event questions are received less than four (4) days before the bid opening, a determination will be made by the Town concerning the sending of a written addendum, which may result in the establishment of a new bid opening date.

INFORMATION FOR BIDDERS

1. SUBMITTING BIDS

- 1.1 No bid will be considered unless it is submitted on the bid forms contained herein, fully completed and presented, sealed, in an opaque envelope.
- 1.2 BIDDERS MUST ENTER THEIR NAME AND ADDRESS IN THE UPPER LEFT CORNER OF THE ENVELOPE AND THE PROJECT NUMBER, WITH THE TIME AND DATE OF THE BID OPENING IN THE LOWER LEFT CORNER OF THE ENVELOPE.
- 1.3 Bids received after the time and date specified above will be returned unopened to the bidder. A bid may be withdrawn prior to the time set for opening bids. No bid may be withdrawn for a period of sixty (60) days after the date set for receipt of bids.
- 1.4 Bids accepted by the Town constitute a legally binding offer to contract with the Town in response to this invitation and on the Town of Carefree construction contract.

2. BONDS REQUIRED

- 2.1 Each bid must be accompanied by a certified check or cashier's check made payable to the order of Town of Carefree in the sum of not less than 10% of the total bid, or a bond with sufficient sureties to be approved by the Town in a sum equal to 10% of the total bid and naming the Town of Carefree as obligee. Such security shall be returned to all except the three lowest responsible bidders within twelve (12) days after the opening of bids, and the three (3) remaining securities returned within three (3) days after the bidder to whom the Town Council has awarded the contract has executed the contract.
- 2.2 Bonds in the following amounts will be required at the time of executing the formal contract:
 - 1) Contract (Performance) Bond - one hundred percent (100%) of the contract price.
 - 2) Labor and Materials (Payment) Bond - one hundred percent (100%) of the contract price.
- 2.3 At the time of approval of any additional work by change order, the contractor may be required to provide an additional amount of Contract (Performance) Bond and/or Labor and Materials (Payment) Bond equal to 100% of any resulting contract price increases deemed appropriate by the Contract Administrator or designee.
- 2.4 Performance and Payment Bonds must be provided on statutory forms included in these documents

3. INTERPRETATIONS, ADDENDA

- 3.1 The Town of Carefree will not be responsible for oral instructions or information. In the event questions are received less than four (4) days before the bid opening, a determination will be made by the Town concerning the sending of a written addendum, which may result in the establishment of a new bid opening date.
- 3.2 Should a bidder find an ambiguity, inconsistency or error in the drawings or project manual, or should he be in doubt as to their meaning, he shall at once notify the Contract Administrator in writing, who will prepare a written addendum.
- 3.3 Questions or interpretations shall be directed to the Contract Administrator. Each bidder shall designate a specific individual from their organization to communicate with the Contract Administrator.
- 3.4 Any addenda issued by the Town during the time of bidding are to be included in the bid and will become a part of the contract. Bidders must acknowledge receipt of all addenda on the bid form in the space provided, and failure to do so will result in rejection of a bid.
- 3.5 Addenda will be mailed to each person or firm recorded as having received the bidding documents or will be available wherever the bidding documents are kept.

4. AWARD/REJECTION OF BIDS

If the Town Council decides to make a contract award, it shall award the contract to the lowest responsible bidder whose bid is satisfactory to the Town Council and Contract Administrator.

- 4.1 The Town Council and Contract Administrator reserves the right, as the interest of the Town requires, to reject any or all bids, to waive any informality in bids received, to award a contract by accepting or rejecting any alternate bid(s) (additive or subtractive) and reserves the right to reject the bid(s) of any bidder who has previously failed to perform competently in any contract with the Town, or is not a responsible bidder.
- 4.2 If all bids exceed a cost estimate that has been prepared by the Town to complete the Work, instead of rejecting all bids, the Town Council and/or Contract Administrator may, in its sole discretion, negotiate with the apparent low responsible and responsive bidder for a price reduction and the Town may make an award and enter into a contract with the lowest responsible and responsive bidder for such reduced price.

5. EXECUTION OF CONTRACT

The Contractor shall execute the standard construction contract with the Town of Carefree within seven (7) days after receiving the Notice of Award.

6. START AND COMPLETION OF WORK

Work shall start as specified within the Notice To Proceed and shall be completed within sixty (90) calendar days after such issuance.

7. MEASUREMENT AND PAYMENT

Final payment will be made within forty (40) days after approval of the final invoice by the Town Inspector and a CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS is received. The above affidavit shall be submitted on forms provided in this document.

8. PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDER

The successful bidder may obtain up to five (5) sets of plans and specifications for this project from the Town, or its designee, at no cost. Additional sets will be furnished at cost.

9. CONTRACTOR'S INSURANCE COVERAGE

9.1 Compensation Insurance

The Contractor shall secure and maintain during the life of this contract, Workmen's Compensation Insurance for all his employees at the site of the project, and, in case any of the work is sublet, the Contractor shall require each subcontractor similarly to provide Workmen's Compensation Insurance for his employees unless such employees engaged are covered by the Contractor. In the event any class of employees engaged in the work under this contract at the site of the project is not protected by Workmen's compensation Statute, the Contractor shall provide and similarly shall cause such subcontractor to provide special insurance for the protection of each employee not otherwise protected.

9.2 Public Liability and Property Damage Insurance

The Contractor shall secure and maintain, during the life of this Contract, such public liability and property damage insurance, both general and automobile liability, as shall protect him, any subcontractor performing work under this contract, and the Town of Carefree from all claims for bodily injury, including accidental death, and from all claims for property damage arising from operations under this contract, whether such operations are conducted by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The Contractor agrees to include the Town of Carefree as an additional insured in all the insurance policies required under this contract and such insurance shall be primary.

- 9.3 The minimum limits required are:
- 1) Workmen's Compensation Insurance shall be secured and maintained in accordance with the Workmen's Compensation Laws of Arizona, as revised.
 - 2) Comprehensive General Liability Insurance, including broad form property damage, premises, operations, independent contractors, contractual, and automobile liability, shall be secured and maintained in an amount not less than two million dollars (\$2,000,000) combined single limit.
 - 3) The General Contractor subletting any part of the work awarded to him shall provide a contingent liability policy in the same amount as provided for in his public liability insurance.

- 9.4 Policy coverage shall include, but shall not be limited to coverage for:
- 1) Damage to underground utilities.
 - 2) Liability assumed in construction agreements and other types of contracts or agreements in effect in connection with the subject insured operations.
 - 3) All owned, hired or non-owned automotive equipment used in connection with the insured operation.

9.5 Certificates and Cancellation

The Contractor shall submit a Certificate of Insurance evidencing the required coverage and limits stated above before beginning the Work, but no later than within ten (10) days of receiving the Notice of Award. Failure to maintain the required insurance coverage in continuous force from this date until final completion and acceptance is a material breach of the contract and constitutes grounds for termination.

Insurance evidenced by this Certificate shall not expire, be cancelled, or materially changed without fifteen (15) days prior written notice to the Town and that statement must appear on the Certificate.

If a policy does expire during the life of the contract, a renewal Certificate of the required coverage must be sent to the Town of Carefree no later than fifteen (15) days prior to the expiration date.

9.6 Indemnification

The Contractor shall defend, indemnify, and hold harmless the Town of Carefree and any jurisdiction or agency issuing permits for any work included in the project, their officers, agents and representatives from all damages, claims or liabilities and expenses, (including attorney fees) costs of suit, and legal expenses of any character or nature brought on account of any injuries or damage sustained by any person or property arising out of the work done in fulfillment of the construction of the improvement under the terms of this agreement, on account of any act of omission by the

Contractor or his agents, or from any claims or amounts arising or recovered under Workmen's Compensation Laws or any other law, by-law, ordinance, or order or decree. If the Contractor fails to provide a defense for the Town or if Contractor fails to acknowledge without reservation its duty to indemnify and hold the Town harmless as provided in this paragraph, the Town may settle any such claims, damages, or liabilities and conclusively bind the Contractor to the terms of any judgment stipulated to as part of the settlement. Nothing in this paragraph shall require the Contractor to indemnify or hold harmless the Town against any liability for loss or damage resulting from the sole negligence of the Town or its agents.

10. PERMITS

Construction Permits shall be obtained from the Town of Carefree at no cost to the Contractor.

- 10.1 During the life of the contract, the Contractor shall secure and maintain State of Arizona and Town of Carefree transaction privilege (sales) tax permits.
- 10.2 The CONTRACTOR shall state his Arizona Contractor's License number and classification as evidence that he is qualified to contract the work as indicated in the specifications and shall keep his Contractor's License in good standing during the life of the contract.

11. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 11.1 It is the responsibility of each bidder, before submitting a bid, to:
 - a) examine the contract documents thoroughly,
 - b) visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work,
 - c) consider federal, state and local laws and regulations that may affect cost, progress, performance or furnishing of the work,
 - d) study and carefully correlate bidder's observations with the contract documents, and
 - e) notify the Contract Administrator of all conflicts, errors, or discrepancies in the contract documents.

The successful bidder shall not be allowed any extra compensation by reason of any matter or thing which a reasonably prudent contractor skilled in the trade could have determined by undertaking any of the foregoing actions.

- 11.2 Information and data reflected in the contract documents with respect to underground facilities at, under, or contiguous to the site is based upon information and data furnished to the Town and engineer by owners of such underground facilities or others. The Town disclaims liability and does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the supplementary conditions. The Contractor shall rely solely on his own information and on information

provided to him under the Arizona Blue Stake Statutes, A.R.S. 400360.21 et seq. for determining the presence and location of underground facilities.

- 11.3 Before submitting a bid, each bidder will, at bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and underground facilities) at, under, or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the work and any and all difficulties or restrictions relating to the performance of the work and which bidder deems necessary to determine its bid for performance with the time, price and other terms and conditions of the contract documents.

Failure of the successful bidder to examine the conditions of the work will not relieve the successful bidder of his obligation to furnish all materials and labor necessary to carry out the provisions of the contract documents and to complete the contemplated work for the consideration set forth in his bid.

- 11.4 On request in advance, the Town will provide each bidder access to the sites to conduct such explorations and tests as are reasonable and as each bidder deems necessary for submission of a bid. Bidder shall indemnify and hold the Town harmless against all claims and liability, which may result therefrom. Bidder shall promptly complete all such explorations and tests, and bidder shall fill all holes, clean up and restore every site to its former condition upon completion of such exploration.

- 11.5 The submission of a bid will constitute an incontrovertible representation by bidder that the bidder has complied with every requirement of the bid documents, that he has carefully examined and understands the contract documents, that he has carefully read and understands the bidding documents, that without exception the bid is premised upon performing and furnishing the work required by the contract documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the contract documents, and that the contract documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the work. The failure of any successful bidder to examine the contract documents or to visit the project sites and to acquaint himself with the conditions relating to the work shall not relieve the successful bidder from the obligations as to his bid in any manner.

BID FORMS AND BID SCHEDULE

BID FORM

TOWN OF CAREFREE, ARIZONA

PROJECT NUMBER: 2024-01

PROJECT NAME: PEDESTRIAN CROSSWALK IMPROVEMENT PROJECT

In compliance with the Advertisement for Bids, by the Town of Carefree, the undersigned bidder:

Having examined the contract documents, work site, and being familiar with the conditions to be met, hereby submits the following bid for all labor, materials, equipment, tools, machinery, and services for completion of the work listed and agrees to execute the contract documents and furnish the required bonds and certificates of insurance for the completion of said work, at the locations and for the prices set forth hereinafter.

Understands that construction of this project shall be in accordance with all applicable Standard Specifications, Details, Uniform Codes, Ordinances, and Regulations as otherwise required by the Project Plans, Supplemental Conditions and General Conditions, Special Provisions and other applicable specifications enclosed and made a part of this document.

Understands that the bid shall be submitted with a bid guarantee or cashier's check or surety bond for an amount not less than ten percent (10%) of the amount bid.

Agrees to execute the contract documents upon receipt of Notice of Award from the Town of Carefree.

Understands that work shall be completed within ninety (90) calendar days, beginning with the day following the starting date specified in the Notice to Proceed. The time allowed for completion of the work includes lead time for all mobilization and for obtaining the necessary material and/or equipment.

The bidder hereby acknowledges receipt of and agrees his bid is based on the following Addenda.

ADDENDUM # _____	DATED: _____
ADDENDUM # _____	DATED: _____
ADDENDUM # _____	DATED: _____
ADDENDUM # _____	DATED: _____

The undersigned agrees to construct this project at the prices shown on the Bid Schedule as follows:

**BID SCHEDULE & SUMMARY OF QUANTITIES
TOWN OF CAREFREE, ARIZONA
PROJECT #2024-01**

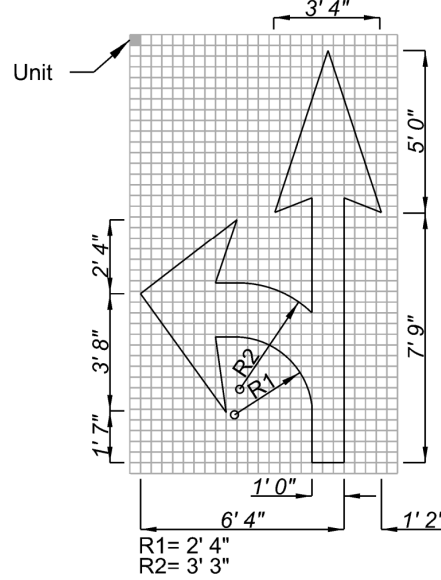
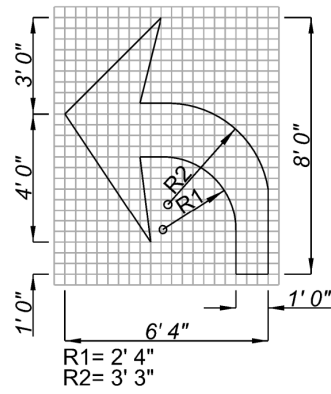
TOWN OF CAREFREE					
PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT					
ESTIMATED QUANTITIES					
ITEM #	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	REMOVE ASPHALT PAVEMENT	513	SY		
2	REMOVE CONCRETE PAVEMENT	1092	SF		
3	REMOVE BRICK PAVERS	312	SF		
4	REMOVE CONCRETE CURB	574	LF		
5	REMOVE CONCRETE SIDEWALK	706	SF		
6	REMOVE TRAFFIC SIGN, POST, AND FOUNDATION	17	EA		
7	REMOVE AND RESTORE LANDSCAPE PLANTINGS	1	LS		
8	REMOVE DETECTABLE WARNING SURFACES	135	SF		
9	RELOCATE RRFB ASSEMBLY	2	EA		
10	RELOCATE BLINKER PEDESTRIAN CROSSING SIGN AND POST	1	EA		
11	RELOCATE TRAFFIC SIGN, POST, AND FOUNDATION	5	EA		
12	RELOCATE DIRECTIONAL WAYFINDING SIGN	1	EA		
13	OBLITERATE EXISTING TRAFFIC CONTROL MARKINGS	9000	SF		
14	CONSTRUCT CONCRETE SIDEWALK AND LANDING PADS, TERRACOTTA RED COLOR	950	SF		
15	CONSTRUCT CONCRETE SIDEWALK WITH EXPOSED AGGREGATE FINISH, TERRACOTTA RED	2064	SF		

16	CONSTRUCT VERTICAL CURB & GUTTER, MAG DETAIL 220-1 TYPE A	365	LF		
17	CONSTRUCT RIBBON CURB, MAG DETAIL 220-1 TYPE B	104	LF		
18	CONSTRUCT SINGLE CURB, MAG DETAIL 222, TYPE A	365	LF		
19	CONSTRUCT HEADER CURB, 6" WIDTH	44	LF		
20	CONSTRUCT MODIFIED SINGLE CURB WITH SAFETY RAIL	30	LF		
21	CONSTRUCT PARALLEL CURB RAMP, MAG DETAIL 238-3	130	SF		
22	CONSTRUCT RADIAL PARALLEL CURB RAMP, MAG DETAIL 236-5, SINGLE RAMP	100	SF		
23	INSTALL DETECTABLE WARNING DEVICE	544	SF		
24	CONSTRUCT CONCRETE PAVEMENT SECTION	746	SF		
25	CONSTRUCT ASPHALT CONCRETE PAVEMENT	119	SY		
26	INSTALL BRICK PAVERS	110	SF		
27	INSTALL DECOMPOSED GRANITE LANDSCAPE MATERIAL, 2" DEPTH	1040	SF		
28	FURNISH & INSTALL ONE-WAY RRFB ASSEMBLY	4	EA		
29	FURNISH & INSTALL TWO-WAY RRFB ASSEMBLY	1	EA		
30	INSTALL PVC ELECTRICAL CONDUIT, 3" DIA	150	LF		
31	INSTALL DYNAMIC SPEED FEEDBACK SIGN ASSEMBLY	1	EA		
32	INSTALL RAISED PAVEMENT MARKERS, ADOT TYPE "D" AND "G"	1	LS		
33	INSTALL RAISED PAVEMENT MARKERS, ADOT TYPE "JY"	1	LS		
34	APPLY THERMOPLASTIC PAVEMENT MARKING, WHITE	7000	SF		
35	APPLY THERMOPLASTIC PAVEMENT MARKING, YELLOW	2000	SF		
36	APPLY TRAFFIC PAINT TO NEW OR EXISTING CURB, WHITE	560	SF		

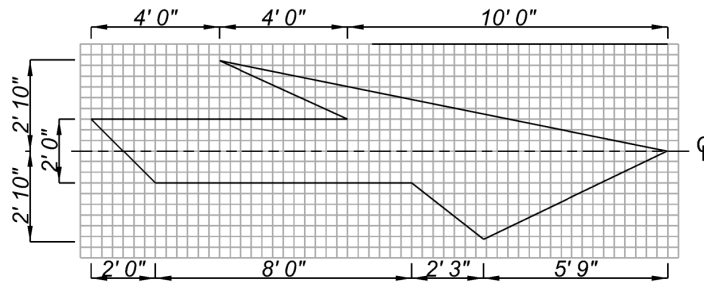
37	APPLY TRAFFIC PAINT TO NEW OR EXISTING CURB, YELLOW	114	SF		
38	APPLY WHITE THERMOPLASTIC PAVEMENT	66	EA		
	SYMBOL OR LEGEND				
39	APPLY GREEN PAINT FOR BIKE LANE SYMBOL BOX	2620	SF		
40	APPLY ASPHALT EMULSION SLURRY SEAL	12350	SY		
42	INSTALL EXISTING STREET NAME SIGN ON NEW POST	2	EA		
43	INSTALL NEW TRAFFIC SIGN, POST, AND FOUNDATION	9	EA		
44	ADJUST WATER METER AND VALVE BOX AND COVER	1	EA		
45	TRAFFIC CONTROL	1	LS		
46	MOBILIZATION	1	LS		
				TOTAL	

Turn and Through Lane-Use Arrow

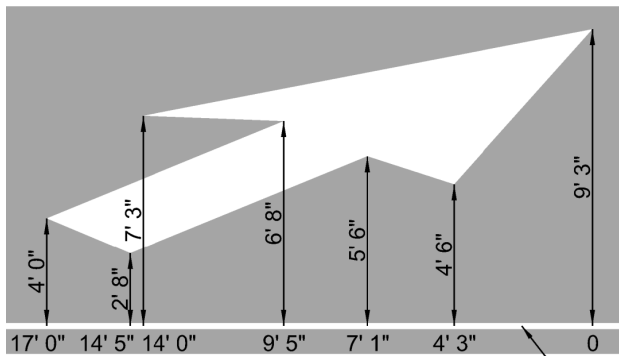
Turn Lane-Use Arrow



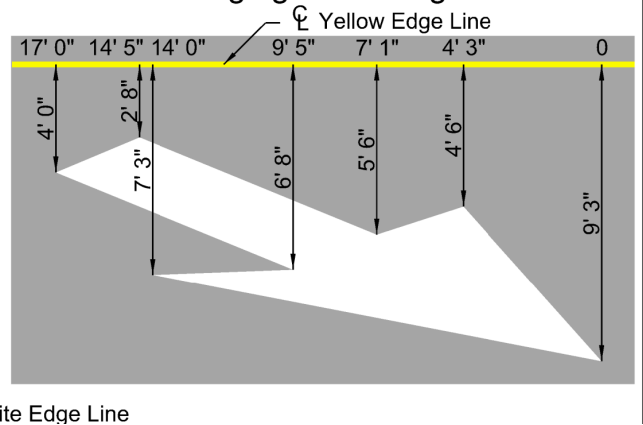
Lane-Reduction Arrow



Merging Right to Left



Merging Left to Right



TOTAL BID OF:

_____ Dollars (\$_____).

Amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern. Include summation of all three base bid tabs given above.

Only bids responding to all items contained in the proposal will be considered. The contract will be awarded to the responsible bidder with the lowest base bid as per Section 4, INFORMATION FOR BIDDERS.

Contractor's License Number and Classification:

BID SUBMITTAL
TOWN OF CAREFREE, ARIZONA

PROJECT NUMBER: 2024-01
PROJECT NAME: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

THIS BID IS SUBMITTED BY _____ a corporation organized under the laws of the State of Arizona **or** a partnership consisting of _____ **or** an individual trading as _____ of the City of _____.

By submitting this bid, I/we hereby agree to enter into the Contract included in the bid documents and I/we further agree that this bid incorporates by reference to the same extent as if set forth herein in full all of the terms and conditions contained in said bid documents identified as including the Plans, Project Manuals, General Conditions, Supplemental Conditions, and Addenda, if any.

Respectfully submitted:

FIRM: _____

ADDRESS: _____

PHONE: _____

BY: _____
Officer and Title

IF BIDDER IS AN INDIVIDUAL: _____ (SEAL)

Witness:

Witness' Address

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____, as Principal, and _____, as Surety, are held and firmly bound unto the Town of Carefree in the penal sum of Ten Percent (10%) of Bid Amount, Dollars (\$_____) lawful money of the United States of America, to be paid to the order of the Town of Carefree, for which payment, well and truly to be made, we bind ourselves, our successors and assigns, signed with our seals and dated _____, 2024. The conditions of the above obligation are such that whereas the Town Council of the Town of Carefree, on the ____ day of _____, 2024 did order the following works to be done, to wit:

**PROJECT NUMBER: 2024-01
PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT**

WHEREAS _____, the Principal herein in answer to the Notice Inviting Proposals or Bids issued by the Town of Carefree, put in its bid for the making of said improvements.

NOW THEREFORE, if the Obligee accepts the proposal of the Principal and the Principal enters into a contract with the Obligee in accordance with the terms of the proposal and gives the Bonds and Certificates of Insurance as specified in the Standard Specifications with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the Principal to enter into the contract and give the Bonds and Certificates of Insurance, if the Principal pays to the Obligee the difference not to exceed the penalty of the Bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect provided, however, that this Bond is executed pursuant to the provisions of Section 34-201, Arizona Revised Statutes, and all liabilities on this Bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

ATTEST: _____
PRINCIPAL

BY: _____
ATTORNEY IN FACT

(SEAL)

SURETY AGENCY OF RECORD _____

AGENCY ADDRESS _____

GENERAL CONDITIONS AND PROJECT SPECIFICATIONS

GENERAL CONDITIONS

1. This section is a summary of the project specifications. Additional provisions follow.
2. All work shall be performed in accordance with MAG Uniform Standard Specifications and Details for Public Works Construction (2023 Revision to the 2020 Edition) where applicable, ADOT Signing and Marking Standard Drawings, Supplemental Conditions, if any, General Conditions and Specifications, Town of Carefree Town Code, generally accepted quality workmanship, and other specifications and details contained within the contract documents and the Contractor's bid.
3. **Barricading and Traffic Control**
All barricading and traffic control shall be submitted and approved by the Town of Carefree. All barricading and traffic control shall in accordance with the latest City of Phoenix Traffic Barricade Manual with modifications contained herein and approved by the Contract Administrator.
 - 3.1 Special Barricading: Any special barricading arrays, anywhere on the project, must always be maintained until permanent striping occurs.
 - 3.2 Business Access signage shall be provided at primary access ways to businesses as directed by the Town.

Slurry Seal

- 3.1 Slurry Seal locations include the entire pavement width of the subdivision streets as shown or called out elsewhere.
- 3.2 Square yardage for sections of defective asphalt will vary.
 - 3.2.1 Work shall conform to the 2023 Revision to the 2020 Edition of MAG specifications Section 330 as applicable. The cover material (chips) shall be in accordance with Section 330.2.2.
 - 3.2.2 If possible, an anti-tracking material shall be applied with the chips to reduce or eliminate chip tracking.
 - 3.2.3 The slurry seal shall be a Type II slurry seal in accordance with MAG Specifications Section 321 and Section 715.

Schedule of Work

- 7.1 Working hours in the Town Center areas shall occur between 8:00 a.m. until 6:00 p.m. Monday through Friday, unless otherwise required by the Contract Administrator.
- 7.2 Working hours in remaining project areas outside the Town Center shall be from 6:00 a.m. until 6:00 p.m. Monday through Friday, unless otherwise required by the Contract Administrator.

Striping and Pavement Markers

- 9.1 Procedures shall meet the current edition of ADOT Standard Specifications for Road and Bridge Construction 2008 (or latest edition), including but not limited to

- Section 704, ADOT Signing & Marking Standard Drawings, and other applicable sections.
- 9.2 Shall be provided in the approximate quantities shown on the Summary of Quantities and specifications and Exhibit "A". Actual quantities may vary.
 - 9.3 The Contractor shall prepare and submit as-built drawings showing measurements of all striping and markers.
 - 9.4 The finished pavement marking lines shall have well defined edges and complete pavement surface coverage. Additionally, the lines shall be free from waviness and open spots where the pavement surface shows through.
 - 9.5 The striping process shall produce a clean, smooth, even coverage line with no overspray or puddling.
 - 9.6 Contractor shall correct any unsatisfactory performance condition at the contractor's expense.
 - 9.7 Temporary Striping: Temporary striping shall be completed as soon as practicable within seventy-two (72) hours of completion of asphalt overlays and/or preservative seal coat, as approved by the Town. Special emphasis shall be given at turn lanes and lane closures on Cave Creek Road.
 - 9.8 Permanent Striping: Permanent striping shall match existing striping and be completed a minimum thirty (30) days after application of asphalt overlays and/or preservative seal coats, as authorized by the Contract Administrator.
 - 9.8.1 Lines shall be extruded Thermoplastic specified in ADOT Section 704-2.02 at a thickness of 0.090 inches.
 - 9.8.2 Glass beads shall be included in the Thermoplastic and distributed over the striping after application in conformance with ADOT Sections 704-2.02(A), and 704.3.02(G).
 - 9.8.3 Pavement messages and arrows shall be installed using preformed plastic pavement marking materials and shall meet ADOT section 704.2.01 and the following product, or approved equivalent:
3M™ Stamark™ Tape Series 270 ES
 - 9.8.4 All materials shall be applied per the manufacturers' recommendations and application requirements and specifications.
 - 9.9 Raised Pavement Markers
 - 9.9.1 The Contractor is responsible for removing and replacing all types of existing raised pavement markers with like kind within the work areas.
 - 9.9.2 Quantities shown on the bid documents and Contractor Agreement are estimates; final quantities shall be determined in the field.

Staging Area

The contractor can use N. Windmill Road as a staging area.

PROJECT SPECIFICATIONS

Slurry Seal

1. Description

The slurry seal shall be a Type II Slurry Seal in accordance with MAG specifications. The Slurry Seal shall be placed in 2 coats along the entire street. Application shall be in accordance with the manufacturer's recommendations and shall contain sand.

All striping and/or stop bars shall be repainted to match existing conditions.

2. Conflicts

In the event of any conflicts concerning specifications and procedures, the manufacturers and MAG specifications shall be the base line for any resolution, as determined by the Town.

CITY OF PHOENIX SUPPLEMENT AS APPLICABLE TO THE TOWN OF CAREFREE

****SPECIAL PROVISIONS AS APPLICABLE TO THE TOWN OF CAREFREE, ARIZONA****

When reference is made to the "Engineer" the Contractor shall contact the Town Engineer for further coordination.

1 **TRAFFIC CONTROL**

Add the following to City of Phoenix Supplement to MAG, Subsection 401.11,

Payment: Payment for traffic control will be on a lump sum basis for Traffic Control Devices.

2 **TRAFFIC REGULATIONS**

A. The following shall be considered arterial/collector streets:

All streets listed "Arterial" or "Collector" in the Town of Carefree Circulation Element.

B. All traffic and/or traffic control devices on this project shall be provided, maintained and/or controlled as specified in the City of Phoenix Traffic Barricade Manual, latest revision.

C. Permission to restrict Town streets, sidewalks and alleys (street closure permits) shall be requested as specified in Chapter 2 of the Traffic Barricade Manual, latest revision.

- D. Unless otherwise provided for in the following "Special Traffic Regulations", all traffic on this project shall be regulated as specified in Chapter 2 of the Traffic Barricade Manual, latest revision.
- E. No deviation to the "Special Traffic Regulations" will be allowed or implemented unless submitted to the Contract Administrator for review and approval two (2) weeks prior to proposed work.

3 SPECIAL TRAFFIC REGULATIONS

A. ALL LOCAL STREETS ON THIS PROJECT

The Contractor can only close one lane, in each direction, on Cave Creek Road at a time. No work will be allowed on residential streets between the hours of 6:00 a.m. and 6:00 p.m. weekdays or on weekends and Town observed holidays. No weekend work will be allowed unless approved by the Contract Administrator.

Arterial and collector streets on this project can be reduced as shown during the times indicated when construction requires:

Two lanes (one each way) 6:00 a.m. to 7:00 p.m. weeknights.

Two lanes (one each way) 8:00 a.m. to 4:00 p.m. weekdays.

During other times, all lanes and left-turn lanes shall be maintained open to through traffic.

NOTE: ANY TOTAL ROAD CLOSURE WILL BE ALLOWED WITH A PROPER TRAFFIC CONTROL PLAN SHOWING EFFICIENT DETOURS ON RESIDENTIAL STREETS AS APPROVED BY THE ENGINEER.

B. STREET CLOSURE PERMIT

The Contractor shall notify the Contract Administrator and shall also obtain a street closure permit from the Town of Carefree 48 hours prior to any street restriction.

C. CITIZEN NOTIFICATION

Contractor shall notify all residents, business or schools, by handbill **no later than 48 hours** and no earlier than 1 week prior to any street restriction that will affect access to their property. The notification will include the statements that A) on-street parking will not be permitted during the affected times. B) all refuse containers should be on the street by 5:30 a.m. on normal collection days to assure pick-up during the construction process. The handbill shall be submitted to the Engineer for review prior to use. The Contractor shall re-notify all areas where work was not performed as

scheduled. Any costs associated with notification or re-notification shall be considered incidental to the project.

For emergency notification the handbill will include:

- * Contractors name, address and phone number.
- * Project supervisory staff name and phone number.
- * Contract Administrator name and office phone number.
- * Description of project.
- * Dates and times affected for each phase of construction.
- * Limits of construction.

The Contractor shall notify property owners by handbill at least two weeks in advance at the locations where tree trimming is needed.

D. REMOVAL OF VEHICLES

Contractor will be responsible for removal, safe storage and placement back on street of vehicles left on the street that are in conflict with the operation. The Contractor shall also be responsible for posting **NO PARKING** signs. This work shall be included in the cost of Traffic Control. A police officer shall be present any time a vehicle is moved from the street.

E. RESIDENTIAL ACCESS

The Contractor shall maintain access to all streets, access roads, driveways, alleys and parking lots. Should it be necessary to close the access to private property, driveway or alley entrance, the closure must be for as short a time as possible and be restored as soon as possible. The Contractor shall notify affected residents 48 hours prior to any restrictions which may affect access to their property.

If primary access cannot be restored, the Contractor will provide an alternate which will be pre-determined with the residents prior to any restrictions being done. No two adjacent streets shall be closed at the same time. The Contractor shall maintain a high level of access to residential and service vehicles at all times.

F. PEDESTRIAN ACCESS REQUIREMENT

The Contractor shall maintain open all sidewalks on this project in a safe manner. In high pedestrian use areas, the Contract Administrator may request alternate walkway routes posted.

G. SPECIAL SCHOOL ACCESS REQUIREMENT

Contractor shall maintain streets open to school bus access during all hours of school use. Contractor shall coordinate any access restrictions with the school administrator 72 hours prior to any restrictions and restore access as soon as possible.

H. **FLAGGING OF TRAFFIC**

No flagging of traffic will be permitted during the peak traffic hours of 6:30 a.m. to 8:30 a.m. and 4:00 p.m. to 6:00 p.m. weekdays. Intermittent flagging will be allowed from 8:30 a.m. to 4:00 p.m. to facilitate large construction vehicles.

I. **TRAFFIC CONTROL AND SAFETY**

At the time of the Pre-Construction conference, the Contractor shall designate an employee, other than the Project Superintendent, 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.

This individual shall be authorized to receive and fulfill instructions from the Contract Administrator and shall supervise and direct traffic control. Instructions and information given by the Contract Administrator to this individual shall be considered as having been given to the Contractor.

Notification Signs

The Contractor shall supply adequate notification signs for purposes of informing the public concerning the milling and overlay operations and such dates of construction and times of day as required in the latest Traffic Barricade Manual and Manual on Uniform Traffic Control Devices.

These notification signs shall be needed on all of the streets being worked on and must be posted 72 hours prior to construction operations (for Monday's work, signs shall be up by 6:00 a.m. the Friday before). Signs shall be 6' x 8' with orange background with black legend. Wordage shall be as follows:

(Street Name)
RESTRICTED FOR WORK OPERATIONS
(From Street) TO (To Street)
(Weekdays/Weekends):(Time)A.M. TO (Time)P.M.
SCHEDULED FOR (Month/Days)
USE ALTERNATIVE ROUTE!

The cost for notification signs shall be included in the cost for Traffic Control Devices, to include all work and costs for the installation, maintenance, and removal of the signs.

J. TRAFFIC CONTROL PLAN

Upon request from the Engineer, the Contractor shall submit a traffic control plan for approval showing placement of all traffic control devices, including all conflicting signs to be covered/removed or relocated or other features that may conflict with the placement of temporary signage.

K. POLICE OFFICER REQUIREMENTS

The Contractor shall provide an off-duty police officer to assist with traffic control as needed during operations restricting the street. The off-duty officer shall also give the Contractor the authority to remove vehicles in conflict with the construction. No payment for a Police Officer will be made but said price shall be included in the Lump Sum bid price for Traffic Control/Barricading.

L. POLICE, HOSPITAL, FIRE STATION, AND CHURCH ACCESS REQUIREMENTS

Contractor shall maintain a high degree of access to these facilities located on streets under construction at all times. Contractor shall coordinate any access restrictions with the facilities 72 hours prior to construction.

M. SPECIAL EVENTS

If there are special events scheduled to take place during the construction of this project, the Contractor shall coordinate these events with his construction schedule.

N. ITEM ADJUSTMENTS

All work on item adjustments shall be in one lane in the same day per street. Work shall not proceed to other lanes until previous lane work is complete.

O. LOCAL STREET ACCESS

Local access shall be maintained at all times. Local access shall not be used for through traffic, equipment parking, material storage or to stockpile spoil material.

P. SPECIAL ACCESS REQUIREMENTS

Contractor shall maintain local business access at all times and will notify businesses 72 hours in advance of any restrictions which will affect their access. Contractor will restore access as soon as possible. If primary access cannot be restored, Contractor will provide an alternative which will be pre-determined with the business prior to any restrictions being done.

Q. REFUSE COLLECTION ACCESS

Any time project construction requires the closure or disruption of traffic in any roadway, alley, or refuse collection easement such that normal refuse collection will be interrupted, the Contractor shall, prior to causing such

closure or disruption, make arrangements with the local private sanitation companies operating in the area in order that refuse collection service can be maintained. The Contract Administrator shall be notified of the arrangements made.

R. SEQUENCE OF WORK

- a) Sequence of work shall be such as to comply with Special Traffic Regulations and the following milling requirements:

The chip sealing process shall not precede more than one quarter-section ahead of the sweeping operation, except that in no case will the chip sealing operation proceed more than 2-1/2 days ahead of the paving operation, including weekends and holidays. A non-tracking additive will be used in the chip sealing process to reduce or eliminate loose chips during this phase of the operations. The Contract Administrator shall have the final decision in determining the time period between milling operations and paving operations.

- b) The sequence of work shall be approved by the Town.

S. PERMITTING

The contractor shall be required to obtain all the required permits for this project including, but not limited to, dust control, MS4, SWPPP, and all other applicable permits.

4 GENERAL REQUIREMENTS

A. SCOPE OF WORK

1. Traffic Control

Payment for Traffic Control will be on a lump sum basis.

2. Revise MAG 321.13 third paragraph, first sentence to read:

"No payment will be made for any overrun in quantity of modified asphalt concrete in excess of 25 percent based on actual field measurement of the area covered per quarter section, the specified design thickness, and the unit weight of mix (pounds per cubic foot) per the approved mix design."

3. Final Acceptance

The final acceptance date for this project and the commencement of the 45-day time period for final payment as set forth in MAG 109.7, will begin upon completion of:

- 1) All remaining punch list items.
- 2) Resolution of any and all claims.
- 3) Provision of quantity verifications.
- 4) Agreement on final quantities.

Please note the 45-day time period does not begin until all of the items listed herein are resolved.

E. Summary of Quantities Sheet

The measurements indicated on the summary of quantities sheet are estimated and are for the Contractor's convenience only. Actual field measurements shall be verified by the Contractor. Any costs associated with field measurements shall be considered incidental to the contract.

F. Night Work

Night work will not be permitted unless approved by the Contract Administrator in writing.

G. Weekends and Town approved Holidays

Work will not be permitted on weekends and Town designated Holidays unless approved by the Contract Administrator.

**5 MAG SECTION 105.6 - COOPERATION WITH UTILITIES:
Modify the Standard Specifications to add the following:**

The Contractor shall be the Blue Stake field locator and perform all requirements as prescribed in A.R.S. 40-360.21 through .29, for all underground facilities that have been installed by him on the current project, until the project is accepted.

At least two (2) working days prior to commencing excavation, the Contractor shall call BLUE STAKE CENTER, between the hours of 7:00 a.m. and 4:30 p.m., Monday through Friday for information relative to the location of buried utilities.

The Contractor will be responsible for the tie-out of all water valves, manholes, etc., for location and adjustment after the overlay except for survey monuments. The method used shall be approved by the Contract Administrator prior to starting work.

Prior to paving, the Contractor shall provide to the Contract Administrator, a map clearly locating all manholes, valves, etc. to be adjusted after paving.

The Contractor shall adjust all existing frames and covers in the project area to the new pavement elevation with the possible exception of utility company manholes. The Contractor will coordinate with the Contract Administrator and with representatives of the various utilities regarding the adjustment and inspection of their manholes. Utility companies' specifications shall be adhered to during adjustment. The Contractor shall be responsible for obtaining any additional specification requirements from the utility companies.

The Contractor shall contact the following utility companies prior to the start of construction.

Carefree Water Company

Greg Crossman: 480-488-9100
Greg@carefreewaterco.com

Cave Creek Water

Shawn Kruzweisner: 480-488-6618
skruzweisner@cavcreekaz.gov

Liberty Utilities (Sewer)

480-285-7729

Arizona Public Services Company

602-493-4225

Southwest Gas Corp.

ELM Locating Dispatch: 623-780-3350

Cox Communication Company

USIC Dispatch Center: 800-778-9140

Century Link

USIC Dispatch Center: 800-778-9140

Cooperation Between Contractors and Utility Companies.

Other Contractors and utility companies are expected to be working in or near the areas of this contract. It shall be the responsibility of the Contractor to coordinate the work to ensure a smooth and orderly sequence of construction. Any costs associated with this coordination shall be considered incidental to the contract.

6 MAG SECTION 321 - ASPHALT CONCRETE PAVEMENT:

Modify the Standard Specifications to add the following:

A. ASPHALT CONCRETE OVERLAY SURFACE COURSE

Modified asphalt slurry seal surface course will be applied to seal the roadway for the entire project. **a MINIMUM two (2)-inch compacted modified asphalt concrete will be applied on all streets as specified in the Summary of Quantities unless otherwise directed.**

Application and testing will be in accordance with MAG 321 and 322.

The handling of asphaltic concrete shall at all times be such as to minimize segregation. Any asphaltic concrete which displays segregation shall be removed and replaced.

Before the slurry seal is placed, the surface to be sealed shall be cleaned of all objectionable material and tacked with a light coat of emulsified asphalt cement. The cleaning of the surface, the tacking of the surface, and the amount and grade of emulsified asphalt cement used shall be as directed by and acceptable to the Contract Administrator.

A light coat of asphalt cement shall be applied as directed to edges or vertical surfaces against which the slurry seal is to be placed. The surface upon which the slurry seal is to be placed shall be prepared in accordance with the applicable requirement for the material involved and maintained in a smooth and firm condition until placement. The slurry seal shall not be placed on a frozen or excessively wet surface.

All slurry seal shall be placed either as a leveling course or as a surfacing course. Leveling courses are defined as courses placed for the primary purpose of raising an existing paved or unpaved surface to a smooth plane. Surfacing courses are defined as courses placed to serve either as the traffic surface or as a surface upon which a finishing course or seal coat is to be placed.

Thickness of leveling and surfacing courses will be as directed by the Engineer. No change in thickness will be allowed without the written approval of the Engineer.

B. The tack coat shall be per MAG 329 unless directed otherwise by the Contract Administrator.

7 SECTION 345 - ADJUSTING FRAMES, COVERS, VALVE BOXES, AND WATER METER BOXES: Modify the Standard Specifications to add the following:

A. ADJUSTMENT OF EXISTING MANHOLES, VALVES AND CLEANING COVERS

The Contractor will be responsible for the tie-out of all water valves, manholes, etc., for location and adjustment after the overlay except for survey monuments. The method used shall be approved by the Contract Administrator prior to starting work.

Prior to paving, the Contractor shall provide to the Contract Administrator, a map clearly locating **all** manholes, valves, etc. to be adjusted after paving.

The Contractor shall adjust all existing frames and covers in the project area to the new pavement elevation with the possible exception of utility company manholes. Contractor shall keep rings and covers matched and shall replace them to their original locations.

The Contractor shall remove all asphalt material and aggregate from this or prior work from all metal covers encountered within the limits of this project. The method for removal of this material must be approved by the Contract Administrator prior to its being used. This work shall be completed prior to adjusting the frame. Debris shall not be permitted to enter sanitary or storm sewer conduits. All loose material and debris shall be removed from the excavation and the interiors of structures prior to resetting frames.

The utility adjusting Contractor shall comply with the OSHA standards and regulations regarding confined space entry.

Missing covers will be supplied by the affected utility and shall be replaced by the Contractor. Cost shall be incidental to the project and the responsibility of the Contractor.

The frames and covers of manholes shall be adjusted according to MAG Standard Detail 422 and the special provisions herein, except that the concrete collar shall extend up to finished grade. Water valve, survey monument and sewer clean out frames and covers shall be installed in accordance with City of Phoenix Supplement Standard Details P1270, P1391 (**with the exception that debris cap is not required in this project document**) and the special provisions herein. Prior to pouring the concrete and setting manhole frames, the edge of the excavation shall be rolled level to the top of the frame, a standard 8-ton steel wheel roller will be used for the rolling and shall be included in the cost for frame adjustment. A 10-foot straight edge provided by the Contractor shall be used to ensure a level final placement. The concrete to be used shall be a **minimum** of MAG AA with High early Strength to attain a minimum of 2000 psi compressive strength in 24 hours. Mix design shall be submitted to the Contract Administrator for approval prior to the NTP date. The frame and finished surface shall not vary

more than $\pm \frac{1}{4}$ -inch from the 10-foot straightedge laid across the center axis of the frame and finished surface.

For streets where the extended barricade hours are not used, no concrete shall be poured between 1:00 p.m. to 7:00 p.m., but shall occur the next morning during weekdays.

A #4 rebar hoop is required to be centered inside the concrete collar on all adjusted manhole frames and covers, also on all adjusted existing frames and covers for valves, survey monuments and sewer cleanouts.

NOTE (1): Arizona Public Service Company manholes must be grouted on the inside and the outside for a waterproof seal.

NOTE (2): A company representative must be present at all times when adjusting Arizona Public Service Company manholes.

The Contractor will coordinate with the Contract Administrator and with representatives of the various utilities regarding the adjustment and inspection of their manholes. Utility companies' specifications shall be adhered to during adjustment. The Contractor shall be responsible for obtaining any additional specification requirements from the utility companies.

Payments for this type of work will be made at the unit prices bid per each regardless of the **type** of manhole or valve, in the applicable proposal pay item, which price shall be full compensation for all material and labor required to complete the work as described and specified herein.

The individual utility companies have the right to accept or reject the Contractor's bid for their portion of the frame and cover adjustment. If the Contractor's bid for frame and cover adjustment is rejected, the utility company will perform their own adjustment and the bid item quantity will be adjusted accordingly. Any utility inspection costs associated with the utility work will be the responsibility of the Contractor.

Southwest Gas may utilize the Contractor to adjust their manholes and valves. The Contractor shall adjust to Southwest Gas standards and requirements. The Contractor shall provide an approved schedule to Southwest Gas and notify them one (1) week prior to any work required. See Southwest Gas for contact persons.

Arizona Public Service Company may utilize the Contractor to adjust manholes. The Contractor shall adjust to APS standards. The Contractor shall provide an approved schedule to their Utility Representative one (1) week prior to any work required.

CenturyLink may utilize the Contractor to adjust their manholes. The Contractor shall adjust to CenturyLink standards. The Contractor shall provide an approved schedule to their Utility Representative one (1) week prior to any work required.

The Contractor shall maintain accurate records of utility adjustments so the Town can recover the adjustment costs from the appropriate utility.

The frames and covers shall be adjusted according to MAG Standard Details and the special provisions herein, except that the concrete collar shall extend up to finished grade.

Manhole adjustment rings:

At the Contractor's option, adjusting rings may be installed per MAG section 345.4. Where rings are installed but cannot be used and must be removed, no payment will be made. Adjusting rings shall be used only for manholes that are located at least 6 feet away from the lip of the concrete curb and gutter.

Each location must have sufficient depth of asphalt overlay to insure proper installation and operation of the ring.

B. ADJUST EXISTING UNEXPOSED WATER/GAS VALVE FRAMES AND COVERS

The Contractor will raise and adjust existing unexposed water/gas valve frames and covers. Unexposed covers will be identified by an eight (8)-inch solid painted circle. Paint color will be "Water Department Blue" for water valves and an approved color for gas valves.

In an attempt to locate a valve box, the Contractor will remove the existing asphalt surface a minimum distance of eighteen (18)-inches from the valve lid marking and to a depth of the total pavement surface prior to paving.

Replacements for uncovered frames or lids that are found missing, defective or damaged will be supplied by the contractor in coordination with local utility companies. Cost shall be incidental to the project and the responsibility of the Contractor.

If, after an adequate attempt, no valve box is found, the local utility company is to be notified.

C. MAG STANDARD DETAIL 392 & CITY OF PHOENIX STANDARD DETAIL P1391: "DEBRIS CAP INSTALLATION"

The Contractor is not required to install Debris cap for water valve adjustment in this project.

D. VALVE LID REPLACEMENT

The cost for picking up new valve lids, installing them, and dropping off the old lids to salvage as specified herein shall be incidental to unit price bid for "Adjust Existing Frame and Clean Cover for Valves" or unit price for "Adjust Existing Unexposed Water Valve" as appropriate. No additional payment will be made for this work.

E. QUARTER SECTION MAPS: WATER AND SEWER LINES AND UTILITIES

Available quarter section maps for water and sewer lines and other utilities shall be provided by the Town or the respective utility company.

G. PRESSURE MANHOLE FRAMES AND COVERS

The Contractor will rebuild and adjust pressure manhole frames and clean covers encountered on this project. The frames and covers shall be adjusted according to Standard Detail 523 and these special provisions, except that the concrete collar shall extend up to finished grade. Scottsdale Manholes shall comply with Scottsdale Standard Detail #2270 attached as Exhibit "C".

H. CLEAN OUT WATER VALVE BOX

All water valve boxes shall be cleaned out to the bottom of the box and checked that an operating nut is in place on the valve. Contractor is not to operate the valve, only check that the nut is in place and report any deficiencies to the Contract Administrator. The Contract Administrator will notify the Water Company immediately if the nut is missing on any valve. **Any costs associated with this work shall be considered incidental to the contract and the responsibility of the Contractor.**

I. MEASUREMENT

The quantities in the bid tab are an estimate. Actual quantities will be measured in the field for adjustment. The quantities measured will be the actual number of frames, covers and valve boxes, adjusted and accepted. The Contractor shall maintain accurate records of utility adjustments so the Town can recover the adjustment costs from the appropriate utility.

J. PAYMENT

The quantities, as determined above, will be paid for at the contract price per unit of measurement respectively, for each of the particular items listed in the proposal. The payment shall be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

ASPHALT CONCRETE:

1.0 GENERAL:

Mix design shall be PG76-22 PMTR as specified by EVAC detailed in Appendix D.

- A. The Job Mix Formula shall be provided by the Contractor and reviewed and approved by the Engineer.

8 REFUSE COLLECTION ACCESS

At any time project construction requires the closure or disruption of traffic in any roadway, alley, or refuse collection easement such that normal refuse collection will be interrupted, the Contractor shall, prior to causing such closure or disruption, make arrangements with the local collection agencies and property owners in order that refuse collection service can be maintained. The Contract Administrator shall be notified of the arrangements made.

The contact information for local trash collection agencies is as follows:

ABCO Recycling Center: 602-943-9676

Area Disposal: 480-515-4300

Curbside: 602-225-0020

Waste Management: 602-268-2222

Red Mountain Rubbish: 480-837-9066

9 COOPERATION BETWEEN CONTRACTORS AND UTILITY COMPANIES.

It shall be the responsibility of the Contractor to coordinate the work to ensure a smooth and orderly sequence of construction.

10 SUMMARY OF QUANTITIES

The measurements indicated on the summary of quantities sheet are estimated and are for the Contractor's convenience only. Actual field measurements shall be verified by the Contractor. Any costs associated with field measurements shall be considered incidental to the contract.

11 ROYALTIES

The Town of Carefree will not pay royalties which relate to the manufacture and application of asphalt-rubber products.

12 POWER BROOM

The equipment used by the Contractor shall include a power pick-up broom, for both the paving and milling operation, on the job site at all times during the overlay operation to assure clean joints and to maintain a clean street prior to overlay or other work. If the Contract Administrator deems necessary, to maintain clean and safe streets during and after paving, up to two additional power pick-up brooms may be required. Any costs associated with this work shall be considered included in the cost of the overlay.

13 DUST PREVENTION

The Contractor shall take whatever steps, procedures, or means to prevent dust conditions due to his construction operations in connection with this contract. The dust control measures shall be maintained at all times during construction of the project, to the satisfaction of the Contract Administrator, in accordance with the requirements of the "Maricopa County Health Department Air Pollution Control Regulations".

Prior to the pre-construction conference, the Contractor shall have an approved dust control plan and permit, approved by the Maricopa County Division of Air Pollution Control. For information and requirements for dust control plan submittal, please contact the following:

Maricopa County Division of Air Pollution Control
2406 S. 24th Street, Suite E-214
Phoenix, Arizona 85034
(602)-506-6727

All cost associated with the submittal, approval, and implementation of the dust control plan, as approved by the County, shall be considered incidental to the project and the responsibility of the Contractor.

14 DAILY SCHEDULE

The Contractor shall provide a schedule every Thursday for the following week's work when requested by the Contract Administrator. The schedule shall include, but is not limited to the following: A map indicating the streets to be resurfaced each day including limits, the sequence of streets for each day's work, and which side of the street is to be resurfaced for each day's work.

A weekly construction meeting will be conducted by the Contract Administrator at a set time.

15 BID QUANTITIES

The quantities listed in the specifications are for bid purposes. The actual quantities provided to the Contractor may be adjusted to accommodate field requirements.

CONTRACT FORMS

NOTICE OF AWARD

PROJECT NUMBER: 2024-01

PROJECT NAME: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

TO _____

The Town of Carefree has considered the Bid submitted by you for the above-described Work in response to the Advertisement for Bids dated _____, 2024.

You are hereby notified that you were awarded the Contract by the Carefree Town Council on _____, 2024 in the amount of \$_____.

You are required by the Terms and Conditions of this bid to execute the Construction Contract and to furnish Contractor's Performance and Payment Bonds and submit the appropriate Certificate(s) of Insurance within seven (7) days from the date of this Notice.

If you fail to execute the Construction Contract, furnish the required bonds, and submit Insurance Certificate(s) within seven (7) days from the date of this Notice, the Town will consider this as a forfeiture of your Bid Bond. The Town will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the Town of Carefree.

Dated this _____ day of _____, 2024.

TOWN OF CAREFREE

By: _____

Title: _____

ACCEPTANCE OF NOTICE:

PROJECT NUMBER: 2024-01

PROJECT NAME: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

Receipt of the above NOTICE OF AWARD is hereby acknowledged.

BY: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____ 2024.

NOTARY PUBLIC

My Commission Expires:

**TOWN OF CAREFREE
CONTRACTOR AGREEMENT**

PROJECT NUMBER: 2024-01

PROJECT NAME: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

THIS CONTRACTOR AGREEMENT (hereinafter "the Agreement"), is made and entered into effective this _____ day of _____, 2024, between _____, (hereinafter "CONTRACTOR") and the Town of Carefree, Arizona (hereinafter "TOWN"), an Arizona municipal corporation. (CONTRACTOR and TOWN hereinafter designated "the PARTIES").

1. **Project:** Installation of PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT in Carefree, Arizona, being project number 2024-01 (hereinafter "the Project").
2. **Scope of Services:** TOWN requests CONTRACTOR to perform Project services ("the Work") described on the bid schedule and as follows:

Overview:

1. Pedestrian Crosswalk Improvements
2. Slurry Seal
3. Striping and Pavement Markings

Work shall be performed in accordance with the contract documents, which consist of the plans and specifications therein, MAG Uniform Standard Specifications for Public Works Construction (2012 Edition) where applicable, Supplemental Conditions, if any, General Conditions, the Town of Carefree Town Code, industry accepted quality workmanship, and other specifications and details contained within the contract documents and the Contractor's bid, as accepted (to the extent not inconsistent with the foregoing.) Performance Bond, Payment Bond, Certificates of Insurance and Change Orders, if any, are by this reference made a part of the Agreement to the same extent as if set forth herein in full.

Contractor agrees to perform the Work in consideration for and subject to the terms and conditions hereinafter set forth, and in accordance with all federal, state, county and Town laws, statutes, ordinances, rules and regulations applicable to the Project and the Work. Contractor represents and warrants that its work, findings, designs, plans and specifications, recommendations and professional advice are or will be done, made or prepared in a good and workmanlike manner and in accordance with generally accepted contracting practices. Contractor further covenants and agrees, at its own cost and expense, to do the Work and install the required material as called for by the Agreement, free and clear of all claims, liens and charges whatsoever in the manner and under the conditions specified within the time, or times, stated in the bid form.

3. **Payment:** TOWN shall pay CONTRACTOR as compensation for the Work the sum of \$_____.

4. **Method of Payment:** Each month, CONTRACTOR shall furnish to TOWN a statement of the Work performed for compensation during the preceding month, as authorized by the Agreement. TOWN shall pay statement within 30 days of receipt. Final payment shall be made within forty (40) days after final inspection and acceptance of the Work.

CONTRACTOR shall be solely responsible for all costs incurred in connection with the accomplishment of the Work for the Project. In addition to any other right and remedy it may have, TOWN may deduct from any amount due or to become due to CONTRACTOR, any amount necessary to protect TOWN, in TOWN's reasonable opinion, from any loss arising from CONTRACTOR's breach of the Agreement.

5. **Additional Services:** It is agreed that any changes in the scope of the Work requested by TOWN or TOWN's representatives or by reason of revisions or changes in any applicable law, regulation, policy standard or personnel of any governmental agency, district or utility company having jurisdiction over all or any part of the Work or Project after the date of the Agreement, shall constitute extra work, and CONTRACTOR shall be compensated for said extra work as agreed between CONTRACTOR and TOWN or on a time-and-expense basis, subject to and conditioned upon a written change order signed by TOWN for any such extra work. CONTRACTOR agrees that it will make no claim for additional fees or expenses other than those specifically set forth in the Agreement and in written change orders signed by TOWN. In the absence of a written change order signed by TOWN, CONTRACTOR agrees that it will have no claim for compensation for extra work and hereby releases TOWN from any such claim.
6. **Intent of Independent Contractor Relationship:** The PARTIES intend that the relationship created by the Agreement shall be that of service recipient and independent contractor and not that of employer and employee. In this regard, CONTRACTOR shall retain the exclusive right to control and direct all details of the Work.

For all purposes, including but not limited to the Federal Insurance Contributions Act ("FICA"), the Social Security Act, the Federal Unemployment Tax Act ("FUTA"), income tax withholding requirements, and all other federal, state and local laws, rules and regulations, CONTRACTOR (and CONTRACTOR's respective employees, if any) shall be treated as an independent contractor and not as an employee with respect to the TOWN.

- 7. No Benefits:** None of the benefits, if any, which are provided by TOWN to its employees, shall be available to CONTRACTOR (or CONTRACTOR's employees, if any, which for purposes of this Paragraph 7 shall be included in the term "CONTRACTOR"). CONTRACTOR's exclusion from benefit programs maintained by TOWN is a material term of the terms of compensation negotiated by the PARTIES and is not premised on CONTRACTOR's status as a non-employee with respect to TOWN. To the extent that CONTRACTOR may become eligible for any benefit programs maintained by TOWN (regardless of the timing of or reason for eligibility), CONTRACTOR hereby waives CONTRACTOR's right to participate in these programs. CONTRACTOR's waiver is not conditioned on any representation or assumption concerning CONTRACTOR's status under the common law test. CONTRACTOR agrees that consistent with CONTRACTOR's independent contractor status, CONTRACTOR will not apply for any government-sponsored benefits that are intended to apply to employees.
- 8. Workers' Compensation Coverage:** CONTRACTOR acknowledges that as an independent contractor, CONTRACTOR and CONTRACTOR'S employees, if any, shall not be entitled to workers' compensation benefits from TOWN.
- 9. Equipment and Tools:** CONTRACTOR shall provide and be responsible for maintaining any equipment and tools that CONTRACTOR uses, or determines is necessary, to accomplish the Work.
- 10. Manner, Time and Location:** The PARTIES agree that time is of the essence as it relates to completion of the Work under the Agreement. CONTRACTOR shall have the right to perform the Work in such manner, at such times, and at such locations as CONTRACTOR deems appropriate. TOWN shall have no right to interfere with CONTRACTOR's judgment with respect to manner, time, and place of performance of the Work, so long as any performance deadlines that may be established by TOWN are satisfied. CONTRACTOR agrees that any damages incurred under this provision of the Agreement shall be defined pursuant to §108.9, Failure to Complete on Time of the MAG General Conditions.
- 11. Right to Engage Assistants:** CONTRACTOR shall have the right to engage others to assist in the accomplishment of the Work. CONTRACTOR shall be solely responsible for paying all compensation owed to any assistants CONTRACTOR engages and for paying, and/or withholding and remitting to the appropriate government agency, any applicable employment taxes that might be owed with respect to this compensation. CONTRACTOR also shall indemnify and hold TOWN harmless for, from and against any and all liabilities attributable to the obligations imposed on CONTRACTOR under the Agreement. The PARTIES acknowledge that CONTRACTOR shall retain the exclusive right to determine which workers CONTRACTOR shall engage for these purposes.
- 12. Performing Services for Others:** TOWN agrees that CONTRACTOR may perform services for others, so long as the performance of these services does not interfere with the completion of the Work.

- 13. Warranties:** CONTRACTOR warrants all services and materials CONTRACTOR provides as part of the Work against defects to the services and materials so provided for in the workmanship according to MAG §108.8.
- 14. Default:** CONTRACTOR understands and agrees that stopping work including withholding delivery of documents, applications or other work product to TOWN, any agency or other person, other than for nonpayment of amounts due under the Agreement, shall constitute a default under the Agreement and shall result in liability on the part of CONTRACTOR for damages including liability by reason of work stoppage. Upon any default under the Agreement by CONTRACTOR, including but not limited to any stoppage other than for non-payment of amounts due under the Agreement, TOWN shall have no further obligation to pay any amounts due under the Agreement to CONTRACTOR.
- 15. Documents:** TOWN shall receive and may retain any and all work product of CONTRACTOR, including all documents, plans, drawings, specifications, analyses, designs, models, ideas, reports, charts and computer programs prepared by or on behalf of CONTRACTOR or otherwise utilized by CONTRACTOR (collectively "Work Product") in the discharge of its responsibilities under the Agreement, which Work Product shall immediately thereafter become the sole and exclusive property of TOWN.

TOWN is also granted a royalty-free, perpetual license to use, reproduce, copy and distribute the Work Product for itself and for its other contractors, subcontractors and consultants either as needed in connection with the Project contemplated under the Agreement or as needed for reference and information related to the use, occupancy or maintenance of the completed Project.

- 16. Termination:** TOWN may terminate the Agreement with or without cause by giving thirty (30) days' written notice to CONTRACTOR. In such event, TOWN shall forthwith pay CONTRACTOR in full for all work previously authorized in writing and satisfactorily performed prior to the effective date of termination.
- 17. Indemnification:** CONTRACTOR agrees to indemnify and save harmless TOWN and its elected and appointed officers, agents, boards, commissions, employees, attorneys and representatives from all suits, including attorneys' fees and costs of litigation, actions, laws damage, expense, cost or claims, of any character or of any nature arising out of or in connection with any act or omission of CONTRACTOR, its agents and employees, and of any subcontractor, its agents and employees, in the course of the performance of the Work or in connection with the Project or the Agreement which results directly or indirectly in the injury to or death of any person or persons, or the damage of any property of any person or persons, or on account of act, claim or amount arising or recovered under workers' compensation law, or arising out of any failure of CONTRACTOR or those acting under CONTRACTOR to conform to any statutes, ordinances, regulations, laws or court decrees, or which results in a claim, lien or charge (in which event CONTRACTOR shall pay and take all steps necessary to remove the claim, lien or charge at no cost to TOWN). It is the

intent of the PARTIES that TOWN shall, in all instances, be indemnified and held harmless by CONTRACTOR against any liability, losses and damages of any nature whatsoever for or on account of any injuries to or death of persons or damages to or destruction of property belonging to any person arising out of or in any way connected with the Agreement or the performance of the Work, whether the liability, losses and damages are caused by or alleged to be caused in whole or in part by the negligence, gross negligence or fault of TOWN or any of its officers, agents, attorneys or employees.

Prior to commencing any work under the Agreement, CONTRACTOR will procure and maintain a certificate of insurance covering liability and property damage issued by an insurance company authorized to transact business in the State of Arizona, as shall protect CONTRACTOR and its employees, agents and any other person or entity responsible for performing the Work under the Agreement, from claims for damages for personal injury, including death, as well as from claims for property damage which may arise from or be related to the Work, the Project or the Agreement. The certificate of insurance shall name TOWN as an additional insured and shall be delivered to TOWN prior to commencing any work under the Agreement. Such insurance shall be primary and shall provide coverage for all liability under the Agreement. The policy limits of such liability and property damage insurance shall contain not less than the following limits of coverage: (1) \$1 million for death or bodily injury or loss sustained by any one person per occurrence; (2) \$2 million for death or bodily injury or loss sustained by more than one person per occurrence; and (3) \$1 million for loss sustained for damage to property occasioned per occurrence. Such insurance shall be maintained in full force and effect until all work under the Agreement is complete.

- 18. Notices:** Any notice under the Agreement must be in writing and shall be effective upon delivery by hand or three (3) business days after deposit in the United States mail, postage prepaid, certified or registered, and addressed to TOWN or to CONTRACTOR at the corresponding address below. CONTRACTOR shall be obligated to notify TOWN in writing of any change in his address. Notices of change of address shall be effective only when done in accordance with this paragraph.

To TOWN: Gary S. Neiss
Town Administrator
Town of Carefree
8 Sundial Circle
P. O. Box 740
Carefree, Arizona 85377

With a copy to: Dennis Fitzgibbons
Interim Town Attorney
Fitzgibbons Law
1115 East Cottonwood Lane
Suite 150
Casa Grande, AZ 85122

To CONTRACTOR: _____

- 19. Integration:** The Agreement is intended to be the final, complete, and exclusive statement of the terms of CONTRACTOR’S engagement by TOWN. The Agreement supersedes all other prior and contemporaneous agreements and statements, whether written or oral, express or implied, pertaining in any manner to the engagement of CONTRACTOR, and it may not be contradicted by evidence of any prior or contemporaneous statements or agreements. To the extent that the practices, policies, or procedures of TOWN, now or in the future, apply to CONTRACTOR and are inconsistent with the terms of the Agreement, the provisions of the Agreement shall control.
- 20. Amendments; Waivers:** The Agreement may not be amended except by an instrument in writing, signed by each of the PARTIES. Failure to exercise any right under the Agreement shall not constitute a waiver of such right.
- 21. Assignment; Successors and Assigns:** Neither TOWN nor CONTRACTOR shall assign any rights or obligations under the Agreement. The Agreement shall be binding upon the PARTIES, their heirs, successors, transferees and assigns.
- 22. Attorneys’ Fees:** In any legal action, arbitration, or other proceeding brought to enforce or interpret the terms of the Agreement, the prevailing PARTY shall be entitled to recover reasonable attorneys’ fees and costs.
- 23. Governing Law:** The Agreement shall be governed by and construed in accordance with the law of the State of Arizona.
- 24. Interpretation:** The Agreement shall be construed as a whole, according to its fair meaning, and not in favor of or against any party. By way of example, and not in limitation, the Agreement shall not be construed in favor of the party receiving a benefit or against the party responsible for any particular language in the Agreement. Captions are used for reference purposes only and should be ignored in the interpretation of the Agreement.

- 25. **Severability:** If any one or more of the provisions of the Agreement shall be held or found to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.
- 26. **Contractor Acknowledgment:** CONTRACTOR acknowledges that CONTRACTOR has had the opportunity to consult legal counsel in regard to the Agreement, that CONTRACTOR has read and understands the Agreement, that CONTRACTOR is fully aware of its legal effect, and that CONTRACTOR has entered into it freely and voluntarily and based on Contractor's own judgment and not on any representations or promises other than those contained in the Agreement.
- 27. **Certification:** I, _____, the _____ of CONTRACTOR, hereby certify that I have read and understood and agree to the above provisions of the Agreement and have had an opportunity to seek advice regarding the provisions that I found to be ambiguous.

The PARTIES have duly executed the Agreement as of the date first written above.

“The TOWN”

TOWN OF CAREFREE, ARIZONA,
an Arizona municipal corporation

By _____

Its _____

“CONTRACTOR”

By _____

Its _____

Social Security Number or
Employer Identification Number:

IN WITNESS WHEREOF, three (3) identical counterparts of this contract, each of which shall for all purposes be deemed an original thereof, have been duly executed by the PARTIES herein above named, on the date and year first above written.

CONTRACTOR:

TOWN OF CAREFREE

Company Name

By: _____
John Crane, Mayor

BY: _____
Signature

ATTEST:

Individual Name/Title

By: _____
Kandace French, Town Clerk

ADDRESS: _____

CORPORATE SEAL:

APPROVED AS TO FORM:

Denis Fitzgibbons, Interim Town Attorney

CONTRACT BOND

**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 Town of Carefree, County of Maricopa, State of Arizona 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 Town of Carefree, dated the _____ day of _____, 2024 for Project Number 2024-01, 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 A.R.S.34-222 and A.R.S.34-223 and all liabilities on this Bond shall be determined in accordance with these sections to the extent as if they were copied at length in this agreement. If the provisions of this bond conflict with the terms of these sections, the latter control.

The prevailing party in a suit on this bond shall be entitled to such reasonable attorney's fees as may be fixed by a Judge of the Court.

WITNESS our hands the _____ day of _____, 2024.

PRINCIPAL

BY:

SURETY

(SEAL)

AGENCY OF RECORD

AGENCY ADDRESS

**LABOR AND MATERIALS BOND
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 Town of Carefree, County of Maricopa, State of 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 Town of Carefree dated the _____ day of _____, 2024 for Project No. 2024-01, 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 said Principal shall promptly pay 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 said 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, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of Title 34,

Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if they were copied at length in herein.

The prevailing party in a suit on this bond shall be entitled to such reasonable attorney fees as may be fixed by a Judge of the Court.

WITNESS our hands the _____ day of _____, 2024.

PRINCIPAL

BY:

SURETY

(SEAL)

AGENCY OF RECORD

AGENCY ADDRESS:

TOWN OF CAREFREE CERTIFICATE OF INSURANCE

Town Dept: PUBLIC WORKS	Project Title: CAVE CREEK ROAD IMPROVEMENTS AND PEDESTRIAN CROSSWALK IMPROVEMENTS	PROJECT #2024-01			
Companies Affording Coverage		Current State of Arizona License	Current A.M. Best Rating		
Producer:	A. _____ B. _____ C. _____ D. _____ E. _____	Yes NO _____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____		
Insured:					
This is to certify that the insurance policies listed below have been issued to the insured named above for the policy period indicated					
Co Ltr	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (mm/dd/yy)	POLICY EFFECTIVE DATE (mm/dd/yy)	LIMITS (,000)
	General Liability <input type="checkbox"/> Commercial General Liability <input type="checkbox"/> Occurrence <input type="checkbox"/> Claims Made <input type="checkbox"/> Owner's & Contractors Prot. <input type="checkbox"/> Per Project Product/Completed Operations				General Aggregate \$ _____ Products-Comp/op Agg. \$ _____ Personal & Adv. Injury \$ _____ Each Occurrence \$ _____ Fire Damage (any one fire) \$ _____ Med. Exp. (any one person) \$ _____
	Automobile Liability <input type="checkbox"/> Any Auto <input type="checkbox"/> All Owned Autos <input type="checkbox"/> Scheduled Autos <input type="checkbox"/> Hired Autos <input type="checkbox"/> NonOwned Autos <input type="checkbox"/> Garage Liability				Combined Single Limit Bodily Injury (per person) \$ _____ Bodily Injury (per accident) \$ _____ Property Damage \$ _____
	Professional Liability <input type="checkbox"/> Type _____ <input type="checkbox"/> Claims Made <input type="checkbox"/> Occurrence				Each Claim \$ _____ All Claims \$ _____
	Excess Liability <input type="checkbox"/> Umbrella Form <input type="checkbox"/> Other than umbrella form <input type="checkbox"/> Claims Made <input type="checkbox"/> Occurrence				Each Occurrence \$ _____ Aggregate \$ _____
	Builders Risk				
	Other				
Description of Operations/Locations/Vehicles/Special Items: Town of Carefree, its representatives, agents and employees, is an Additional Insured under Commercial General Liability ISO Form CG 20 10 11 85 or equivalent, Auto Liability ISO Form CA 20 48 or equivalent, and Excess Liability follow form to underlying coverage. All cited insurance shall be primary coverage and waive rights to recovery (subrogation), including Workers Compensation, against Town of Carefree. No policy shall be canceled or materially changed without 30 days advance written notice. Certificate not valid unless signed by authorized representative of Insurance Company.					
CERTIFICATE HOLDER/ADDITIONAL INSURED Town of Carefree 8 Sundial Circle PO Box 740 Carefree, AZ 85377					Authorized Representative of the insurance company(ies) Signature: _____ Date: _____

NOTICE TO PROCEED

TO:

PROJECT No: 2024-01

DESCRIPTION: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

In accordance with the Contract dated _____, you are hereby notified to commence work on _____ and you are to complete the WORK within ninety (90) consecutive calendar days thereafter. The date of completion of all WORK is therefore _____. Official time extensions thereto shall be considered and authorized in strict conformance with General Conditions or M.A.G. Standard Specifications.

TOWN OF CAREFREE

BY: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged.

BY: _____

TITLE: _____

Subscribed and sworn to before me this ____ day of _____, 2023.

NOTARY PUBLIC

My Commission Expires

CONTRACTOR'S NOTICE OF FINAL PAY ESTIMATE

PROJECT #: 2024-01

DESCRIPTION: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

To the Town of Carefree, Arizona:

The final pay estimate of _____ Dollars (\$_____) which represents total and complete payment under the terms of the contract, fully and completely reflects the actual quantities of work performed. Said final quantities were mutually measured and agreed upon by authorized representatives of the undersigned and the Town of Carefree. Upon acceptance by the CONTRACTOR of the Final Payment under the Final Pay Estimate, the CONTRACTOR releases and waives all claims arising out of the Contract.

Signed and dated this _____ day of _____ 2024.

BY: _____

Title: _____

For: _____

STATE OF ARIZONA)

) ss

COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this _____ day of

_____, 2024.

Notary Public

My Commission expires:

CONTRACTOR'S NOTICE OF FINAL ACCEPTANCE

PROJECT #: 2024-01

DESCRIPTION: PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

TO: _____

DATE: _____

Construction on the above project was completed on _____, 2024 and on _____, 2024 a final inspection was made of the subject improvements by this office. The work substantially conforms to the approved plans and specifications. We, therefore, accept the work.

Approved By:

Contract Administrator

cc: Town Clerk
Accounting Director
Other:

AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS

PROJECT # : 2024-01

DESCRIPTION : PEDESTRIAN CROSSWALK IMPROVEMENTS PROJECT

To the Town of Carefree, Arizona

Gentlemen:

This is to certify that all lawful claims for materials, rental of equipment, tools machinery, services and labor used in connection with the construction of the above project, whether by subcontractor or claimant in person, have been duly discharged.

The undersigned, for the total consideration of _____Dollars (\$_____) as set out in the final pay estimate, as full and complete payment under the terms of the contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of the above described project. The undersigned further agrees to indemnify and save harmless the Town of Carefree against any and all liens, claims of liens, suits, action, damages, charges and expenses whatsoever, which said TOWN may suffer arising out of the failure of the undersigned to pay for all labor performances and materials furnished for the performance of said project construction items and/or services.

Signed and dated this _____ day of _____ 2024.

CONTRACTOR

BY:

STATE OF ARIZONA)

) ss

COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this _____ day of

_____, 2024.

Notary Public

My Commission expires:

APPENDIX A
CAREFREE CROSSWALKS TECHNICAL SPECIFICATIONS

TOWN OF CAREFREE – PEDESTRIAN CROSSWALKS IMPROVEMENTS PROJECT STANDARDS & REFERENCES

The construction of the project shall be in accordance with the following standards:

- Arizona Department of Transportation (ADOT), Standard Specifications for Road and Bridge Construction, 2021 Edition of 2021, latest revision.
- Arizona Department of Transportation, Roadway Engineering Group, Construction Standard Drawings, available on the Department’s website.
- Arizona Department of Transportation, Traffic Group, Manual of Approved Signs, available on the Department’s website.
- Arizona Department of Transportation, Traffic Group, Traffic Control Design Guidelines, 2019 Edition, available on the Department’s website.
- Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, 2009 Edition, with Revision 1 dated May 2012, Revision 2 dated May 2012, and Revision 3 dated July 2022.
- ADOT, Arizona Supplement to the MUTCD 2009 edition, latest revision.
- ADOT, Sampling Guide Schedule, Appendix C, 06/19/2019.
- Maricopa Association of Governments (MAG), Uniform Standard Details and Specifications for Public Works Construction, 2023 Revision to the 2020 Edition.
- Maricopa County Traffic Control Manual, September 2015, latest revision.
- Maricopa County Pavement Marking Manual, April 28, 2020, latest revision.

GOVERNANCE

The MAG and ADOT STANDARD SPECIFICATIONS AND STANDARD DRAWINGS, as referenced and as applicable, shall govern the construction of this project, except as may be modified by the PLANS and these TECHNICAL SPECIFICATIONS.

These TECHNICAL SPECIFICATIONS provide supplemental information regarding the bid line items of construction work for the project. The TECHNICAL SPECIFICATIONS shall be used in conjunction with the Bid Schedule for measurement and payment purposes for this project. These TECHNICAL SPECIFICATIONS shall govern, control, and prevail anywhere they may deviate or conflict with the MAG and/or ADOT STANDARD SPECIFICATIONS AND STANDARD DRAWINGS. Anywhere the PLANS may deviate from or conflict with these TECHNICAL SPECIFICATIONS, the PLANS shall apply and take precedence.

Anywhere the PLANS may deviate from or conflict with the MAG and/or ADOT STANDARD SPECIFICATIONS AND STANDARD DRAWINGS, the PLANS and these TECHNICAL SPECIFICATIONS shall apply and take precedence.

The measurement and payment of construction contract bid items shall be strictly governed by these TECHNICAL SPECIFICATIONS.

GEOTECHNICAL EVALUATION & REPORT

No geotechnical investigation was conducted for this project. Bidders/contractors shall satisfy

themselves as to the local site conditions (surface and below surface grade) though close and careful site reconnaissance and conducting any potholing and/or testing needed to prepare the bid and for construction of the project.

Should the Contractor deem a geotechnical investigation and analysis is needed for the project, the cost of that work shall be built into the total lump sum bid price for MOBILIZATION.

COMPLIANCE WITH NOISE ORDINANCE

Construction work shall be scheduled to comply with the Town's Noise Ordinance and other applicable ordinances, rules, and regulations pertaining to construction activities within the Town.

CONTRACT/BID ITEMS

The various bid items (construction contract pay items) set forth in the BID SCHEDULE are hereby described and defined starting on the next page.

The measurement and payment for each bid item are governed as provided for herein.

1. REMOVE ASPHALT PAVEMENT

Description:

The work under this section shall consist of physically removing the existing asphaltic concrete pavement in accordance with Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Section 336, Section 350, and other related sections and details.

Construction Requirements:

The existing asphalt pavement sections shall be removed for the full width, depth, and length at the locations shown on the plans. The depth of removal for asphalt pavement sections shall include excavation of existing base and/or subgrade materials encountered to the subgrade depth required for placement of the new curb or pavement per the typical pavement sections shown on the plans.

Removals shall be made to a sawcut line to provide a clean vertical edge to pave against. Adjacent sections of asphalt not slated for removal shall be protected in place and not disturbed. Any pavement areas outside the designated removal areas that may be damaged by the contractor's actions shall be removed and replaced at the Contractor's sole expense.

All removal work shall be done in accordance with MAG Section 350, Removal of Existing Improvements.

The work shall include all materials, equipment, and labor costs to remove the existing pavement and the underlying base and/or subgrade materials, and to properly dispose of the materials at a legal and approved landfill or disposal site. Sawcut lines, where required, are included and incidental to this pay item.

Method of Measurement:

Measurement will be based on the square yards (SY) of asphalt pavement surface area removed to the required depths as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square yard (SY) based on the measured quantity. Pavement removal, excavation to subgrade, transport, and proper and legal disposal of the removed materials shall be included in the bid price for this construction item.

2. REMOVE CONCRETE PAVEMENT

Description:

The work under this section shall consist of physically removing the concrete pavement road surface in accordance with Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Section 336, Section 350, and other related sections and details.

Construction Requirements:

The existing concrete pavement sections shall be removed for the full width, depth, and length at the locations shown on the plans. The depth of removal for pavement sections shall include excavation of existing base and/or subgrade materials encountered to the subgrade depth required for placement of the new curb or pavement per the typical pavement sections shown on the plans.

Removals shall be made to a sawcut line or existing joint to provide a clean vertical edge to pave against. Adjacent sections of concrete not slated for removal shall be protected in place and not disturbed. Any pavement areas outside the designated removal areas that may be damaged by the contractor's actions shall be removed and replaced at the Contractor's sole expense.

All removal work shall be done in accordance with MAG Section 350, Removal of Existing Improvements.

Caution shall be exercised when removing concrete pavements adjacent to brick pavers, as the bricks are needed for reuse and are salvageable to the Town.

The work shall include all materials, equipment, and labor costs to remove the existing concrete pavement and the underlying base and/or subgrade materials, and to properly dispose of these materials at a legal and approved landfill or disposal site. Sawcut lines, where required, are included and incidental to this pay item.

Method of Measurement:

Measurement will be based on the square feet (SF) of concrete pavement surface area removed to the required depths as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square feet (SF) based on the measured quantity. Pavement removal, excavation to subgrade, transport, and proper and legal disposal of the removed materials shall be included in the bid price for this construction item.

3. REMOVE BRICK PAVERS

Description:

The work under this section shall consist of physically removing existing brick pavers at locations shown on plans.

Materials:

Brick pavers designated for removal on the plans shall be carefully removed to protect them from damage during the removal process. The depth of removal for brick pavers shall include excavation of existing base and/or subgrade materials encountered to the subgrade depth required for placement of the new curb or pavement per the typical pavement sections shown on the plans.

Brick pavers needed for reuse on the project shall be stockpiled on site in a location separate from construction activities until they are needed for re-installation on the project.

Brick pavers not needed for reuse on the project, and in reasonably good condition, shall be offered as salvage to the Town. If the Town wants the materials, the Contractor shall deliver the salvaged brick pavers to a location specified by the Town.

The Contractor shall haul and properly dispose of the brick pavers rejected by the Town. Disposal of the materials shall be at a landfill or other approved disposal site for these types of materials.

Construction Requirements:

Remove brick pavers includes all materials, equipment, and labor needed to remove the existing brick pavers, to stockpile the material on site needed for reuse on the project, to deliver any excess brick pavers not needed for reuse to the Town, and to properly dispose of the non-salvageable brick pavers, and all other related and incidental work to complete the brick paver removal work.

All removal work shall be done in accordance with MAG Section 350, Removal of Existing Improvements.

The work shall include all materials, equipment, and labor costs to remove the existing brick paver pavement areas and the underlying base and/or subgrade materials, and to properly dispose of these materials as outlined herein with all surplus materials transported to and disposed of at a legal and approved landfill or disposal site.

Method of Measurement:

Measurement will be based on the square feet (SF) of brick paver area removed as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square feet (SF) based on the measured quantity.

4. REMOVE CONCRETE CURB

Description:

The work under this section shall consist of physically removing existing concrete single curb, curb & gutter, ribbon curb, or header curb in accordance with Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Section 336, Section 350, and other related sections and details.

Construction Requirements:

The existing curb sections shall be removed for the full width, depth, and length at the locations shown on the plans. The depth of removal for pavement sections shall include excavation of existing base and/or subgrade materials encountered to the subgrade depth required for placement of the new curb or pavement per the typical pavement sections shown on the plans.

The existing concrete curb (regardless of curb type) shall be removed where shown on the plans, or as may be marked in the field by the Town Engineer or Inspector. Curb removal shall be made to the nearest construction joint or to a full depth sawcut line where a construction joint is not within 3 feet of the removal line. Adjacent sections of curb shall be protected in place and not disturbed. Any sections outside the designated removal areas that may be damaged by the Contractor's actions shall be removed and replaced at the Contractor's sole expense.

Caution shall be exercised when removing concrete pavements adjacent to brick pavers, as the bricks are needed for reuse and are salvageable to the Town.

The work shall include all materials, equipment, and labor costs to remove the existing curb sections and the underlying base and/or subgrade materials, and to properly dispose of these materials at a legal and approved landfill or disposal site. Sawcut lines, where required, are included and incidental to this pay item.

Method of Measurement:

Measurement will be based on the lineal feet (LF) of existing single curb, curb & gutter, ribbon curb, or header curb removed as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per lineal foot (LF) based on the measured quantity. Sawcuts for curb removal and disposal of the removed materials shall be included in the bid price for this construction item.

5. REMOVE CONCRETE SIDEWALK

Description:

The work under this section shall consist of physically removing existing concrete sidewalk in accordance with Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Section 336, Section 350, Detail No. 230, and other related sections and details.

Construction Requirements:

The existing concrete sidewalk shall be removed for its full width, depth, and length where shown on the plans and as needed to construct the improvements per the project plans. This item of work includes the removal of existing curb ramps, if any, within the removal limits.

Concrete sidewalk removal shall be made to the nearest construction joint. Adjacent sections of sidewalk shall be protected in place, and any sidewalk sections beyond the removal limits that may be damaged by the contractor's actions shall be removed and replaced at the Contractor's sole expense.

Caution shall be exercised when removing concrete pavements adjacent to brick pavers, as the bricks are needed for reuse and are salvageable to the Town.

The sidewalk removal work shall include all materials, equipment, and labor costs to remove the existing concrete sidewalk, and to properly dispose of these materials at a legal and approved landfill or disposal site.

Method of Measurement:

Measurement will be based on the square feet (SF) of concrete sidewalk surface area removed as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square feet (SF) based on the measured quantity. Sawcuts for sidewalk removal and the disposal of the removed materials are considered incidental and shall be included in the bid price for this construction item.

6. REMOVE TRAFFIC SIGN, POST, AND FOUNDATION

Description:

The work under this section shall consist of physically removing sign panels and their associated posts and foundations at the locations shown on the project plans in accordance with Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Section 336, Section 350, and other related sections and details.

Materials:

Sign panels and posts in reasonably good condition shall be offered as salvage to the Town.

If the Town wants any of the materials, the Contractor shall deliver the salvaged sign panels and posts to a location specified by the Town.

The Contractor shall haul and properly dispose of the removed foundation, hardware, and any posts and sign panels rejected by the Town. Disposal of the materials shall be at a landfill or other approved disposal site for these types of materials.

Construction Requirements:

Traffic sign panels, posts (or poles), and foundations shall be removed as designated on the plans. The removal work shall be in accordance with applicable ADOT Standard Specifications and Details and Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, Section 350.

The Contractor shall backfill the void left in the ground from the removed foundation with aggregate base material compacted to the greatest extent possible. Unless otherwise specified, the surface of the backfilled area shall be resurfaced with decomposed granite (DG) matching the color of any existing DG.

Remove traffic sign, post, and foundation includes all materials, supplies, equipment, and labor needed to completely remove the existing sign panel, post, base, and foundation, to properly dispose of the existing and non-salvageable sign panels, posts, and foundations, backfill and compaction of post hole, restoration of the ground surface, and all other related and incidental work to fully complete the removal.

Method of Measurement:

Remove traffic sign, post, and foundation will be measured as a unit for each (EA) removed sign assembly including disposal and backfill work.

Basis of Payment:

The accepted quantities of removed traffic sign, post, and foundation, measured as provided above, will be paid for at the contract unit price for each (EA) removed sign assembly including disposal and backfill work.

7. REMOVE AND RESTORE LANDSCAPE PLANTINGS

Description:

The work under this section shall consist of removing and restoring landscape plantings as needed to accommodate the proposed improvements where shown on the plans. All work shall conform to Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, Section 430, Section 440, Section 795, and other related sections, specifications, and details.

Materials and Construction Requirements:

The Contractor shall remove any landscape cacti and plants needed to facilitate construction of the project improvements. The Contractor shall then plant new cacti and plants, in kind of the same species and type, after the hardscape items have been constructed in the same general area as the removals.

Prior to removal, the Contractor shall inventory the plants to be removed (listing the number, location, type, and size of each cactus or plant) and provide the list to the Town Inspector. The new cacti and plants shall be placed and planted in the same general location as the removed cactus or plant, or as may be directed by the Town Inspector.

New cacti and plants shall match the size of the removed cactus or plant, if possible. Regardless, the new cacti shall have a minimize size of 5-gallon container size and the new plants shall have a minimum size of 1 gallon container size.

The work shall include all materials, equipment, supplies, and labor costs to remove and properly dispose of the existing cacti, plants, and vegetation slated for removal and replacement, excavate planting pits, place and install the plants, backfill the plants, and furnish and install stakes as required.

The newly installed cacti and plants shall be properly maintained to assure they survive and thrive for a 90 calendar day period. Proper maintenance of the newly installed cacti and plants includes regular watering and standard nursery practices to ensure the health and vigor of the plant material.

All existing landscape material not directly impacted by the intersection improvements and traffic control device installations shall be protected in place from any damage by construction activities.

Any existing landscaping materials, plants, and other items that may be damaged, improperly pruned, maintained using non-ISA recommended methods, or fail to survive the 90 day maintenance period shall be replaced in kind at the sole expense of the Contractor.

Method of Measurement:

Measurement for removal and restoration of landscape plantings shall be made on a lump sum (LS) basis for all landscape planting removal and replacement work performed within the construction area and required to complete the project as accepted by the Town Engineer.

Basis of Payment:

Payment will be made at the lump sum (LS) price indicated on the Bid Schedule, which amount shall be considered full compensation for the work as described herein and necessary to complete the item.

REMOVE DETECTABLE WARNING SURFACES**Description:**

The work under this section shall consist of physically removing the detectable warning surfaces in accordance with Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Section 350, and other related sections and details.

Materials:

Detectable warning surfaces in reasonably good condition shall be offered as salvage to the Town. If the Town wants the materials, the Contractor shall deliver the salvaged detectable warning surfaces to a location specified by the Town. The Contractor shall haul and properly dispose of the detectable warning surfaces rejected by the Town. Disposal of the materials shall be at a landfill or other approved disposal site for these types of materials.

Construction Requirements:

The existing detectable warning surfaces denoted on the plans shall be removed for the full width, depth, and length at the locations shown on the plans to accommodate the proposed improvements. All removal work shall be done in accordance with MAG Section 350, Removal of Existing Improvements.

The work shall include all materials, equipment, and labor costs to remove the existing pavement and the underlying base and/or subgrade materials, and to properly dispose of these materials at a legal and approved landfill or disposal site.

Caution shall be exercised when removing detectable warning surfaces and panels as they may be salvageable to the Town.

Method of Measurement:

Measurement will be based on the square feet (SF) of detectable warning surface areas removed as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square feet (SF) based on the measured quantity. Detectable warning surfaces removal, transport, and proper and legal disposal of the removed materials shall be included in the bid price for this construction item.

8. RELOCATE RRFB ASSEMBLY

Description:

The work under this section shall consist of physically removing Rectangular Rapid-Flashing Beacons (RRFBs) and their associated poles and foundations and installing the salvaged RRFB assembly on a new concrete foundation at the locations shown on and in conformance with the project plans, the requirements set forth herein, and as directed by the Town Engineer.

Materials:

The complete RRFB assembly, pole, and foundation shall be salvaged and reused for installation at a new location shown on the plans.

Construction Requirements:

Relocate RRFB assembly includes all materials, hardware, supplies, equipment, and labor needed to:

- a. Remove the existing RRFB assembly, post, base, and foundation.
- b. Backfill of the resulting hole and restoration of the disturbed ground surface.
- c. Salvage and protection of the RRFB assembly for reuse.
- d. Proper disposal of the existing and non-salvageable base and foundation materials.
- e. Construct new foundations to support the RRFB assembly and pole.
- f. Install the salvaged RRFB assembly with its pole and breakaway base on the new concrete foundation at the location shown on the plans.
- g. All other related and incidental work required to make a complete relocated RRFB assembly installation that is fully functional for its intended purpose.

The work shall be completed in accordance with applicable ADOT Standard Specifications and Details, the MUTCD, and the MAG Uniform Standard Specifications and Details for Public Works Construction, Section 350. Damaged or non-useable sign panels shall be replaced with new comparable signs as needed at no additional cost to the project.

The Contractor shall backfill the void left in the ground from the removed foundation with aggregate base material compacted to the greatest extent possible. The surface of the backfilled area shall be resurfaced with decomposed granite matching the color of any existing DG.

Method of Measurement:

Relocate RRFB assembly will be measured as a unit for each (EA) relocated RRFB assembly including disposal and backfill work.

Basis of Payment:

The quantities of relocated RRFB assembly with its pole and breakaway base on a new concrete foundation, measured as provided above, will be paid for at the contract unit price for each (EA) accepted relocated RRFB assembly.

9. RELOCATE BLINKER PEDESTRIAN CROSSING SIGN AND POST

Description:

The work under this section shall consist of physically removing the existing W11-2 (Pedestrian Traffic) blinker sign and its associated R1-6 (In-Street Pedestrian Crossing) sign, solar panel, hardware, conduit, conductors, post, and foundation, and installing the salvaged materials with a new foundation at the new location where shown on and in conformance with the project plans, the requirements set forth herein, and as directed by the Town Engineer.

Materials:

The blinking W11-2 sign, R1-6 sign, solar panel, hardware, conduit, conductors, and post shall be removed, stored, and reused to the greatest extent possible for installation at the new location.

A new foundation will be constructed for the relocated blinker sign assembly. The Contractor shall supply any new materials required to complete the installation. New materials may include a sign post affixed to the foundation if the existing sign post is not salvageable, and any hardware, conductors, etc. Damaged or non-useable materials shall be replaced with new comparable materials as needed at no additional cost to the project.

The Contractor shall haul and properly dispose of the foundation and other non-salvageable materials. Disposal of the materials shall be at a landfill or other approved disposal site for these types of materials.

Construction Requirements:

This item includes all materials, hardware, supplies, equipment, and labor needed to:

- Remove the existing W11-2 blinker sign, R1-6 sign, solar panel, hardware, conduit, conductors, post, and foundation.
- Backfill the resulting hole and restore the ground surface.
- Salvage and temporarily store all materials except for the post foundation without causing damage to their existing condition for reuse and installation at the new sign location.
- Properly dispose of the existing and non-salvageable foundation and other materials.
- Install the salvaged signs, solar panel, hardware, and post with a new foundation where shown on the plans.

- All other related and incidental work to make a complete relocated blinker pedestrian crossing sign and post installation that is fully functional for its intended purpose.

The work shall be completed in accordance with applicable ADOT Standard Specifications and Details, the MUTCD, and the MAG Uniform Standard Specifications and Details for Public Works Construction, Section 350.

Damaged or non-useable conductors, hardware, or other items shall be replaced with new comparable materials as needed at no additional cost to the project.

The Contractor shall backfill the void left in the ground from the removed foundation with aggregate base material compacted to the greatest extent possible. The surface of the backfilled area shall be restored with decomposed granite surfacing comparable to the surrounding conditions.

The blinker sign relocation work shall be in accordance with applicable sections of the ADOT Standard Specifications and Details, the MUTCD, and MAG Standard Specifications and Details.

Method of Measurement:

Relocate blinker pedestrian crossing sign and post on a new foundation will be measured as a unit for each (EA) relocated sign including reuse and reinstallation of the signs and post at its new location and disposal and backfill work.

Basis of Payment:

Payment will be made at the bid unit price per each (EA) based on the measured quantity.

10. RELOCATE TRAFFIC SIGN, POST, AND FOUNDATION

Description:

The work under this item includes all materials, supplies, equipment, hardware, and labor needed to remove the existing traffic sign and concrete base from its current location, provide temporary traffic control for the removed sign, and to reinstall the sign, post, and concrete base at the new location shown on the plans or at a location approved by the Town Inspector. Contractor shall safely and securely store and stockpile removed sign until reinstalled.

Materials:

Sign panels, post, and foundation shall be salvaged and reused for installation at a new location shown on the plans.

Construction Requirements:

Relocate existing traffic sign, post, and foundation includes all materials, hardware, supplies, equipment, and labor needed to:

- a. Remove the existing sign, post, and concrete foundation.
- b. Backfill the resulting hole and restore the ground surface.
- c. Provide temporary signage as required until existing sign assembly is re-installed.
- d. Reinstall the salvaged sign panels, post, and foundation where shown on the plans.
- e. All other related and incidental work to make a complete relocated traffic sign installation.

The work shall be completed in accordance with applicable ADOT Standard Specifications and Details, the MUTCD, and the MAG Uniform Standard Specifications and Details, Section 350.

Contractor shall be responsible for any damage to existing sign, post, or concrete foundation that occurs during removal, storage, or reinstallation. Damaged or non-useable sign panels shall be replaced with new comparable signs as needed at no additional cost to the project.

All work, supplies, materials, hardware, and labor related to the removal and reinstallation, including any new signs, posts, or foundations necessary due to damage shall be included in the bid unit price for this construction item.

The Contractor shall backfill the void left in the ground from the removed foundation with aggregate base material compacted to the greatest extent possible. The surface of the disturbed areas shall be resurfaced with decomposed granite matching the color of any existing DG.

Method of Measurement:

Relocate traffic sign, post, and foundation will be measured as a unit for each (EA) sign, post, and foundation assembly removed and reinstalled at its new location, including excavation, backfill, compaction, and ground restoration at the existing and new locations.

Basis of Payment:

Payment will be made at the bid unit price per each (EA) sign, post, and foundation relocated based on the measured quantity.

11. RELOCATE DIRECTIONAL WAYFINDING SIGN

Description:

The directional wayfinding sign is located in the island at the southeast corner of Tom Darlington Road and Cave Creek Road where shown on the plans. The work under this item includes all materials, supplies, equipment, hardware, and labor needed to remove the existing directional wayfinding sign and concrete base from its current location and to reinstall the sign, post, and concrete base at the new location shown on the plans or at a location approved by the Town Inspector. Contractor shall safely and securely store and stockpile the removed sign and concrete base until reinstalled.

Materials:

Sign panel, post, and foundation shall be salvaged and reused for installation at a new location.

Construction Requirements:

Relocate existing directional wayfinding sign includes all materials, hardware, supplies, equipment, and labor needed to:

- a. Remove the existing sign, posts, and concrete foundation.
- b. Backfill the resulting hole and restore the ground surface.
- c. Provide temporary storage until the existing sign assembly is relocated.
- d. Reinstall the salvaged sign panel, post, and foundation where shown on the plans.
- e. All other related and incidental work to make a complete relocated traffic sign installation.

The work shall be completed in accordance with applicable ADOT Standard Specifications and Details, the MUTCD, and the MAG Uniform Standard Specifications and Details, Section 350.

Contractor shall be responsible for any damage to the existing sign, post, or concrete foundation that occurs during removal, storage, or reinstallation. Damaged or non-useable signage shall be replaced with a new comparable sign panel as needed at no additional cost to the project.

All work, supplies, materials, hardware, and labor related to the removal and reinstallation, including any new sign, post, or foundation necessary due to damage shall be included in the bid unit price for this construction item.

The Contractor shall backfill the void left in the ground from the removed foundation with aggregate base material compacted to the greatest extent possible. The surface of the disturbed

area shall be resurfaced with landscape rock (decomposed granite) matching the color of the existing rock material.

Method of Measurement:

Relocate directional wayfinding sign, post, and foundation assembly will be measured as a unit for each (EA) sign and their associated post and foundation that are removed and reinstalled in a new location, including excavation, backfill, compaction, and ground restoration at the existing and new locations.

Basis of Payment:

Payment will be made at the bid unit price per each (EA) directional sign assembly relocated based on the measured quantity.

12. OBLITERATE EXISTING TRAFFIC CONTROL MARKINGS

Description:

The work under this section shall consist of removing all existing traffic control pavement markings in the construction area, in accordance with Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, 2021 Edition/Latest Revision, Section 701, Maintenance and Protection of Traffic, and related sections and details.

Construction Requirements:

Existing pavement markings shall be removed by grinding, sand blasting, or other method acceptable to the Town Engineer. Removal limits shall be as shown on the plans or as otherwise directed by the Town Engineer.

This item of work also includes removal of existing reflective pavement markers, dagmars, or other pavement surface mounted device within the traffic control marking obliteration limits.

Pavement markings shall be removed to the fullest extent possible from the pavement. The grinding or sand blasting work must not materially damage the surface, color, or texture of the usable pavement. Overpainting of markings with paint, asphalt, or slurry seal will not be permitted.

Sand or other material deposited on the pavement as a result of removing pavement markings shall be removed as the work progresses. Accumulations of sand or other material, which might interfere with drainage, or might constitute conditions adverse to traffic safety, shall be promptly removed and disposed of by the Contractor.

Where grinding is used for the removal of pavement markings, the residue produced shall be removed immediately after contact of the grinding heads with the surface being ground. Such removal shall be by a vacuum attachment operating concurrently with the grinding operation, or by other methods approved by the Town Engineer.

Removed pavement markers and debris shall be collected and properly disposed of by the Contractor.

Any damage to the pavement caused by pavement marking and devices removal shall be repaired by methods acceptable to the Town Engineer. When asphalt slurry is used to repair damage to the pavement caused by pavement marking and/or device removal or the obliteration of the marks remaining after the markings have been removed, the asphalt slurry shall be placed parallel to the new direction of travel and shall not be less than two feet in width.

Method of Measurement:

Measurement shall be made by the square foot (SF) of existing striping, markings, symbols, reflectors, and/or pavement surface mounted devices acceptably obliterated as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square foot (SF) based on the measured quantity. Removal and disposal of dust, sand, debris, or other materials resulting from the marking obliteration activities shall be included in the bid price for this construction item.

13. CONSTRUCT CONCRETE SIDEWALK AND LANDING PADS, TERRACOTTA RED COLOR

Description:

The work under this item consists of constructing concrete sidewalk and crosswalk landing pads at the locations and in conformance with the details on the project plans and as directed by the Town Engineer.

Materials:

All materials shall conform to the requirements of applicable portions of the MAG Standard Specifications Section 340 and Detail 230.

Portland cement concrete pavement shall conform to the requirements of MAG Standard Specifications Section 725. Concrete shall be Class A (3,000 psi 28-day strength).

Concrete color shall be terracotta red.

Construction Requirements:

Construction shall conform to the requirements of the:

- a. Project Plans.
- b. Applicable MAG Standard Drawings.
- c. Sections 340 and 725 of the MAG Standard Specifications.

The Contractor shall excavate to the subgrade of the pavement section. The Contractor shall prepare the subgrade per MAG Section 301, Subgrade Preparation. The subgrade shall be compacted to 100% of the maximum dry density for the material and within the range of plus or minus 2% of the optimum moisture content per ASTM D698C.

The Contractor shall construct the new PCC sidewalk and crosswalk landing pad to the width, lines, and grades shown on the plans and MAG Standard Specifications and Details to a depth of 6 inches. Subgrade preparation is not measured separately as it is considered incidental to this bid item.

Detectable warning strips shall be installed where shown on the plans and paid for under a separate bid item.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the concrete sidewalk and crosswalk landing pads per the plans, details, and specifications.

All construction work shall conform to the requirements and details on the project plans and the

applicable portions of MAG Standard Specifications Section 340 and Detail 230.

Method of Measurement:

Construct concrete sidewalk and landing pads will be measured by the square foot (SF) of concrete sidewalk or crosswalk landing pad constructed, as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of concrete sidewalk and landing pads, measured as provided above, will be paid for at the contract unit price per square foot (SF), which price shall be full compensation for the work complete and in place.

14. CONSTRUCT CONCRETE SIDEWALK WITH EXPOSED AGGREGATE FINISH, TERRACOTTA RED

Description:

The work under this item consists of constructing concrete sidewalk with an exposed aggregate finish at the locations shown and in conformance with the details on the project plans and as directed by the Town Engineer.

Materials:

Concrete sidewalk with an exposed aggregate finish shall be constructed to a 6" thickness with the length, width, and configuration as shown on the plans. PC concrete shall be Class A, 3,000 psi, concrete per MAG Section 725 with a maximum slump of 3 inches. Concrete shall be mixed and provided with a terracotta red color.

Expansion joint filler material shall be 1/2" bituminous preformed expansion joint filler meeting the requirements of ASTM D-1751.

Construction Requirements:

The contractor shall prepare the subgrade, and then construct the new 6" depth of concrete sidewalk on the compacted subgrade to the lines, elevations, and grades shown on the plans.

Subgrade preparation shall be completed in accordance with MAG Section 301, Subgrade Preparation. The sidewalk subgrade shall be compacted to a minimum of 95% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

Sidewalk construction shall be in accordance with MAG Standard Specification Section 340, Concrete Sidewalk, and MAG Standard Detail 230, Sidewalks. PC concrete shall be Class A, 3,000 psi, concrete per MAG Section 725 with a maximum slump of 3 inches.

Joints: All sidewalk joints (contraction and expansion) shall have all edges shaped with a suitable tool so formed as to round the edges to a 1/4" radius.

Expansion Joints: Expansion joints shall be installed where shown on the plans prior to all concrete pours. The expansion joint must install for the full depth of the concrete section and provide for complete separation of the sidewalk from the adjoining concrete.

The expansion joint material shall be topped with a 1/2" expansion joint cap and shall extend from 1" below the sidewalk subgrade up so the expansion joint cap is flush with the surface of the concrete. The 1/2" expansion joint cap shall be 'SealTight Snap-Cap' as provided by White Cap (www.whitecap.com). The top of the Snap-Cap can be removed and discarded. Self-leveling caulk can be poured in the void on top of remaining cap effectively sealing the joint from surface moisture.

Finish: The sidewalk shall have an exposed aggregate finish where shown on the plans.

Exposed aggregate paving consists of placing a concrete slab with exposed aggregate in the surface of the finished concrete.

Exposed Aggregate: The exposed aggregate shall be uncrushed river-run rocks. The Contractor shall provide at least a 10-pound sample for approval by the Town Engineer prior to any exposed aggregate paving. The aggregate shall not be larger than 2 inches or smaller than 1 inch.

Exposed Aggregate Construction Procedure: The Contractor shall construct a sample panel 3 feet by 3 feet for inspection and approval by the Town Engineer prior to actual construction. When

approved, this panel shall be used as a standard for the remainder of the exposed aggregate finish concrete work.

After the slab has been placed, screeded, and darbied, the aggregate shall be hand-scattered so that the entire surface is evenly covered. The surface shall be reworked so that the aggregate will be embedded just beneath the surface. The concrete shall completely surround and lightly cover the aggregate leaving no holes or voids.

A non-staining surface retarder will be applied to provide a surface penetration of at least 1/8-inch and the surface will be lightly screeded to ensure penetration. The surface will be covered with a protective material for the period of time recommended by the retarder manufacturer. After this time has elapsed, the upper, retarded layer of concrete will be removed using a water jet stream and a brush.

The protective cover will be replaced, and the concrete allowed to cure. After curing, the surface shall be cleaned, and a silicone seal applied.

The sidewalk construction work with an exposed aggregate finish shall include all materials, equipment, and labor costs to place and construct the 6" deep concrete sidewalk section on the prepared subgrade per the plans and specifications.

Method of Measurement:

Construct concrete sidewalk with exposed aggregate finish, terracotta red in color, will be measured by the square foot (SF) of concrete sidewalk constructed, as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of exposed aggregate finish concrete sidewalk, measured as provided above, will be paid for at the contract unit price per square foot (SF), which price shall be full compensation for the work complete and in place.

15. CONSTRUCT VERTICAL CURB AND GUTTER, MAG DETAIL 220-1, TYPE A

Description:

The work under this section shall consist of MAG Standard Detail 220-1, Type A, Vertical Curb and Gutter.

Materials:

Concrete shall be Class B, 2,500 psi at 28-days, per MAG Section 725, Portland Cement Concrete.

Construction Requirements:

Subgrade shall be prepared in accordance MAG Section 301, Subgrade Preparation. The curb and gutter subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

Vertical curb & gutter shall be constructed in accordance with MAG Standard Detail 220-1, Type A, and MAG Section 340.

The Contractor construct the new concrete vertical curb and gutter section on the prepared subgrade to the width, lines, and grades shown on the plans.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the concrete vertical curb and gutter section, including subgrade preparation, curb transitions and depressed sections, per Section 340, Detail 220-1, the plans, and these specifications.

Method of Measurement:

Measurement shall be made by the linear feet (LF) of vertical curb and gutter properly constructed, as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of vertical curb and gutter, measured as provided for above, will be paid for at the contract unit price per linear foot (LF) constructed in place.

16. CONSTRUCT RIBBON CURB, MAG DETAIL 220-1, TYPE B

Description:

The work under this section shall consist of the construction of ribbon curb in accordance with MAG Standard Detail 220-1, Type B, Ribbon Curb.

Materials:

Concrete shall be Class B, 2,500 psi 28-day strength, per MAG Section 725, Portland Cement Concrete.

Construction Requirements:

Subgrade shall be prepared in accordance MAG Section 301, Subgrade Preparation. The ribbon curb subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

Construction of ribbon curb shall be in accordance with MAG Standard Detail 220-1, Type B, and MAG Section 340.

The Contractor shall construct the new concrete ribbon curb section to the width, lines, and grades shown on the plans.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the concrete ribbon curb section, including subgrade preparation, curb transitions, and depressed sections, per Detail 220-1, the plans, and these specifications.

Method of Measurement:

Measurement shall be made by the linear feet (LF) of ribbon curb properly constructed and as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of ribbon curb, measured as provided for above, will be paid for at the contract unit price per linear foot (LF) constructed in place.

17. CONSTRUCT SINGLE CURB, MAG DETAIL 222, TYPE A

Description:

The work under this section shall consist of the construction of 6" height single curb in accordance with MAG Standard Detail 222, Type A, Single Curb.

Materials:

Concrete shall be Class B, 2,500 psi at 28-day strength, per MAG Section 725, Portland Cement Concrete.

Construction Requirements:

Subgrade shall be prepared in accordance MAG Section 301, Subgrade Preparation. The single curb subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

Construction of single curb shall be in accordance with MAG Section 340, Concrete Curb, Gutter, Sidewalk, Curb Ramps, Driveway and Alley Entrance.

The Contractor shall construct the new concrete single curb section to the width, lines, and grades shown on the plans and per Detail 222 for Type A single curb.

Where called for on the plans, Contractor shall provide transitions and depressed single curb sections to provide adequate ADA access and positive drainage.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the concrete single curb section, including subgrade preparation, curb transitions, and depressed sections, per Detail 222, the plans, and these specifications.

Method of Measurement:

Measurement shall be made by the linear feet (LF) of single curb properly constructed and as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of single curb, measured as provided for above, will be paid for at the contract unit price per linear foot (LF) constructed in place.

18. CONSTRUCT HEADER CURB, 6" WIDTH

Description:

The work under this section shall consist of the construction of 6" wide header curb in accordance with the details shown on the plans.

Materials:

Concrete shall be Class B per MAG Section 725, Portland Cement Concrete.

Reinforcing steel bars shall be per MAG Section 727 and conform to ASTM A615.

Construction Requirements:

Subgrade shall be prepared in accordance MAG Section 301, Subgrade Preparation. The header curb subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

Construction of the 6" wide header curb shall be in accordance with MAG Section 340, Concrete Curb, Gutter, Sidewalk, Curb Ramps, Driveway and Alley Entrance and MAG Section 505, Concrete Structures.

The Contractor shall construct the new concrete header curb section on the prepared subgrade to the width, lines, and grades shown on the plans.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the 6" wide header curb, including subgrade preparation and reinforcing steel placement, per the plans and these specifications.

Method of Measurement:

Measurement shall be made by the linear feet (LF) of 6-inch wide header curb properly constructed and as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of 6-inch header curb, measured as provided for above, will be paid for at the contract unit price per linear foot (LF) constructed in place.

19. CONSTRUCT MODIFIED SINGLE CURB WITH SAFETY RAIL

Description:

The work under this section shall consist of the construction of a single curb per MAG Standard Detail 222 Type B, modified to have a formed height of 8 inches and a minimum width of 8 inches, per details shown on the plans. This item includes the construction of a safety rail on top of the single curb per MAG Standard Detail 145, Type 2.

Materials:

Concrete shall be Class B, 2,500 psi at 28-days strength, per MAG Section 725, Portland Cement Concrete.

Safety rail shall be per MAG Standard Detail 145, Type 2.

Construction Requirements:

Subgrade shall be prepared in accordance MAG Section 301, Subgrade Preparation. The modified single curb subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

Construction of the modified single curb shall be in accordance with MAG Section 340, Concrete Curb, Gutter, Sidewalk, Curb Ramps, Driveway and Alley Entrance.

The Contractor shall construct the modified concrete single curb section on the prepared subgrade to the width, lines, and grades shown on the plans.

Safety rail shall be installed on top of the new single curb per MAG Detail 145, Type 2. Safety rail shall be painted terracotta red in color and shall include reflective yellow tape as shown on plan details.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the modified single curb with safety rail, including subgrade preparation, curb transitions, paint, and reflective tape per the plans, details, and these specifications.

Method of Measurement:

Measurement shall be made by the linear feet (LF) of modified single curb with safety rail properly constructed and as measured and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of modified single curb with safety rail, measured as provided for above, will be paid for at the contract unit price per linear foot (LF) constructed in place.

20. CONSTRUCT PARALLEL CURB RAMP, MAG DETAIL 238-3

Description:

New sidewalk parallel curb ramp shall be constructed at the locations shown on the plans. Construction shall be in accordance with MAG Standard Specification Section 340 and MAG Standard Detail No. 238-3, Parallel Curb Ramp, as may be modified by any special details shown on the plans.

Materials:

Materials shall conform to MAG Standard Specifications and Details, Section 340, Section 725, Detail 238-3, and other related sections and details.

Concrete shall be Class B, 2,500 psi at 28-days strength, per MAG Section 725, Portland Cement Concrete.

Detectable warning device shall be selected from the ADOT Approved Products List (APL). The color of the detectable warning strips shall be 'terracotta red' in color.

Construction Requirements:

The Contractor shall excavate to the subgrade of the pavement section then prepare and compact the subgrade in accordance MAG Section 301, Subgrade Preparation. The subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

The Contractor shall construct the new concrete parallel curb ramp section on the prepared and compacted subgrade to the width, lines, and grades shown on the plans and details.

This construction line item includes construction of the adjacent new 2 feet wide curb and gutter section and the curb and gutter transition section at each end of the curb ramp.

The Contractor shall construct the new parallel curb ramp, with detectable warning device and the included adjacent curb and gutter and transition sections on the compacted subgrade to the lines, configuration, and grades shown on the plans and details.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the prepared subgrade and the concrete sidewalk parallel curb ramp with detectable warning device included, and adjacent curb and gutter section and curb transition sections per the plans, constructed per MAG Section 340 and Detail 238-3, as may be modified by plan details, and as specified herein.

Method of Measurement:

Measurement shall be made by the square feet (SF) of concrete parallel curb ramp properly constructed and as measured and accepted by the Town Inspector. Construction of the subgrade

preparation, sidewalk ramp with detectable warning device, and the adjacent curb and gutter and curb transition sections are included in this pay item.

Basis of Payment:

The accepted quantities of concrete parallel curb ramp, measured as provided for above, will be paid for at the contract unit price per square foot (SF) constructed in place.

21. CONSTRUCT RADIAL PARALLEL CURB RAMP, MAG DETAIL 236-5, SINGLE RAMP

Description:

New sidewalk radial parallel curb ramp, single ramp, shall be constructed at the locations shown on the plans. Construction shall be in accordance with MAG Standard Specification Section 340 and MAG Standard Detail No. 236-5, Radial Parallel Curb Ramp, Single Ramp, as may be modified by any special details shown on the plans.

Materials:

Materials shall conform to MAG Standard Specifications and Details, Section 340, Section 725, Detail 221, Curb and Gutter Transition, Detail 236-5, Radial Parallel Curb Ramp, and other related sections and details.

Detectable warning device shall be selected from the ADOT Approved Products List (APL). The color of the detectable warning device shall be 'terracotta red' in color.

Construction Requirements:

The Contractor shall excavate to the subgrade of the pavement section then prepare and compact the subgrade in accordance MAG Section 301, Subgrade Preparation. The subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content.

The Contractor shall construct new concrete single ramp radial parallel curb ramp section to the width, lines, and grades shown on the plans and details.

This construction line item includes construction of the adjacent new 2 feet wide curb and gutter section and the curb and gutter transition section at each end of the curb ramp.

The Contractor shall construct the new single ramp radial parallel curb ramp and the included adjacent curb and gutter and transition sections on the compacted subgrade to the lines, configuration, and grades shown on the plans and details. The detectable warning device for the curb ramp shall be 'terracotta red' in color.

The work shall include all materials, equipment, and labor costs to furnish, place, install, and construct the prepared subgrade and the concrete sidewalk parallel curb ramp with detectable warning device included, and the adjacent curb and gutter section and curb transition sections

per the plans, constructed per MAG Section 340 and Detail 236-5, as may be modified by plan details, and as specified herein.

Method of Measurement:

Measurement shall be made by the square feet (SF) of single ramp radial parallel curb ramp properly constructed and as measured and accepted by the Town Inspector. Construction of the subgrade preparation, sidewalk ramp with detectable warning device, and the adjacent curb and gutter and curb transition sections are included in this pay item.

Basis of Payment:

The accepted quantities of single ramp radial parallel curb ramp, measured as provided for above, will be paid for at the contract unit price per square foot (SF) constructed in place.

22. INSTALL DETECTABLE WARNING DEVICE

Description:

The work under this section shall consist of the installation of a detectable (tactile) warning device onto new or existing concrete surfaces at locations shown on the plans.

Materials:

Detectable warning device shall comply with ADOT Section 908 and shall be selected from the ADOT Approved Products List (APL). The color of the detectable warning strips shall be terracotta.

Construction Requirements:

Detectable warning device shall be two (2) feet in width and have a length matching the width of the adjacent crosswalk as shown on the plans.

Detectable warning device shall be installed in accordance with the manufacturer's instructions. Materials shall be approved by Town Inspector prior to installation or application.

Work shall include all labor, materials, and equipment necessary to provide and securely affix the detectable warning strip to the concrete surface and provide an ADA compliant access route.

Method of Measurement:

Install detectable warning device will be measured by the square feet (SF) for all detectable warning devices properly installed and accepted by the Town Inspector.

Basis of Payment:

The accepted quantities of detectable warning devices, measured as provided for above, will be paid for at the contract unit price per square foot (SF) installed.

23. CONSTRUCT CONCRETE PAVEMENT SECTION

Description:

The work under this section shall consist of constructing a Portland Cement Concrete (PCC) Pavement Section in the roadway at the locations shown on the plans.

Materials:

The concrete used shall comply with MAG Section 725 for Class AA (4,000 psi at 28-days strength) concrete. Concrete shall be colored terracotta red.

Construction Requirements:

Construction of the concrete pavement sections shall comply with MAG Section 324, Portland Cement Concrete Pavement (PCCP) and to the dimensions and per the structural section and details shown on the plans.

The Contractor shall excavate to the subgrade of the pavement section then prepare and compact the subgrade in accordance MAG Section 301, Subgrade Preparation. The subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content. Subgrade preparation work shall be subsidiary and incidental to the construction of the concrete pavement section and not paid for separately.

The Contractor shall place and compact the required thickness of aggregate base course on the prepared subgrade. The aggregate base course shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content. The 4" aggregate base course shall be constructed in accordance with MAG Section 310.

The Contractor shall form and construct the required thickness of PC concrete pavement section in accordance with the pavement structural section and the layout and dimensions shown on the plans. The 8" thick concrete pavement sections shall comply with MAG Specification Section 324 and Section 725.

The cross-slope shall not exceed 2.0% to comply with ADA requirements. Concrete shall be finished by means of a float, then trowelled and broomed with a fine brush in a transverse direction. Joint spacing shall typically be the more or less equal to the total width of the pavement section. For the street traffic lanes, joints shall be located at the lane edges (edges only for single lane and edges and centerline for two lanes).

The work shall include all materials, equipment, supplies, and labor costs to perform the subgrade preparation work, and to furnish, place, compact, and construct the aggregate base course and Portland Cement concrete pavement section per the plans and specifications.

Method of Measurement:

Measurement will be based on the square feet (SF) of concrete pavement section constructed to the required extents and depth as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square foot (SF) based on the measured quantity. Fine grading, subgrade preparation, aggregate base course, and PCC pavement construction and finishing are all included in this bid item and none of these items will be measured or paid for separately.

24. CONSTRUCT ASPHALT CONCRETE PAVEMENT

Description:

The work under this section shall consist of the placement of an Asphaltic Concrete Pavement section for the roadway at the locations shown on the plans.

Materials:

The asphalt concrete shall be 1/2" asphalt concrete mix designation, Marshall Mix Design for High Traffic areas, per MAG Specification Section 710.

Construction Requirements:

Construction of the asphalt concrete pavement shall comply with MAG Section 321, Placement and Construction of Asphalt Concrete Pavement, and to the dimensions and per the structural section and details shown on the plans.

The Contractor shall excavate to the subgrade of the pavement section then prepare and compact the subgrade in accordance MAG Section 301, Subgrade Preparation. The subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content. Subgrade preparation work shall be subsidiary and incidental to the construction of the concrete pavement section and not paid for separately.

The Contractor shall place and compact the required thickness of aggregate base course on the prepared subgrade. The aggregate base course shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content. The 4" aggregate base course shall be constructed in accordance with MAG Section 310.

The Contractor shall place and compact the required 4" thickness of asphalt concrete pavement in accordance with the pavement structural section shown on the plans. The asphalt pavement shall be constructed in accordance with MAG Section 321.

The work shall include all materials, equipment, supplies, and labor costs to perform the subgrade preparation work, and to furnish, place, compact, and construct the aggregate base course and asphalt pavement section per the plans and specifications.

Method of Measurement:

Measurement will be based on the square yards (SY) of asphalt concrete pavement constructed to the required extents and depth as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square yard (SY) based on the measured quantity. Fine grading, subgrade preparation, aggregate base course, and asphalt concrete pavement are all included in this bid item and none of these items will be measured or paid for separately.

25. INSTALL BRICK PAVERS

Description:

The work under this section shall consist of the re-installation of brick pavers previously removed and stockpiled under the section "Remove Brick Pavers". Pavers shall be reinstalled at the locations shown on the plans in accordance with MAG Detail 225, Interlocking Concrete Pavers, and plan details.

Materials:

Materials shall conform to MAG Standard Specifications and Details for Public Works Construction, Section 775, Bricks and Concrete Masonry Units (Blocks), and Section 725, Portland Cement Concrete.

Replacement bricks, if needed, shall be traffic-rated "Appian Napoli" concrete pavers matching the existing brick pavers, or an approved equivalent.

Concrete shall be Class A, 3,000 psi at 28-days strength per MAG Section 725 and Detail 225.

Construction Requirements:

The Contractor shall excavate to the subgrade of the brick paver pavement section and then prepare and compact the subgrade in accordance MAG Section 301, Subgrade Preparation. The subgrade shall be compacted to a minimum of 100% Standard Proctor Density (ASTM D698) within a range of plus or minus 2% optimum moisture content. Subgrade preparation work shall be subsidiary and incidental to the construction of the concrete pavement section and not paid for separately.

The Contractor shall place, finish, and cure the required thickness of Class A concrete for the base slab in accordance with MAG Section 342.3.3 on the prepared subgrade.

Contractor shall place, spread, and level the sand laying course to a maximum depth of 1" per MAG Section 342.3.6.

Salvaged or new concrete pavers shall be clean and free of foreign materials prior to installation. Installation of the pavers shall comply with MAG Section 342.3.7, Detail 225, and the details shown on the plans.

The work shall include all materials, equipment, supplies, and labor costs to perform the subgrade preparation work, to furnish, place, compact, and construct the concrete base slab, to place the sand layer, and to place and install the brick pavers per the plans and specifications.

Method of Measurement:

Measurement will be based on the square feet (SF) of brick paver area properly installed as measured and accepted by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square foot (SF) based on the measured quantity.

26. INSTALL 2" THICK DECOMPOSED GRANITE LANDSCAPE MATERIAL

Description:

The work under this section shall consist of salvaging and stockpiling existing decomposed granite (DG) landscape material within the construction limits, respreading the salvaged DG on the disturbed areas to the extent of the available materials, and furnishing and spreading new DG material as needed to complete the landscape material resurfacing in accordance with MAG Section 430.

Materials:

Decomposed granite shall comply with MAG Section 795. Decomposed granite shall be 1/4" minus in size and 'tan' in color as locally available unless otherwise directed by the Town Inspector.

Construction Requirements:

Landscape Surfacing: Existing decorative decomposed granite (DG), or other landscape surfacing materials, within the limits of the work site shall be removed, salvaged, and stockpiled on site.

Contractor shall fine grade the areas adjacent to the curb so that the subgrade for the decomposed granite will be 2" below the top of adjacent edge of the curb or sidewalk. Prior to spreading decomposed granite, ensure all areas to be covered are free of rock and debris and apply pre-emergent weed control to all areas to be covered. Application of pre-emergent weed control shall be considered incidental to this bid item and no extra payment will be made for such work.

The Contractor shall restore the landscape surfacing following construction of the hardscape improvement items by respreading the stockpiled DG materials to a depth of 2 inches to match the existing, adjacent, undisturbed DG to the extent of the available salvaged DG material. Salvaged DG shall be placed in such a manner that it has a smooth, uniform appearance, and no bare ground is visible.

To completely cover the ground surfaces that were disturbed by construction activities such that no bare ground is visible, the Contractor shall furnish and install additional new DG to match existing (in both size and color) in sufficient quantities to provide complete coverage and to a minimum depth of two inches (2").

Provide a minimum 2-inch thickness of salvaged and/or new decomposed granite to all areas to be covered. After placement, the top of DG rock shall be broomed with a push-broom as needed

to provide an even appearance.

The work shall include all materials, equipment, supplies, and labor costs to place and install the salvaged DG and supplemental new DG, per the plans and specifications, and all other related work to fully restore landscape surfacing at the site to the equivalent of pre-construction condition; all to the satisfaction of the Town Inspector.

Method of Measurement:

Measurement will be based on square feet (SF) of decomposed granite installed complete as measured on the ground by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per square foot (SF) of decomposed granite based on the measured quantity.

27. FURNISH & INSTALL PEDESTRIAN ONE-WAY RRFB ASSEMBLY

Description:

The work under this section shall consist of the completion of a fully functional solar powered pedestrian rectangular rapid flashing beacon (RRFB) assembly, one-way (single sided), as shown on and in conformance with the project plans, the requirements set forth herein, and as directed by the Town Engineer.

The Contractor shall submit shop drawings for approval by the Town Engineer prior to ordering components associated with this item.

Materials:

All RRFB assembly materials shall conform to the requirements on the project plans and the applicable sections of the ADOT Standard Specifications including, but not limited to, the following:

- a. Section 607, Roadside Sign Supports.
- b. Section 608, Sign Panels.
- c. Section 730, General Requirements for Traffic Signal and Highway Lighting Systems.
- d. Section 731, Structural Supports and Foundations for Traffic Signal and Highway Lighting.
- e. Section 732, Electric Underground Materials.
- f. Section 733, Signal Indications and Mounting Assemblies.
- g. Section 734, Traffic Controller Assembly.
- h. Section 735, Detectors.
- i. Section 736, Highway and Sign Lighting.
- j. Section 737, Incidental Electrical Work.
- k. Section 1006, Portland Cement Concrete

The materials associated with the pedestrian RRFB assembly include the following:

- a. The RRFB pole shall be a standard signal/sign pole, 20 feet tall, 4-inch inside diameter.
- b. Concrete for all foundations shall be ADOT Class S and shall have a required minimum 28-day compressive strength of 3,000 pounds per square inch.
- c. Reinforcing steel bars for foundations shall conform to the requirements of ASTM A 615, Grade 40. Reinforcing steel wire shall conform to the requirements of ASTM A 82.
- d. Accessible Pedestrian Signal (APS) push button.

- a. Push Button To Turn On Warning Lights sign (with pushbutton symbol), R10-25 sign, 9" x 12".
- b. Diagonal Arrow Plaque, W16-7P (downward left) sign, 24" x 12".
- c. Pedestrian Crossing Sign, W11-2 sign, 36" x 36".
- d. High Performance Rectangular Rapid Flashing Beacon (RRFB), SB435, Crosswalk Lighting System.
- e. Flashing beacon signal controller including all materials (wiring and assembly hardware), tools, and labor. Separate cabinet if necessary.

All wiring must be UV resistant rated. Stainless steel hardware must be used throughout.

- f. TAPCO (www.TAPCOnet.com), Safewalk™ Crosswalk Illuminator, LED, solar powered operation, lights upon activation (with photo cell control to only light in dark conditions), one per pole.
- g. Provide mounting brackets for RRFB, signs, pedestrian push button, crosswalk illuminators, solar panel, controller, and battery.
- h. Provide any and all required conductors, supplies, and hardware needed to make a fully functional power supply system for the solar powered RRFB Flashing Beacon Assembly.
- i. Solar Panel Assembly: Solar panel shall be properly sized by the supplier/vendor to power the RRFB, controller, pedestrian push button activators, and TAPCO Safewalk™ Pedestrian Crosswalk Illuminators.

Size: The solar power panel shall be sized to provide sufficient power to illuminate the RRFB beacons, indicators, detectors, and lights throughout daytime and night conditions without dimming or shutting off. Provide the design assumptions to the Town for review and acceptance.

The solar panels shall contain single or multi crystalline solar cells, protected on the upper surface by low iron tempered glass. The solar module must have an aluminum frame, riveted to a protective bottom surface aluminum module pan for vandal protection.

Solar Panels shall have a 20-year manufacturer's full warranty for 20% power loss. Photovoltaic panels shall be IEC61215, IEEE1262 listed, or UL1703 listed.

No Cables and/wires will be allowed to be exposed.

Solar Charger: The solar charger shall have the capability to charge batteries in all kinds of weather conditions including rain, fog, and overcast/cloudy weather.

Inverter: A solar inverter is to convert the variable direct current (DC) output of the photovoltaic (PV) solar panel into a utility frequency alternating current (AC) that can supply power as needed for the RRFB Flashing Beacon Assembly. This shall be a stand-alone inverter in the isolated systems where the inverter draws its DC energy from batteries charged by photovoltaic arrays. The inverter should be the quasi-sine wave/sine wave type, with frequency in the range of 20 - 30 KHz (half-wave operation is not acceptable). The total efficiency should be not less than

85%.

Battery: The fully charged batteries shall have an Amp Hour (Ah) rating sufficient to operate throughout the day and night without dimming or shutting off for a minimum of 5 consecutive days. Batteries shall be sealed valve regulated gel cell type and maintenance free. Batteries shall be rated “non-spillable”. Batteries shall be designed for a minimum of 7 years of operation with a minimum full warranty of 5 years full replacement.

Battery Enclosure: Batteries shall be self-contained and installed internally within the pole, if possible, or in a battery enclosure. The enclosure must be constructed of galvanized steel or aluminum, vented, located on the pole below the solar panels for shade, and an access door loaded from the front. Battery enclosure shall have a minimum 20-year full warranty.

Controller: Controller/driver must be set for 24-hour operation upon activation for a minimum of at least five (5) consecutive days/nights without adequate insolation during the day to charge the batteries. Controller/driver shall have a minimum 5-year full warranty.

Wiring harness/conductors: All UV stabilized jacketed wiring and connectors. Quick disconnect connector plugs shall have a latch to ensure secure connection. Provide with in-line fuse and holder in watertight enclosures.

All wiring and related conductors shall be sized for the electrical loading and fully compatible with the related components.

Provide all mounting all mounting hardware, brackets used for mounting signs and other components, and a breakaway base.

Construction Requirements:

The Contractor shall furnish and install a complete RRFB assembly that is fully operational for the intended purpose where shown and as detailed on the project plans.

An installed pedestrian RRFB Assembly shall include, but not be limited to, the following:

- a. Construct a concrete foundation for the specified RRFB signal pole.
- b. Erect the RRFB signal pole on the foundation with a breakaway pole base.
- c. Attach the pedestrian push button (PPB), PPB sign, diagonal arrow sign, pedestrian crossing sign, SB435 rectangular flashing beacons, the crosswalk illumination lighting system, RRFB system controller, and the solar panel and related equipment (controller, battery, etc.) to the pole using fasteners and mounts recommended and supplied by the equipment manufacturers/suppliers.
- d. Furnish and install all conductors required within the pole connecting the RRFB signal pole devices.
- e. Furnish and install all conductors interconnecting the RRFB poles across the intersection within the conduit constructed with this project under a separate bid/construction item.

- f. Furnish and install any and all other required items necessary to construct and complete a fully functional pedestrian rectangular rapid flashing beacon (RRFB) assembly.
- g. Furnish and install a downward diagonal arrow sign, W16-7P, 24" x 12", mounted a minimum height to the bottom of the sign of 7 feet above the adjacent sidewalk surface. Downward left facing on-coming traffic in the curb lane and downward right sign on the median islands sign facing on-coming traffic in the inside lane.
- h. Furnish and install a pedestrian crosswalk warning sign, W11-2, 36" x 36", mounted above the RRFB.
- i. Furnish and install an RRFB signal controller. Program the signal system controller to operate upon pedestrian activation of the pedestrian push button. A traffic controller assembly shall consist of a complete assemblage of electrical equipment and components for controlling the operation and timing of the RRFB and related devices. Only one controller is required per crosswalk.

The RRFB units shall be programmed to use the wigwag and simultaneous (WW+S) flash pattern upon activation. Duration shall be based on the crosswalk length and walking speed of 2 feet per second plus 4 seconds.

- j. Furnish and install a TAPCO (www.TAPCO.net), Safewalk™ Crosswalk Illuminator, LED, solar powered operation, lights upon activation (with photo cell control to only light in dark conditions), one per pole.
- k. Furnish and install a solar panel assembly
- l. Contractor to restore ground surface and landscape materials disturbed by construction activities to pre-existing condition or better
- m. The installation shall be in accordance with applicable sections of the ADOT Standard Specifications, applicable ADOT Traffic Signal and Lighting Standard Drawings, and the equipment manufacturers' specifications and requirements.

Method of Measurement:

Furnish and install pedestrian One-Way RRFB assembly complete will be measured as a unit for each (EA) satisfactorily completed pedestrian One-Way RRFB assembly accepted by the Town.

Basis of Payment:

The accepted quantities of pedestrian One-Way RRFB assemblies, measured as provided above, will be paid for at the contract unit price for each (EA) pedestrian One-Way RRFB assembly installed and satisfactorily completed.

28. FURNISH & INSTALL PEDESTRIAN TWO-WAY RRFB ASSEMBLY

Description:

The work under this section shall consist of the completion of a fully functional solar powered pedestrian rectangular rapid flashing beacon (RRFB) assembly, two-way (double sided), as shown on and in conformance with the project plans, the requirements set forth herein, and as directed by the Town Engineer.

The Contractor shall submit shop drawings for approval by the Town Engineer prior to ordering components associated with this item.

Materials:

All RRFB assembly materials shall conform to the requirements on the project plans and the applicable sections of the ADOT Standard Specifications including, but not limited to, the following:

- a. Section 607, Roadside Sign Supports.
- b. Section 608, Sign Panels.
- c. Section 730, General Requirements for Traffic Signal and Highway Lighting Systems.
- d. Section 731, Structural Supports and Foundations for Traffic Signal and Highway Lighting.
- e. Section 732, Electric Underground Materials.
- f. Section 733, Signal Indications and Mounting Assemblies.
- g. Section 734, Traffic Controller Assembly.
- h. Section 735, Detectors.
- i. Section 736, Highway and Sign Lighting.
- j. Section 737, Incidental Electrical Work.
- k. Section 1006, Portland Cement Concrete

The materials associated with the pedestrian RRFB assembly include the following:

- a. The RRFB pole shall be a standard signal/sign pole, 20 feet tall, 4-inch inside diameter.
- b. Concrete for all foundations shall be ADOT Class S and shall have a required minimum 28-day compressive strength of 3,000 pounds per square inch.
- c. Reinforcing steel bars for foundations shall conform to the requirements of ASTM A 615, Grade 40. Reinforcing steel wire shall conform to the requirements of ASTM A 82.
- d. Accessible Pedestrian Signal (APS) push button.

- j. Push Button To Turn On Warning Lights sign (with pushbutton symbol), R10-25 sign, 9" x 12".
- k. Diagonal Arrow Plaque, W16-7P (downward left) sign, 24" x 12" – two (2) required.
- l. Pedestrian Crossing Sign, W11-2 sign, 36" x 36" – two (2) required.
- m. High Performance Rectangular Rapid Flashing Beacon (RRFB), SB435, Crosswalk Lighting System – two (2) required.
- n. Flashing beacon signal controller including all materials (wiring and assembly hardware), tools, and labor. Separate cabinet if necessary.

All wiring must be UV resistant rated. Stainless steel hardware must be used throughout.

- o. TAPCO (www.TAPCOnet.com), Safewalk™ Crosswalk Illuminator, LED, solar powered operation, lights upon activation (with photo cell control to only light in dark conditions), one per pole.
- p. Provide mounting brackets for RRFB, signs, pedestrian push button, crosswalk illuminators, solar panel, controller, and battery.
- q. Provide any and all required conductors, supplies, and hardware needed to make a fully functional power supply system for the solar powered RRFB Flashing Beacon Assembly.
- r. Solar Panel Assembly: Solar panel shall be properly sized by the supplier/vendor to power the RRFB, controller, pedestrian push button activators, and TAPCO Safewalk™ Pedestrian Crosswalk Illuminators.

Size: The solar power panel shall be sized to provide sufficient power to illuminate the RRFB beacons, indicators, detectors, and lights throughout daytime and night conditions without dimming or shutting off. Provide the design assumptions to the Town for review and acceptance.

The solar panels shall contain single or multi crystalline solar cells, protected on the upper surface by low iron tempered glass. The solar module must have an aluminum frame, riveted to a protective bottom surface aluminum module pan for vandal protection.

Solar Panels shall have a 20-year manufacturer's full warranty for 20% power loss. Photovoltaic panels shall be IEC61215, IEEE1262 listed, or UL1703 listed.

No Cables and/wires will be allowed to be exposed.

Solar Charger: The solar charger shall have the capability to charge batteries in all kinds of weather conditions including rain, fog, and overcast/cloudy weather.

Inverter: A solar inverter is to convert the variable direct current (DC) output of the photovoltaic (PV) solar panel into a utility frequency alternating current (AC) that can supply power as needed for the RRFB Flashing Beacon Assembly. This shall be a stand-alone inverter in the isolated systems where the inverter draws its DC energy from batteries charged by photovoltaic arrays. The inverter should be the quasi-sine wave/sine wave type, with frequency in the range of 20 - 30 KHz (half-wave operation is not acceptable). The total efficiency should be not less than

85%.

Battery: The fully charged batteries shall have an Amp Hour (Ah) rating sufficient to operate throughout the day and night without dimming or shutting off for a minimum of 5 consecutive days. Batteries shall be sealed valve regulated gel cell type and maintenance free. Batteries shall be rated “non-spillable”. Batteries shall be designed for a minimum of 7-years of operation with a minimum full warranty of 5-years full replacement.

Battery Enclosure: Batteries shall be self-contained and installed internally within the pole, if possible, or in a battery enclosure. The enclosure must be constructed of galvanized steel or aluminum, vented, located on the pole below the solar panels for shade, and an access door loaded from the front. Battery enclosure shall have a minimum 20-year full warranty.

Controller: Controller/driver must be set for 24-hour operation upon activation for a minimum of at least five (5) consecutive days/nights without adequate insolation during the day to charge the batteries. Controller/driver shall have a minimum 5-year full warranty.

Wiring harness/conductors: All UV stabilized jacketed wiring and connectors. Quick disconnect connector plugs shall have a latch to ensure secure connection. Provide with in-line fuse and holder in watertight enclosures.

All wiring and related conductors shall be sized for the electrical loading and fully compatible with the related components.

Provide all mounting all mounting hardware, brackets used for mounting signs and other components, and a breakaway base.

Construction Requirements:

The Contractor shall furnish and install a complete RRFB assembly that is fully operational for the intended purpose where shown and as detailed on the project plans.

An installed pedestrian RRFB Assembly shall include, but not be limited to, the following:

- n. Construct a concrete foundation for the specified RRFB signal pole.
- o. Erect the RRFB signal pole on the foundation with a breakaway pole base.
- p. Attach the pedestrian push button (PPB), PPB sign, diagonal arrow sign, pedestrian crossing sign, SB435 rectangular flashing beacons, the crosswalk illumination lighting system, RRFB system controller, and the solar panel and related equipment (controller, battery, etc.) to the pole using fasteners and mounts recommended and supplied by the equipment manufacturers/suppliers.
- q. Furnish and install all conductors required within the pole connecting the RRFB signal pole devices.
- r. Furnish and install all conductors interconnecting the RRFB poles across the intersection within the conduit constructed with this project under a separate bid/construction item.

- s. Furnish and install any and all other required items necessary to construct and complete a fully functional pedestrian rectangular rapid flashing beacon (RRFB) assembly.
- t. Furnish and install a downward diagonal arrow sign, W16-7P, 24" x 12", mounted a minimum height to the bottom of the sign of 7 feet above the adjacent sidewalk surface. Downward left facing on-coming traffic in the curb lane and downward right sign on the median islands sign facing on-coming traffic in the inside lane.
- u. Furnish and install a pedestrian crosswalk warning sign, W11-2, 36" x 36", mounted above the RRFB.
- v. Furnish and install an RRFB signal controller. Program the signal system controller to operate upon pedestrian activation of the pedestrian push button. A traffic controller assembly shall consist of a complete assemblage of electrical equipment and components for controlling the operation and timing of the RRFB and related devices. Only one controller is required per crosswalk.

The RRFB units shall be programmed to use the wigwag and simultaneous (WW+S) flash pattern upon activation. Duration shall be based on the crosswalk length and walking speed of 2 feet per second plus 4 seconds.

- w. Furnish and install a TAPCO (www.TAPCO.net), Safewalk™ Crosswalk Illuminator, LED, solar powered operation, lights upon activation (with photo cell control to only light in dark conditions), one per pole.
- x. Furnish and install a solar panel assembly
- y. Contractor to restore ground surface and landscape materials disturbed by construction activities to pre-existing condition or better
- z. The installation shall be in accordance with applicable sections of the ADOT Standard Specifications, applicable ADOT Traffic Signal and Lighting Standard Drawings, and the equipment manufacturers' specifications and requirements.

Method of Measurement:

Furnish and install a pedestrian Two-Way RRFB assembly complete will be measured as a unit for each (EA) satisfactorily completed pedestrian Two-Way RRFB assembly accepted by the Town.

Basis of Payment:

The accepted quantities of pedestrian Two-Way RRFB assemblies, measured as provided above, will be paid for at the contract unit price for each (EA) pedestrian Two-Way RRFB assembly installed and satisfactorily completed.

29. INSTALL 3" PVC ELECTRICAL CONDUIT

Description:

The work under this section shall consist of installation of electric system conduit at the locations shown on the project plans, in accordance with the requirements set forth herein.

Materials:

PVC conduit and materials shall be in accordance with Section 732-2.02, of the ADOT Standard Specifications. PVC conduit for this project shall be 3" in diameter.

Electric conduit used for this project shall be Schedule 40 PVC of the size shown on the plans.

Bends, conduit fittings, expansion joints, 36-inch sweeps, and other conduit accessories not specifically mentioned shall be manufactured from a material similar to the connecting conduit. Conduit elbows used shall be a minimum of 24-inches.

Construction Requirements:

Conduit shall be installed by open trench once the pavement has been removed for the new concrete crosswalk pavement construction in accordance with requirements of Section 732, Electric Underground Material, of the ADOT Standard Specifications for Road and Bridge Construction, latest revision.

Conduit shall be placed to the lines, grades, details, and dimensions shown on the plans. Unless otherwise shown on the plans, underground conduit shall be installed with a minimum cover depth of 30-inches.

The Contractor shall follow the AZ811 Blue Stake requirements and provide sufficient vertical and horizontal clearances from existing utilities as described in ADOT Standard Specification Section 107.

No more than 1 week prior to installation of conductors, all new and existing conduit runs in which cable is to be installed shall be cleared/cleaned by pulling through a metal-disc mandrel with a diameter of 90 percent of the conduit diameter, or a ball mandrel with a diameter of 80 percent of the conduit diameter. The conduit may be brushed or swabbed, if deemed necessary, prior to pulling the mandrel through the conduit. No direct measurement or payment will be made for this work, as it is considered included in payment for directional drill of conduit.

The installation of conductors in the conduit are part of the pedestrian circular rapid flashing beacon (RRFB) assembly pay item for the work associated with each pay item. No separate measurement and payment will be made for conductor installation under this pay item.

Method of Measurement:

Measurement will be based on the linear feet (LF) of new electric conduit installed by trenching.

Basis of Payment:

Payment will be made at the bid unit price per linear foot (LF) based on the measured quantity. The unit price shall be full compensation for the work, complete in place, including excavation, backfill and any incidentals necessary to complete the conduit installation. No direct payment will be made for conduit bends, at pull boxes, expansion fittings, and coupling fittings as the cost

for those is considered as included to the contract unit price for this construction item of work.

30. INSTALL DYNAMIC SPEED FEEDBACK SIGN ASSEMBLY

Description:

The work under this item shall consist of installing a Dynamic Speed Feedback Sign Assembly including all materials, equipment, and labor at the location designated on the project plans and the requirements of specifications.

Materials:

Dynamic speed feedback sign assembly materials shall conform to the requirements on the project plans, details, and the applicable sections of the ADOT Standard Specifications including, but not limited to, the following:

- a. Section 607, Roadside Sign Supports.
- b. Section 608, Sign Panels.
- c. Section 730, General Requirements for Traffic Signal and Highway Lighting Systems.
- d. Section 731, Structural Supports and Foundations for Traffic Signal and Highway Lighting..
- e. Section 733, Signal Indications and Mounting Assemblies.
- f. Section 734, Traffic Controller Assembly.
- g. Section 735, Detectors.
- h. Section 736, Highway and Sign Lighting.
- i. Section 737, Incidental Electrical Work.
- j. Section 1006, Portland Cement Concrete

The Contractor shall furnish and install a dynamic speed feedback sign assembly at the designated location shown on the plans, as detailed in accordance with the specifications, and as directed by the Town Engineer.

The dynamic speed feedback sign system shall conform to the following specifications and the details on project plans. The manufacturer shall provide components for a solar-powered dynamic speed feedback sign assembly that is activated via a radar sensor.

The primary function of the radar dynamic speed feedback sign is to provide a highly visible speed violator alert to road users of an imminent and expected change in traffic behavior. The dynamic speed feedback sign is activated only when there is an approaching vehicle that is exceeding the radar's programmable speed threshold.

Components for each assembly shall include a sign panel with an LED panel and radar sensor, solar panel, control circuit, battery pack, necessary wiring and assembly hardware, that are all assembled onto a single traffic pole.

The radar dynamic speed feedback sign shall meet the following requirements:

System:

- a. Each warning system shall consist of a warning indicator along with a Doppler radar that shall trigger it.

- b. Shall operate on solar-assisted battery power.
- c. Solar charging of the battery packs shall be managed with the solar regulator circuitry which is integrated into the sign control circuit.
- d. Individual components shall be independently replaceable.
- e. Face plate on all signs shall conform to 2009 Federal Highway Administration's MUTCD section 2A.07 on retro reflectivity and illumination and shall be a minimum of 0.1875" thick aluminum.
- f. Face plate sign sheeting shall conform to ADOT Specification Section 608.
- g. Face plate sign sheeting shall be yellow high-intensity prismatic reflective sheeting with black colored text.
- h. Face plate sign panel shall be provided with protective overlay film to provide an additional layer of graffiti protection.
- i. UV-resistant label(s) shall be applied to the back of each sign assembly and shall include specific information such as the manufacturer, manufacturer phone number, model number, serial number, date of manufacture and any applicable regulatory compliance information.
- j. LED panel shall be capable of displaying two 18"(H) x9.6"(W) digits.
- k. Shall have 112 LEDs per digit, luminous Intensity (5,000 – 12,000 mcd/LED).
- l. Shall have white speed violator strobe with at least 21 LEDs, luminous intensity (18,000 – 28,000 mcd/LED).
- m. Shall have 245 optical lenses.
- n. Face plate shall have a static 6" font word message "YOUR SPEED" in two lines.
- o. Shall have ambient light sensor and automatic brightness adjustment.
- p. LED digit legibility shall be at least 1,000 feet.
- q. Shall Include two banding style brackets that fit poles with a 2-3/8" or larger diameter to ensure secure mounting to the supporting post.
- r. Unit dimensions 42"(H) x 31.5"(W)
- s. Shall have conformal coating on all circuit boards.

Sign Housing: Contractor shall house the sign control circuit, battery pack, and terminal block for connection of the Radar Sensor and Sign. It shall:

- a. Be NEMA 4X-12, IP65 Level, constructed of a 12 gauge aluminum.
- b. Prevent insects and other foreign matter from entering.
- c. Facilitate maintenance or repairs by being constructed with a removable control panel on the interior to which all control circuit components either mount or connect.
- d. Have housing construction and mounting hardware made of either aluminum or stainless steel.
- e. Have a UV resistant label that is applied to the exterior of the cabinet that includes system specific information including model number, serial number, date of manufacture and any applicable regulatory compliance information.

System Wiring: System wiring from the solar panel to the sign system all other wiring shall:

- a. Not be left exposed.
- b. Be run inside a conduit.
- c. Waterproof bow connected.
- d. Have a drip loop.

Sign Control Circuit: Consists of an integrated Programmable Flash Controller and Solar Charge Regulator, and shall:

- a. Provide 6 levels of Sign LED brightness through LED drive current control as determined by the solar panel charge input.
- b. Have multiple programmable function options: 1) Stealth mode, 2) Run from dusk to dawn, and 3) run 24 hours per day, 7 days per week.
- c. Automatically adjust the sign drive current control to optimize brightness for the ambient lighting conditions.
- d. Manage the battery charge and sign brightness levels and duty cycle in order to maximize the number of days of continuous use without any solar charging.
- e. Include an integrated Real Time Clock (RTC) with on-board battery backup.
- f. Have the capability of RS232 communication for programming with Windows-based.
- g. Operate between the temperatures of -40° to +185°F (-40° to +85°C).

Battery Power: The battery pack shall:

- a. Be 4.8V, 27Ah Nickel Metal Hydride (NiMH).
- b. Be sealed in a plastic film to provide resistance to moisture and corrosion.
- c. Operate between the temperatures of -40° to +185°F (-40° to +85°C).
- d. Be protected from overcurrent by means of a resettable fuse device.
- e. Be protected from overheating by means of a thermocouple sensor.
- f. Include wireless battery charge monitoring.

Solar Panel:

- a. The solar panel shall be constructed of an anodized aluminum frame, high-transmission 1/8" tempered glass, with silicon cells encapsulated in double-layer EVA, and with a white polymer backing.
- b. For secure mounting, the solar panel is mounted to an aluminum plate and pole top bracket at a fixed angle of 45° to provide maximum insolation exposure (solar panel must be oriented with collector facing south). To ensure maximum solar insolation regardless of installation location, the post top mounting system shall provide 360° of rotational direction adjustment.
- c. The solar panel must be IEC61215, TUV, and UL 1703 certified. The solar panel shall operate at 6VDC nominal with a maximum output rating of 26 watts.
- d. The solar panel specifications: 1) Overall Size: 14" x 15.5", 2) DC Power input: 12 VDC, 3) Operate from -40° to +185°F (-40° to +85°C), and 4) 90W solar panel.

- e. All solar panel connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 1 meter deep for 30 minutes.
- f. All solar panel fasteners shall be anti-vandal pin-type set screws. Wrench shall be provided.

Radar Sensor:

- a. Shall be a one-piece programmable, stationary, directional, true Doppler Radar (FCC approved).
- b. Shall be programmed to monitor only the speed of the vehicles coming towards the system.
- c. The operating band shall be the K-Band operating at a frequency of 24.125 Ghz ± 5 Mhz with a power output of 5 MW.
- d. Beam angle shall be 24° (Vertical) x 12° (Horizontal).
- e. Beam polarization shall be linear.
- f. Shall have a typical detection range of 1,200 feet on an open and level road.
- g. Shall have be accurate to $\pm 0.5\%$, with a resolution of ± 0.006 mph.
- h. Shall have a programmable trigger range from 2 to 100 miles per hour.
- i. Shall have a nominal operating current of 9mA @ 12VDC.
- j. Shall operate from -40° to +185°F (-40° to +85°C).

Data Collection and Connectivity:

- a. Sign package shall include life-time unlimited cloud storage option.
- b. Sign shall have the 4G/5G connection capability.
- c. Sign shall include the capability to access the sign from anywhere with a cellular connection.
- d. Sign shall include stealth mode.
- e. Sign shall have the ability of statistical reporting and chart production.

Testing Requirements:

- a. Radar speed feedback sign system shall have an auto-test feature.
- b. Auto-test feature shall be the default setting when the system is powered on.
- c. Auto-test shall include the following; 1) digits test, 2) battery test, and 3) test the text display communication with radar.
- d. Contractor shall perform the auto-testing before installing the sign system at the project locations.
- e. Only sign systems passing the auto-test, shall be installed.

Construction Requirements:

The dynamic speed feedback sign assembly system shall be installed at a location designated on the project plans. The speed feedback sign shall be installed at an angle, for optimum vehicle detection, to the satisfaction of the Town Engineer.

The solar panel, dynamic speed feedback sign, and the solar controller shall be installed in the same order as indicated on the project plans in conjunction with the regulatory speed limit (R2-1) sign for 30 mph. Solar panel shall be installed with collector facing south. Wiring connecting solar panel and the speed feedback sign shall not be left exposed and shall be run in a conduit securely clamped to the pole.

An installed dynamic speed feedback sign assembly shall include, but not be limited to, the following:

- a. Construct a concrete foundation for the specified dynamic speed feedback sign pole.
- b. Erect the dynamic speed feedback sign pole on the foundation and fasten the base plate into place.
- c. Attach the speed limit sign (30 mph), dynamic speed feedback sign, and the solar panel and related equipment (controller, battery, etc.) to the pole using fasteners and mounts recommended and supplied by the equipment manufacturers/suppliers.
- d. Furnish and install all conductors required within the pole connecting the dynamic speed feedback sign assembly devices.
- e. Furnish and install any and all other required items necessary to construct and complete a fully functional dynamic speed feedback sign assembly.

The installation shall be in accordance with all applicable sections of the ADOT Standard Specifications, applicable ADOT Signing and Marking Standard Drawings, and the equipment manufacturers' specifications and requirements.

Method of Measurement:

Installation of the dynamic speed feedback sign assembly complete will be measured as a unit for each (EA) satisfactorily completed dynamic speed feedback sign assembly installed and accepted.

Basis of Payment:

The accepted quantity of dynamic speed feedback sign assembly, measured as provided above, will be paid for at the contract unit price for each (EA) dynamic speed feedback sign assembly installed and satisfactorily completed.

31. INSTALL RAISED PAVEMENT MARKERS, ADOT TYPE “D” AND “G”

Description:

The work under this item consists of applying raised pavement markers (RPMs) at the locations and in conformance with the details on the project plans and as may be directed by the Town Engineer.

Materials:

All materials shall conform to the requirements on the project plans and the applicable portions of Section 706, Raised Pavement Markers, of the ADOT Standard Specifications.

Type “D” (yellow, two-way) reflective pavement markers shall be used with yellow centerline striping and where called for on the plans.

Type “G” (clear, one-way) reflective pavement markers shall be used on white lane striping and where called for on the plans.

Construction Requirements:

The work under this section shall conform to the requirements of Section 706, Raised Pavement Markers, of the ADOT Standard Specifications for Road and Bridge Construction.

Reflectorized RPMs shall comply with ADOT Standard Drawing M-19, Type “D” or “G”, or an approved equivalent.

Installation of Type “D” and Type “G” RPMs shall be at the locations called for on the plans and plan details and shall include all materials, equipment, and labor to properly install and affix the RPMs to the pavements.

Method of Measurement:

Measurement will be made as a complete lump sum (LS) item of work, including all materials, labor, equipment, and other incidental costs required to provide a complete installation of RPMs as called for on the plans and accepted by the Town Inspector.

Basis of Payment:

Payment will be made at the lump sum (LS) price indicated on the Bid Schedule, which amount shall be considered full compensation for the work as described herein and necessary to complete the item.

32. INSTALL RAISED PAVEMENT MARKERS, ADOT TYPE “JY”

Description:

The work under this item consists of applying raised pavement markers (RPMs) at the locations and in conformance with the details on the project plans and as may be directed by the Town Engineer.

Materials:

All materials shall conform to the requirements on the project plans and the applicable portions of Section 706, Raised Pavement Markers, of the ADOT Standard Specifications.

Type “JY” (yellow) reflectorized RPM shall be used where called for on the plans.

Construction Requirements:

The work under this section shall conform to the requirements of Section 706, Raised Pavement Markers, of the ADOT Standard Specifications for Road and Bridge Construction.

Reflectorized RPMs shall comply with ADOT Standard Drawing M-19, Type “JY”, or an approved equivalent.

Installation of Type “JY” RPMs shall be at the locations called for on the plans and plan details and shall include all materials, equipment, and labor to properly install and affix the RPMs to the pavements.

Method of Measurement:

Measurement will be made as a complete lump sum (LS) item of work, including all materials, labor, equipment, and other incidental costs required to provide a complete installation as called for on the plans and accepted by the Town Inspector.

Basis of Payment:

Payment will be made at the lump sum (LS) price indicated on the Bid Schedule, which amount shall be considered full compensation for the work as described herein and necessary to complete the item.

33. APPLY THERMOPLASTIC PAVEMENT MARKINGS, WHITE

Description:

The work under this item consists of applying thermoplastic markings and striping at the locations and in conformance with the details shown on the project plans and as directed by the Town Engineer.

Materials:

All materials shall conform to the requirements on the project plans and the applicable portions of Section 704, Thermoplastic Pavement Markings, of the ADOT Standard Specifications.

Thermoplastic pavement marking thickness shall be 0.090" (90 mils). Color shall be white.

Construction Requirements:

The work under this section shall conform to the requirements of Section 704, Thermoplastic Pavement Markings, of the ADOT Standard Specifications for Road and Bridge Construction.

The existing pavement markings shall be obliterated prior to applying the new pavement markings. Obliteration of pavement markings shall be paid under a separate bid item.

In addition to lane and edge line stripes, markings shall include, but are not limited to, yield triangles, crosswalks, and stop bars.

Application of the new thermoplastic pavement markings work shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white thermoplastic reflectorized pavement markings using extrusion or ribbon dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the layout details shown on the project plans, the manufacturer's specifications, and the requirements of the specifications.

Method of Measurement:

Apply thermoplastic pavement markings, white, will be measured by the square feet (SF) of thermoplastic white pavement markings properly installed and as measured on the ground by the Town Inspector. Only the actual square feet of applied thermoplastic pavement markings will be measured for payment. Any gaps, spaces, or skips in lines and markings shall not be included in the measured quantity.

Basis of Payment:

The accepted quantities of white thermoplastic pavement markings, measured as provided for above, will be paid for at the contract unit price per square foot (SF) applied and completed in place.

34. APPLY THERMOPLASTIC PAVEMENT MARKINGS, YELLOW

Description:

The work under this item consists of applying thermoplastic markings and striping at the locations and in conformance with the details shown on the project plans and as directed by the Town Engineer.

Materials:

All materials shall conform to the requirements on the project plans and the applicable portions of Section 704, Thermoplastic Pavement Markings, of the ADOT Standard Specifications.

Thermoplastic pavement marking thickness shall be 0.090" (90 mils). Color shall be yellow.

Construction Requirements:

The work under this section shall conform to the requirements of Section 704, Thermoplastic Pavement Markings, of the ADOT Standard Specifications for Road and Bridge Construction.

The existing pavement markings shall be obliterated prior to applying the new pavement markings. Obliteration of pavement markings shall be paid under a separate bid item.

Application of the new thermoplastic pavement markings work shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white thermoplastic reflectorized pavement markings using extrusion or ribbon dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the layout details shown on the project plans, the manufacturer's specifications, and the requirements of the specifications.

Method of Measurement:

Apply thermoplastic pavement markings, yellow, will be measured by the square feet (SF) of thermoplastic yellow pavement markings properly installed and as measured on the ground by the Town Inspector. Only the actual square feet of applied thermoplastic pavement markings will be measured for payment. Any gaps, spaces, or skips in lines and markings shall not be included in the measured quantity.

Basis of Payment:

The accepted quantities of yellow thermoplastic pavement markings, measured as provided for above, will be paid for at the contract unit price per square foot (SF) applied and completed in place.

35. APPLY TRAFFIC PAINT TO NEW OR EXISTING CURB, WHITE

Description:

The work under this section shall consist of the Contractor furnishing white traffic paint and applying the paint at the locations called for on the plans.

Materials:

ADOT Standard Specifications for Road and Bridge Construction, 2021 Edition, Latest Revision, Section 708, Permanent Pavement Markings, and related sections.

Construction Requirements:

Contractor shall apply white traffic paint to new or existing curbs or other surfaces at the locations called for on the plans or as directed by the Town Inspector or Engineer.

Traffic paint shall comply with the requirements set forth in Section 708, Permanent Pavement Markings, of the ADOT Standard Specifications. Materials certifications shall be provided by the Contractor to the Town for both white and yellow traffic paint.

The work shall include all materials, equipment, and labor costs to paint the surfaces identified on the plans in accordance with Section 708, Permanent Pavement Markings, of the ADOT Standard Specifications.

Permanent pavement markings (traffic paint) shall not be applied sooner than 14 days and no later than 28 days after completion of any new pavement construction and upon review and concurrence from the Town Inspector.

Contractor shall take appropriate care to avoid overpainting designated surfaces. Any overpainting shall be removed by a Town approved method; covering with paint or asphalt will not be permitted.

Any damage caused by construction activities or pavement removal shall be repaired by methods acceptable to the Town Engineer.

Method of Measurement:

Measurement will be based on the square feet (SF) of white traffic paint applied to new or existing curbs or other designated surfaces, properly installed, as measured by the Town Inspector.

Basis of Payment:

Payment for white traffic paint shall be per square foot (SF) of white traffic paint applied based on the measured quantity.

36. APPLY TRAFFIC PAINT TO NEW OR EXISTING CURB, YELLOW

Description:

The work under this section shall consist of the Contractor furnishing yellow traffic paint and applying the paint at the locations called for on the plans.

Materials:

ADOT Standard Specifications for Road and Bridge Construction, 2021 Edition, Latest Revision, Section 708, Permanent Pavement Markings, and related sections.

Construction Requirements:

Contractor shall apply yellow traffic paint to new or existing curb or other surfaces at locations called for on the plans or as directed by the Town Inspector or Engineer.

Traffic paint shall comply with the requirements set forth in Section 708, Permanent Pavement Markings, of the ADOT Standard Specifications. Materials certifications shall be provided by the Contractor to the Town for both white and yellow traffic paint.

The work shall include all materials, equipment, and labor costs to paint the surfaces identified on the plans in accordance with Section 708, Permanent Pavement Markings, of the ADOT Standard Specifications.

Permanent pavement markings (traffic paint) shall not be applied sooner than 14 days and no later than 28 days after completion of any new pavement construction and upon review and concurrence from the Town Inspector.

Contractor shall take appropriate care to avoid overpainting designated surfaces. Any overpainting shall be removed by a Town approved method; covering with paint or asphalt will not be permitted.

Any damage caused by construction activities or pavement removal shall be repaired by methods acceptable to the Town Engineer.

Method of Measurement:

Measurement will be based on the square feet (SF) of yellow traffic paint applied to new or existing curbs or other designated surfaces, properly installed, as measured by the Town Inspector.

Basis of Payment:

Payment for yellow traffic paint shall be per square foot (SF) of yellow traffic paint applied based on the measured quantity.

37. APPLY WHITE THERMOPLASTIC PAVEMENT SYMBOL OR LEGEND

Description:

The work under this item consists of applying thermoplastic symbol and/or legend markings at the locations shown and in conformance with the details on the project plans and as directed by the Town Engineer.

Materials:

All materials shall conform to the requirements on the project plans and the applicable portions of Section 704, Thermoplastic Pavement Markings, of the ADOT Standard Specifications. Thermoplastic pavement marking thickness shall be 0.090". Color shall be white.

Construction Requirements:

The work under this section shall conform to the requirements of Section 704, Thermoplastic Pavement Markings, of the ADOT Standard Specifications for Road and Bridge Construction.

Symbols and legends include, but are not limited to, thru arrows, turn arrows, bike lane symbols and arrows, and PED X-ING markings. Bike lane symbols and arrows shall not be applied until the green painted box has been completed and fully cured out; green paint applications is measured and paid for under a separate bid and construction item.

The existing pavement markings shall be obliterated prior to applying the new pavement markings. Obliteration of pavement markings shall be paid under a separate bid item.

Application of the new thermoplastic pavement symbol and legend work shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white thermoplastic reflectorized pavement symbols and legends using extrusion or ribbon dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the layout details shown on the project plans, the manufacturer's specifications, and the requirements of the specifications.

Method of Measurement:

Apply white thermoplastic pavement symbol or legend will be measured by each (EA) symbol or legend properly installed, as measured on the ground by the Town Inspector. Only the actual number of applied thermoplastic pavement symbols and legends will be measured for payment.

Basis of Payment:

The accepted quantities of white thermoplastic pavement symbol or legend, measured as provided for above, will be paid for at the contract unit price per each (EA) applied and completed in place.

38. APPLY GREEN PAINT FOR BIKE LANE SYMBOL BOX

Description:

The work under this section shall consist of the Contractor furnishing green traffic paint to the asphalt pavement surface to identify the bike lane at locations called for and as shown on the plans.

Materials:

ADOT Standard Specifications for Road and Bridge Construction, 2021 Edition, Latest Revision, Section 708, Permanent Pavement Markings, and related sections.

Green paint shall be Streetbond SB150 CL Pavement Coating, Celtic Green in color, or approved equal and applied in four (4) or more coats per the manufacturer's recommendations.

Construction Requirements:

Contractor shall apply green traffic paint within the designated box shown on the plans for a bike lane symbol (and an arrow in some cases) as shown on the plans.

Traffic paint shall comply with the requirements set forth in Section 708, Permanent Pavement Markings, of the ADOT Standard Specifications, unless otherwise noted. Materials certifications shall be provided by the Contractor to the Town for the green traffic paint.

Permanent pavement markings (traffic paint) shall not be applied sooner than 14 days and no later than 28 days after completion of any new pavement construction and upon review and concurrence from the Town Inspector.

Contractor shall take appropriate care to avoid overpainting designated surfaces. Any overpainting shall be removed by a Town approved method; covering with paint or asphalt will not be permitted.

Any damage caused by construction activities or pavement removal shall be repaired by methods acceptable to the Town Engineer.

The work shall include all materials, equipment, and labor costs to prepare and paint the asphalt pavement surfaces identified on the plans in accordance with Section 708, Permanent Pavement Markings, of the ADOT Standard Specifications, including any overpaint removal or associated damage repairs.

Method of Measurement:

Apply green paint for bike lane symbol box will be measured by the square feet (SF) of green box area properly painted to incorporate the bike lane symbol, as measured on the ground by the Town Inspector.

Basis of Payment:

The accepted quantities of green paint for bike lane symbol box, measured as provided for above, will be paid for at the contract unit price per square foot (SF), applied and completed in place.

39. APPLY ASPHALT EMULSION SLURRY SEAL

Description:

The work under this item shall consist of the Contractor applying a MAG Standard Specifications Type II slurry seal over the existing asphalt pavement between the limits shown on the plans in accordance with these specifications or as directed by the Town Engineer.

Materials:

Asphalt emulsion slurry seal treatment shall comply with MAG Specification Section 332.

Aggregate shall be Type II per MAG Section 715.2.2 and Table 715-1.

Bituminous material shall comply with Section 713.

Construction Requirements:

The work shall be constructed in accordance with MAG Section 332, Placement and Construction of Asphalt Emulsion Slurry Seal Coat, and with MAG Section 715, Slurry Seal Materials. Slurry seal surfacing mixture shall consist of:

- a. Latex polymer modified asphalt emulsion (Polymer Modified Cationic Quick Setting Emulsified Asphalt PMCQS-1h).
- b. Type II aggregate.
- c. Aggregate application rate of 16 pounds/SY minimum.
- d. Emulsion content at approximately 13% by weight of aggregate.

Prior to applying the asphalt slurry seal, the existing pavement surface shall be cleaned of dirt, loose material, and other objectionable materials, including thermoplastic and raised pavement markers. The cost of the immediate pre-sweeping for slurry seal and the post-sweeping to pick up loose slurry seal material removal shall be incidental to the cost of the slurry seal application work.

All utility covers (gas, water, sewer, etc.), shall be protected by covering each with polyethylene film, roofing paper, or other approved method, and secured with a spray adhesive prior to the application of the slurry seal surfacing. The protective cover material shall be removed within two (2) business days from the day when they were first covered with the slurry seal. Dirt or aggregate is not an acceptable cover protection material and shall not be allowed.

Limits of the new slurry seal shall extend over the entire width of the asphalt pavement between the curb sections or pavement edges and between the beginning and ending stations called for on the plans or as directed by the Town Engineer. Slurry shall not be applied over existing concrete or brick surfaces.

The slurry seal shall not be applied if either the pavement or air temperature is below fifty degrees Fahrenheit (50°F) and falling but may be applied when both pavement and air temperature are forty-five degrees Fahrenheit (45°F) and rising. No slurry seal shall be applied when there is a danger that the finished product will freeze within twenty-four (24) hours. The mixture shall not be applied when weather conditions may prolong opening to traffic by the designated time.

Asphalt emulsion slurry seal mixture shall conform to these specifications. A job mix design shall be submitted and approved by the Town Engineer prior to application.

Thermoplastic pavement markings shall not be applied to any new slurry seal within the first 30 days after placement.

Pavement markers shall not be applied to any new slurry seal surface within the first 24 hours after placement.

The Contractor is fully and solely responsible for protecting the surface of the new slurry seal from the time it is applied to the time it is fully cured and can be driven on without leaving a mark, rut, or other damage. The Contractor shall determine the means and methods to be used to protect the slurry seal from damage.

Should the slurry seal surface be damaged in any manner and for any reason, the Contractor shall make immediate repairs to the surface to bring it to good serviceable condition that is acceptable to the Town. Final payment shall not be made until all damaged slurry seal surfaces have been repaired to the satisfaction of the Town.

The work for this item shall include all labor, materials, and equipment to prepare the existing surface, and to furnish and place the asphalt emulsion slurry seal treatment per the plans and specifications.

Measurement:

Measurement will be based on the square yards (SY) of slurry seal applied over the existing pavement surface, as directed and measured on the ground by the Town Inspector.

Payment:

Payment will be made at the bid unit price per square yard (SY) based on the measured quantity.

40. INSTALL BLINKER STOP SIGN, POST AND FOUNDATION

Description:

The work under this section shall consist of furnishing and installing blinker stop signs, sign posts, and sign post foundations at the locations and in conformance with the details on the project plans, the requirements set forth herein, and as directed by the Town Engineer. This bid/construction item is only applicable for blinker stop sign installations.

Materials:

Blinker Stop Sign Panels: Blinker stop signs shall be as provided by TAPCO, BlinkerStop™ Flashing LED Stop Signs (R1-1). Contact TAPCO at 800-236-0112 and see www.tapconet.com/product/blinkerstop-flashing-led-stop-sign-r1-1. Blinker stop signs shall be provided with the solar power panel and mounting hardware needed to make a fully functional blinker stop sign installation.

- a. Solar Panel: Provide the 13W self-contained top-of-pole solar cabinet with 28Ah battery capacity.
- b. Stop sign size shall be 36" x 36".
- c. Dimming: Variable based on photocell sensor input or 6V solar panel.
- d. LED Type: Red environmentally sealed, high-power LED.
- e. LED Life: 100,000 hours.
- f. Enclosed Aluminum Channels: Protect wiring against inclement weather, tampering and vandalism.
- g. Operating Temperature Range: -40°F to 122°F (-40°C to 50°C).
- h. Parallel wiring for continuous flashing functionality.
- i. Antivandal hardware.
- j. All Way Sign Panels. Furnish R1-3P All Way sign plaques (18" x6") for each blinker stop sign.

All sign panel materials shall conform to the requirements on the project plans and the applicable portions of Section 608, Sign Panels, of the ADOT Standard Specifications.

Signs shall be fabricated in accordance with the recommendations established by the manufacturer of the sign sheeting. All processes and materials used to make a sign shall in no way impact the performance, uniform appearance (day and night), or durability of the sheeting, or invalidate the sign sheeting manufacturers' warranty.

All sheeting used for background and legend shall be from the same manufacturer. Sign panels shall not be overlaid. All text and numerals shall all be installed at the same orientation: either zero degrees or 90 degrees. Design of letters and numbers shall be in accordance with the project plans with a tolerance of $\pm 1/16$ th of an inch.

Traffic Sign Posts: New traffic sign posts shall be 2-1/2" square perforated steel tubing per ADOT Section 607-2.03 and complying with ADOT Standard Drawing S-3 for the size and type of sign to be supported. Where applicable, sign post shall extend above the stop sign a sufficient distance

to support the salvaged street name sign panels at the two locations shown on the plans without interfering with the solar power equipment.

Traffic Sign Post Foundation: The post foundation shall be concrete, complying with ADOT Standard Drawing S-3 for square tube posts.

Concrete for all foundations shall be ADOT Class B and comply with ADOT Section 607-2.05 for perforated sign posts.

Construction Requirements:

Solar Powered Blinker Stop Signs: The Contractor shall furnish and install TAPCO BlinkerStop™ Flashing LED Stop Signs (R1-1) with a 13W self-contained top-of-pole solar cabinet with 28Ah battery capacity on the new sign poles/posts where shown on the plans and in accordance with the manufacturer's installation specifications and recommendations.

All Way Sign Panels: Furnish and install R1-3-P All Way sign panels on each blinker stop sign. All Way sign plaque installation shall be per MUTCD and the sign manufacturer's requirements.

Traffic Sign Mounting: The hardware utilized to affix the sign panels to the appropriate sign pole shall conform to the recommendations of the manufacturer of the sign panel components and ADOT Section 608-3.02. Sign shall be mounted such that sign is flush and square to oncoming traffic.

Sign Panels: Shipment, storage, and handling of sign panels shall conform to the recommendations of the manufacturer of the sign panel components. Fabricated signs and overlay sheets shall be shipped on edge. Damage to the sign panel or legend resulting from banding, crating, or stacking may be cause for rejection of the signs.

The sign panels shall be installed on roadside sign supports in accordance with the details shown on the plans and in accordance with the recommendations of the manufacturers of the sign panel components. Sign panels shall be attached to the sign posts with hex-head bolts as shown in the ADOT Standard Drawings; slotted head bolts shall not be used. Bolts shall be tightened from the back by holding the bolt head stationary on the face of the panel. Twisting of the bolt head on the panel face will not be allowed.

The Contractor shall provide two copies of a detailed list of all new signs installed on the project to the Town Engineer. The list shall include the sign identification code, the date each sign was installed (month and year), the fabricator of the sign, and the materials used to make the sign (manufacturer, type of sheeting, ink, and film). The list shall be provided in a commonly used electronic spreadsheet format (MS EXCEL), and an electronic file copy shall be submitted. Signs shall be listed in numerical order by route, direction, and station and, where more than one sign is installed at the same general location, a letter subscript.

Upon fabrication or installation of each sign, the contractor shall place information on the back of the sign showing the sign identification code, the sign fabricator, the manufacturer of the sheeting used, and the month and year of the installation. The information shall be positioned to be readily visible from a vantage point outside the flow of traffic and not obstructed by sign

posts, extrusions, stringers, or brackets. All letters shall be made of a long-life material such as a black opaque acrylic film.

Sign panels within the same sign assembly shall be placed at the same orientation along the roadway so that the entire legend of the signs appear uniform under normal viewing conditions, both day and night.

Each sign panel face shall be cleaned thoroughly by a method recommended by the manufacturer. The cleaning material shall in no way scratch, deface, or have any adverse effect on the sign panel components.

Sign Post and Foundation: Construction of the traffic post/pole and foundation shall be completed per the manufacturer's recommendations and specifications.

The work under this section shall conform to the requirements of Section 607, Roadside Sign Supports, of the ADOT Standard Specifications, latest revision, and the MUTCD.

Method of Measurement:

Installation of blinker stop sign panels, solar power equipment, sign posts, and sign post foundations will be measured by each unit (EA) for furnishing, installing, and constructing traffic signs, posts, and foundations.

Basis of Payment:

The accepted quantities of blinker stop sign panels, solar power assemblies, sign posts, and sign post foundations installed complete, measured as provided above, will be paid at the contract unit price each (EA) for the accepted sign quantity.

41. INSTALL EXISTING STREET NAME SIGN ON NEW POST

Description:

The work under this section shall consist of installing the salvaged street name sign panels on the newly installed BlinkerStop™ Flashing LED Stop Sign posts at the two locations shown on the project plans, the requirements set forth herein, and as directed by the Town Engineer.

The new BlinkerStop™ Flashing LED Stop Signs are measured and paid for under a separate bid item.

Materials:

Sign Panels: Contractor shall securely store the previously removed street name sign panels that are identified to be relocated and their associated hardware to avoid damage or theft until the signs are ready to be reinstalled. Town inspector shall verify that the signs are in acceptable condition to be salvaged and reinstalled.

Construction Requirements:

The new BlinkerStop™ Flashing LED Stop Sign posts for the two designated locations shown on the plans are to be furnished and installed so the post extends above the stop sign a sufficient distance to support the salvaged street name sign panels without interfering with the solar power equipment.

The hardware utilized to affix the street name sign panels to the newly installed sign post shall be the salvaged hardware or new hardware furnished to make the attachment and shall conform to ADOT Section 608-3.02.

The Contractor shall mount and attach the street name sign panels to the sign posts so the street names are legible and in the correct orientation.

The work under this section shall conform to the requirements of Section 607, Roadside Sign Supports, of the ADOT Standard Specifications, latest revision, ADOT Standard Drawing S-3, and the MUTCD.

Method of Measurement:

Installation of the existing street name signs on the newly installed BlinkerStop™ Flashing LED Stop Sign post will be measured by each unit (EA) for the completed installation.

Basis of Payment:

The accepted quantities of installed existing street name signs on new posts, complete, measured as provided above, will be paid at the contract unit price each (EA) for the accepted quantity.

42. INSTALL NEW TRAFFIC SIGN, POST, AND FOUNDATION

Description:

The work under this section shall consist of furnishing and installing sign panels, sign posts, and sign post foundations at the locations and in conformance with the details on the project plans, the requirements set forth herein, and as directed by the Town Engineer. This construction item does not include the solar powered Blinker Stop Signs as they are measured and paid for separately.

Materials:

Sign Panels. All sign panel materials shall conform to the requirements on the project plans and the applicable portions of Section 608, Sign Panels, of the ADOT Standard Specifications.

Signs shall be fabricated in accordance with the recommendations established by the manufacturer of the sign sheeting. All processes and materials used to make a sign shall in no way impact the performance, uniform appearance (day and night), or durability of the sheeting, or invalidate the sign sheeting manufacturers' warranty.

All sheeting used for background and legend shall be from the same manufacturer. Sign panels shall not be overlaid. All text and numerals shall all be installed at the same orientation: either zero degrees or 90 degrees. Design of letters and numbers shall be in accordance with the project plans with a tolerance of $\pm 1/16$ th of an inch.

Traffic Sign Posts. New traffic sign posts shall be square perforated steel tubing per ADOT Section 607-2.03 and complying with ADOT Standard Drawing S-3 for the size and type of sign to be supported.

Traffic Sign Post Foundation. The post foundation shall be concrete, complying with ADOT Standard Drawing S-3 for square tube posts.

Concrete for all foundations shall be ADOT Class B and comply with ADOT Section 607-2.05 for perforated sign posts.

Construction Requirements:

Traffic Sign Mounting: The hardware utilized to affix the sign panels to the appropriate sign post shall conform to ADOT Section 608-3.02. Sign shall be mounted such that sign is flush and square to oncoming traffic.

Sign Panels. Shipment, storage, and handling of sign panels shall conform to the recommendations of the manufacturers of the sign panel components. Fabricated signs and overlay sheets shall be shipped on edge. Damage to the sign panel or legend resulting from banding, crating, or stacking may be cause for reject ion of the signs.

The sign panels shall be installed on roadside sign supports in accordance with the details shown on the plans and in accordance with the recommendations of the manufacturers of the sign panel components.

Sign panels shall be attached to the sign posts with hex-head bolts as shown in the ADOT Standard Drawings; slotted head bolts shall not be used. Bolts shall be tightened from the back by holding the bolt head stationary on the face of the panel. Twisting of the bolt head on the panel face will not be allowed.

The contractor shall provide two copies of a detailed list of all new signs installed on the project to the Town Engineer. The list shall include the sign identification code, the date each sign was installed (month and year), the fabricator of the sign, and the materials used to make the sign (manufacturer, type of sheeting, ink, and film). The list shall be provided in a commonly used electronic spreadsheet format (MS EXCEL), and an electronic file copy shall be submitted. Signs shall be listed in numerical order by route, direction, and station and, where more than one sign is installed at the same general location, a letter subscript.

Upon fabrication or installation of each sign, the contractor shall place information on the back of the sign showing the sign identification code, the sign fabricator, the manufacturer of the sheeting used, and the month and year of the installation. The information shall be positioned to be readily visible from a vantage point outside the flow of traffic and not obstructed by sign posts, extrusions, stringers, or brackets. All letters shall be made of a long-life material such as a black opaque acrylic film.

Sign panels within the same sign assembly shall be placed at the same orientation along the roadway so that the entire legend of the signs appear uniform under normal viewing conditions, both day and night.

Each sign panel face shall be cleaned thoroughly by a method recommended by the manufacturer. The cleaning material shall in no way scratch, deface, or have any adverse effect on the sign panel components.

Sign Post and Foundation. Construction of the traffic post/pole and foundation shall be completed per the manufacturer's recommendations and specifications.

The work under this section shall conform to the requirements of Section 607, Roadside Sign Supports, of the ADOT Standard Specifications, latest revision, and the MUTCD

Method of Measurement:

Installation of traffic sign panels, sign posts, and sign post foundations will be measured by each unit (EA) for furnishing, installing, and constructing traffic signs, posts, and foundations (except for blinker stop signs).

Basis of Payment:

The accepted quantities of traffic sign panels, sign posts, and sign post foundations installed complete, measured as provided above, will be paid at the contract unit price each (EA) for the accepted sign quantity.

43. ADJUST WATER METER AND VALVE BOX AND COVER

Description:

The work under this section shall consist of adjusting existing water meter and valve boxes to match the finished grade as indicated on plans or as directed by the Town Engineer or Town Inspector.

The work shall conform to the provisions of MAG Standard Specifications and Details for Public Works Construction, Section 336, Section 345, Detail 270, Detail 271, Detail 391-1, Detail 391-2, and other related sections and details.

Construction Requirements:

The Contractor shall adjust water valve box frames and covers (and any other miscellaneous fixtures affected by the project construction such as sewer cleanouts, survey markers, etc.) to match and be flush with the new pavement surface (asphalt or concrete) or landscaped area surface in accordance with MAG Standard Specification Section 345 and Standard Detail 270, and to the lines, grades, and elevations matching the abutting and surrounding pavement or landscape area surface as shown on the plans. The work shall include all materials, equipment, supplies, and labor costs to adjust the water meter boxes and valve box frames and covers (or other similar miscellaneous box frames and covers), as required, including any and all supplies and materials needed to complete the adjustments.

Method of Measurement:

Measurement will be based on each (EA) existing water meter and valve box frame and cover (or other similar and miscellaneous frame and cover) adjusted to match and be flush with the new pavement or landscape surface as confirmed by the Town Inspector.

Basis of Payment:

Payment will be made at the bid unit price per each (EA) based on the measured quantity.

44. TRAFFIC CONTROL

Description:

The work under this section shall consist of furnishing, installing, and maintaining traffic control devices throughout the construction period.

Tom Darlington Road and Cave Creek Road are the two major thoroughfares serving the Town of Carefree. As such, it is imperative that at least one lane of traffic in each direction be kept open to traffic to the greatest extent possible. If and when critically needed for construction purposes, for limited time intervals only, traffic can be routed on one lane alternating to serve each directions of travel as controlled by flaggers and pilot cars or by temporary traffic signal control.

MAG Standard Specification Section 401, Traffic Control, 2023 Revision, the Manual on Uniform Traffic Control Devices (MUTCD), and the ADOT Arizona Supplement to the MUTCD shall apply to traffic control work for this project.

Traffic Control Requirements:

Traffic Control Plan (TCP): Construction shall not commence without an approved Traffic Control Plan.

At the time of the pre-construction meeting, the Contractor shall submit complete traffic control plan for review by the Town. The Contractor shall design the traffic control plan using the posted speed limit (30 MPH) existing prior to the start of work as the design speed. The Traffic Control Plan shall show all striping, signing, and barricading along with the locations and distances for all traffic control devices for all movements of the roadway users during and throughout the construction period. The Traffic Control Plan shall also show the duration of each construction phase with the start and end dates.

The Town shall, within ten (10) working days, review the plan and notify the Contractor of approval of the TCP or note the changes determined to be needed to the plan. A final version of the plan shall be prepared and submitted by the Contractor that addresses any changes required by the Town.

These traffic control requirements supplement Section 401.1 of the MAG Standard Specifications.

The Contractor and/or subcontractor shall provide and maintain all necessary temporary traffic control devices as indicated on the Town approved traffic control plan (TCP). It shall be the Contractor's responsibility to provide, erect, maintain, and remove all necessary signs, barricades, temporary paved travel lanes, barriers, high level warning devices, warning lights, delineators, flagmen, and other devices necessary to properly mark and control the construction areas for the safe and efficient movement of traffic through the work zone.

The Town will not allow devices that, in their judgment, fall into the "unacceptable" category. Should the Town determine that the traffic control devices fall into the "unacceptable" category the Contractor shall be immediately informed by the Town and take the necessary steps to bring the traffic control devices into compliance with the approved TCP. Failure of the Contractor to take such action will result in the Town issuing a Cease Work Order until the traffic control

concerns have been fully addressed. The Contractor shall secure the work zone and remove all traffic control devices from the roadway immediately, and the Contractor could be subject to penalty.

Traffic control devices shall be set in place in accordance with the approved traffic control plan and maintained by a traffic control technician certified by a recognized organization such as ATTSA or IMSA or other organization(s) recognized by the Town.

The Contractor shall designate an on-site employee during work hours who is ATSSA and/or IMSA certified in construction traffic control to monitor and respond immediately to correct traffic control measures, as necessary. This individual shall be authorized to receive and carry out requests from the Town Engineer. Requests and information given by the Engineer to this individual shall be considered as having been given to the Contractor. The Town Engineer shall be provided with the name and cell/mobile phone number of the designated Traffic Control Technician responsible for twenty-four (24) hour maintenance of all traffic control devices.

Local access shall always be maintained to all properties on the project to the maximum extent possible during the project construction period. When local access cannot be maintained, the Contractor must notify the affected property owner at least 24 hours in advance and restore access as soon as possible.

Temporary traffic control warning signs and devices shall be installed prior to the start of any work. The Contractor shall provide other traffic control devices, means, methods, or measures deemed necessary by the Town Engineer.

The Contractor shall inspect the traffic control measures at the end and beginning of each work shift to ensure that all required traffic control devices are in place and in good working order. The Contractor shall also remove any unnecessary traffic control devices and remove construction equipment from the roadway at the completion of each work shift to open the roadways to traffic to the maximum extent practicable.

All temporary traffic control devices shall be ballasted with sandbags or other approved ballast. Ropes, flagging, fencing, and woven plastic tape may be required at open excavations and/or used between barricades and channeling devices to provide additional guidance and security.

The "SPEED LIMIT 25" sign is used where the existing pavement has been removed, on traffic lanes that are severely restricted, or as directed by the Town Engineer.

Variable Message Boards: The Contractor shall install advance warning variable message boards along Tom Darlington Road and Cave Creek Road. Final locations shall be as shown in the TCP and as accepted by the Town Engineer. All message boards shall be in place a minimum of five (5) days prior to the start of traffic control restrictions. The Contractor shall coordinate with the Town Engineer what message will be displayed on each board. Display message shall be limited to two pages of text.

Traffic Control Change Signs: The Contractor shall provide and install "Traffic Control Change" signs with flags 500' in advance of the improved intersections (RRFB Flashing Beacons and the

new 4-way stop) at all approaches and prior to activation/implementation. The temporary traffic control change signs should be in place a minimum of thirty (30) days.

Subsection MAG 401.2, Traffic Control Devices

Supplement the subsection with the following:

All traffic control devices and their application shall conform to the MUTCD, the special provisions, and any field modifications made by the City and its Engineer.

Traffic cones shall only be used during daylight hours and shall be a minimum of twenty-eight (28) inches high. Daylight hours are defined as 1/2 hour after sunrise to 1/2 hour before sunset. All traffic cones shall have retroreflective bands installed per MUTCD guidelines.

Signs used shall be mounted on wind resistant, high-level warning devices.

It shall be the responsibility of the Contractor to provide, erect, maintain, remove and/or relocate all temporary and existing traffic control devices necessary to properly mark and control the construction area(s) for the safe and efficient movement of all roadway users through and around the work zone(s).

The Contractor shall provide all additional traffic control devices as determined by the Town and its Engineer to safely control traffic through and around the work zones.

The Contractor shall install temporary traffic control warning signs and related devices prior to the start of any work in accordance with the approved Traffic Control Plan.

All temporary traffic control devices shall be ballasted with sandbags or other approved ballast. The number of sandbags used shall be enough to withstand the range of wind gust expected to provide adequate safety for the traveling public.

The Contractor shall place standard warning flags above all construction zone traffic control signs. Additionally, the Contractor shall use flashing yellow warning lights to mark traffic control devices at night.

The Contractor shall install temporary standard slurry seal, chip seal, and microseal reflective pavement markers on all existing centerline striping conforming to ADOT Standard Specifications Section 701-2.05 and 701-3.09. Slurry seal, chip seal, and microseal pavement markers are a non-payment item and are considered incidental to the related chip seal and microseal construction work. All costs associated with this item shall be incorporated into the bid price for the applicable pay items set forth in these specifications and on the bid schedule.

MAG Section 401.3 – Flagmen Or Pilot Cars

Add the following:

Off-duty law enforcement officers shall be provided when construction activities warrant this measure and per Town requirements. Officers shall be knowledgeable of Town and State traffic control systems and their manual use. Off-duty uniformed police officers are required at all major intersections when restrictions are present and may be required at additional locations and stages of the traffic control as requested by the Town Engineer.

Traffic control shall include providing pilot cars and drivers as needed and required. All pilot cars shall be vehicles registered and licensed to operate on public roadways in the state of Arizona. The time necessary for pilot car turnaround shall not exceed ten (10)

minutes.

Traffic Control shall include providing flagging and flaggers as needed and required. All flaggers shall be properly trained and certified by a recognized source, such as the International Municipal Signal Association (IMSA) and shall always carry proof of training with them.

It is acceptable for the Contractor to use Automated Flagger Assistance Devices (AFADs) on this project as a safety enhancement. AFADs utilized on this project shall comply with the specific standards set forth in the MUTCD Section 6E.04 for the application.

Subsection MAG 401.4, Traffic Control Measures

Supplement with the following:

The Contractor shall designate a Traffic Control Technician, who has been properly trained and certified in the application of work zone traffic control, to maintain all necessary traffic control devices during the entire construction period. At the beginning and end of each workday, and periodically throughout the day, the Traffic Control Technician shall inspect the construction work site and all traffic control signs, barricades and related devices. A diary shall be maintained documenting the traffic control in place and the required inspection reconnaissance site visits.

The Traffic Control Technician shall ensure that all construction signs and barricades are standing upright in accordance with the approved traffic control plan, free of dirt and debris, and visible to intended traffic. At the end of the workday, all non-essential traffic control devices shall be removed and stored.

The Contractor shall immediately correct all deficiencies noted by the Town Inspector. The Contractor shall provide after-hours contact information for the Traffic Control Technician prior to or during the pre-construction meeting for the project.

The Contractor shall provide and maintain all necessary traffic control devices until acceptance of the project by the Town.

If the Contractor fails to provide adequate traffic control measures, the Town and its Engineer may have the work accomplished by other sources. The cost of having this work accomplished through other sources shall be computed in accordance with MAG Standard Specifications Section 109.5, Actual Cost Work. The total cost shall be deducted from monies due, or to become due, to the Contractor. This Town shall make the final determination on the need and cost related to the outsourcing the traffic control work.

Subsection MAG 401.5, General Traffic Regulations

Supplement with the following:

The Contractor shall maintain or relocate all warning signs, STOP, YIELD, and street name signs. These signs shall be maintained erect, cleaned, and in full view of the intended traffic always. Portable signs should be used to supplement blocked or removed signs. All unnecessary traffic signs shall be covered or removed, stored, and re-erected once the construction work is finished.

Access to all properties and emergency services shall be maintained at all times where possible. In no case shall the access be restricted for more than four hours without Town Engineer approval. The Contractor shall give 48 hours notification to the affected responsible person

concerning all restrictions. If prolonged access restriction is required by construction, the Contractor and/or Engineer shall notify the property owner/resident before closing the road or driveway. The Contractor shall also notify emergency services, fire department, police department, and the local school district.

Construction Schedule: The Contractor shall provide separate construction progress schedules for each individual construction activity and the required traffic control for those activities. The schedule shall specify the limits of the work activities and related traffic control plan by station, by day, and by time of day. The schedule and the related traffic control shall be developed in such ways that access or alternative access is maintained at all times to all adjacent residences and businesses. The schedule should be developed in such a manner that it can be released to the public. The schedule shall be updated, as necessary.

Lane Restrictions: The Contractor will be required to maintain one 10-foot-wide lane in each direction on all streets at all times, unless otherwise approved by the Town Engineer. Under no circumstances will a full closure of Tom Darlington Road and Cave Creek Road be permitted. A road closure for the convenience of the Contractor is not authorized without a signed and maintained detour route.

Traffic Restrictions: The traffic-carrying capacity of the roadways and structures within the limits of the project shall not be reduced without the approval of the Town Engineer. Restrictions will not be permitted during recognized holidays. If special events will be occurring during construction for the Town, the Contractor will be notified two weeks in advance by the Town Engineer to adjust the traffic control to accommodate event traffic.

Holidays shall be recognized, and traffic restrictions will not occur, without approval by the Town Engineer. Holidays include New Year's Day, Martin Luther King, Jr., President's Day, Independence Day (observed), Labor Day, Veterans Day, Thanksgiving Day, and Christmas Day (actual and observed).

The Contractor shall post signs on the Tom Darlington Road and Cave Creek Road starting one week in advance of construction requiring lane restrictions or closures. The advisory signage will advise the public of the project and duration. A copy of the messaging shall be provided to the Town for approval prior to its use. This signage shall be included in the Traffic Control Plan.

Method of Measurement:

Measurement of all traffic control work, as described herein and as required for the Project, will be on a Lump Sum (LS) basis.

Basis of Payment:

Payment for traffic control shall be made at the contract unit price, lump sum (LS), under the item Traffic Control in the bid schedule.

Payment shall be a partial lump sum (LS) amount for the previous month based on the prorated percentage completion of the total contract amount and schedule duration (e.g. for a four month duration project, the Contractor can submit a pay request for 25% of the lump sum amount for traffic control each month).

The lump sum price shall be full compensation for the work, including labor, materials, traffic control devices (including variable message board and traffic control change signs), and miscellaneous incidentals necessary to satisfactorily complete the work. This includes flagging and related services.

45. MOBILIZATION

Description:

This work shall be governed by the Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Part 100, Section 109, and other related sections.

Requirements:

The work under this item shall consist of:

Preparatory work and operations, including but not limited to, the movement of personnel, equipment, materials, supplies, and incidentals to the project site.

The establishment of restroom facilities and storage/staging facilities necessary for work on the project

For all other work and operations that must be performed, and costs incurred, prior to beginning work on the various construction items at the project site.

The mobilization/demobilization work shall also include the movement of personnel, equipment, materials, supplies, tools, and other items from the site following completion of construction activities and restoration of any site(s) used for Contractor storage and staging.

Storage and Staging Yard: The Contractor shall obtain approval of the property owner's and the Town's Inspector when using vacant private property to park and service equipment, and/or to store materials for use on this project.

The Contractor shall notify adjacent property owners/residents of this proposed use.

Any use of vacant property adjacent to or near the project for parking or servicing equipment and/or storing of material will require the Contractor to obtain written approval from the property owner. This approval shall contain any requirements which are a condition of this approval.

A copy of the property owner's approval shall be submitted along with the Contractor's request to the Town's Inspector for approval for the use of the marshaling yard in connection with the project. An appropriate distance from adjacent properties will be set by the Town on a case-by-case basis based on the size and type of equipment to be used on the project.

The yard shall be fenced and adequately dust-proofed in a manner such as to preclude dirt and dust blowing off the site and tracking of mud onto paved or unpaved Town streets.

Work in the yard shall be scheduled so as to comply with the Town's Noise Ordinance and other applicable ordinances, rules, and regulations pertaining to construction activities.

Equipment, materials, supplies, etc., shall be located so as to minimize impact on adjacent properties.

The Contractor shall clean up the property promptly upon completion of use and shall provide a signed property release as a condition of final acceptance.

Contractor's request for approval of the storage and staging yard shall specify in detail how they propose to comply with the above requirements paragraphs.

Site Restoration and Clean-up: Fine grading of disturbed surfaces; returning staging areas and surrounding disturbed areas to their original condition (or better), and including reseeding, if necessary. Bid price shall include all costs associated with implementation of street sweeping as necessary to eliminate tracked dirt, mud, and debris from the project site onto paved surfaces via construction vehicle traffic and domestic traffic as a storm water management, pollution, and sediment control mitigation measure.

Sweeping and dust control shall be monitored and performed daily as needed and as may be requested by the Town Inspector. Staging areas shall be provided with security fencing, scrubber pad to keep from tracking dirt/mud onto street surfaces, frequent housekeeping cleanup, and restoration of site to a condition as good if not better than found prior to construction. Dust control measures (including spraying water and/or dust palliatives on disturbed ground surfaces) are to be employed as needed to minimize fugitive dust from project activities.

Method of Measurement:

Mobilization will be measured as a complete lump sum (LS) item of work.

Basis of Payment:

Payment will be made at the lump sum (LS) price indicated on the Bid Schedule, which amount shall be considered full compensation for the work as described herein and necessary for complete mobilization to the site and demobilization and clean-up when leaving the site.

The lump sum amount shall be considered full compensation for all work associated with this bid item, whether specifically stated or not. Include in the lump sum price all costs to mobilize for the project such as moving equipment, trucks, and personnel, both to the site and off the site upon completion of the work. Also include expenses for bonds, licenses, permits, project insurance, project coordination, surveying and staking, quality control testing, testing coordination, submittals, removal and disposal of construction debris, and the temporary supplies, power, and telephone, all necessary for the execution of the work.

INCIDENTAL ITEMS

All items of work to be provided by the Contractor that are not specifically listed in the Bid Schedule will NOT be measured or paid for separately as they are considered “incidental” and “subsidiary” to the overall project. The cost associated with each incidental item of work shall be applied to its associated bid schedule line item, in the Mobilization contract pay item, or across all applicable bid schedule line items as most appropriate in the judgment of the Contractor.

The following is a list of some, but not all, construction items that are considered “incidental” to the construction project that shall be provided, but will not be paid for separately as a bid item:

- **Water Used by the Contractor for Construction Purposes**

The Contractor shall establish an account with the Town to purchase water used at a nominal rate for construction purposes, so the Town has a record of the water usage. The Town will provide a meter for this purpose. The Contractor shall reimburse the Town for the cost of water used for this project. The cost of associated work and the cost of water used are incidental to the overall project.

The Town will issue the Contractor a hydrant meter. The Contractor can use a nearby hydrant for construction water supply; the location and use of which is subject to the terms and conditions of the hydrant meter rental. Coordinate with the Town for the location of the nearest hydrant available and approved for use by the Contractor.

- **Construction Surveying and Staking for all Improvements**

The cost for all labor, materials, and equipment associated with construction surveying and staking including, but not limited to, elevations and the staking of the improvements, fixtures, and appurtenances, utilities, removals, new paving, signage and striping/markings, and other associated improvements for construction purposes.

Any survey monuments that are disturbed during construction activities shall be replaced by a registered land surveyor at the Contractor’s expense.

- **Quality Control Testing**

The Contractor is responsible for quality control testing. The Contractor shall provide the testing and inspection services required by the Contract Documents and other such test necessary to assure the quality of the work.

Contractor shall provide all pre-construction, during-construction, and post-construction testing required by the MAG standards, ADOT testing guidelines, and the project’s contract documents.

When not specifically called out in the MAG Standard Specifications, testing frequency minimums are governed by the Arizona Department of Transportation Materials Quality Assurance Program manual, Appendix C, Sampling Guide Schedule, latest edition.

The Contractor shall provide all test results to the Town, the Engineer of Record, and the Town Inspector within 24 hours of completion of the testing.

Be advised the Town may provide quality assurance testing as needed to verify the quality of the work and to satisfy themselves that the work has been constructed in compliance with

the plans, specifications, and bid/contract documents.

- **Record Drawings**

Accurate red-lined “as-built” drawings of all pavements, street reconstruction, sidewalks, driveway construction, installed and constructed water lines, fixtures (including valves, meter boxes, and fittings), appurtenances, traffic signs, traffic signal poles, pavement markings, utilities, services, other improvements, and any encountered existing utility whether shown on the plans or not, shall be provided to the Town and the Engineer of Record upon completion of the construction. The location of all installed features shall be dimensioned, with the location based on identifiable surface features. Two weeks prior to final contract settlement, full record (as-built) drawings and data will be required.

End of Technical Specifications