



## Porter Mountain Road Improvements

### Project Technical Specifications (Table of Content)

**SPONSOR:**

TOWN OF PINETOP LAKESIDE, ARIZONA  
DEPARTMENT OF PUBLIC WORKS

**ENGINEER:**

KIMLEY-HORN  
101 WEST GOODWIN STREET  
SUITE 303  
PRESCOTT, AZ 86303



**February 2024**

THE SPECIAL PROVISIONS SHALL MODIFY AND SUPERSEDE THE VARIOUS SECTIONS OF  
THE MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD  
SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION, TECHNICAL  
SPECIFICATIONS.

	TECHNICAL SPECIFICATIONS.....	3
101	ABBREVIATIONS AND DEFINITIONS .....	3
104	SCOPE OF WORK.....	3
105	CONTROL OF WORK.....	4
106	CONTROL OF MATERIALS .....	5
201	CLEARING AND GRUBBING .....	5
205	ROADWAY EXCAVATION .....	6
301	SUBGRADE PREPARATION.....	6
310	PLACEMENT AND CONSTRUCTION OF AGGREGATE BASE COURSE .....	6
321	ASPHALT CONCRETE PAVEMENT .....	6
340	CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY, & ALLEY ENTRANCE	6
345	STORM DRAIN IMPROVEMENTS .....	7
350	REMOVAL OF EXISTING IMPROVEMENTS .....	7
402	TEMPORARY PAVEMENT MARKINGS .....	7
403	PERMANENT PAVEMENT MARKINGS .....	7
404	PERMANENT SIGNING, SIGN POSTS AND DELINEATORS.....	8
406	ELECTRICAL.....	8
407	TRAFFIC SIGNALS.....	9
430	LANDSCAPE AND PLANTING.....	9
430	LANDSCAPE IRRIGATION.....	9
710	ASPHALT CONCRETE .....	9
725	PORTLAND CEMENT CONCRETE.....	10

## TECHNICAL SPECIFICATIONS

ADD the following Sections:

### 101 ABBREVIATIONS AND DEFINITIONS

ADD the following:

Section 101, MAG Specifications, is hereby included and made a part of this specification with the following additional and/or clarifying provisions:

The following changes are hereby made to the abbreviations and definitions contained in Section 101:

Board of Supervisors' definition and references thereto are hereby deleted and/or amended to mean the Town of Pinetop-Lakeside as applicable within the context of the definition.

"Town" shall mean the Town of PINETOP-LAKESIDE.

"Owner" and "Town" shall be used interchangeably and carry the same meaning.

Standard Specifications: This Construction Contract shall be completed in accordance with the latest version of the "Uniform Standard Specifications and Details for Public Works Construction" as sponsored and distributed by the Maricopa Associations of Governments (hereinafter referred to as MAG) - and the Standard Specifications for Road and Bridge Construction by the Arizona Department of Transportation (hereinafter referred to as ADOT). The MAG Standards are further Standard Details, and the Town's Contract Documents, Specifications, and Special Provisions. These reference specifications and details are hereby incorporated into the Town's Contract by this reference.

Standards and/or specifications referenced in these specifications mean the most recent publication thereof, and are made a part hereof, and carry the same force as if they were printed here in their entirety.

RESOLUTION OF CONFLICTS: In the event that a conflict arises between specifications, the more restrictive specification shall apply, or as directed by the Town.

### 104 SCOPE OF WORK

ADD the following:

#### **B. Project Description and Location:**

1. The Project consists of roadway improvements in Pinetop-Lakeside, Arizona. The improvements include a paved shared use path from school property to Mountain View Way, repave shared use path from school property south to Peterson Road, two pedestrian refuse islands with RRFB and street lighting, new roadway connection south of school property to West Commerce Drive and Andelyn Lane, and miscellaneous improvements near school property and roundabout.

#### **104.1.2 Maintenance of Traffic:** ADD the Following:

Within all residential areas, flaggers and construction warning signage shall be used during all work, unless otherwise approved by the Public Works Department. A minimum of one lane shall be provided at all times during construction in order to provide access to the adjacent properties. Flaggers shall be equipped with radio communication when not in full view of each other. Traffic control shall be maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), which is published by ATSSA/ITE/AASHTO, and approved by USDOT and the Federal Highway Administration (current edition). All construction signs shall have high intensity sheeting with black legend on an orange fluorescent background unless approved by the City Public Works. The mounting height for post mounted signs shall be a minimum of seven feet, and the mounting height of portable stand mounting signs shall be a minimum of five feet, measured from the bottom

of the sign to the near edge of pavement elevation. A temporary traffic control plan shall be submitted to the City a minimum of 7 days prior to the commencement of any work. The temporary traffic control plan shall conform to Part 6 – Temporary Traffic Control, in the MUTCD. It is the Independent Contractor's responsibility to comply with the temporary traffic control plan. The City may stop work on a project until traffic safety concerns have been corrected.

## **105 CONTROL OF WORK**

### **105.6 Cooperation with Utilities:**

ADD the following

Comply with the requirements of MAG Section 105.6 and as modified herein.

The locations of existing underground utilities have been shown on the plans to the best of the Design Engineer's knowledge; however, it shall be the Contractor's responsibility to field verify all utility locations and to coordinate in a timely manner with the pertinent utility companies so that any obstructing utility installation may be adjusted without delay to the Contractor's project schedule. In addition, The Town of Pinetop Lakeside will not consider additional compensation requests from the Contractor to perform any potholing, utility company coordination, etc. needed to locate/verify utility location, to adjust contract work items as necessary to avoid utility line conflict, to cooperate with utilities in adjusting schedule as needed to allow for utility company work, relocations, etc.

The Contractor shall be responsible for potholing all utility conflicts in a timely manner.

**Contacts:** The following table lists the various utility contact personnel:

<b>Company</b>	<b>Name</b>	<b>Phone Numbers</b>
Arizona Water Company	Lee Hetrick	(928) 368-6993
Navopache Electric Cooperative	Garth Turley	(928) 368-1232
Pinetop Fire District	Chief Jim Morgan	(928) 367-2199
Frontier Communications	Mark Jefferies	(928) 537-6667
Pinetop-Lakeside Sanitary District	Dave Smith	(928) 368-5370
Lakeside Irrigation	Don Hansen	(928) 368-6254

No measurement or payment will be made for the needed coordination and providing access to utilities for work.

## 106 CONTROL OF MATERIALS

Add the following:

The following requirement is added under Section 106.2, Samples and Tests of Materials:

The Contractor will work with the Town Public Works Director to complete compliance testing or "Quality Control" of materials and construction, including compaction of subgrade, ABC, and asphaltic concrete compaction. The Contractor is responsible to achieve the specified results prior to testing by the Town who will provide Quality Assurance testing as needed. If retesting is required due to the Contractor's failure to achieve the specified requirements, the cost of retesting will be withheld from Contractor payments. Contractor testing frequencies shall be per the "TESTING GUIDE" included as part of Section 106.2. The Contractor shall provide copies of all test results to the Town of Pinetop-Lakeside within the following week of the test performed and again prior to final acceptance of the project. Failure to provide test results in a timely manner, i.e. daily or weekly as determined at the preconstruction meeting, will be just cause for the Town to withhold compensation for this item and will be just cause for non-acceptance of the work.

The required quality control testing shall address all elements which affect the quality of any material or aspect of the project, and includes, but is not limited to, the quality of the subgrade, backfill materials, aggregate base, chips, oil, concrete, and asphaltic concrete, and shall include, but not be limited to the following:

- A. Mix designs
- B. Aggregate Production
- C. Quality of Components
- D. Stockpile Management
- E. Proportioning
- F. Mixing, including addition of Mineral Admixture, if required
- G. Placing and Finishing
- I. Compaction

Measurement and Payment: Measurement and payment for Quality Control, which price shall be full compensation for completion of compliance testing; provision of copies of all test results, and performing all work as specified herein will be made at the following Contract unit price:

**Pay Item: 106.1 Quality Control (LS)**

## 201 CLEARING AND GRUBBING

Add the Following:

Section 201, MAG Specifications, is hereby included and made a part of this specification with the following additional and/or clarifying provisions:

### REMOVALS GENERAL:

All existing improvements required to be removed or relocated to facilitate construction of the proposed improvements shall be removed and properly disposed of by the Contractor. Relocations shall be as noted on the plans or Special Provisions.

The Contractor shall not damage areas outside of the project limits of authorized work and/or staging areas.

Measurement and Payment: removals shall be considered incidental to the appropriate bid item and will not be measured or paid for separately unless there is a specific bid item in the bid schedule. Removals shall be

measured and paid at the Contract Unit Price as noted in the bid schedule under Section 350.

## **205 ROADWAY EXCAVATION**

Add the following:

Section 205, MAG Specifications, is hereby included and made a part of this specification with the following additional and/or clarifying provisions:

- A. Roadway excavation shall include all required excavation for roadways as shown on the construction plans including existing pavement; the construction of Roadway Embankments in accordance with requirements of Section 211, Fill Construction; and the disposal of Surplus Material in accordance with Section 205.6, Surplus Material.
- B. Roadway excavation shall be placed and compacted as specified in Section 211.
- C. Excavated materials not suitable for roadway and pad embankment shall become the property of the Contractor, removed from the site and properly disposed.
- D. The amount of material excavated, moved, and placed will be considered equal to the amount indicated in the Earthwork Summary shown in the Contract plans. The Contractor shall be satisfied as to the actual volume of material required to complete the work and bid accordingly. No additional compensation will be made for perceived, alleged, or actual discrepancy in earthwork volumes.

Measurement and Payment: Measurement and payment for Roadway Excavation, which price shall be full compensation for performing all work as specified herein for excavating, moving, placing, and compacting the material to the lines and grades indicated on the plans or as staked and directed by the Town Public Works Director will be made at the following contract Unit Price:

**Pay Item: 205.1 Earthwork (LS)**

## **301 SUBGRADE PREPARATION**

**TS301.8 Payment:** Add the following

**Pay Item: 301.1 8" Subgrade Preparation (SY)**

## **310 PLACEMENT AND CONSTRUCTION OF AGGREGATE BASE COURSE**

**310.5 Payment:** Add the following

**Pay Item: 310.1 10" Aggregate Base Course (Structural Section 01) (SY)**

**Pay Item: 310.2 6" Aggregate Base Course (Structural Section 02) (SY)**

## **321 ASPHALT CONCRETE PAVEMENT**

**321.13 Payment:** Add the following

**Pay Item: 321.1 3" Asphalt Concrete Pavement (SY) (Roadway)**

**321.2 3" Asphalt Concrete Pavement (SY) (Pathway)**

## **340 CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY, & ALLEY ENTRANCE**

**340.6 Payment:** Add the following

**Pay Item: 340.1 4" Concrete Sidewalk, MAG Std. Dtl. 230 (SF)**

**340.2 Curb Ramp, MAG Std. Dtl. 236-5 (EA)**

- 340.3 Sidewalk Scupper, MAG Std. Dtl. 206 (EA)**
- 340.4 Concrete Pedestrian Refuge Median, Custom Dtl. (EA)**
- 340.5 6" Vertical Single Curb, MAG Std. Dtl. 222 (LF)**
- 340.6 6" Vertical Curb and Gutter, MAG Std. Dtl. 220-1 (Type A) (LF)**

#### **345 STORM DRAIN IMPROVEMENTS**

**345.5 Payment:** ADD the following:

**Pay Item: 345.1 Install 24" Storm Drain Pipe (LF)**

#### **350 REMOVAL OF EXISTING IMPROVEMENTS**

**350.4 Payment:** Add the following:

- Pay Item:**
- 350.1 Remove and Relocate Existing Sign (EA)**
  - 350.2 Remove Existing Asphalt Pavement Pathway (SF)**
  - 350.3 Remove Existing Asphalt Pavement (SF)**
  - 350.4 Remove and Dispose Existing Rock Wall (LF)**
  - 350.5 Remove and Dispose Existing Tree (EA)**
  - 350.6 Obliterate Existing Pavement Marking (LF)**
  - 350.7 Remove and Dispose Existing Concrete Sidewalk (SF)**
  - 350.8 Remove Existing Curb (LF)**

#### **402 TEMPORARY PAVEMENT MARKINGS**

- A. Work under this item shall be performed in accordance with ADOT Specifications Section 709 (Dual Component Pavement Markings).
  - 1. Stop Bars and Crosswalks - Work under this item shall consist of the application of dual component pavement marking material at the locations noted on the project plans. All stop bars shall be 18 inches in width and crosswalk striping shall be 12 inches in width.
  - 2. Pavement Markings, Symbols, and Legend – Work under this item shall consist of the application of dual component pavement marking material at the locations noted on the project plans.

##### **Measurement and Payment:**

Measurement and Payment for pavement marking symbols or legend shall be at the per each basis for each symbol or legend installed in accordance with ADOT section 709-4 and 709-5.

- Pay Item:**
- 402.1.1 White Thermoplastic Left Arrow Pavement Markings**
  - 402.1.2 White Thermoplastic Crossing Pavement Markings**

#### **403 PERMANENT PAVEMENT MARKINGS**

- A. Work under this item shall be performed per ADOT Specifications Section 708.

##### **Measurement and Payment:**

Measurement shall be in accordance with ADOT Section 708-4 (Width times Length divided by 4 inches equals LF as shown in bid schedule).

Payment shall be in accordance with ADOT Section 708-5.

- Pay Item:**
- 403.2.1 4" White Solid Permanent Pavement Markings (Traffic Paint Stripe) (LF)**
  - 403.2.2 4" White Broken Permanent Pavement Markings (Traffic Paint Stripe) (LF)**
  - 403.2.3 18" White Stop Bar (Traffic Paint Stripe) (LF)**
  - 403.2.4 4" Solid Yellow Double Permanent Pavement Markings (Traffic Paint Stripe) (LF)**
  - 403.2.5 4" Yellow Solid Permanent Pavement Markings (Traffic Paint Stripe) (LF)**

#### **404 PERMANENT SIGNING, SIGN POSTS AND DELINEATORS**

**TS403.4 Measurement and Payment:** Add the following:

Measurement and payment shall be the unit price per each for posts and sign panels, complete and in place including the sign post foundations.

Payment for the removal and reinstall of the existing signs shall be at the unit price of each and shall include the removal and disposal of existing foundation and post.

- Pay Item:**
- 404.1 Perforated Sign Post and Post Foundation (EA)**
  - 404.2 Flat Sheet Aluminum Sign Panel, Diamond Grade (EA)**

#### **406 ELECTRICAL**

Add the following

- Pay Item:**
- 406.1 – Street Light Pole (Fiberglass) (EA)**
  - 406.2– Pedestrian Light Pole Assembly (EA) (ALT 1)**
  - 406.3 – Street Light Mast Arm (15' Aluminum) (EA) (ALT 1)**
  - 406.4 – 120/240 V, 100 A Meter Pedestal With Foundation (EA)**
  - 406.5 – Electrical Conduit (1" PVC) (LF)**
  - 406.6– Electrical Conduit (2" PVC) (LF)**
  - 406.7 – Electrical Conduit (2.5" PVC) (LF)**
  - 406.8 – Directional Drill (2" PVC) (LF)**
  - 406.9 – LED Luminaire Pedestrian (EA)**
  - 406.10 – LED Luminaire Street Light (EA)**
  - 406.11 – Junction Box (EA)**
  - 406.12 – #12 AWG Conductor (LF)**
  - 406.13 – #12 AWG Insulated Bond (LF)**
  - 406.14 – #8 AWG Conductor (LF)**
  - 406.15 – #8 AWG Insulated Bond (LF)**
  - 406.16 – Electrical Utility Coordination (LS)**



## **407 TRAFFIC SIGNALS**

### **407.1 Description**

This work includes Rectangular Rapid Flashing Beacons at the locations shown in the project plans.

### **407.2 Construction Requirements**

All traffic signal work shall conform to the latest editions of ADOT's Traffic Signals and Lighting Standard Drawings and ADOT's Standard Specifications.

**Pay Item: 407.1 – Pedestrian Push Button (EA)**  
**407.2 – Rectangular Rapid Flashing Beacon (EA)**

## **430 LANDSCAPE AND PLANTING**

### **430.10 Payment**

Add the following:

**Pay Item: 430.1 – Landscaping (LS)**

## **430 LANDSCAPE IRRIGATION**

### **440.12 Measurement and Payment**

Add the following:

**Pay Item: 440.1– Landscape Irrigation (LS)**

## **710 ASPHALT CONCRETE**

### **710.2.1 Asphalt Binder**

REMOVE in its entirety and REPLACE with the following:

(A) The approved asphalt binder shall be either Performance Grade (PG) 64-22, PG 70-22, PG 70-22TR, or PG 70-22TR+ asphalt conforming to the requirements of AASHTO M 320-09 Performance-Graded Asphalt Binder. The binder grade shall be as specified in the contract documents or as directed by the Engineer.

(B) The Engineer may review a request by the Contractor to change from the approved binder grade.

### **710.2.3 Reclaimed Asphalt Pavement (RAP):**

REMOVE in its entirety and REPLACE with the following:

Reclaimed asphalt pavement (RAP) shall not be allowed.

### **710.3.1 General**

REMOVE item (11) in its entirety.

### **710.3.2 Mix Design Criteria**

ADD the following:

- (A) The intent of this supplement is to use only ½ inch or ¾ inch Marshall or Gyratory Mix Designs within the specification unless specifically called out in the project specifications.
- (B) The asphalt mix design shall be for high traffic volume, unless otherwise specified.

#### 710.3.2.1 Marshall Mix Design

REMOVE item (5) in Table 710-3 Marshall Mix Design Criteria and REPLACE with the following:

- (5) Tensile Strength Ratio: % Min.

Minimum percent requirement is changed to 75. A tensile strength ratio of 75 percent may require more than 1 percent mineral admixture.

## **725 PORTLAND CEMENT CONCRETE**

**725.9 Acceptance:** ADD the following:

Portland Cement Concrete shall be Class B concrete with a minimum compressive strength of 2500 psi. The slump of the concrete, specified to be between 3-6 inches, shall have a tolerance of – 2 ½ inches. The concrete is specified to have 6% air entrainment. The tolerance allowed for the air entrainment shall be +/- 1.5% of the specified value.