MAPA Black to Basics
Columbia, MO
February 11, 2026

Steve Jackson, PE, MBA
Bartlett & West

Small City Contracting
Handshake Deal or 500 Page Contract

Steve Jackson

- B.S. in Civil Engineering
- B.S. in Economics
  - **THE** University of Missouri- Rolla
- Master of Business Administration
  - Missouri State University

- Professional Engineer
- 35 years in construction
- 27 years in asphalt
- 4 months in consulting engineering

DESIGN CHALLENGE TODAY

You are contacted by a small-town mayor about wanting some roads paved this year. The town does not have a public works director. Some streets are several layers of chip seal. Some are BP-1.

Where do you start?

What Information do you need?

Additional Constraints

- Want the project completed before school starts in August.
- The part-time mayor is a banker, but his brother builds houses and "knows construction."
- Election is April 7th, 2026.

Google Maps "Plans"

Introduction

- The challenge is to secure a job that will last and deliver value to taxpayers or owners.
- There are many specifications out there and the question becomes “Whose Specification Should I Use?”
- What is the budget?

Federal or Master Spec Type Specs

Sieve Sizes	Percentage Passing
19 mm(3/4 inch)	100
9.5 mm(3/8 inch)	67 to 85
6.4 mm(1/4 inch)	50 to 65
2.4 mm(No. 8 mesh)	37 to 50
600 µm(No. 30 mesh)	15 to 25
75 µm(No. 200 mesh)	3 to 8

1. Plus 50/60 penetration liquid asphalt at 5 percent to 6-1/2 percent of combined dry aggregates.

2.2 ASPHALTS

A. Comply with Asphalt Institute Specification SS2:
   1. Asphalt cement: Penetration grade 50/60.
   2. Prime coat: Cut-back type, grade MC-250.
   3. Tack coat: Uniformly emulsified, grade SS-1H.

PART 3 - EXECUTION

3.1 PREPARATION

A. Establish and control pavement (aggregate or asphalt base course and asphalt surface course) alignments, grades, elevations, and cross sections as shown on Drawings.

3.2 MIXING ASPHALTIC CONCRETE MATERIALS

A. Provide hot plant-mixed asphaltic concrete paving materials.
   1. Temperature leaving plant: 143 degrees C (290 degrees F) minimum, 160 degrees C (320 degrees F) maximum.
   2. Temperature at time of placing: 138 degrees C (280 degrees F) minimum.

3.3 SUBGRADE

A. Shape to line and grade and compact with self-propelled rollers.
B. Fill depressions developed under rolling with acceptable material and re-roll area.
C. Remove soft areas, fill with acceptable materials and re-roll area.
D. If subgrade becomes rutted or displaced before the placing of subbase, rework subgrade to bring to line and grade.
E. Proof-roll subgrade with maximum 45 tonne (50 ton) gross weight dump truck as directed by COR. If pumping, pushing, or other movement is observed, rework area to provide stable and compacted subgrade.

"One Off" Mix Design

MoDOT

- Section 401 Bituminous Pavements
  - BP-1
  - BP-2
  - BP-3
  - Bituminous Base
- Section 402 Surface Leveling
- Section 403 Superpave
- Section 413.30 UBAWS

Section 401 - Gradations

Sieve	BP-1	BP-2	BP-3	Bit Base
1"	100	100	100	100
¾"	100	100	100	85-100
½"	85-100	95-100		60-90
#4	50-70	60-90	90-100	35-65
#8	30-55	40-70		25-50
#16			30-60	
#30	10-30	15-35		10-35
#200	5-12	5-12	7-12	4-12

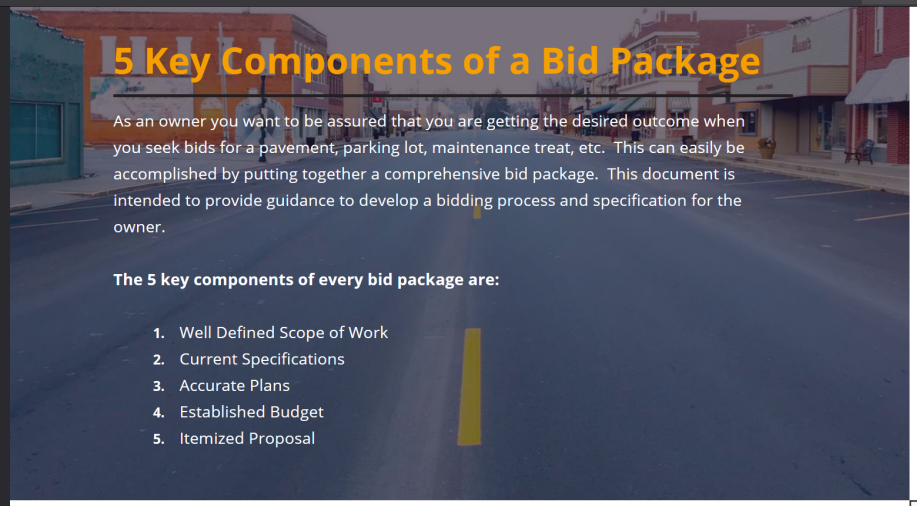
Section 401 - Characteristics

Mix Type	% Air Voids	Stability (AASHTO 245)	VMA
BB	3.5	750	13.0
BP-1	3.5	750	13.5
BP-2	3.5	750	14.0
BP-3	3.5	750	15.0

Missouri Asphalt Paving Association (MAPA)

- www.moasphalt.org

- MAPA is one of the state asphalt associations under NAPA.
- MAPA/MoDOT quarterly meetings
- MAPA Technical Working Group
  - Ongoing work with MoDOT to update and clarify specifications
  - Evaluate and implement new technologies



5 Key Components of a Bid Package

As an owner you want to be assured that you are getting the desired outcome when you seek bids for a pavement, parking lot, maintenance treat, etc. This can easily be accomplished by putting together a comprehensive bid package. This document is intended to provide guidance to develop a bidding process and specification for the owner.

The 5 key components of every bid package are:

1. Well Defined Scope of Work
2. Current Specifications
3. Accurate Plans
4. Established Budget
5. Itemized Proposal

1. Well Defined Scope of Work

When seeking bids for a project, a well-defined scope of work in the bid advertisement will attract bidders/contractors to supply a bid for the project.

Take for example the project scopes:

The Scope of Work includes an asphalt surface treatment.

vs

The Scope of Work includes cold milling 64,234 S.Y. of asphalt pavement and placing 10,280 tons of BP-2 at a compacted depth of 2 inches on Main Street.

The latter example is much more appealing for a contractor to look at as they can quickly determine if this is a scope of work they are suited to build.

2. Current Specifications

The use of current and local specifications is extremely important for several reasons. Asphalt is an engineered product with technology and design parameters constantly evolving. As technology evolves, design parameters mix designations change. Therefore, using the most current specifications is critical when specifying a pavement treatment.

It is also important to utilize local specifications and products to assure product availability. In the absence of having your own specifications, it is recommended to utilize the currently effective version of the Missouri Standard Specifications for Highway Construction.

3. Accurate Plans

Accurate and detailed plans help to assure the owner that they will get what is specified and reduces risk not only for the owner but also for the bidder. Reduced risk equals better pricing.

Consider the following plan detail:

2 inches asphalt mix vs 2 inches of compacted BP-1

Again, the more accurate and detailed the plans, the less room there is for interpretation by the bidder, which leads to less risk and accurate pricing.

4. Established Budget

As an owner it is important to know your budget and scope a project that you can afford to build. This can easily be achieved by estimating a project as the plans and specifications are developed. Working with local contractors can help you understand anticipated project costs.

A complete list of MAPA Contractor Members can be found at:
https://moasphalt.org/members/

5. Itemized Proposal

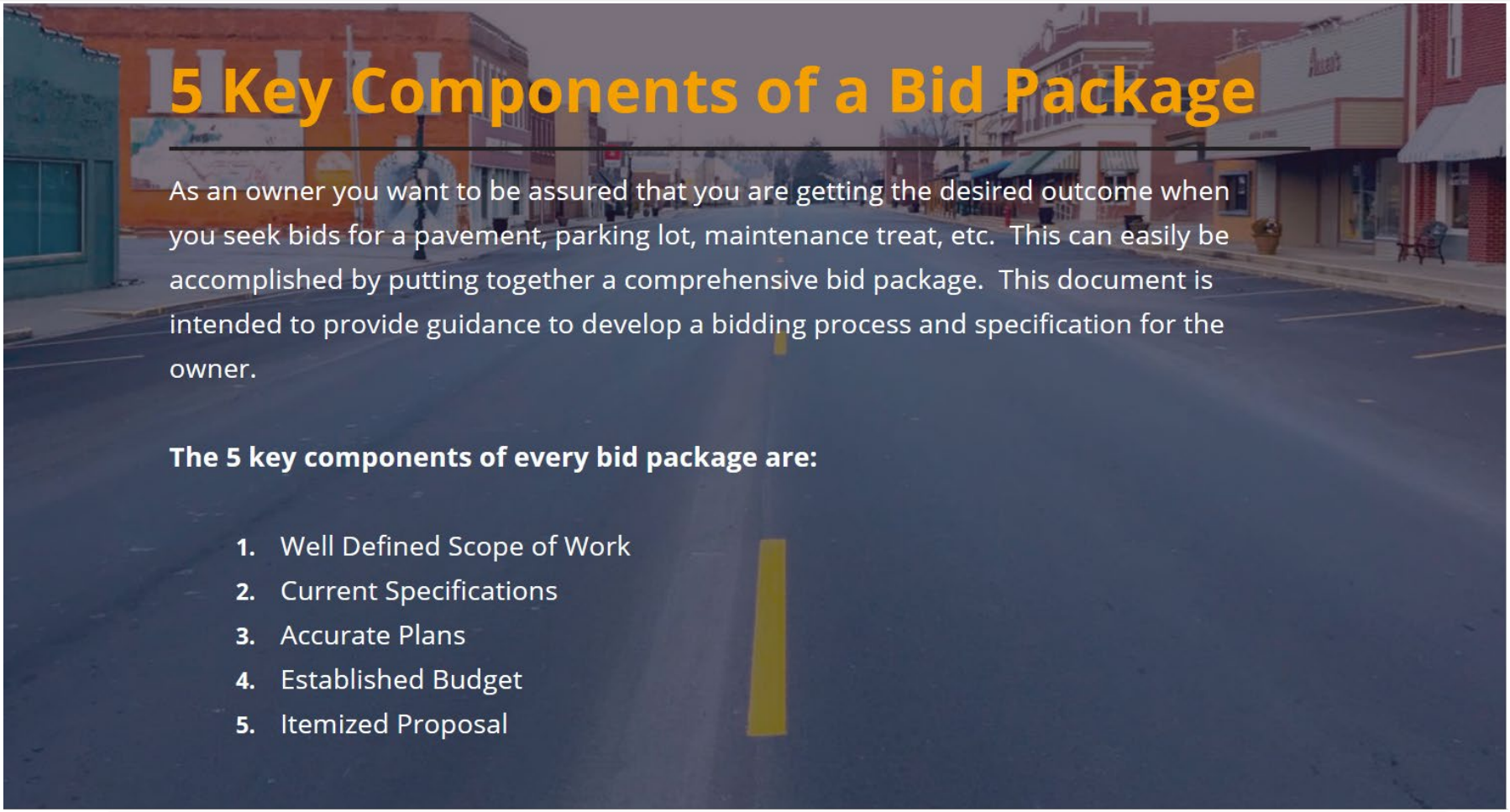
An itemized proposal is very similar to an accurate set of plans. It helps the bidder understand exactly what the owner is wanting.

Items of work should be broken out and specified in correct units. When items are lumped together, it increases risk on the part of the bidder. Also, during construction, it is much easier to administer a contract especially when changes in work happen in the field due to differing site conditions.

Itemized Bid Proposal Example

Description	UM	Units	Price	Total
Mobilization/Demobilization	LS			$0.00
Maintenance Of Traffic	LS			$0.00
Milling - Mainline	SY			$0.00
Milling - Approaches	SY			$0.00
Tack	GAL			$0.00
BP-1	TON			$0.00

MAPA Design Guide



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Consultants

- There is a tendency to copy and paste specifications from various sources
  - Aggregate properties vary greatly by location
  - A spec from Colorado that uses hard granite is not going to work in Missouri with limestone aggregate
- Don't specify a MoDOT mix and then require a 75 blow marshall mix by AASHTO MS-2

Municipal Mix Specification

- "Mix must meet MoDOT Standard Specifications for Highway Construction"

- No mix type
- No binder grade
- What kind of testing is required?

- Which year/month of specifications?

Municipal Mix Specification

- Required a MoDOT BP-1 mix
- Testing requirements included full mix testing requirements for a 100 gyration Superpave mix
  - BP-1 was a 35 blow marshall mix

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Additional Considerations

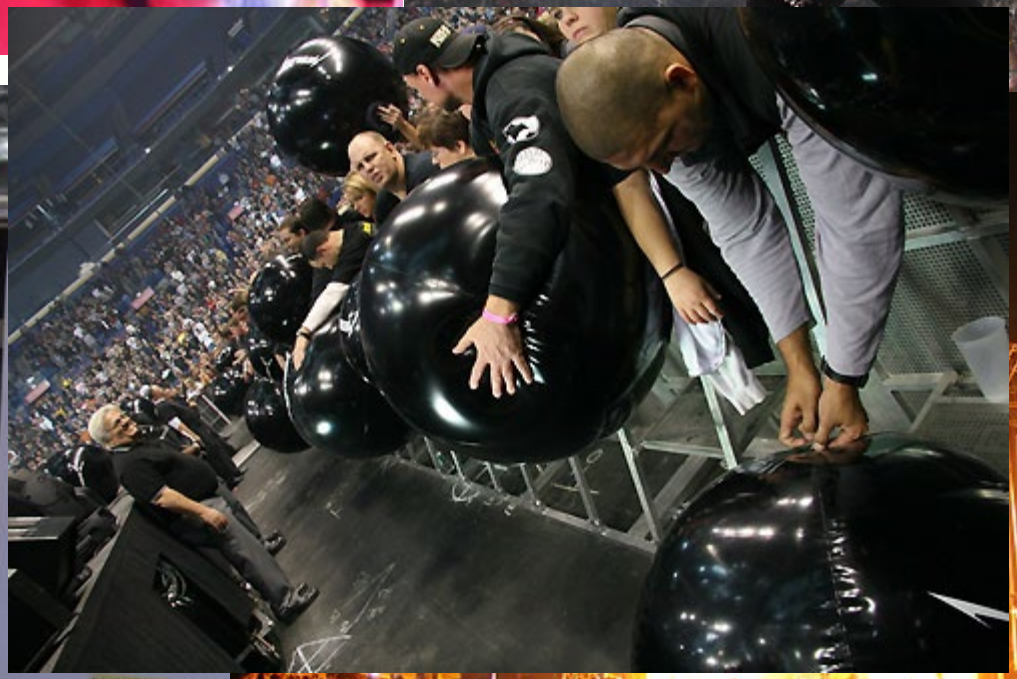
- What is the funding source?
- Does it need to go out to bid?
- What are the design fees?
- Is there construction observation?

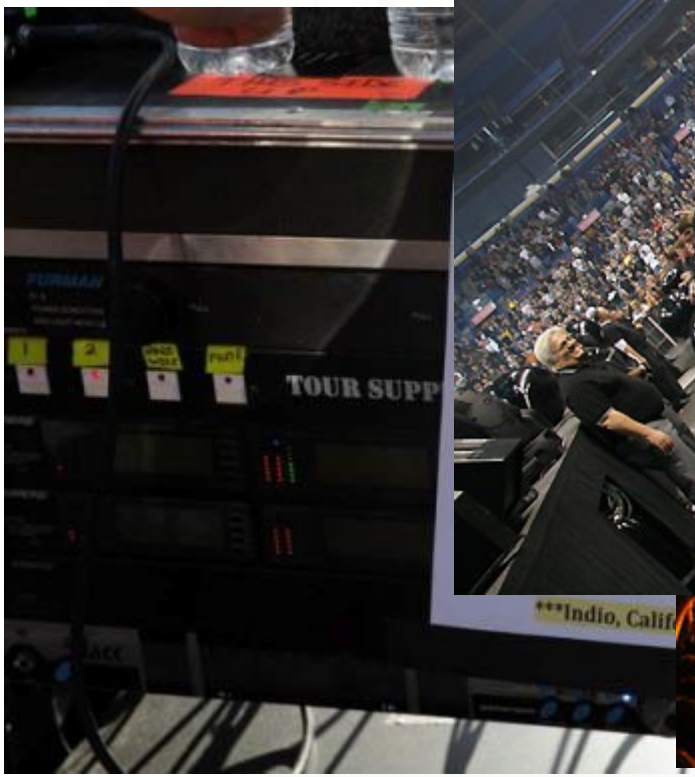
My Recommendations

- Understand the specifications
  - Call a contractor
  - Call the MoDOT local office or central office
  - Call MAPA
- Make sure what you're laying mix on is strong enough to handle the construction process

Conclusion

- Roads that fail early are not good for the taxpayers, the agency, the designer, or the contractor

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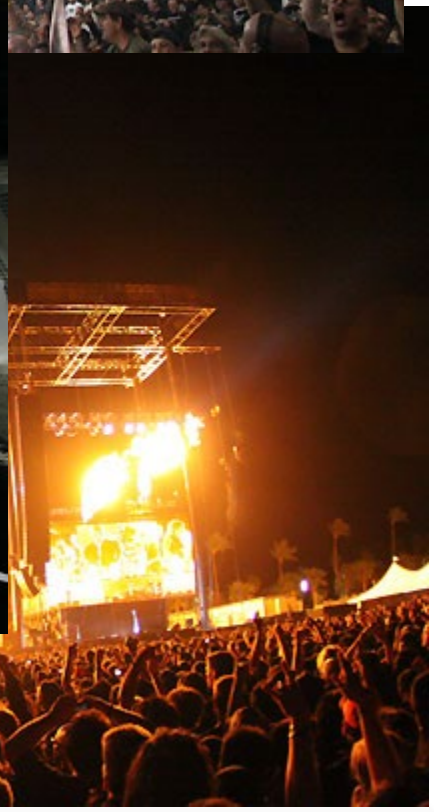

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