

## WORKSHEET FOR SUPERPAVE ASPHALT CONCRETE MIX DESIGN AASHTO R 35

Project: \_\_\_\_\_ Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Nominal Maximum Aggregate Size, \_\_\_\_\_ : \_\_\_\_\_  
 Asphalt supplier: \_\_\_\_\_ Grade of asphalt: \_\_\_\_\_  
 Sources for: Aggregates: \_\_\_\_\_ Mineral filler: \_\_\_\_\_  
 Testing laboratory name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Testing performed by: \_\_\_\_\_  
 Testing reported by: \_\_\_\_\_

English  Metric

### SUMMARY OF THE PROPOSED JOB-MIX-FORMULA

- |   |  |
|---|--|
| 1. Number of gyrations ( $N_{int}/N_{des}/N_{max}$ ) _____<br>2. Percent binder by mass of total mix ( $P_b$ ) <sup>1</sup> _____<br>3. Percent binder by mass of aggregate _____<br>4. Air voids ( $V_a$ ) at $N_{des}$ _____<br>5. Voids in mineral aggregate (VMA) at $N_{des}$ _____<br>6. Voids filled with asphalt (VFA) at $N_{des}$ _____<br>7. Maximum unit mass ( $G_{mm}$ ) _____<br>8. Effective specific gravity of aggregate ( $G_{se}$ ) _____<br>9. Dust-to-Binder Ratio (DP) _____ | 10. Specific gravity of binder ( $G_b$ ) _____<br>11. Recommended plant mixing temperature, (Attach Temperature Viscosity Curve) _____<br>12. Percent compaction at $N_{max}$ _____<br>13. Hveem stabilometer value (If specified) _____<br>14. Moisture Susceptibility: _____<br>a. Dry strength, _____<br>b. Wet strength, _____<br>c. Index of Retained Strength, % _____ |
|---|--|

GRADATION TARGET VALUES AND ALLOWABLE DEVIATIONS			SPECIFIC GRAVITY AND ABSORPTION			
Sieve Sizes	Job Mix Formula Target Value <sup>2</sup>	Allowable Deviation <sup>3</sup> %	Bulk SG ( $G_{sb}$ )	Fine Aggregate (AASHTO T 84)	Coarse Aggregate (AASHTO T 85)	Combined Aggregate
			Bulk SG ( $G_{sb}$ )	_____	_____	_____
			Bulk SSD SG	_____	_____	_____
			Apparent SG ( $G_{sb}$ )	_____	_____	_____
			Absorption	_____ %	_____ %	_____ %

<sup>1</sup> Establish asphalt cement content (percent by mass of mix) to the nearest 0.01 percent.  
<sup>2</sup> Establish target values to the nearest 0.1 percent as a part of the job mix formula.  
<sup>3</sup> Allowable deviations plus or minus from established target values.

**WORKSHEET FOR A SUPERPAVE MIX DESIGN (Continued)**

Material Stockpile	Stockpile Description	Blend Ratio
A	_____	_____ %
B	_____	_____ %
C	_____	_____ %
D	_____	_____ %
E	_____	_____ %
<b>Total</b>		<input type="text"/> %

**Stockpile Gradation**

Sieve Size	Stockpile A <input type="text"/> %	Stockpile B <input type="text"/> %	Stockpile C <input type="text"/> %	Stockpile D <input type="text"/> %	Stockpile E <input type="text"/> %	Blended Stockpile Gradation	Job Mix Formula Target Values	Specification Limits

**Aggregate Properties**

Property	Result	Specification	Property	Result	Specification
LA Abrasion, % - Grading ____ AASHTO T 96			Fine aggregate angularity, AASHTO T 304 - method A		
Sodium Sulfate Soundness, % AASHTO T 104			Flat and elongated particles, ASTM D 4791 - 1: ____ ratio		
Durability index (Coarse) AASHTO T 210			Sand Equivalent AASHTO T 176, Alt method #2, reference method		
Durability index (Fine) AASHTO T 210			Other:		
Fractured Faces, % - <input type="text"/> ASTM D 5821			Other:		

**WORKSHEET FOR A SUPERPAVE MIX DESIGN (Continued)**

Trial Number	1	AVG	2	AVG	3	AVG
% Asphalt by mass of total mix ( $P_b$ )						
Specimen height,						
Effective Binder Content ( $P_{be}$ )						
Bulk specific gravity at $N_{des}$ ( $G_{mb}$ )						
% compaction at $N_{int}$						
% Air voids at $N_{des}$ ( $V_A$ )						
Max. unit mass $G_{mm}$						
Voids in mineral aggregate (VMA) at $N_{des}$						
Voids filled with asphalt (VFA) at $N_{des}$						
Dust-to-Binder Ratio, (DP)						
Hveem Stabilometer value						
Trial Number	4	AVG	5	AVG	6	AVG
% Asphalt by mass of total mix ( $P_b$ )						
Specimen height,						
Effective Binder Content ( $P_{be}$ )						
Bulk specific gravity at $N_{des}$ ( $G_{mb}$ )						
% compaction at $N_{int}$						
% Air voids at $N_{des}$ ( $V_A$ )						
Max. unit mass $G_{mm}$						
Voids in mineral aggregate (VMA) at $N_{des}$						
Voids filled with asphalt (VFA) at $N_{des}$						
Dust-to-Binder ratio, (DP)						
Hveem Stabilometer value						

**Test Results for Each of the Individual Moisture Susceptibility Test Specimens**

Percent asphalt binder: \_\_\_\_\_

AASHTO T 283

Specimen Dia:  6 inch  4 inch

Antistrip, type, amount: \_\_\_\_\_

Freeze cycle:  Yes  No

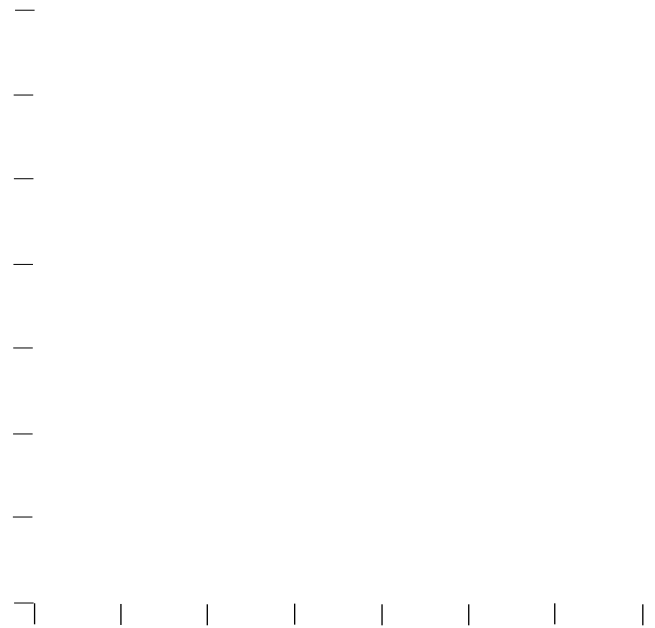
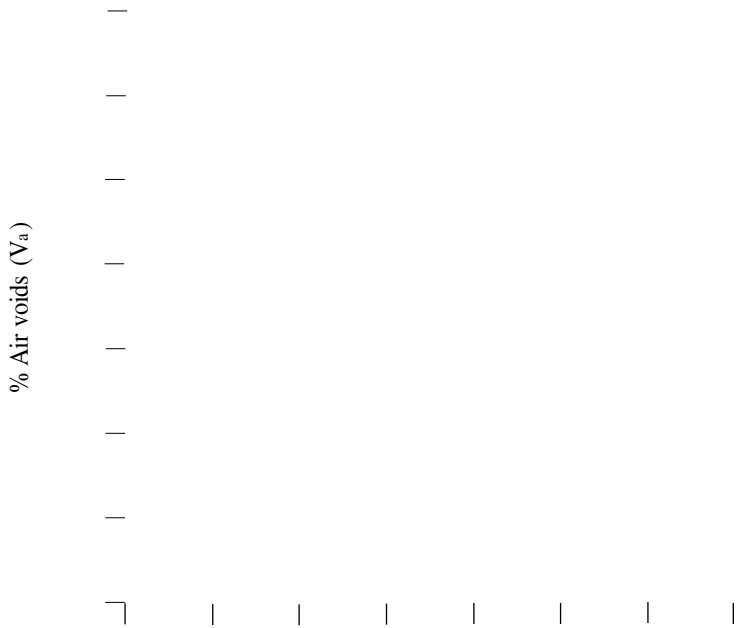
Sample I.D.							Average
Height	Dry						
	Wet						
Bulk Specific Gravity	Dry						
	Wet						
Air Voids	Dry						
	Wet						
Strength	Dry						
	Wet						
<b>Retained Strength, %</b>							

# WORKSHEET FOR A SUPERPAVE MIX DESIGN (Continued)

## Design Curves for Proposed Job Mix Formula (JMF)

**AIR VOIDS ( $V_a$ )**

**UNIT MASS**

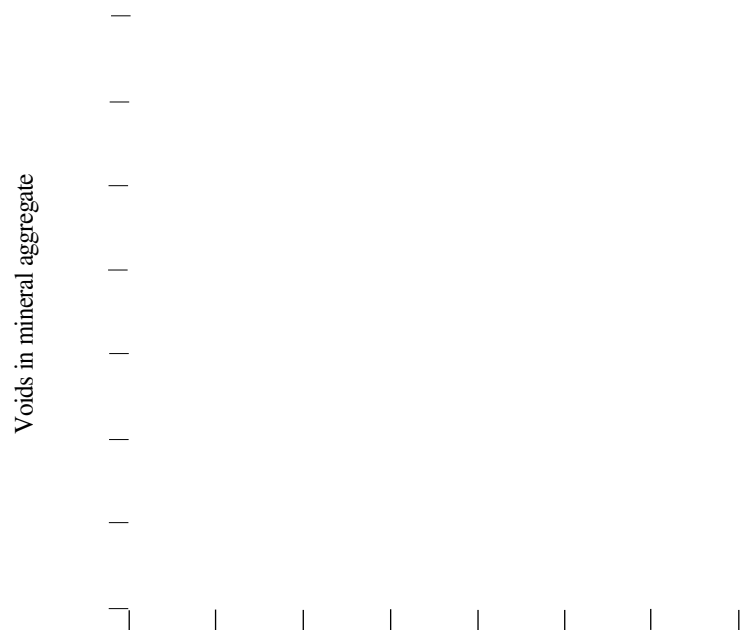
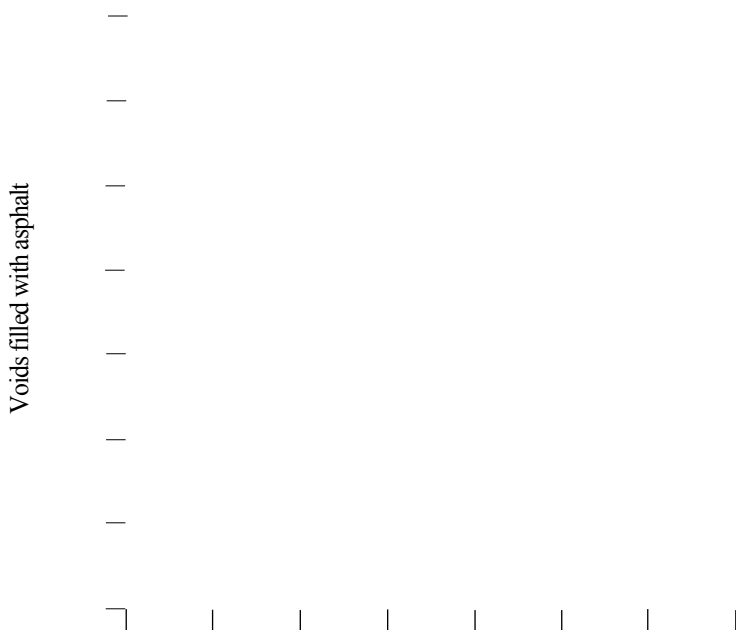


% Asphalt binder ( $P_b$ )

% Asphalt binder ( $P_b$ )

**VFA**

**VMA**



% Asphalt binder ( $P_b$ )

% Asphalt binder ( $P_b$ )



## RECLAIMED ASPHALT PAVEMENT (RAP) DATA SHEET

Location: \_\_\_\_\_

Sampled by: \_\_\_\_\_

Tested by: \_\_\_\_\_

Date: \_\_\_\_\_

% of RAP in Mixture	RAP 1		RAP 2	
	Dry Gradation	T 308 Burned Gradation	Dry Gradation	T 308 Burned Gradation

AC by % mix, Pb	Specific Gravity	Specific Gravity
Gmm		
Gse Gse = (100 - Pb)/(10/Gmm - Pb/Gb)		
Gsb Gsb = Gse/(((Pba*Gse)/(100*Gb)) + 1)		
Pba = (assumed)		
Gb = (assumed)		

**Remarks:**