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U.S. Department of Transportation
Federal Highway Administration
Federal Lands Highway

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}) _____
2. Percent binder by mass of total mix (P_b)[1] _____
3. Percent binder by mass of aggregate _____
4. Air voids (V_a) at N_{des} _____
5. Voids in mineral aggregate (VMA) at N_{des} _____
6. Voids filled with asphalt (VFA) at N_{des} _____
7. Maximum unit mass (G_{mm}) _____
8. Effective specific gravity of aggregate (G_{se}) _____
9. Dust-to-Binder Ratio (DP) _____
10. Specific gravity of binder (G_b) _____
11. Recommended plant mixing temperature, (Attach Temperature Viscosity Curve) _____
12. Percent compaction at N_{max} _____
13. Hveem stabilometer value (If specified) _____
14. Moisture Susceptibility: AASHTO T 283
    a. Dry strength,
    b. Wet strength,
    c. Index of Retained Strength, %

Is RAP included in Mix Design? ☐ Yes ☐ No

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

[1] Establish asphalt cement content (percent by mass of mix) to the nearest 0.01 percent.
[2] Establish target values to the nearest 0.1 percent as a part of the job mix formula.
[3] 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	_____	_____ %
	Total	0 %

Stockpile Gradation

Sieve Size	Stockpile A %	Stockpile B %	Stockpile C %	Stockpile D %	Stockpile E %	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, % - Select 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: _____

Antistrip, type, amount: _____

☒ AASHTO T 283

Specimen Dia: ☐ 6 inch ☐ 4 inch

Freeze cycle: ☐ Yes ☐ No

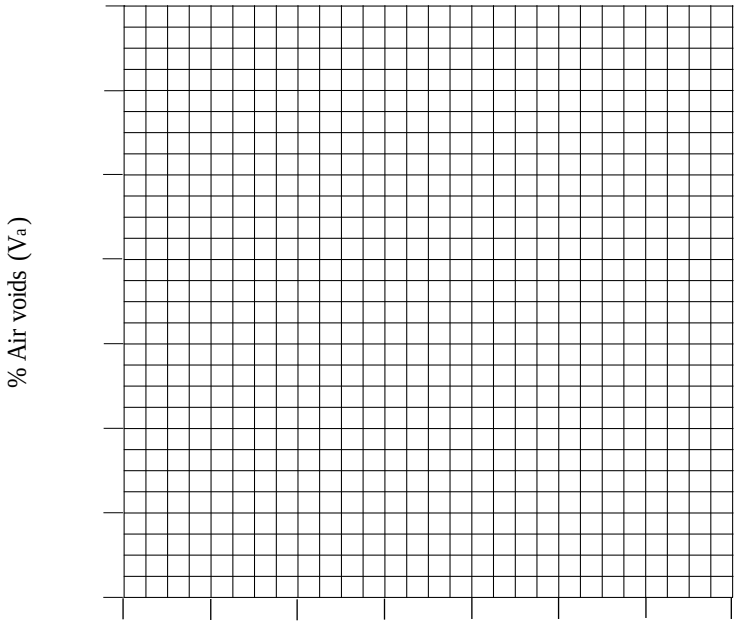
Sample I.D.								Average
Height	**Dry**							
	Wet							
Bulk Specific Gravity	**Dry**							
	Wet							
Air Voids	**Dry**							
	Wet							
Strength	**Dry**							
	Wet							
Retained Strength, %								

WORKSHEET FOR A SUPERPAVE MIX DESIGN (Continued)

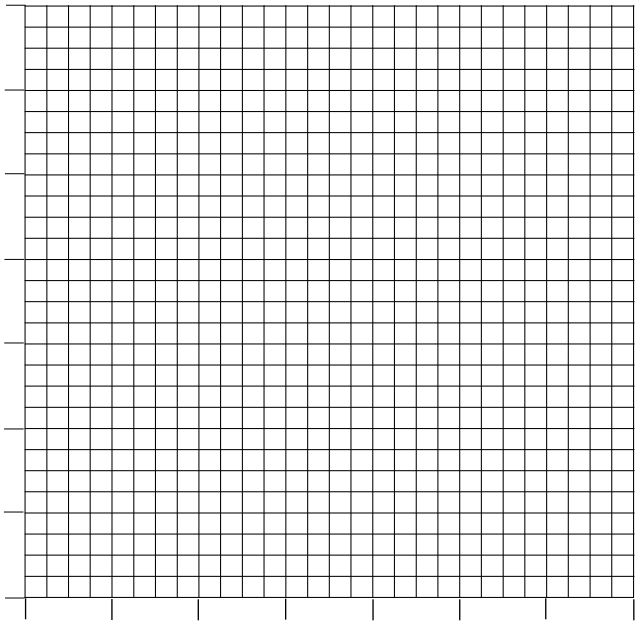
graph it

Design Curves for Proposed Job Mix Formula (JMF)

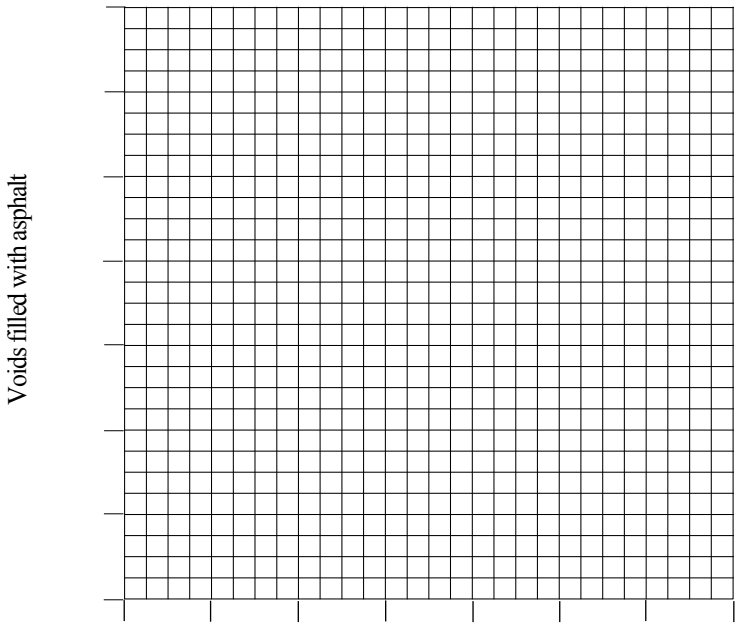
AIR VOIDS (V_a)



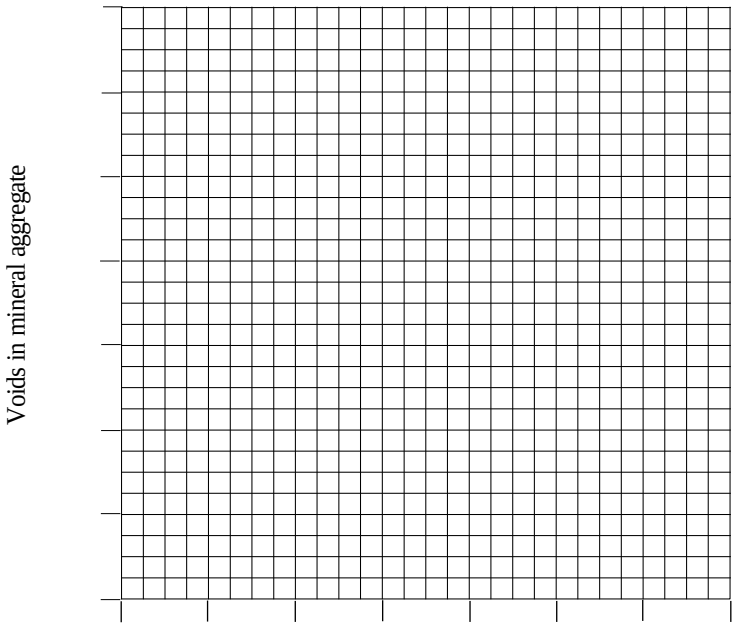
UNIT MASS



VFA



VMA



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RECLAIMED ASPHALT PAVEMENT (RAP) DATA SHEET

Location: _____ Sampled by: _____

Tested by: _____ Date: _____

	RAP 1		RAP 2	
% of RAP in Mixture				
Sieve Size	**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)/(100/Gmm – Pb/Gb)		
Gsb Gsb = Gse/(((Pba*Gse)/(100*Gb)) + 1)		
Pba = (assumed)	1.00	1.00
Gb = (assumed)	1.010	1.010

Remarks: