Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Contractor: _____

Sample Date: 7/21/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 7/22/2025 through 7/28/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
		Total Wt	**2950**	**17.68**		100.0

<----- Verify this number is 100%

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	80.6	100.0	100.0	89.8	10.2	10.2
1/2"	35.2	99.2	100.0	65.9	23.9	34.1
3/8"	19.0	86.4	100.0	56.3	9.6	43.7
#4	2.1	12.8	99.0	40.8	15.5	59.2
#8	1.1	2.4	84.6	33.8	7.0	66.2
#16	0.9	1.4	67.9	27.1	6.7	72.9
#30	0.8	1.2	49.4	19.8	7.3	80.2
#50	0.8	1.1	21.8	9.0	10.8	91.0
#100	0.7	1.1	4.2	2.1	6.9	97.9
LBW	0.6	0.9	0.5	0.6	1.5	99.4

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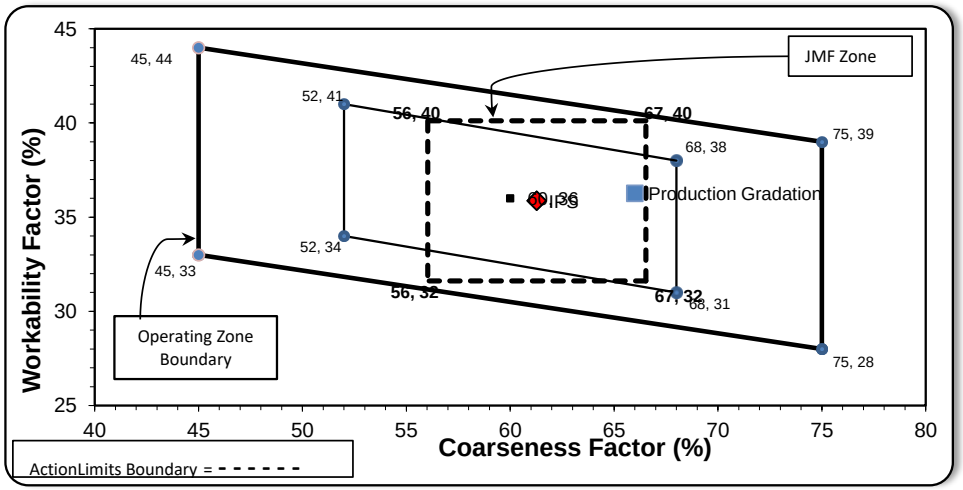
Suite 500
Farmington Hills, MI 48336

*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF 36.3



Intial Production Sample (IPS)

Coarseness Factor:	61
Workability Factor:	36

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY:
SM, LLC Technical Service

Approved BY:

Daily Summary Report

Date Tuesday, July 22, 2025

Sample Id	-674949699	-674981424	-674956820	-1590544548	-674919683
Plant	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton	S103 Superior Brighton
Product	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS	1067 26A Mod LS	1051 6AA LS	1022 2NS GR
Specification	Coarse Agg P1M LS Target	Intermed Agg P1M LS Target	26A Mod LS Spec	6AA LS	2NS GR Spec
Sample Type	QA	QA	QA	QA	QA
Time					
2" (50mm)	100.0	100.0	100.0	100.0	
1 1/2" (37.5mm)	100.0	100.0	100.0	100.0	
1" (25mm)	69.8	100.0	100.0	100.0	
3/4" (19mm)	34.0	100.0	100.0	80.6	
1/2" (12.5mm)	11.1	87.2	99.2	35.2	
3/8" (9.5mm)	5.1	59.6	86.4	19.0	100.0
#4 (4.75mm)	2.3	6.2	12.8	2.1	99.0
#8 (2.36mm)	2.2	2.6	2.4	1.1	84.6
#16 (1.18mm)	2.1	1.9	1.4	0.9	67.9
#30 (.6mm)	2.0	1.5	1.2	0.8	49.4
#50 (.3mm)	2.0	1.4	1.1	0.8	21.8
#100 (.15mm)	1.9	1.3	1.1	0.7	4.2
#200 (75µm)	1.8	1.2	0.9	0.70	0.6
Pan	0.0	0.0	0.0	0.00	0.0
FM					2.73
Wash Loss (#200/75um)	1.7	1.2	0.9	0.6	0.5
Total Moisture	2.52	2.28	5.20	3.59	2.92

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Contractor: _____

Sample Date: 7/21/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 7/22/2025 through 7/28/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1755	10.73	2.62	60.4
26A	71-47	Presque Isle	0	0.00	2.62	0.0
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
		Total Wt	**2905**	**17.69**		100.0

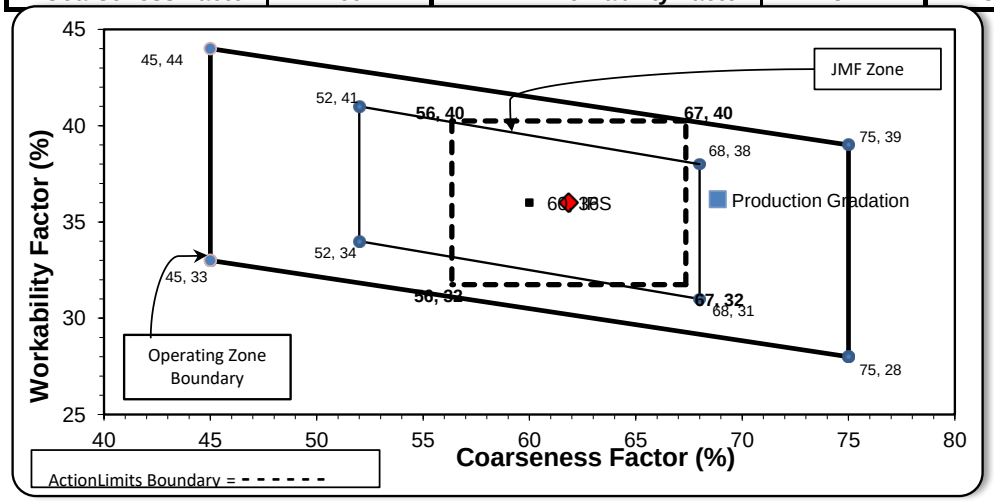
<----- Verify this number is 100%

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.1	100.0	100.0	98.9	1.1	1.1
3/4"	79.5	100.0	100.0	87.6	11.2	12.4
1/2"	42.7	95.5	100.0	65.4	22.2	34.6
3/8"	24.4	80.5	100.0	54.3	11.1	45.7
#4	4.7	19.2	97.1	41.3	13.0	58.7
#8	2.2	7.7	81.7	33.7	7.6	66.3
#16	2.0	4.6	65.3	27.1	6.6	72.9
#30	1.9	3.8	48.3	20.3	6.8	79.7
#50	1.9	3.5	24.9	11.0	9.3	89.0
#100	1.8	3.2	6.8	3.8	7.2	96.2
LBW	1.5	2.7	1.4	1.5	2.3	98.5

*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	34	Adjusted WF	36.2



Intial Production Sample (IPS)

Coarseness Factor:	62
Workability Factor:	36

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

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PREPARED BY:
SM, LLC Technical Service

Approved By:

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Daily Summary Report

Date Wednesday, July 23, 2025

Sample Id	-674919576	-1989627695	-1989649747	-1989633257	-674928510
Plant	Onsite Jefferson	Onsite Jefferson	Onsite Jefferson	Onsite Jefferson	Onsite Jefferson
Product	1022 2NS GR	1051 6AA LS	7919 COARSE AGG P1M LS	7920 INTERMED AGG P1M LS	1067 26A Mod LS
Specification	2NS GR Spec		Coarse Agg P1M LS Target	Intermed Agg P1M LS Target	26A Mod LS Spec
Sample Type	QA	QA	QA	QA	QA
2" (50mm)		100.0	100.0	100.0	100.0
1 1/2" (37.5mm)		100.0	96.6	100.0	100.0
1" (25mm)		98.1	32.9	100.0	100.0
3/4" (19mm)		79.5	7.2	96.4	100.0
1/2" (12.5mm)		42.7	1.9	66.6	95.5
3/8" (9.5mm)	100.0	24.4	1.6	43.2	80.5
#4 (4.75mm)	97.1	4.7	1.6	10.9	19.2
#8 (2.36mm)	81.7	2.2	1.5	4.6	7.7
#16 (1.18mm)	65.3	2.0	1.5	3.4	4.6
#30 (.6mm)	48.3	1.9	1.4	3.1	3.8
#50 (.3mm)	24.9	1.9	1.4	2.9	3.5
#100 (.15mm)	6.8	1.8	1.3	2.7	3.2
#200 (75µm)	1.5	1.66	1.2	2.5	2.8
Pan	0.0	0.00	0.0	0.0	0.0
FM	2.76				
-#200 (75um)	1.5				
Wash Loss (#200/75um)	1.4	1.5	1.1	2.3	2.7
Total Moisture	3.3	2.4	1.5	1.8	2.0