

# Aggregate Optimization Chart

**PLANT #:** P-02

Contractor: \_\_\_\_\_

Sample Date: 5/30/26 (Holiday Weekend no production) Concrete Grade: **DM, 4500HP**

Dates Test Represents: 5/31/2026 through 6/7/2026 **5" SLUMP**

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.73	2.57	48.6
26A	71-47	Presque Isle	400	2.49	2.57	13.9
2NS	63-115	Ray Rd	1080	6.48	2.67	37.5
<b>Total Wt</b>			<b>2880</b>	<b>17.71</b>		<b>100.0</b>

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



**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	87.3	100.0	100.0	93.8	5.9	6.2
1/2"	38.7	99.3	100.0	70.1	23.7	29.9
3/8"	18.9	85.5	100.0	58.6	11.5	41.4
#4	3.1	12.2	98.3	40.1	18.5	59.9
#8	2.1	3.3	87.9	34.4	5.6	65.6
#16	2.0	2.3	66.1	26.1	8.4	73.9
#30	1.8	1.9	46.1	18.4	7.7	81.6
#50	1.7	1.7	21.1	9.0	9.5	91.0
#100	1.6	1.5	4.1	2.5	6.5	97.5
LBW	1.3	1.3	1.0	1.2	1.3	98.8

\*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.

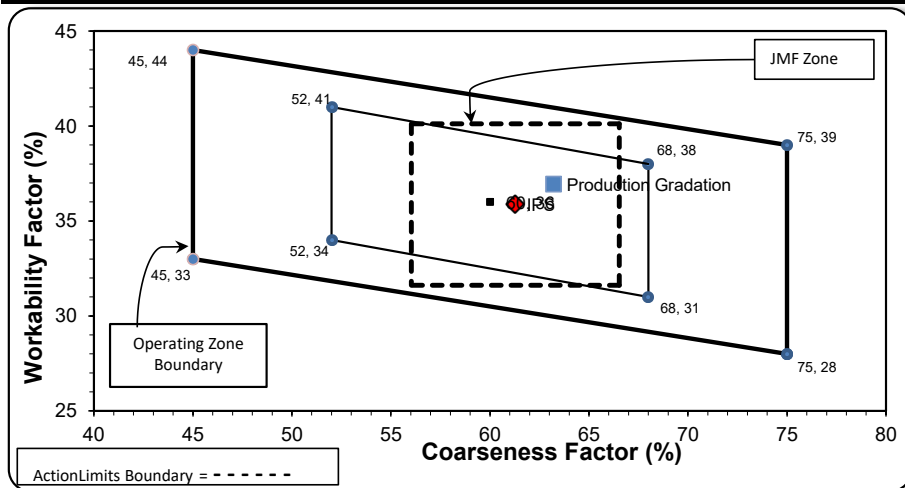
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>63</b>	<b>Workability Factor:</b>	<b>34</b>	<b>36.9</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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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:  
 Nancy Donahue

# Aggregate Optimization Chart

**PLANT #:** **P-102**

Contractor: \_\_\_\_\_

Sample Date: 5/30/26 (Holiday Weekend no production) Concrete Grade: **DM, 4500HP**

Dates Test Represents: 5/31/2026 through 6/7/2026 **5" SLUMP**

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1680	10.01	2.69	56.8
26A	58-003	Stone Co	200	1.19	2.69	6.8
2NS	63-114	Levy Highland	1080	6.51	2.66	36.5
<b>Total Wt</b>			<b>2960</b>	<b>17.71</b>		<b>100.0</b>

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



**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
 Suite 500  
 Farmington Hills, MI 48336

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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	87.3	100.0	100.0	92.8	7.2	7.2
1/2"	48.4	99.2	100.0	70.7	22.1	29.3
3/8"	30.8	85.3	100.0	59.7	10.9	40.3
#4	4.1	10.1	98.8	39.1	20.7	60.9
#8	1.6	2.2	83.6	31.6	7.5	68.4
#16	1.1	1.8	65.2	24.5	7.0	75.5
#30	1.0	1.7	43.5	16.6	8.0	83.4
#50	1.0	1.5	21.1	8.4	8.2	91.6
#100	0.9	1.4	4.6	2.3	6.1	97.7
LBW	0.9	1.3	0.3	0.7	1.6	99.3

\*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.

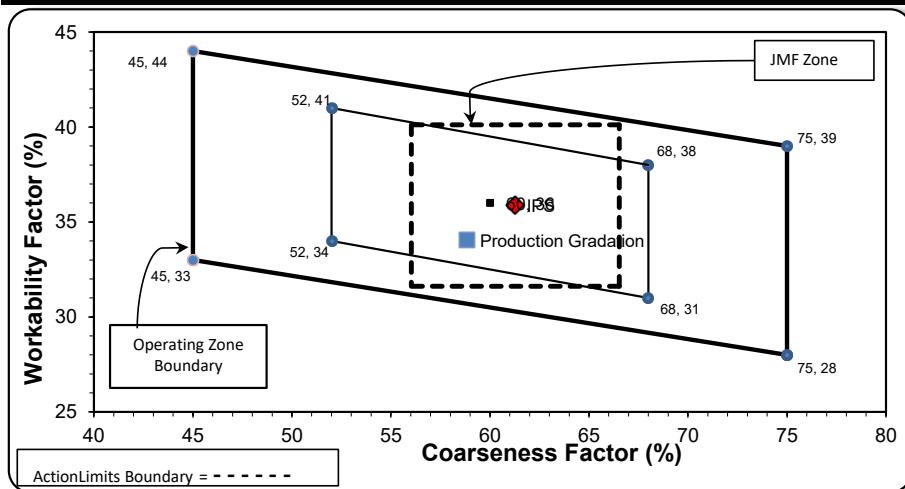
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>59</b>	<b>Workability Factor:</b>	<b>32</b>	<b>34.1</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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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:  
 Nancy Donahue

# Aggregate Optimization Chart

**PLANT #:** P-103

Contractor: \_\_\_\_\_

Sample Date: 5/30/26 (Holiday Weekend no production) Concrete Grade: **DM, 4500HP**

Dates Test Represents: 5/31/2026 through 6/7/2026 **5" SLUMP**

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1680	10.01	2.69	56.8
26A	58-003	Stone Co	200	1.19	2.69	6.8
2NS	63-114	Levy Highland	1080	6.51	2.66	36.5
<b>Total Wt</b>			<b>2960</b>	<b>17.71</b>		<b>100.0</b>

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



**Superior Materials, LLC**  
 30701 W. 10 Mile Rd.  
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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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	87.3	100.0	100.0	92.8	7.2	7.2
1/2"	48.4	99.2	100.0	70.7	22.1	29.3
3/8"	30.8	85.3	100.0	59.7	10.9	40.3
#4	4.1	10.1	98.8	39.1	20.7	60.9
#8	1.6	2.2	83.6	31.6	7.5	68.4
#16	1.1	1.8	65.2	24.5	7.0	75.5
#30	1.0	1.7	43.5	16.6	8.0	83.4
#50	1.0	1.5	21.1	8.4	8.2	91.6
#100	0.9	1.4	4.6	2.3	6.1	97.7
LBW	0.9	1.3	0.3	0.7	1.6	99.3

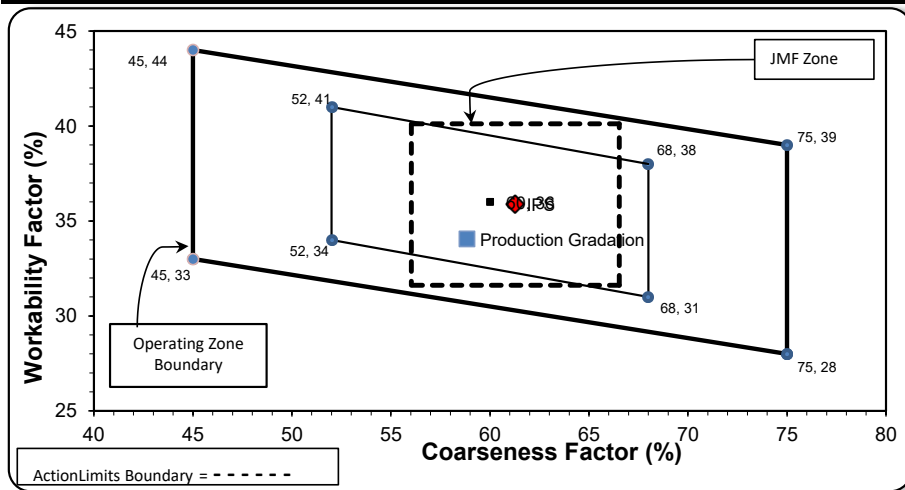
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*% Retained must be at least 4% for the 3/4" sieve when a 1.5"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

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations  Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>59</b>	<b>Workability Factor:</b>	<b>32</b>	<b>34.1</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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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:  
 Nancy Donahue

# Aggregate Optimization Chart

**PLANT #:** **P-36**

Contractor: \_\_\_\_\_

Sample Date: 5/30/26 (Holiday Weekend no production) Concrete Grade: **DM, 4500HP**

Dates Test Represents: 5/31/2026 through 6/7/2026

MDOT No.: \_\_\_\_\_

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1440	8.98	2.57	50.2
26A	71-47	Presque Isle	280	1.75	2.57	9.8
2NS	63-115	Ray Rd	1150	6.90	2.67	40.1
<b>Total Wt</b>			<b>2870</b>	<b>17.63</b>		<b>100.0</b>

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



**Superior Materials, LLC**

30701 W. 10 Mile Rd.  
Suite 500  
Farmington Hills, MI 48336

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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	89.4	100.0	100.0	94.7	4.8	5.3
1/2"	49.4	94.5	100.0	74.1	20.6	25.9
3/8"	30.4	80.2	100.0	63.1	10.9	36.9
#4	5.5	16.8	96.5	43.1	20.1	56.9
#8	2.3	5.0	84.4	35.5	7.6	64.5
#16	1.9	3.0	64.8	27.2	8.2	72.8
#30	1.9	2.6	47.0	20.0	7.2	80.0
#50	1.9	2.4	22.1	10.0	10.0	90.0
#100	1.8	2.3	4.0	2.7	7.3	97.3
LBW	1.5	2.0	0.8	1.3	1.5	98.7

\*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.

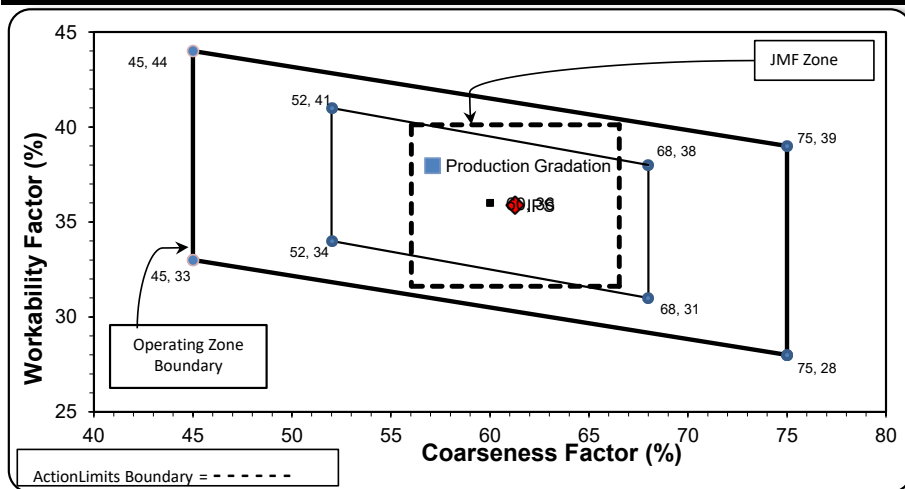
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>57</b>	<b>Workability Factor:</b>	<b>35</b>	<b>38.0</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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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:  
Nancy Donahue