

# Aggregate Optimization Chart

**PLANT #:** **P-02**

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

Sample Date: 4/17/26

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 4/18/2026 through 4/24/2026

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



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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1420	8.92	2.55	47.3
26A	71-47	Presque Isle	400	2.51	2.55	13.3
2NS	63-115	Ray Rd	1180	7.11	2.66	39.3
<b>Total Wt</b>			<b>3000</b>	<b>18.55</b>		<b>100.0</b>

<----- 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"	94.7	100.0	100.0	97.5	2.5	2.5
3/4"	77.3	100.0	100.0	89.3	8.2	10.7
1/2"	39.1	95.5	100.0	70.6	18.7	29.4
3/8"	23.0	80.4	100.0	60.9	9.6	39.1
#4	3.7	17.1	97.4	42.3	18.6	57.7
#8	1.7	4.4	83.3	34.2	8.2	65.8
#16	1.4	2.6	63.8	26.1	8.1	73.9
#30	1.4	2.2	47.2	19.5	6.6	80.5
#50	1.3	2.1	24.4	10.5	9.0	89.5
#100	1.3	2.0	4.9	2.8	7.7	97.2
LBW	1.0	1.9	0.7	1.0	1.8	99.0

\*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.

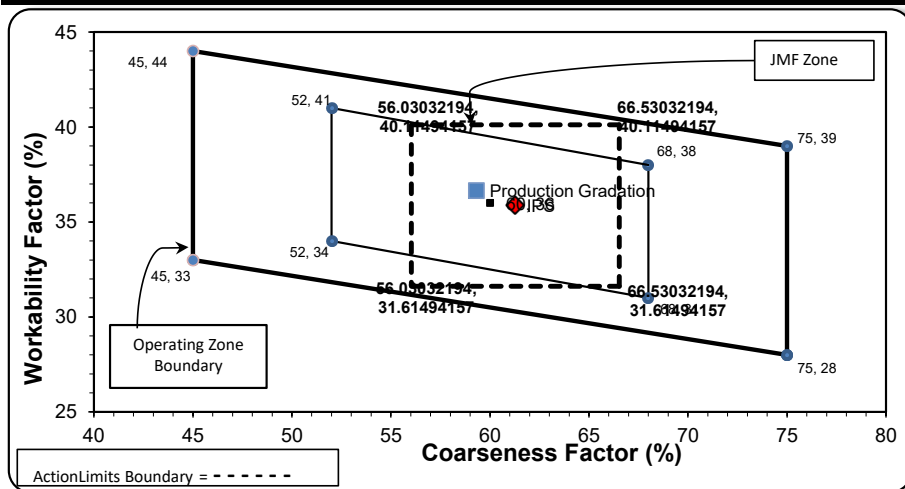
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>59</b>	<b>Workability Factor:</b>	<b>34</b>	<b>36.7</b>
---------------------------	-----------	----------------------------	-----------	-------------

<b>Coarseness Factor:</b>	<b>61</b>
---------------------------	-----------

<b>Workability Factor:</b>	<b>36</b>
----------------------------	-----------



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-11**

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

Sample Date: 4/17/26

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 4/18/2026 through 4/24/2026

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



Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1420	8.92	2.55	47.3
26A	71-47	Presque Isle	400	2.51	2.55	13.3
2NS	63-115	Ray Rd	1180	7.11	2.66	39.3
<b>Total Wt</b>			<b>3000</b>	<b>18.55</b>		<b>100.0</b>

<----- 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"	94.7	100.0	100.0	97.5	2.5	2.5
3/4"	77.3	100.0	100.0	89.3	8.2	10.7
1/2"	39.1	95.5	100.0	70.6	18.7	29.4
3/8"	23.0	80.4	100.0	60.9	9.6	39.1
#4	3.7	17.1	97.4	42.3	18.6	57.7
#8	1.7	4.4	83.3	34.2	8.2	65.8
#16	1.4	2.6	63.8	26.1	8.1	73.9
#30	1.4	2.2	47.2	19.5	6.6	80.5
#50	1.3	2.1	24.4	10.5	9.0	89.5
#100	1.3	2.0	4.9	2.8	7.7	97.2
LBW	1.0	1.9	0.7	1.0	1.8	99.0

\*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.

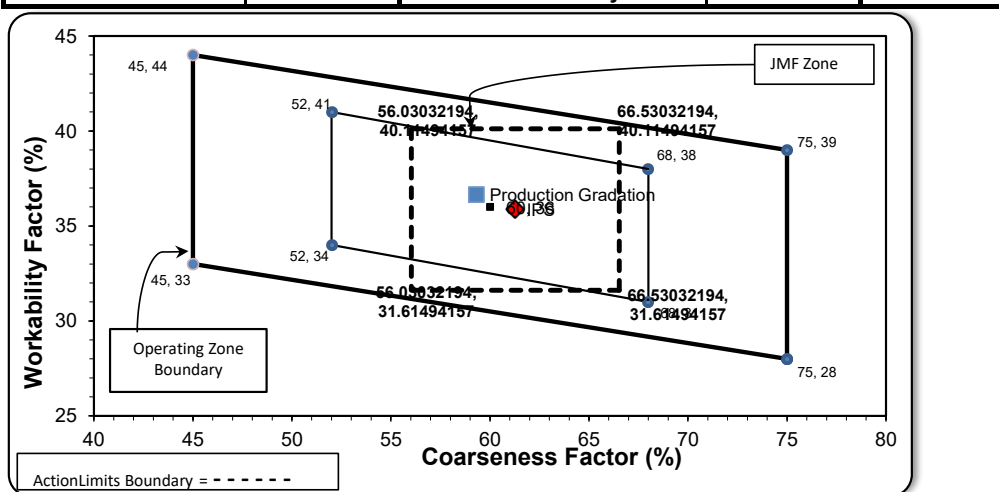
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

**Coarseness Factor:** **59**      **Workability Factor:** **34**      **36.7**

**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

# Aggregate Optimization Chart

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

Sample Date: 4/17/26

Concrete Grade: **DM, 4500HP**

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

Dates Test Represents: 4/18/2026 through 4/24/2026

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1400	8.80	2.69	46.7
26A	58-003	Stone Co	400	2.51	2.69	13.3
2NS	63-114	Grange Hall	1200	7.18	2.68	40.0
<b>Total Wt</b>			<b>3000</b>	<b>18.49</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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	83.7	100.0	100.0	92.4	7.5	7.6
1/2"	38.0	99.2	100.0	71.0	21.4	29.0
3/8"	19.4	82.6	100.0	60.1	10.9	39.9
#4	3.0	6.6	98.0	41.5	18.6	58.5
#8	1.6	1.4	85.6	35.2	6.3	64.8
#16	1.5	1.2	69.9	28.8	6.4	71.2
#30	1.4	1.0	49.3	20.5	8.3	79.5
#50	1.4	1.0	18.9	8.3	12.2	91.7
#100	1.4	0.8	2.7	1.8	6.5	98.2
LBW	1.1	0.8	0.4	0.8	1.1	99.2

\*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.

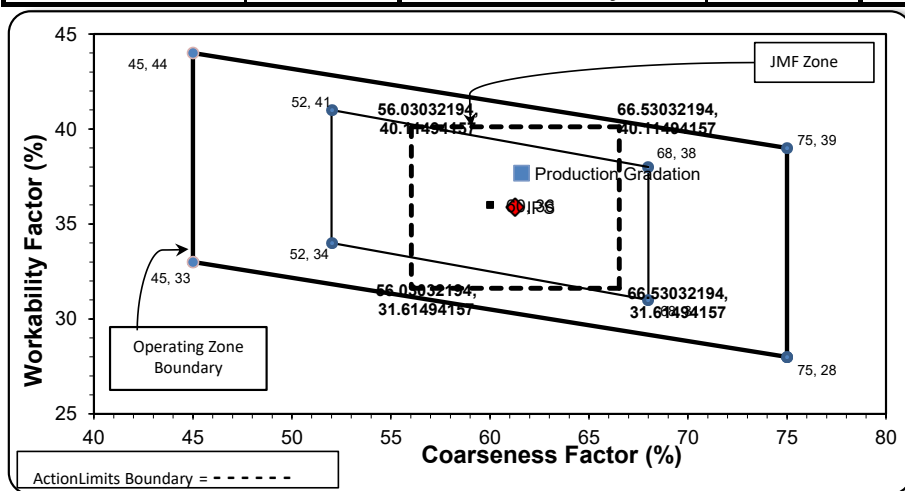
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>62</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.7</b>
---------------------------	-----------	----------------------------	-----------	-------------

<b>Coarseness Factor:</b>	<b>61</b>
---------------------------	-----------

<b>Workability Factor:</b>	<b>36</b>
----------------------------	-----------



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**

Sample Date: 4/17/26

Concrete Grade: **DM, 4500HP**

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

Dates Test Represents: 4/18/2026 through 4/24/2026

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1400	8.80	2.69	46.7
26A	58-003	Stone Co	400	2.51	2.69	13.3
2NS	63-114	Grange Hall	1200	7.18	2.68	40.0
<b>Total Wt</b>			<b>3000</b>	<b>18.49</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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	83.7	100.0	100.0	92.4	7.5	7.6
1/2"	38.0	99.2	100.0	71.0	21.4	29.0
3/8"	19.4	82.6	100.0	60.1	10.9	39.9
#4	3.0	6.6	98.0	41.5	18.6	58.5
#8	1.6	1.4	85.6	35.2	6.3	64.8
#16	1.5	1.2	69.9	28.8	6.4	71.2
#30	1.4	1.0	49.3	20.5	8.3	79.5
#50	1.4	1.0	18.9	8.3	12.2	91.7
#100	1.4	0.8	2.7	1.8	6.5	98.2
LBW	1.1	0.8	0.4	0.8	1.1	99.2

\*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.

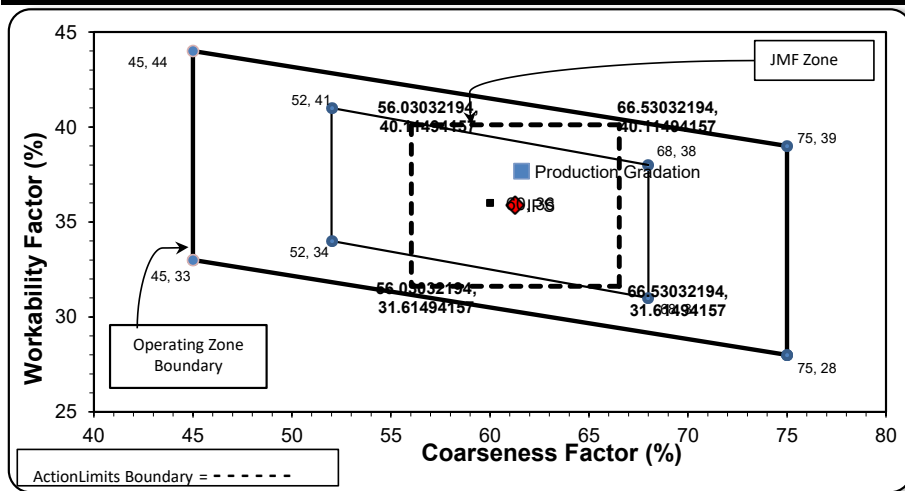
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>62</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.7</b>
---------------------------	-----------	----------------------------	-----------	-------------

<b>Coarseness Factor:</b>	<b>61</b>
---------------------------	-----------

<b>Workability Factor:</b>	<b>36</b>
----------------------------	-----------



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