

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 8/26/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/27/2026 through 9/2/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1570	9.79	2.57	52.9
26A	71-47	Presque Isle	200	1.25	2.57	6.7
2NS	63-115	Ray Rd	1200	7.20	2.67	40.4
Total Wt			2970	18.24		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"	99.1	100.0	100.0	99.5	0.5	0.5
3/4"	86.4	100.0	100.0	92.8	6.7	7.2
1/2"	50.8	97.1	100.0	73.8	19.0	26.2
3/8"	28.5	81.4	100.0	61.0	12.8	39.0
#4	4.4	17.7	96.3	42.4	18.5	57.6
#8	2.3	5.2	82.3	34.8	7.6	65.2
#16	1.9	2.5	61.4	26.0	8.8	74.0
#30	1.8	2.0	45.4	19.4	6.6	80.6
#50	1.7	1.8	23.7	10.6	8.8	89.4
#100	1.6	1.7	6.5	3.6	7.0	96.4
LBW	1.4	1.5	1.1	1.3	2.3	98.7



Superior Materials, LLC

30701 W. 10 Mile Rd.

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.

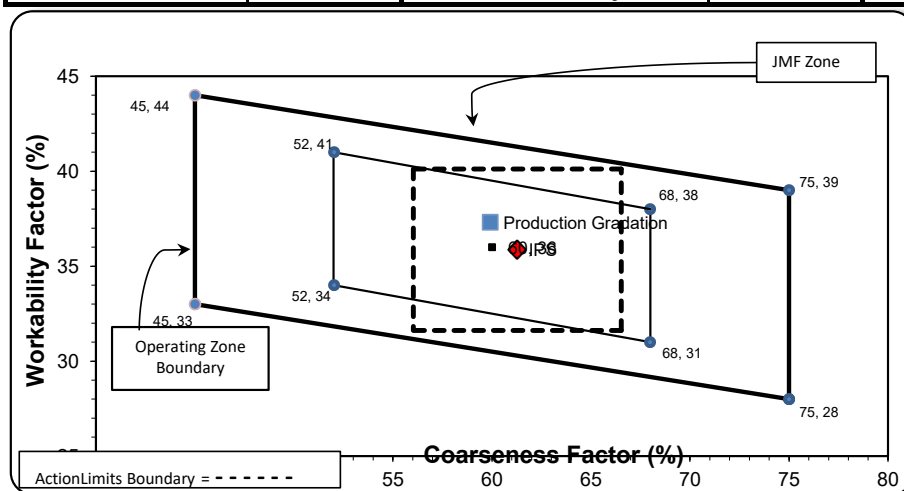
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	35	37.3
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Coarseness Factor:	61
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Workability Factor:	36
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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

Production Gradation Report

PLANT #: **P-11**

Sample Date: **8/26/26**

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: **8/27/2026** through **9/2/2026**

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1570	9.79	2.57	52.9
26A	71-47	Presque Isle	200	1.25	2.57	6.7
2NS	63-115	Ray Rd	1200	7.20	2.67	40.4
Total Wt			2970	18.24		100.0

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



Superior Materials, LLC

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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"	99.1	100.0	100.0	99.5	0.5	0.5
3/4"	86.4	100.0	100.0	92.8	6.7	7.2
1/2"	50.8	97.1	100.0	73.8	19.0	26.2
3/8"	28.5	81.4	100.0	61.0	12.8	39.0
#4	4.4	17.7	96.3	42.4	18.5	57.6
#8	2.3	5.2	82.3	34.8	7.6	65.2
#16	1.9	2.5	61.4	26.0	8.8	74.0
#30	1.8	2.0	45.4	19.4	6.6	80.6
#50	1.7	1.8	23.7	10.6	8.8	89.4
#100	1.6	1.7	6.5	3.6	7.0	96.4
LBW	1.4	1.5	1.1	1.3	2.3	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.

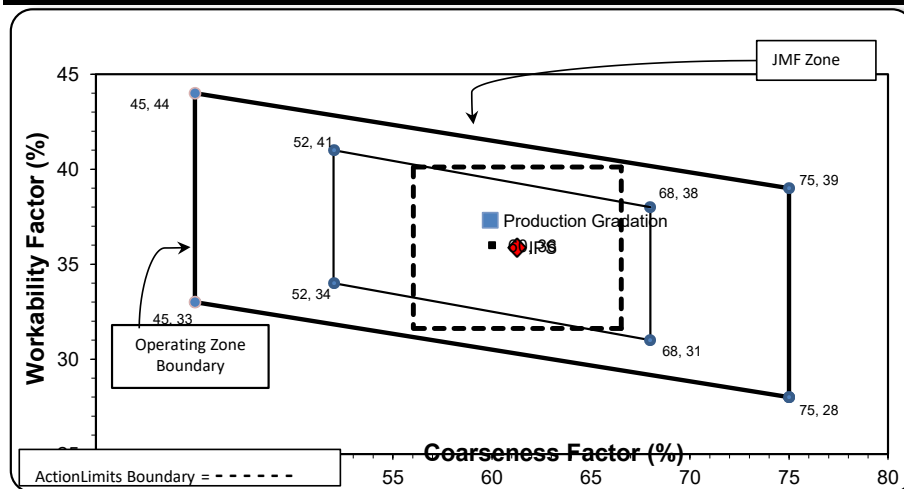
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	35	37.3
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Coarseness Factor:	61
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Workability Factor:	36
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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

Production Gradation Report

PLANT #: **P-36**

Sample Date: 8/26/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/27/2026 through 9/2/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1380	8.61	2.57	46.3
26A	71-47	Presque Isle	300	1.87	2.57	10.1
2NS	63-115	Ray Rd	1300	7.80	2.67	43.6
Total Wt			2980	18.28		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"	99.1	100.0	100.0	99.6	0.4	0.4
3/4"	86.4	100.0	100.0	93.7	5.9	6.3
1/2"	50.8	97.1	100.0	76.9	16.8	23.1
3/8"	28.5	81.4	100.0	65.0	11.9	35.0
#4	4.4	17.7	96.3	45.8	19.2	54.2
#8	2.3	5.2	82.3	37.5	8.3	62.5
#16	1.9	2.5	61.4	27.9	9.6	72.1
#30	1.8	2.0	45.4	20.8	7.1	79.2
#50	1.7	1.8	23.7	11.3	9.5	88.7
#100	1.6	1.7	6.5	3.7	7.6	96.3
LBW	1.4	1.5	1.1	1.3	2.5	98.7



Superior Materials, LLC

30701 W. 10 Mile Rd.

Suite 500

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*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.

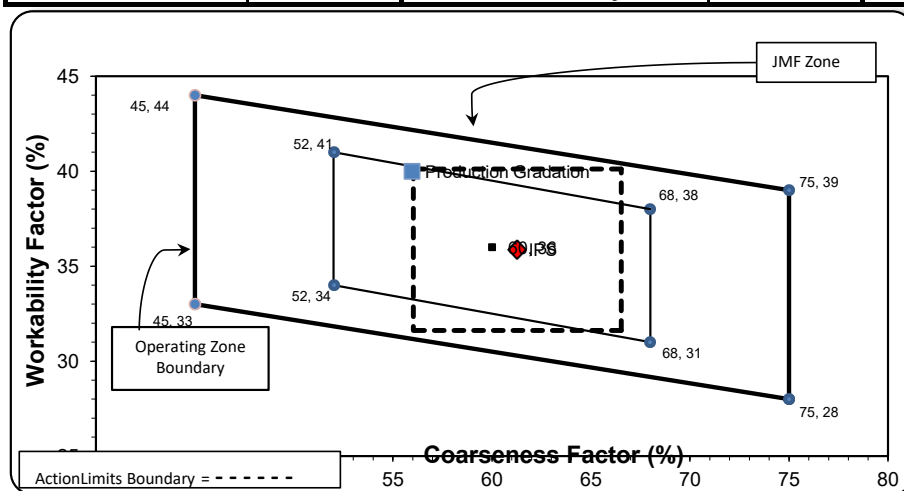
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	56	Workability Factor:	37	40.0
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Coarseness Factor:	61
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Workability Factor:	36
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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

Production Gradation Report

PLANT #: **P-39**

Sample Date: 8/26/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/27/2026 through 9/2/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.67	2.57	52.3
26A	71-47	Presque Isle	215	1.34	2.57	7.3
2NS	63-0009	Koenig	1200	7.26	2.65	40.5
Total Wt			2965	18.26		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"	99.1	100.0	100.0	99.5	0.5	0.5
3/4"	86.4	100.0	100.0	92.9	6.6	7.1
1/2"	50.8	97.1	100.0	74.1	18.8	25.9
3/8"	28.5	81.4	100.0	61.3	12.8	38.7
#4	4.4	17.7	97.5	43.0	18.2	57.0
#8	2.3	5.2	84.1	35.6	7.4	64.4
#16	1.9	2.5	69.4	29.3	6.4	70.7
#30	1.8	2.0	50.6	21.6	7.7	78.4
#50	1.7	1.8	24.8	11.1	10.5	88.9
#100	1.6	1.7	2.5	2.0	9.1	98.0
LBW	1.4	1.5	0.2	0.9	1.0	99.1



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*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.

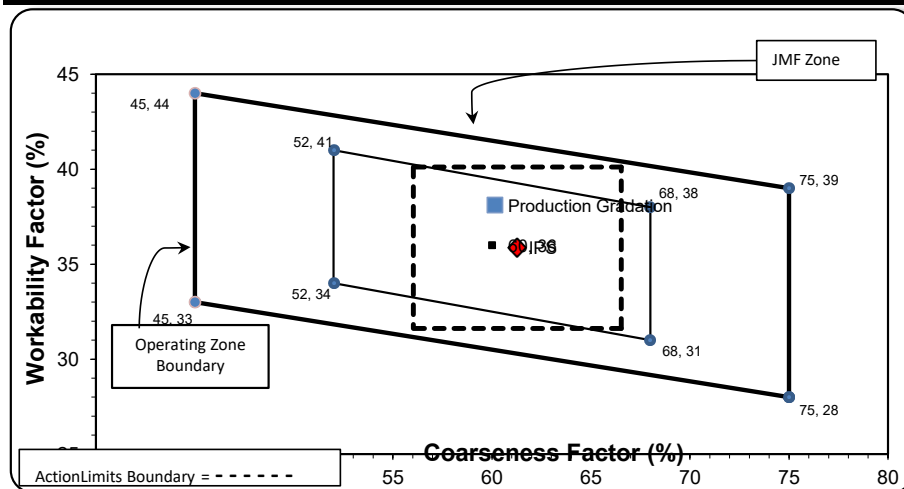
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	36	38.1
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Coarseness Factor:	61
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Workability Factor:	36
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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

Production Gradation Report

PLANT #: **P-102**

Sample Date: 8/26/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/27/2026 through 9/2/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1740	10.37	2.69	56.7
1A	58-003	StoneCo	150	0.89	2.69	4.9
2NS	63-114	Highland	1180	7.11	2.66	38.4
Total Wt			3070	18.37		100.0

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

Sieve	6AA	1A	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"	87.8	99.9	100.0	93.1	6.9	6.9
1/2"	52.7	88.4	100.0	72.6	20.5	27.4
3/8"	33.8	71.6	100.0	61.1	11.5	38.9
#4	6.4	19.5	98.5	42.4	18.7	57.6
#8	2.4	2.9	83.9	33.8	8.7	66.2
#16	1.8	1.8	66.1	26.5	7.2	73.5
#30	1.6	1.5	46.3	18.8	7.7	81.2
#50	1.6	1.4	21.8	9.4	9.4	90.6
#100	1.5	1.3	4.3	2.6	6.8	97.4
LBW	1.1	1.1	0.4	0.8	1.7	99.2



Superior Materials, LLC

30701 W. 10 Mile Rd.

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.

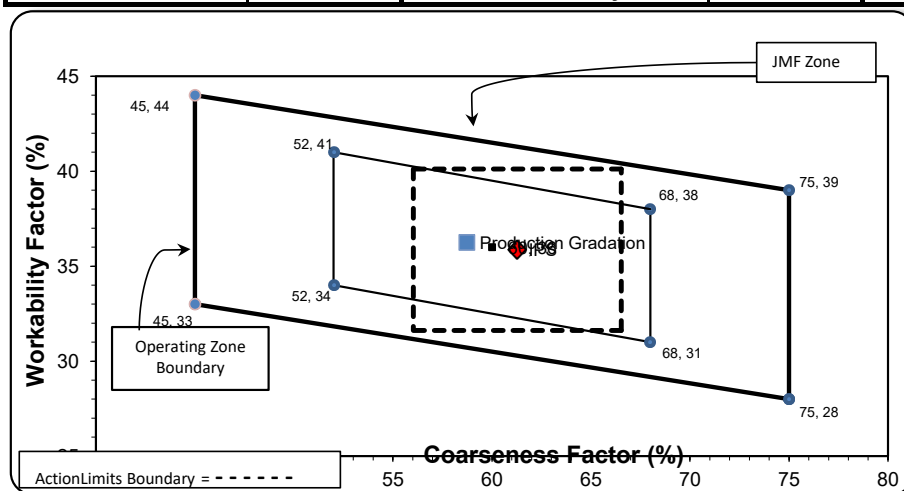
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	59	Workability Factor:	34	36.3
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Coarseness Factor:	61
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Workability Factor:	36
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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

Production Gradation Report

PLANT #: **P-103**

Sample Date: 8/26/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/27/2026 through 9/2/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1740	10.37	2.69	56.7
1A	58-003	StoneCo	150	0.89	2.69	4.9
2NS	63-114	Highland	1180	7.11	2.66	38.4
Total Wt			3070	18.37		100.0

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

Sieve	6AA	1A	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"	87.8	99.9	100.0	93.1	6.9	6.9
1/2"	52.7	88.4	100.0	72.6	20.5	27.4
3/8"	33.8	71.6	100.0	61.1	11.5	38.9
#4	6.4	19.5	98.5	42.4	18.7	57.6
#8	2.4	2.9	83.9	33.8	8.7	66.2
#16	1.8	1.8	66.1	26.5	7.2	73.5
#30	1.6	1.5	46.3	18.8	7.7	81.2
#50	1.6	1.4	21.8	9.4	9.4	90.6
#100	1.5	1.3	4.3	2.6	6.8	97.4
LBW	1.1	1.1	0.4	0.8	1.7	99.2



Superior Materials, LLC

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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.

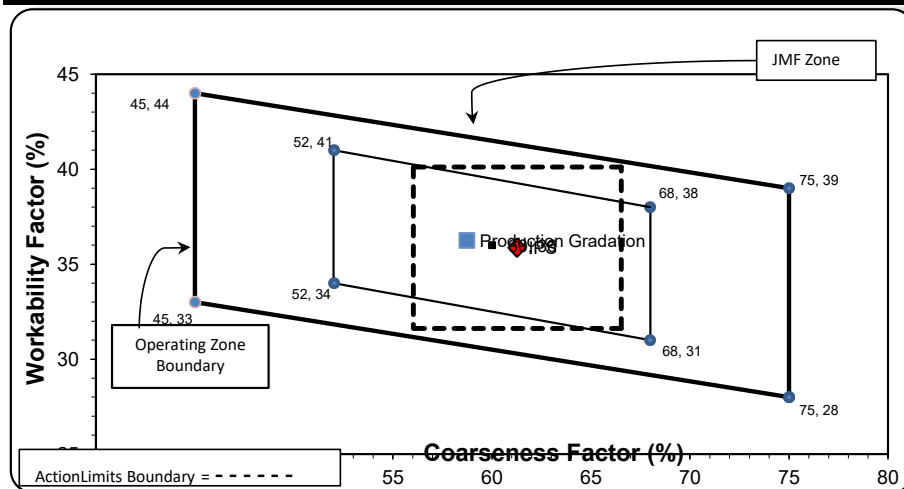
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	59	Workability Factor:	34	36.3
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Coarseness Factor:	61
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Workability Factor:	36
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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