

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 10/7/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/8/2026 through 10/14/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1580	9.41	2.69	51.6
1A	58-003	StoneCo	300	1.79	2.69	9.8
2NS	64-114	Highland	1180	7.11	2.66	38.6
Total Wt			3060	18.31		100.0

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



Superior Materials, LLC

30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

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"	79.9	100.0	100.0	89.6	10.4	10.4
1/2"	41.1	91.8	100.0	68.8	20.8	31.2
3/8"	23.9	79.0	100.0	58.6	10.1	41.4
#4	4.9	19.6	98.7	42.5	16.1	57.5
#8	2.2	2.4	84.5	34.0	8.6	66.0
#16	1.4	1.8	67.3	26.9	7.1	73.1
#30	1.1	1.4	47.7	19.1	7.8	80.9
#50	1.0	1.2	21.7	9.0	10.1	91.0
#100	1.0	1.0	3.8	2.1	6.9	97.9
LBW	1.0	0.8	0.4	0.7	1.3	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.

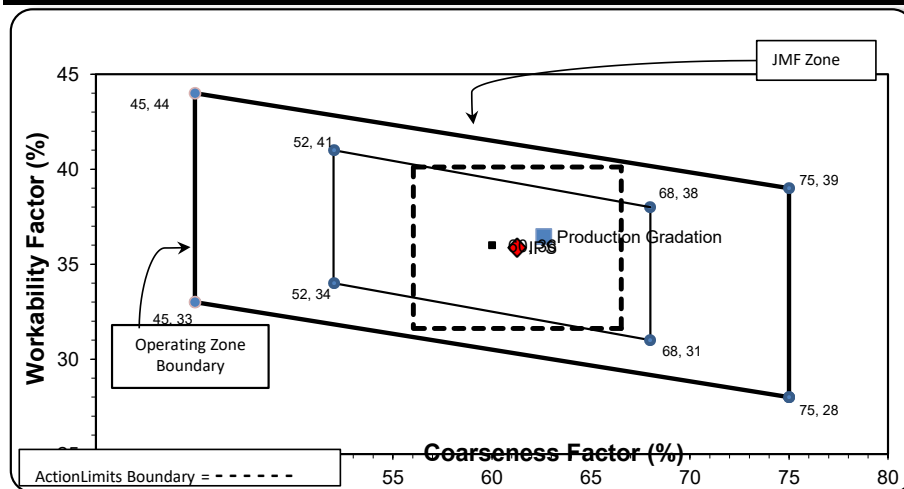
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	36.5
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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: 10/7/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/8/2026 through 10/14/2026

1" Slump

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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"	79.9	100.0	100.0	89.6	10.4	10.4
1/2"	41.1	91.8	100.0	68.8	20.8	31.2
3/8"	23.9	79.0	100.0	58.6	10.1	41.4
#4	4.9	19.6	98.7	42.5	16.1	57.5
#8	2.2	2.4	84.5	34.0	8.6	66.0
#16	1.4	1.8	67.3	26.9	7.1	73.1
#30	1.1	1.4	47.7	19.1	7.8	80.9
#50	1.0	1.2	21.7	9.0	10.1	91.0
#100	1.0	1.0	3.8	2.1	6.9	97.9
LBW	1.0	0.8	0.4	0.7	1.3	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.

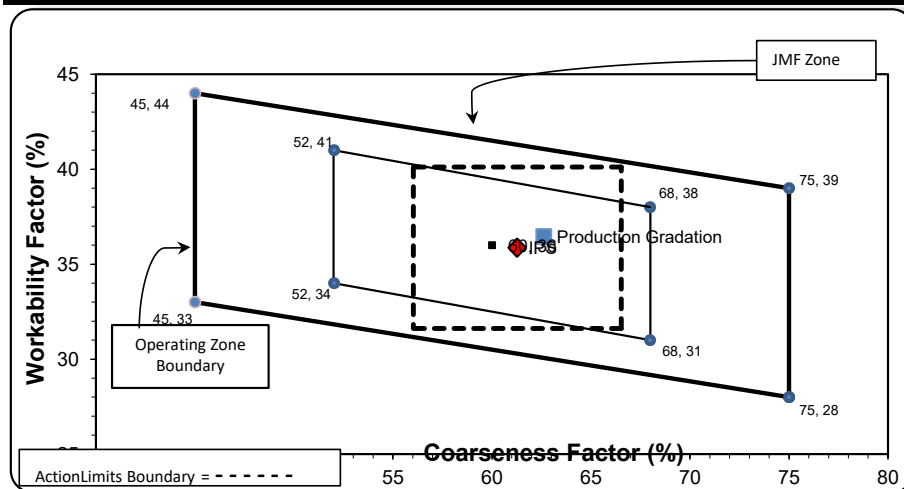
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	36.5
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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

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Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-38**

Sample Date: 10/7/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/8/2026 through 10/14/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1450	8.64	2.69	49.2
1A	58-003	StoneCo	300	1.79	2.69	10.2
2NS	81-019	Pleasant Lk	1200	7.26	2.65	40.7
Total Wt			2950	17.68		100.0

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



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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"	79.9	100.0	100.0	90.1	9.9	9.9
1/2"	41.1	91.8	100.0	70.2	19.9	29.8
3/8"	23.9	79.0	100.0	60.5	9.8	39.5
#4	4.9	19.6	98.1	44.3	16.2	55.7
#8	2.2	2.4	84.7	35.8	8.5	64.2
#16	1.4	1.8	63.2	26.6	9.2	73.4
#30	1.1	1.4	41.4	17.5	9.1	82.5
#50	1.0	1.2	14.3	6.4	11.1	93.6
#100	1.0	1.0	3.4	2.0	4.5	98.0
LBW	1.0	0.8	1.1	1.0	1.0	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.

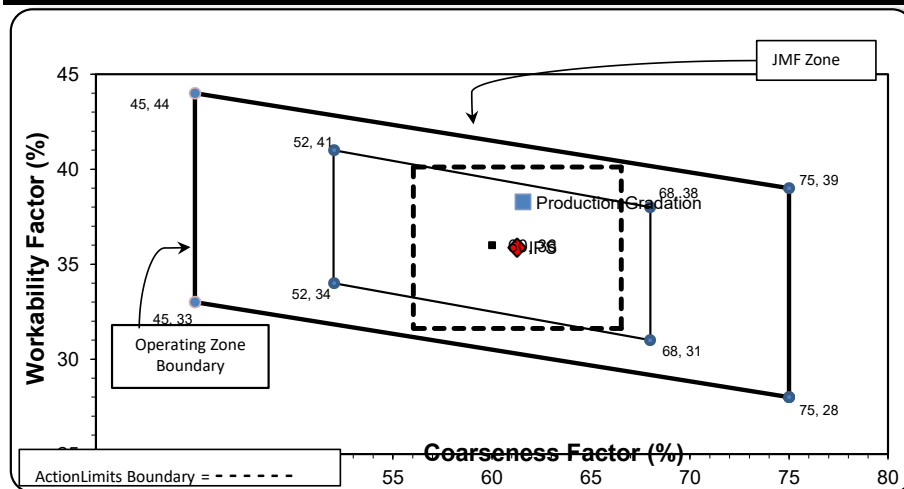
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	36	38.3
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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
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#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 10/7/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/8/2026 through 10/14/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1450	8.64	2.69	49.2
1A	58-003	StoneCo	300	1.79	2.69	10.2
2NS	64-114	Highland	1200	7.23	2.66	40.7
Total Wt			2950	17.66		100.0

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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"	79.9	100.0	100.0	90.1	9.9	9.9
1/2"	41.1	91.8	100.0	70.2	19.9	29.8
3/8"	23.9	79.0	100.0	60.5	9.8	39.5
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#30	1.1	1.4	47.7	20.1	8.2	79.9
#50	1.0	1.2	21.7	9.4	10.6	90.6
#100	1.0	1.0	3.8	2.1	7.3	97.9
LBW	1.0	0.8	0.4	0.7	1.4	99.3

*Maximum % Retained must be above the 3/8" sieve.

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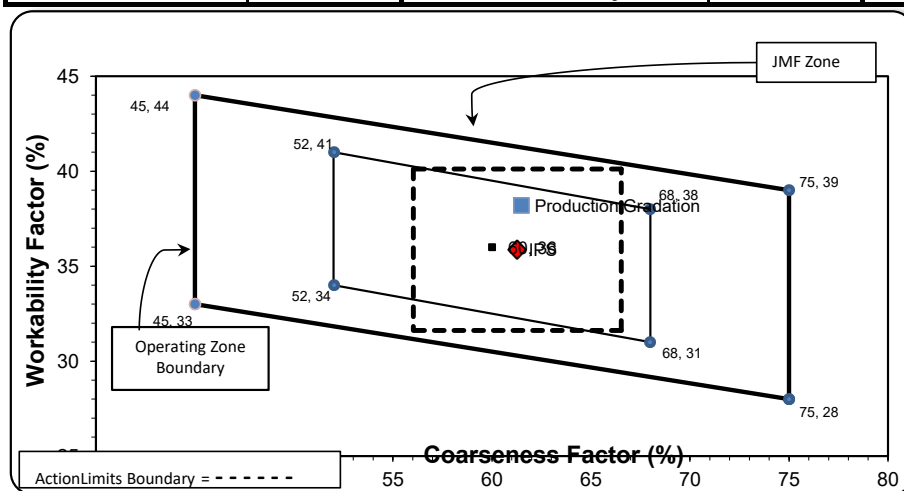
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	36	38.2
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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
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#100	1.9	5.6	98.1
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Total Wt			2950	17.66		100.0

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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"	79.9	100.0	100.0	90.1	9.9	9.9
1/2"	41.1	91.8	100.0	70.2	19.9	29.8
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#100	1.0	1.0	3.8	2.1	7.3	97.9
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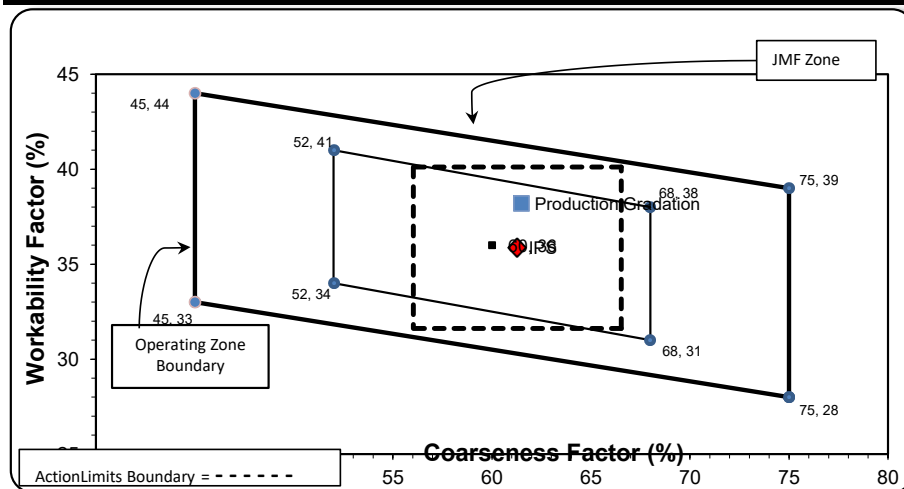
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Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

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Workability Factor:		36	
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