

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 10/14/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

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"	98.2	100.0	100.0	99.0	1.0	1.0
3/4"	86.2	100.0	100.0	92.7	6.3	7.3
1/2"	46.0	97.7	100.0	71.3	21.4	28.7
3/8"	23.6	83.8	100.0	58.5	12.8	41.5
#4	3.5	18.5	96.3	42.0	16.5	58.0
#8	1.9	5.6	80.9	34.1	7.9	65.9
#16	1.7	3.0	64.3	27.1	7.0	72.9
#30	1.6	2.4	47.5	20.2	6.9	79.8
#50	1.5	2.3	25.5	11.3	8.9	88.7
#100	1.4	2.0	6.9	3.7	7.6	96.3
LBW	1.3	2.6	1.1	1.3	2.4	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.

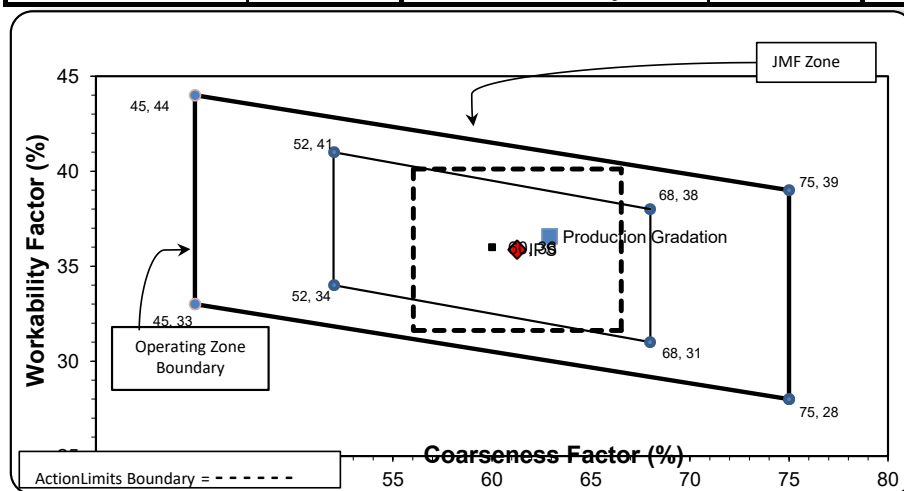
Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	36.6
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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: 10/14/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1425	8.49	2.69	46.7
1A	58-003	StoneCo	425	2.53	2.69	13.9
2NS	63-114	Highland	1200	7.23	2.66	39.3
Total Wt			3050	18.25		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"	82.4	100.0	100.0	91.8	8.2	8.2
1/2"	41.5	84.9	100.0	70.6	21.2	29.4
3/8"	26.7	61.5	100.0	60.4	10.2	39.6
#4	5.5	14.4	98.3	43.3	17.1	56.7
#8	2.2	5.7	83.4	34.6	8.6	65.4
#16	1.6	3.1	67.1	27.6	7.1	72.4
#30	1.5	2.3	47.4	19.7	7.9	80.3
#50	1.3	2.0	22.7	9.8	9.9	90.2
#100	1.3	1.8	6.0	3.2	6.6	96.8
LBW	1.2	1.6	1.0	1.2	2.0	98.8



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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

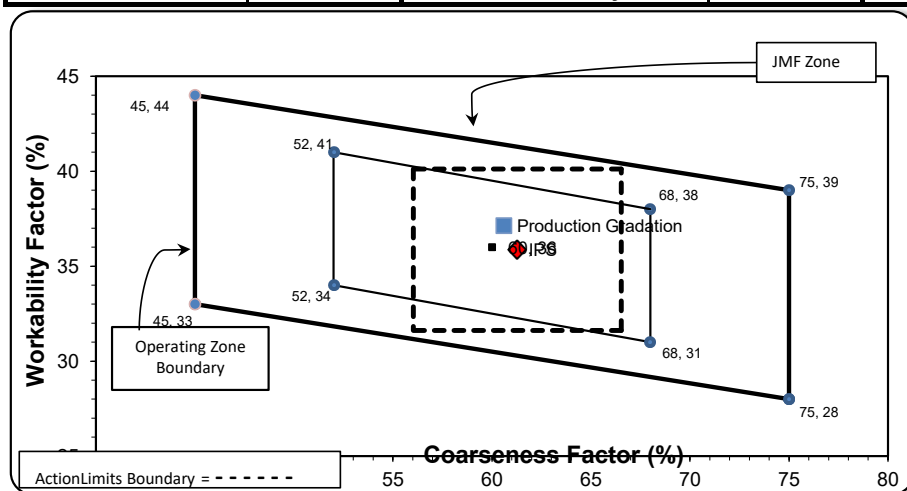
a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	35	37.1
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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:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 10/14/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.35	2.57	52.6
26A	71-47	Presque Isle	200	1.25	2.57	7.0
2NS	63-115	Ray Rd	1150	6.90	2.67	40.4
Total Wt			2850	17.50		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"	98.2	100.0	100.0	99.1	0.9	0.9
3/4"	86.2	100.0	100.0	92.7	6.3	7.3
1/2"	46.0	97.7	100.0	71.4	21.3	28.6
3/8"	23.6	83.8	100.0	58.7	12.8	41.3
#4	3.5	18.5	96.3	42.0	16.7	58.0
#8	1.9	5.6	80.9	34.0	8.0	66.0
#16	1.7	3.0	64.3	27.1	7.0	72.9
#30	1.6	2.4	47.5	20.2	6.9	79.8
#50	1.5	2.3	25.5	11.2	8.9	88.8
#100	1.4	2.0	6.9	3.7	7.6	96.3
LBW	1.3	2.6	1.1	1.3	2.4	98.7



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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.

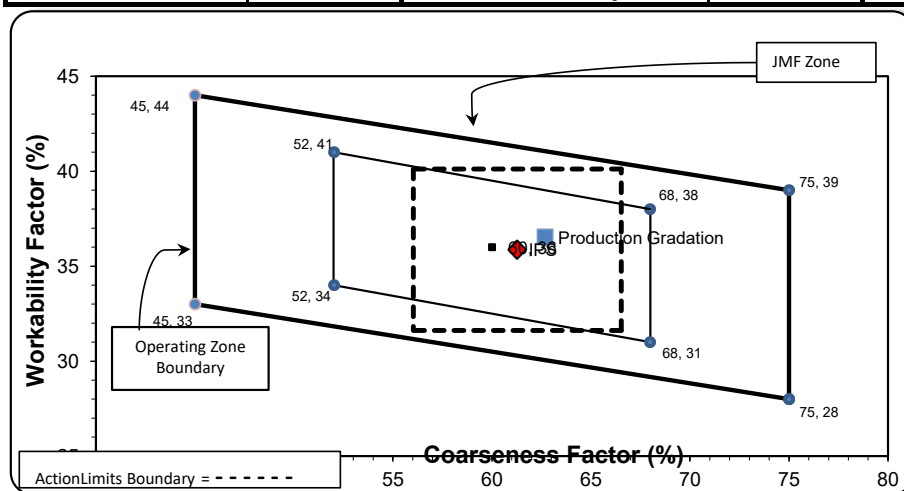
Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	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-102**

Sample Date: 10/14/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1350	8.04	2.69	45.8
1A	58-003	StoneCo	400	2.38	2.69	13.6
2NS	63-114	Highland	1200	7.23	2.66	40.7
Total Wt			2950	17.66		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"	82.4	100.0	100.0	91.9	8.1	8.1
1/2"	41.5	84.9	100.0	71.2	20.8	28.8
3/8"	26.7	61.5	100.0	61.2	9.9	38.8
#4	5.5	14.4	98.3	44.5	16.8	55.5
#8	2.2	5.7	83.4	35.7	8.8	64.3
#16	1.6	3.1	67.1	28.4	7.3	71.6
#30	1.5	2.3	47.4	20.3	8.2	79.7
#50	1.3	2.0	22.7	10.1	10.2	89.9
#100	1.3	1.8	6.0	3.3	6.8	96.7
LBW	1.2	1.6	1.0	1.2	2.1	98.8



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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.

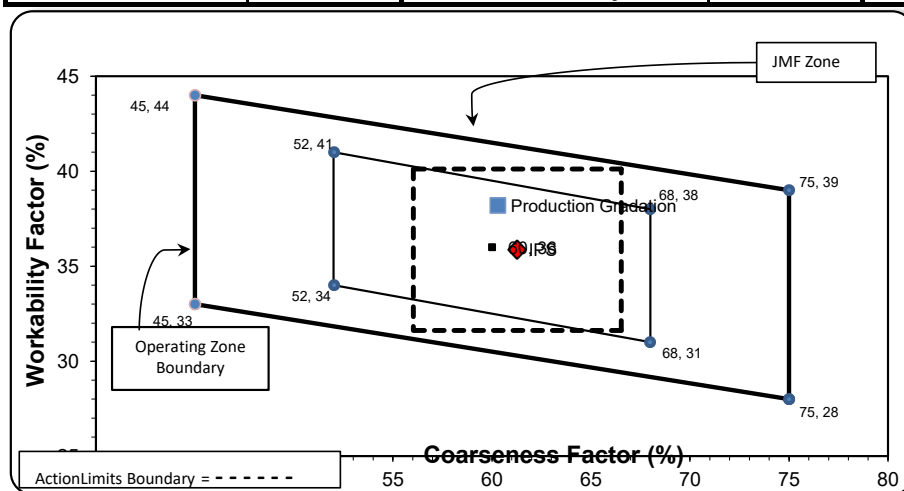
Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	36	38.2
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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
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: 10/14/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1250	7.45	2.69	42.4
1A	58-003	StoneCo	500	2.98	2.69	16.9
2NS	63-114	Highland	1200	7.23	2.66	40.7
Total Wt			2950	17.66		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"	98.9	100.0	100.0	99.5	0.5	0.5
3/4"	85.7	100.0	100.0	93.9	5.6	6.1
1/2"	37.8	85.1	100.0	71.1	22.8	28.9
3/8"	21.8	68.3	100.0	61.5	9.6	38.5
#4	4.5	15.9	98.4	44.6	16.9	55.4
#8	2.8	3.5	83.5	35.7	8.9	64.3
#16	1.8	2.3	66.9	28.4	7.4	71.6
#30	1.6	1.7	47.2	20.2	8.2	79.8
#50	1.4	1.5	22.4	10.0	10.2	90.0
#100	1.3	1.5	5.3	3.0	7.0	97.0
LBW	1.2	1.3	1.0	1.1	1.8	98.9



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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

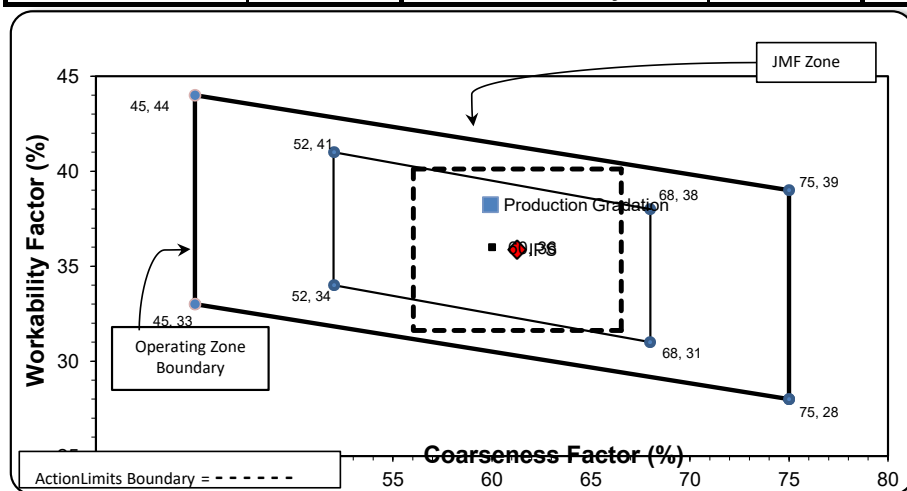
a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	36	38.2
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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



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