

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 7/14/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 7/15/2025 through 7/21/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		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"	99.5	100.0	100.0	99.7	0.3	0.3
3/4"	82.9	100.0	100.0	91.0	8.7	9.0
1/2"	43.8	99.1	100.0	70.4	20.6	29.6
3/8"	24.9	85.6	100.0	59.3	11.1	40.7
#4	4.5	10.9	98.7	41.8	17.6	58.2
#8	1.9	2.6	85.3	34.5	7.3	65.5
#16	1.4	1.6	67.5	27.2	7.3	72.8
#30	1.3	1.3	48.9	19.9	7.3	80.1
#50	1.2	1.2	17.0	7.4	12.5	92.6
#100	1.1	1.1	3.0	1.8	5.5	98.2
LBW	1.1	1.0	0.6	0.9	0.9	99.1

*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.

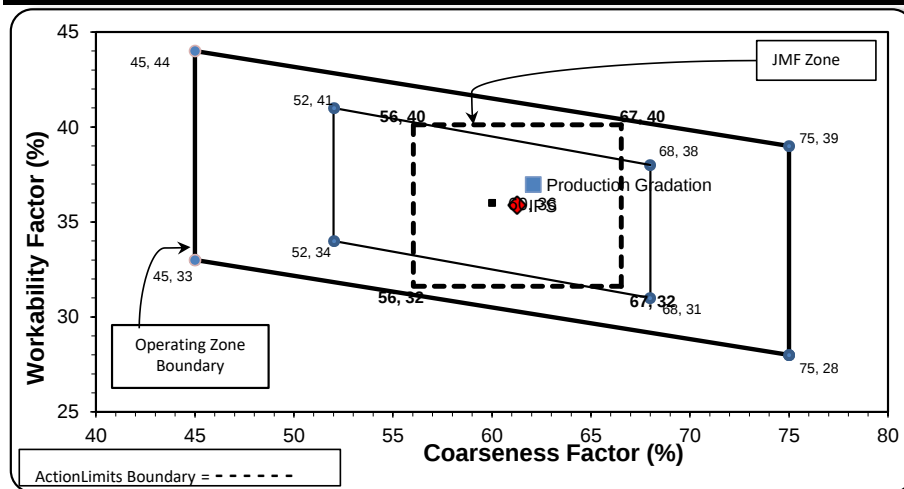
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	37.0
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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:

[Signature]

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 7/14/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 7/15/2025 through 7/21/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		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"	99.5	100.0	100.0	99.7	0.3	0.3
3/4"	82.9	100.0	100.0	91.0	8.7	9.0
1/2"	43.8	99.1	100.0	70.4	20.6	29.6
3/8"	24.9	85.6	100.0	59.3	11.1	40.7
#4	4.5	10.9	98.7	41.8	17.6	58.2
#8	1.9	2.6	85.3	34.5	7.3	65.5
#16	1.4	1.6	67.5	27.2	7.3	72.8
#30	1.3	1.3	48.9	19.9	7.3	80.1
#50	1.2	1.2	17.0	7.4	12.5	92.6
#100	1.1	1.1	3.0	1.8	5.5	98.2
LBW	1.1	1.0	0.6	0.9	0.9	99.1

*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.



Superior Materials, LLC

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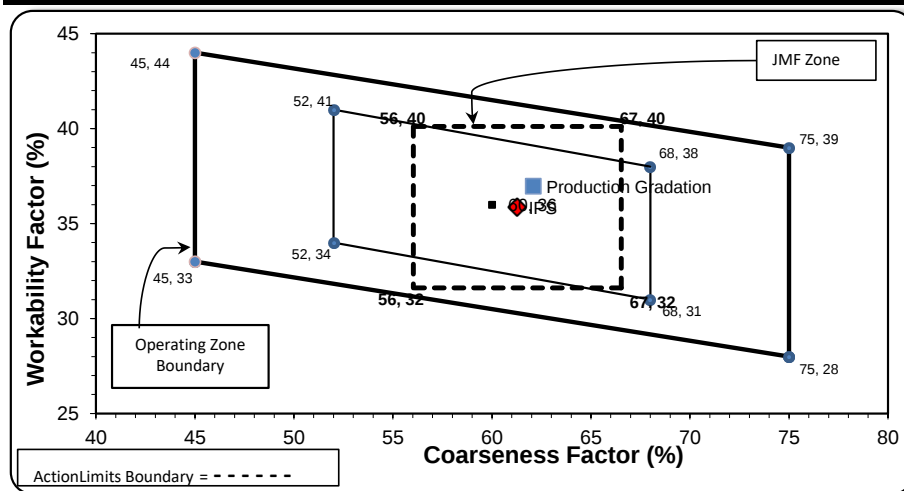
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	37.0
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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:

[Signature]

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Sample Date: 7/14/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 7/15/2025 through 7/21/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9
26A	71-47	Presque Isle	305	1.87	2.62	10.5
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		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"	97.2	100.0	100.0	98.6	1.4	1.4
3/4"	78.6	100.0	100.0	89.3	9.3	10.7
1/2"	31.7	97.2	100.0	65.6	23.7	34.4
3/8"	16.1	85.9	100.0	56.6	9.0	43.4
#4	3.0	23.2	96.7	42.2	14.4	57.8
#8	2.1	9.1	80.4	33.8	8.4	66.2
#16	1.9	5.3	62.0	26.0	7.8	74.0
#30	1.8	4.0	44.5	18.9	7.1	81.1
#50	1.7	3.6	22.8	10.3	8.7	89.7
#100	1.6	3.3	5.7	3.4	6.9	96.6
LBW	1.4	2.9	0.8	1.3	2.1	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.



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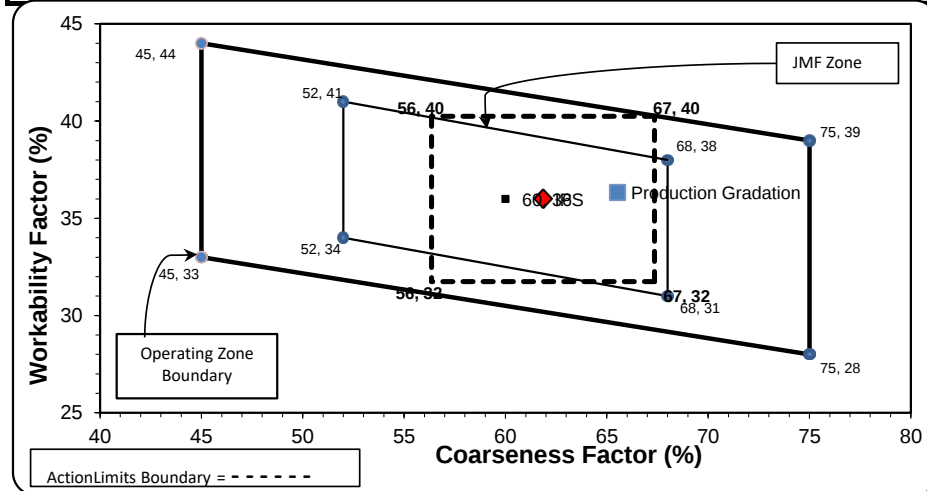
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF	36.3
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Coarseness Factor: **62**

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"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

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