Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-21**

Contractor: _____

Sample Date: 9/30/26

Concrete Grade: **S2M-3500HP**

Dates Test Represents: 10/1/2026 through 10/7/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.98	2.57	52.3
26A	71-47	Presque Isle	250	1.56	2.57	8.2
2NS	81-019	Pleasant Lk	1210	7.32	2.65	39.5
		Total Wt	**3060**	**18.85**		100.0

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

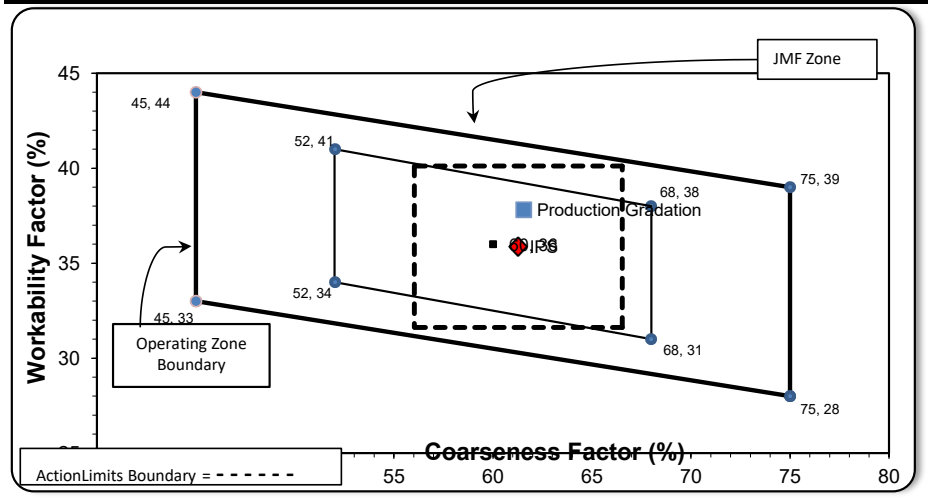
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

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"	99.1	100.0	100.0	99.5	0.5	0.5
3/4"	85.4	100.0	100.0	92.4	7.2	7.6
1/2"	47.4	97.3	100.0	72.3	20.1	27.7
3/8"	26.3	84.3	100.0	60.2	12.1	39.8
#4	4.3	16.7	98.1	42.4	17.8	57.6
#8	2.3	4.7	85.3	35.3	7.1	64.7
#16	2.0	2.6	64.8	26.9	8.4	73.1
#30	1.8	2.1	42.8	18.0	8.8	82.0
#50	1.8	2.0	14.9	7.0	11.0	93.0
#100	1.6	1.8	3.6	2.4	4.6	97.6
LBW	1.4	1.6	1.2	1.3	1.1	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.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	62	Workability Factor:	35	Adjusted WF 37.8



Intial Production Sample (IPS)

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-35**

Contractor:

Sample Date: 9/30/36

Concrete Grade: **S2M 3500**

Dates Test Represents: 10/1/2036 through 10/7/2026

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1600	9.53	2.69	50.8
26A	58-003	StoneCo	370	2.20	2.69	11.7
2NS	81-019	Pleasant Lk	1180	7.14	2.65	37.5
		Total Wt	**3150**	**18.87**		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	83.2	100.0	100.0	91.5	8.5	8.5
1/2"	43.0	98.1	100.0	70.8	20.6	29.2
3/8"	23.6	79.2	100.0	58.8	12.1	41.2
#4	4.1	16.8	97.9	40.7	18.0	59.3
#8	1.9	4.1	87.5	34.2	6.5	65.8
#16	1.4	2.7	65.6	25.6	8.6	74.4
#30	1.3	2.2	46.5	18.3	7.3	81.7
#50	1.2	2.0	21.5	8.9	9.4	91.1
#100	1.1	1.8	5.3	2.8	6.1	97.2
LBW	1.0	1.7	1.4	1.2	1.5	98.8

Superior Materials, LLC
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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.

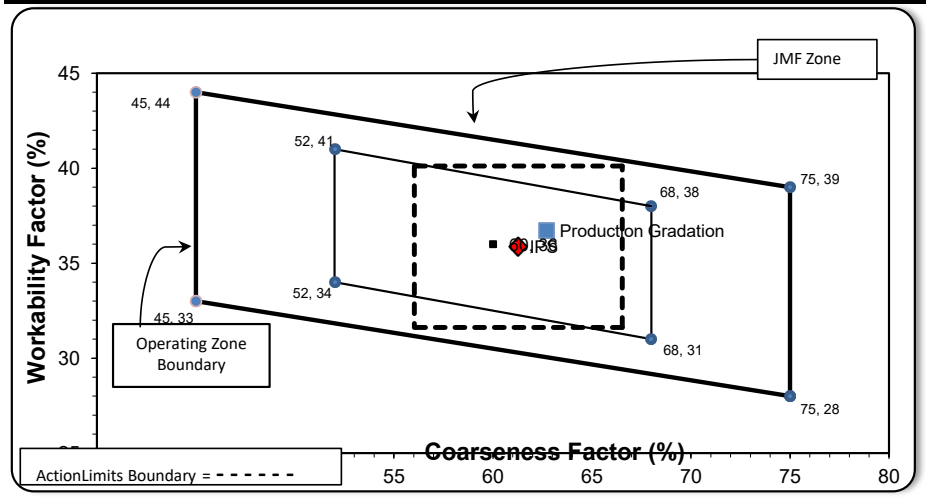
Production Gradation ◉ Batch Plant Gradations ○ Aggregate Supplier Gradations

Coarseness Factor:	63	Workability Factor:	34	Adjusted WF 36.7

Intial Production Sample (IPS)

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-36**

Contractor: _____

Sample Date: 9/30/26

Concrete Grade: **S2M-3500HP**

Dates Test Represents: 10/1/2026 through 10/7/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1470	9.17	2.57	48.0
26A	71-47	Presque Isle	350	2.18	2.57	11.4
2NS	63-115	Ray Rd	1240	7.44	2.67	40.5
		Total Wt	**3060**	**18.79**		100.0

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

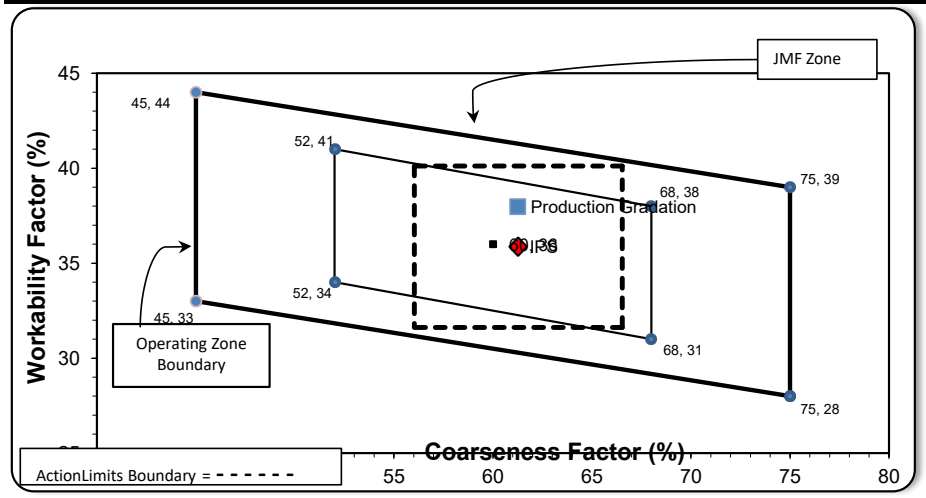
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	85.8	100.0	100.0	93.2	6.8	6.8
1/2"	44.2	95.7	100.0	72.7	20.5	27.3
3/8"	22.2	81.3	100.0	60.5	12.2	39.5
#4	4.6	15.6	96.4	43.1	17.4	56.9
#8	2.6	5.6	82.9	35.5	7.6	64.5
#16	1.9	3.4	66.2	28.1	7.4	71.9
#30	1.8	2.9	51.1	21.9	6.2	78.1
#50	1.7	2.7	29.7	13.2	8.7	86.8
#100	1.6	2.6	8.3	4.4	8.7	95.6
LBW	1.4	2.4	1.4	1.5	2.9	98.5

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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

Coarseness Factor:	61	Workability Factor:	35	Adjusted WF 38.0



Intial Production Sample (IPS)

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-39**

Contractor: _____

Sample Date: 9/30/26

Concrete Grade: **S2M-3500HP**

Dates Test Represents: 10/1/2026 through 10/7/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1350	8.42	2.57	44.3
26A	71-47	Presque Isle	500	3.12	2.57	16.4
2NS	63-0009	Koenig	1200	7.26	2.65	39.3
		Total Wt	**3050**	**18.79**		100.0

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

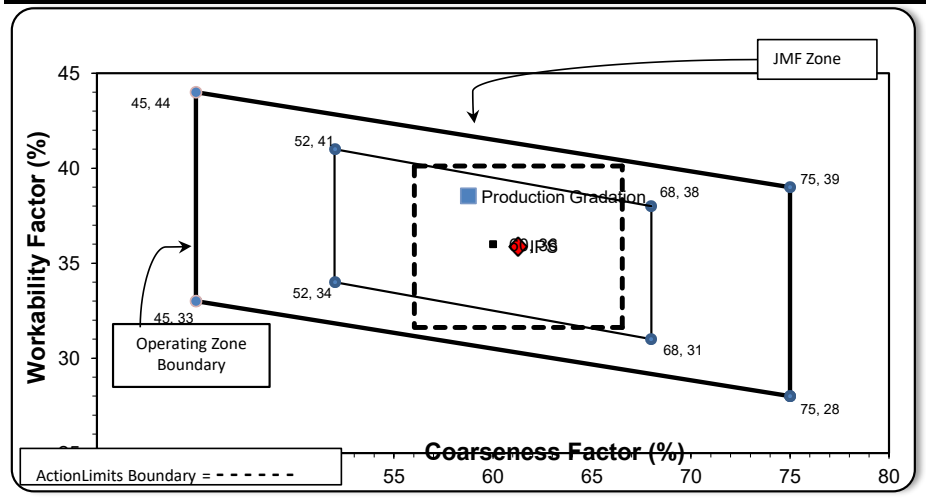
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	85.8	100.0	100.0	93.7	6.3	6.3
1/2"	42.7	95.4	100.0	73.9	19.8	26.1
3/8"	21.8	81.9	100.0	62.4	11.5	37.6
#4	3.8	20.1	97.4	43.3	19.1	56.7
#8	2.7	7.6	85.4	36.0	7.3	64.0
#16	2.1	3.5	71.9	29.8	6.2	70.2
#30	2.0	2.7	54.9	22.9	6.9	77.1
#50	1.9	2.5	26.3	11.6	11.3	88.4
#100	1.8	2.3	3.5	2.6	9.0	97.4
LBW	1.6	2.1	0.5	1.2	1.3	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

Coarseness Factor:	59	Workability Factor:	36	Adjusted WF 38.5



Intial Production Sample (IPS)

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