

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 9/27/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/28/2021 through 10/4/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	75-051	Mid-Michigan	1200	7.23	2.66	39.1
Total Wt			3070	18.67		100.0

<---- Verify this number is 100%



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

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.3	100.0	100.0	99.4	0.6	0.6
1"	49.1	100.0	100.0	82.3	17.1	17.7
3/4"	12.7	99.6	100.0	69.5	12.8	30.5
1/2"	3.8	83.0	100.0	62.0	7.4	38.0
3/8"	2.8	61.2	100.0	56.0	6.0	44.0
#4	2.2	9.1	99.0	41.8	14.2	58.2
#8	2.0	2.5	81.2	33.1	8.7	66.9
#16	1.9	1.9	62.6	25.6	7.5	74.4
#30	1.8	1.7	47.2	19.5	6.1	80.5
#50	1.8	1.6	25.2	10.9	8.6	89.1
#100	1.6	1.6	7.3	3.8	7.1	96.2
LBW	1.4	1.4	1.1	1.3	2.5	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

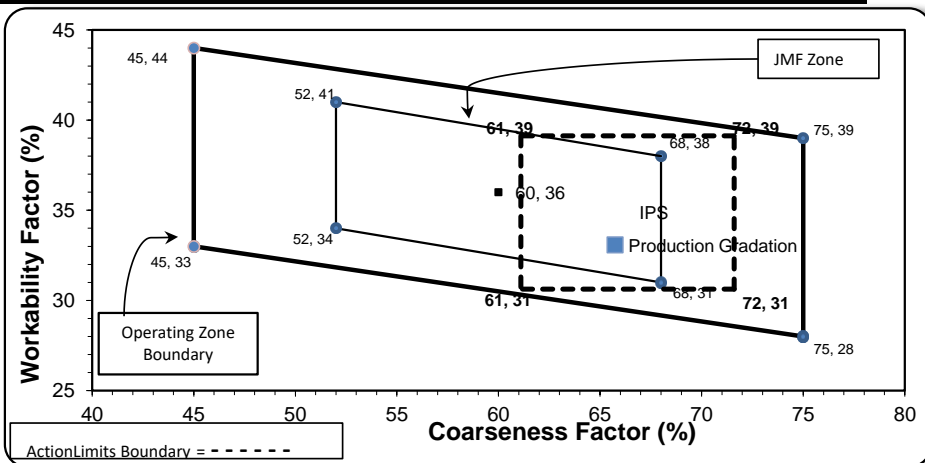
Coarseness Factor: **66** **Workability Factor:** **33**

Initial Production Sample (IPS)

Coarseness Factor: **66**

Workability Factor: **35**

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	84.3	15.3	15.7
3/4"	74.8	9.6	25.2
1/2"	64.3	10.4	35.7
3/8"	56.8	7.5	43.2
#4	43.0	13.8	57.0
#8	34.9	8.1	65.1
#16	26.4	8.5	73.6
#30	19.9	6.5	80.1
#50	10.4	9.5	89.6
#100	3.4	7.0	96.6
LBW	1.2	2.2	98.8



PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-102**

Sample Date: 9/27/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/28/2021 through 10/4/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1420	8.46	2.69	45.5
IA	58-003	Stoneco	500	2.98	2.69	16.0
2NS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



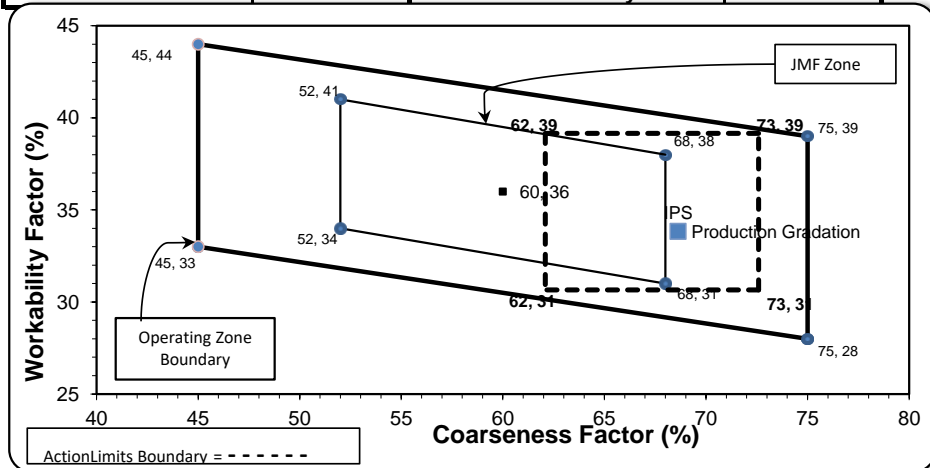
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	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"	68.5	100.0	100.0	85.7	14.3	14.3
3/4"	37.9	100.0	100.0	71.7	13.9	28.3
1/2"	15.4	91.7	100.0	60.2	11.6	39.8
3/8"	8.0	78.0	100.0	54.6	5.6	45.4
#4	2.6	27.6	98.9	43.6	11.0	56.4
#8	1.7	5.7	83.6	33.8	9.8	66.2
#16	1.5	1.7	66.1	26.4	7.5	73.6
#30	1.3	1.2	47.2	18.9	7.4	81.1
#50	1.2	1.0	21.3	8.9	10.0	91.1
#100	1.1	0.9	4.6	2.4	6.5	97.6
LBW	1.0	0.9	0.9	0.9	1.5	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	34
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	67		
Workability Factor:	35		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 9/27/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/28/2021 through 10/4/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



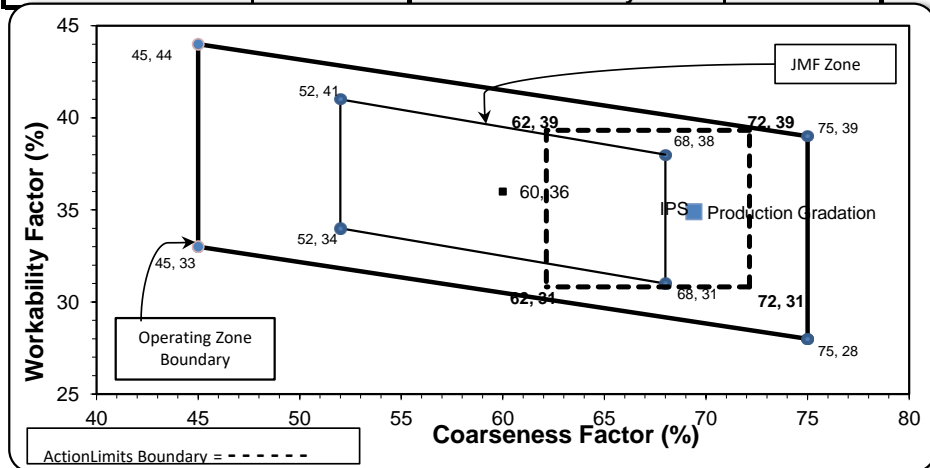
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.2	100.0	100.0	99.1	0.9	0.9
1"	43.2	100.0	100.0	81.1	17.9	18.9
3/4"	10.7	97.3	100.0	69.6	11.5	30.4
1/2"	2.8	75.7	100.0	61.4	8.3	38.6
3/8"	2.3	51.2	100.0	54.8	6.6	45.2
#4	2.0	12.7	96.4	43.2	11.6	56.8
#8	1.9	5.1	80.9	34.9	8.3	65.1
#16	1.8	3.1	66.3	28.4	6.5	71.6
#30	1.8	2.5	50.5	21.8	6.6	78.2
#50	1.7	2.3	26.4	11.9	9.9	88.1
#100	1.6	2.1	6.2	3.6	8.3	96.4
LBW	1.4	1.5	0.9	1.2	2.4	98.8

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **69** **Workability Factor:** **35**



Initial Production Sample (IPS)

Coarseness Factor: **67**
Workability Factor: **35**

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.0	9.8	26.0
1/2"	63.7	10.3	36.3
3/8"	56.4	7.3	43.6
#4	43.0	13.4	57.0
#8	35.1	7.9	64.9
#16	29.0	6.1	71.0
#30	20.9	8.0	79.1
#50	8.1	12.8	91.9
#100	1.6	6.5	98.4
LBW	0.9	0.8	99.1

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-20**

Sample Date: 9/27/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/28/2021 through 10/4/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	850	5.20	2.62	27.7
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



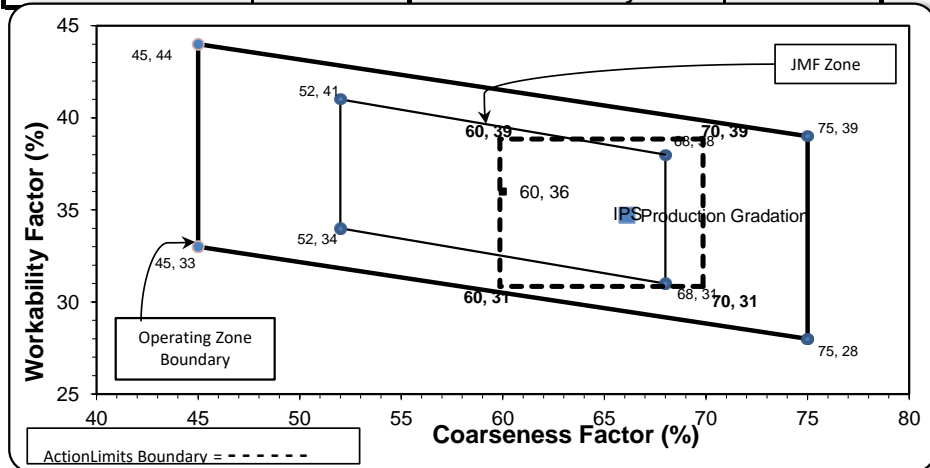
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.0	100.0	100.0	99.0	1.0	1.0
1"	49.0	100.0	100.0	83.1	15.9	16.9
3/4"	11.7	98.7	100.0	70.3	12.8	29.7
1/2"	3.2	82.3	100.0	62.9	7.4	37.1
3/8"	2.5	61.1	100.0	56.8	6.1	43.2
#4	2.0	14.2	97.6	42.7	14.1	57.3
#8	1.8	4.6	84.0	34.7	8.0	65.3
#16	1.7	2.7	67.7	27.8	6.9	72.2
#30	1.6	2.3	48.6	20.2	7.6	79.8
#50	1.6	2.1	20.4	9.1	11.1	90.9
#100	1.5	2.0	5.9	3.4	5.7	96.6
LBW	1.3	1.8	0.5	1.1	2.2	98.9

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	35
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	65		
Workability Factor:	35		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.1	0.9	0.9
1"	80.8	18.2	19.2
3/4"	71.3	9.6	28.7
1/2"	64.0	7.3	36.0
3/8"	57.7	6.2	42.3
#4	42.8	15.0	57.2
#8	34.8	7.9	65.2
#16	28.4	6.4	71.6
#30	20.2	8.2	79.8
#50	7.6	12.6	92.4
#100	1.6	6.0	98.4
LBW	1.0	0.6	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 9/27/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/28/2021 through 10/4/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



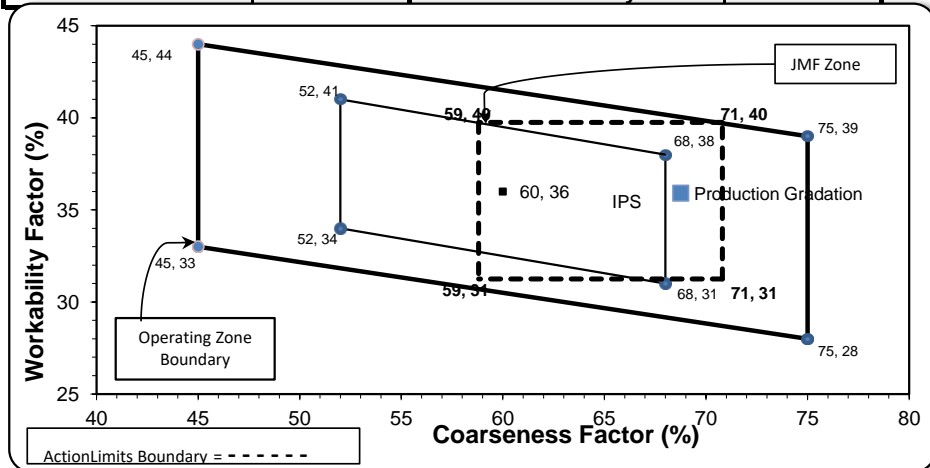
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.2	100.0	100.0	99.1	0.9	0.9
1"	43.2	100.0	100.0	82.4	16.7	17.6
3/4"	10.7	97.3	100.0	71.6	10.8	28.4
1/2"	2.8	75.7	100.0	63.0	8.6	37.0
3/8"	2.3	51.2	100.0	55.9	7.1	44.1
#4	2.0	12.7	95.3	43.0	12.9	57.0
#8	1.9	5.1	83.2	35.9	7.1	64.1
#16	1.8	3.1	67.9	29.1	6.8	70.9
#30	1.8	2.5	49.8	21.5	7.5	78.5
#50	1.7	2.3	25.3	11.5	10.1	88.5
#100	1.6	2.1	8.4	4.5	7.0	95.5
LBW	1.4	1.5	1.7	1.6	3.0	98.4

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **69** **Workability Factor:** **36**



Initial Production Sample (IPS)

Coarseness Factor: 65		Workability Factor: 36	
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-35**

Sample Date: 9/27/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/28/2021 through 10/4/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-093	Burmeister	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



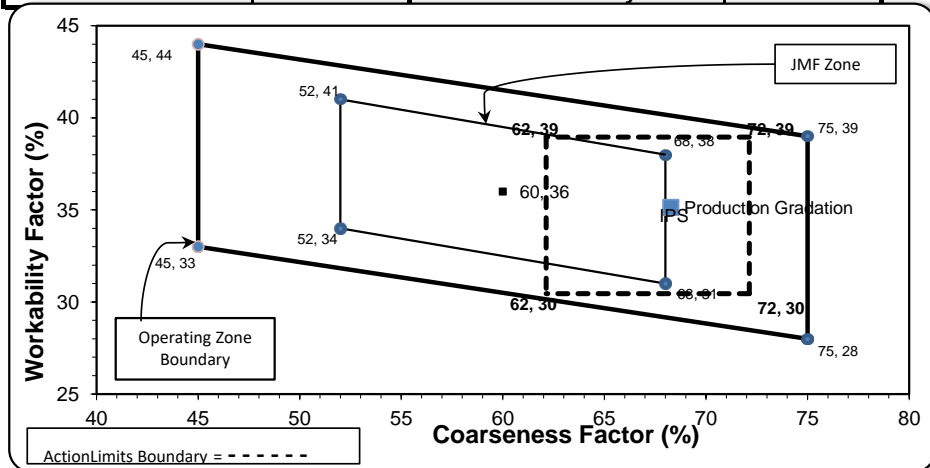
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	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"	68.5	100.0	100.0	86.2	13.8	13.8
3/4"	37.9	100.0	100.0	72.7	13.4	27.3
1/2"	15.4	91.7	100.0	61.4	11.3	38.6
3/8"	8.0	78.0	100.0	55.7	5.7	44.3
#4	2.6	27.6	99.2	44.2	11.6	55.8
#8	1.7	5.7	86.8	35.1	9.0	64.9
#16	1.5	1.7	70.9	28.2	6.9	71.8
#30	1.3	1.2	52.4	20.9	7.3	79.1
#50	1.2	1.0	18.7	7.9	13.0	92.1
#100	1.1	0.9	2.7	1.7	6.2	98.3
LBW	1.0	0.9	1.0	1.0	0.7	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **68** **Workability Factor:** **35**



Initial Production Sample (IPS)

Coarseness Factor: **67**
Workability Factor: **35**

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	86.9	13.1	13.1
3/4"	76.1	10.8	23.9
1/2"	63.7	12.4	36.3
3/8"	56.2	7.5	43.8
#4	43.2	13.0	56.8
#8	34.7	8.5	65.3
#16	27.5	7.2	72.5
#30	20.6	7.0	79.4
#50	9.0	11.6	91.0
#100	2.1	6.9	97.9
LBW	1.0	1.1	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 9/27/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/28/2021 through 10/4/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	920	5.63	2.62	30.0
IA	71-47	Presque Isle	950	5.81	2.62	30.9
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



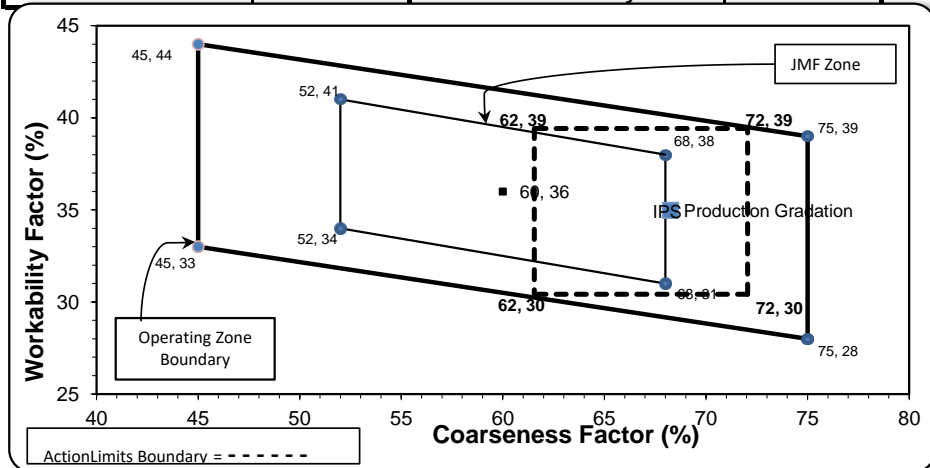
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.2	100.0	100.0	99.2	0.8	0.8
1"	43.2	100.0	100.0	83.0	16.2	17.0
3/4"	10.7	97.3	100.0	72.4	10.6	27.6
1/2"	2.8	75.7	100.0	63.4	9.1	36.6
3/8"	2.3	51.2	100.0	55.6	7.7	44.4
#4	2.0	12.7	97.6	42.7	12.9	57.3
#8	1.9	5.1	84.0	35.0	7.7	65.0
#16	1.8	3.1	67.7	28.0	7.0	72.0
#30	1.8	2.5	48.6	20.3	7.7	79.7
#50	1.7	2.3	20.4	9.2	11.1	90.8
#100	1.6	2.1	5.9	3.4	5.8	96.6
LBW	1.4	1.5	0.5	1.1	2.4	98.9

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	68	Workability Factor:	35
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	67		
Workability Factor:	35		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.0	15.0	15.0
3/4"	72.1	12.9	27.9
1/2"	64.5	7.6	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-39**

Sample Date: 9/27/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/28/2021 through 10/4/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	750	4.59	2.62	24.4
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



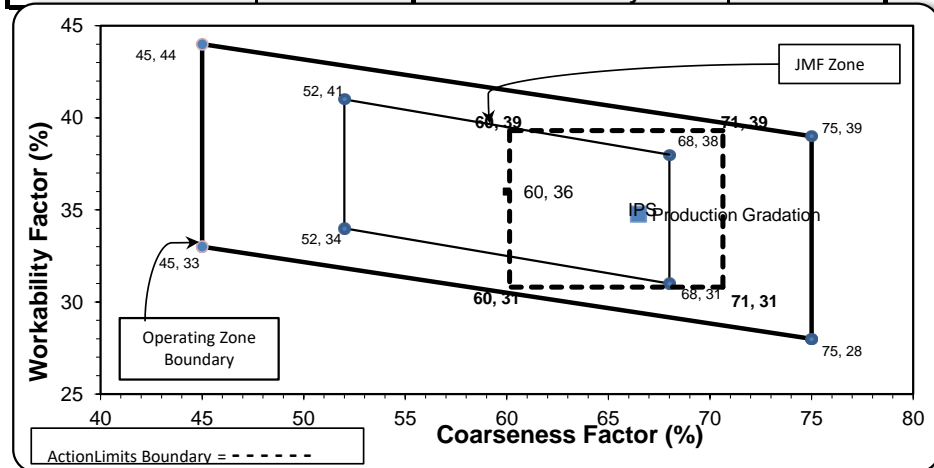
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.3	100.0	100.0	99.4	0.6	0.6
1"	49.1	100.0	100.0	82.3	17.1	17.7
3/4"	12.7	99.6	100.0	69.5	12.8	30.5
1/2"	3.8	83.0	100.0	62.3	7.2	37.7
3/8"	2.8	61.2	100.0	56.6	5.7	43.4
#4	2.2	9.1	97.4	42.6	14.0	57.4
#8	2.0	2.5	82.2	34.8	7.9	65.2
#16	1.9	1.9	66.3	28.1	6.7	71.9
#30	1.8	1.7	48.4	20.7	7.4	79.3
#50	1.8	1.6	24.2	10.9	9.9	89.1
#100	1.6	1.6	7.4	4.0	6.9	96.0
LBW	1.4	1.4	0.9	1.2	2.8	98.8

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	35
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	65		
Workability Factor:	35		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.1	9.8	25.9
1/2"	64.3	9.7	35.7
3/8"	57.5	6.8	42.5
#4	44.5	13.1	55.5
#8	35.1	9.4	64.9
#16	27.9	7.2	72.1
#30	21.7	6.2	78.3
#50	12.6	9.1	87.4
#100	3.5	9.1	96.5
LBW	1.2	2.4	98.8

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-02**

Sample Date: 9/27/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/28/2021 through 10/4/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



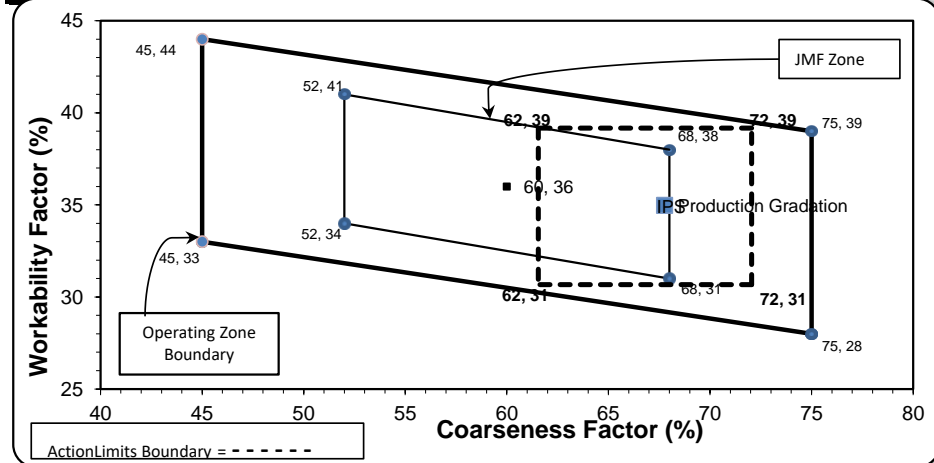
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.2	100.0	100.0	99.1	0.9	0.9
1"	43.2	100.0	100.0	82.4	16.7	17.6
3/4"	10.7	97.3	100.0	71.6	10.8	28.4
1/2"	2.8	75.7	100.0	63.0	8.6	37.0
3/8"	2.3	51.2	100.0	55.9	7.1	44.1
#4	2.0	12.7	96.4	43.5	12.5	56.5
#8	1.9	5.1	80.9	35.0	8.5	65.0
#16	1.8	3.1	66.3	28.4	6.5	71.6
#30	1.8	2.5	50.5	21.8	6.6	78.2
#50	1.7	2.3	26.4	11.9	9.9	88.1
#100	1.6	2.1	6.2	3.6	8.3	96.4
LBW	1.4	1.5	0.9	1.2	2.4	98.8

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	68	Workability Factor:	35
---------------------------	-----------	----------------------------	-----------



Initial Production Sample (IPS)

Coarseness Factor:	67
Workability Factor:	35

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	85.0	15.0	15.0
3/4"	72.3	12.7	27.7
1/2"	64.5	7.8	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By: