Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	740	4.61	2.57	24.0
IA	71-47	Presque Isle	1200	7.48	2.57	39.0
2NS	63-115	Ray Rd	1140	6.84	2.67	37.0
		Total Wt	**3080**	**18.94**		100.0

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

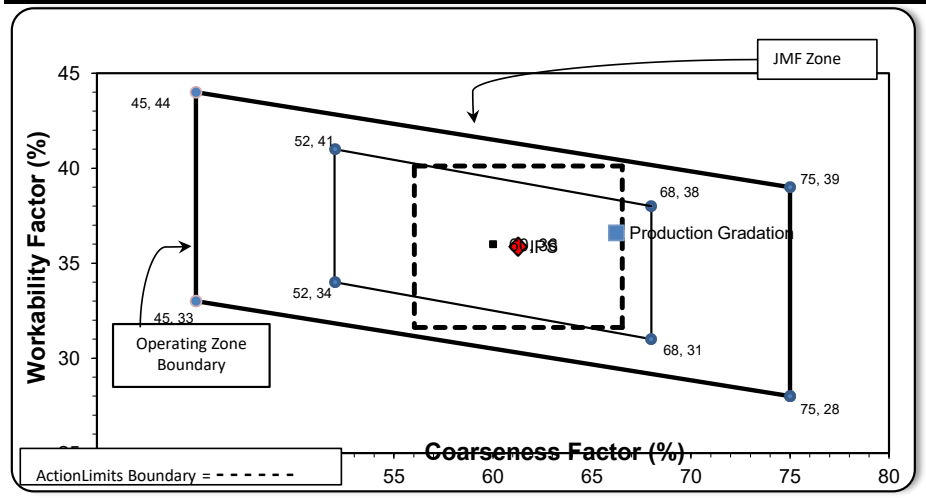
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.6	100.0	100.0	99.7	0.3	0.3
1"	36.7	100.0	100.0	84.8	14.9	15.2
3/4"	9.0	99.0	100.0	77.7	7.0	22.3
1/2"	2.9	74.0	100.0	66.5	11.2	33.5
3/8"	2.0	48.4	100.0	56.4	10.2	43.6
#4	1.6	13.2	97.4	41.6	14.8	58.4
#8	1.5	4.8	86.1	34.1	7.5	65.9
#16	1.5	3.1	65.1	25.7	8.4	74.3
#30	1.4	2.7	48.2	19.2	6.4	80.8
#50	1.3	2.3	22.2	9.4	9.8	90.6
#100	1.2	2.0	4.3	2.7	6.8	97.3
LBW	1.0	1.5	0.9	1.2	1.5	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 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:	66	Workability Factor:	34	Adjusted WF 36.6



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 #: **P21**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	720	4.49	2.57	23.7
IA	71-47	Presque Isle	1170	7.30	2.57	38.5
2NS	81-019	Pleasant Lk	1150	6.95	2.65	37.8
		Total Wt	**3040**	**18.74**		100.0

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

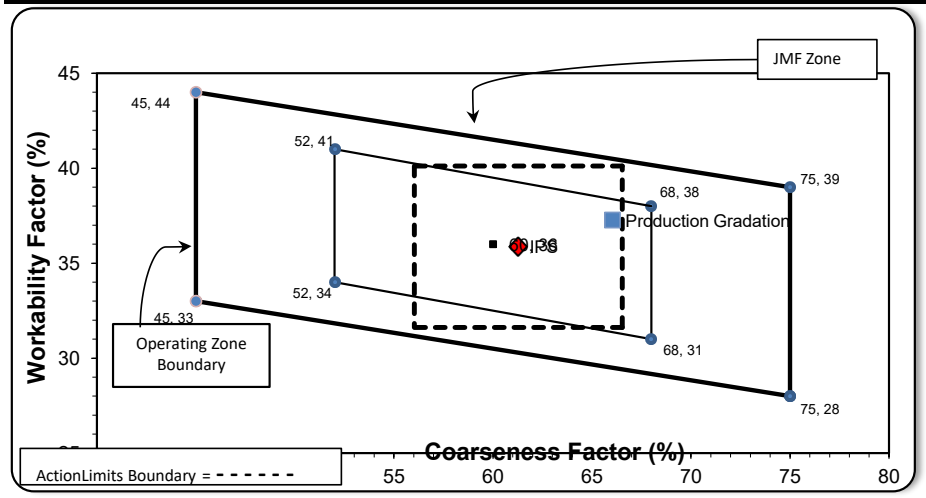
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Suite 500
Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.6	100.0	100.0	99.7	0.3	0.3
1"	36.7	100.0	100.0	85.0	14.7	15.0
3/4"	9.0	99.0	100.0	78.1	6.9	21.9
1/2"	2.9	74.0	100.0	67.0	11.1	33.0
3/8"	2.0	48.4	100.0	56.9	10.1	43.1
#4	1.6	13.2	97.4	42.3	14.6	57.7
#8	1.5	4.8	86.1	34.8	7.5	65.2
#16	1.5	3.1	65.1	26.2	8.6	73.8
#30	1.4	2.7	48.2	19.6	6.6	80.4
#50	1.3	2.3	22.2	9.6	10.0	90.4
#100	1.2	2.0	4.3	2.7	6.9	97.3
LBW	1.0	1.5	0.9	1.2	1.5	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 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:	66	Workability Factor:	35	Adjusted WF 37.3



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

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SM, LLC Technical Service

Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-35**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1120	6.67	2.69	35.6
IA	58-003	StoneCo	800	4.77	2.69	25.4
2NS	81-019	Pleasant Lk	1230	7.44	2.65	39.0
		Total Wt	**3150**	**18.88**		100.0

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

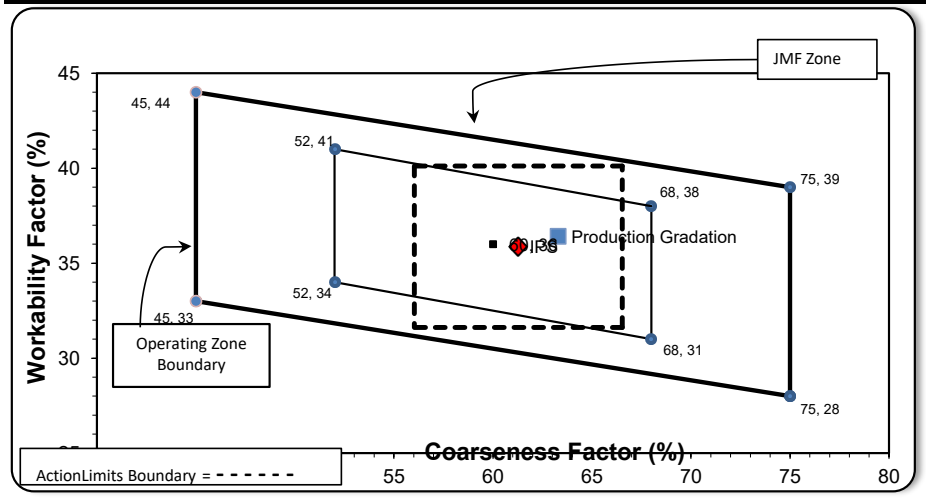
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	55.3	100.0	100.0	84.1	15.9	15.9
3/4"	33.1	100.0	100.0	76.2	7.9	23.8
1/2"	5.3	82.6	100.0	61.9	14.3	38.1
3/8"	2.0	72.5	100.0	58.2	3.7	41.8
#4	1.2	16.7	97.2	42.6	15.5	57.4
#8	1.1	3.3	83.7	33.9	8.7	66.1
#16	1.0	2.2	62.7	25.4	8.5	74.6
#30	1.0	1.8	43.1	17.6	7.8	82.4
#50	0.9	1.5	18.9	8.1	9.6	91.9
#100	0.9	1.3	4.6	2.4	5.6	97.6
LBW	0.8	1.0	1.0	0.9	1.5	99.1

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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 36.4



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

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Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-36**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	720	4.49	2.57	23.6
IA	71-47	Presque Isle	1165	7.26	2.57	38.1
2NS	63-115	Ray Rd	1170	7.02	2.67	38.3
		Total Wt	**3055**	**18.78**		100.0

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

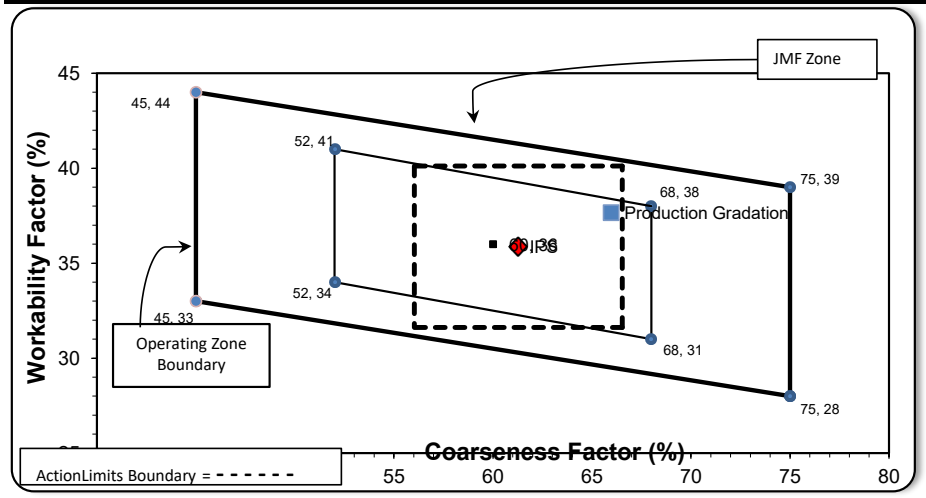
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.6	100.0	100.0	99.7	0.3	0.3
1"	36.7	100.0	100.0	85.1	14.6	14.9
3/4"	9.0	99.0	100.0	78.2	6.9	21.8
1/2"	2.9	74.0	100.0	67.2	11.0	32.8
3/8"	2.0	48.4	100.0	57.2	10.0	42.8
#4	1.6	13.2	97.4	42.7	14.5	57.3
#8	1.5	4.8	86.1	35.2	7.6	64.8
#16	1.5	3.1	65.1	26.5	8.7	73.5
#30	1.4	2.7	48.2	19.8	6.6	80.2
#50	1.3	2.3	22.2	9.7	10.1	90.3
#100	1.2	2.0	4.3	2.7	7.0	97.3
LBW	1.0	1.5	0.9	1.2	1.5	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:	66	Workability Factor:	35	Adjusted WF 37.7



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-39**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **3500HP P1M**

Dates Test Represents: 11/12/2026 to 11/18/2016

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	700	4.40	2.55	22.9
IA	71-47	Presque Isle	1075	6.76	2.55	35.2
2NS	63-115	Ray Road	1280	7.74	2.65	41.9
		Total Wt	**3055**	**18.90**		100.0

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

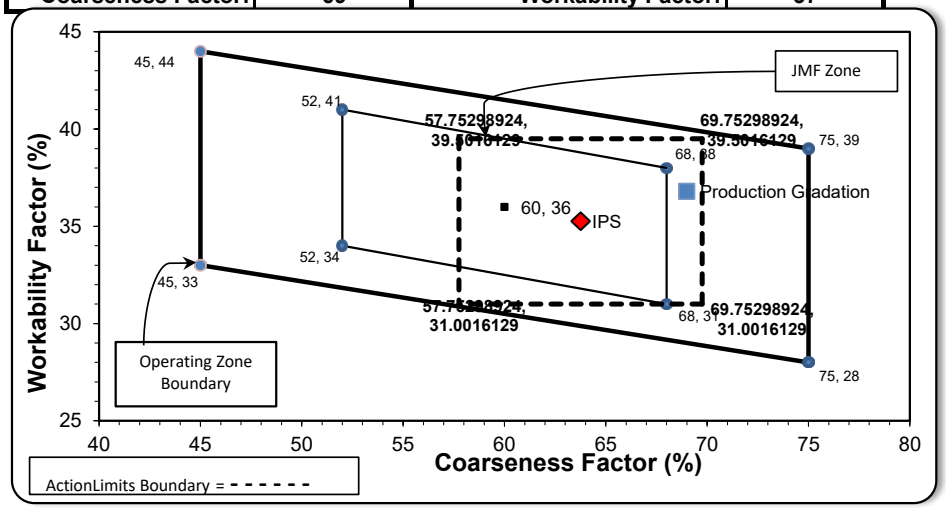
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Suite 500
Farmington Hills, MI 48336

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"	37.4	100.0	100.0	85.7	14.3	14.3
3/4"	7.3	98.8	100.0	78.3	7.3	21.7
1/2"	1.7	73.0	100.0	68.0	10.4	32.0
3/8"	1.4	40.3	100.0	56.4	11.6	43.6
#4	1.4	5.1	97.6	43.0	13.4	57.0
#8	1.3	2.4	85.1	36.8	6.2	63.2
#16	1.3	1.9	71.1	30.8	6.0	69.2
#30	1.2	1.7	51.6	22.5	8.3	77.5
#50	1.2	1.5	22.4	10.2	12.3	89.8
#100	1.1	1.4	4.5	2.6	7.6	97.4
LBW	0.9	1.1	0.9	1.0	1.7	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 SupplierGradations

Coarseness Factor:	69	Workability Factor:	37



Intial Production Sample (IPS)

Coarseness Factor:	64
Workability Factor:	35

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.4	0.6	0.6
1"	84.3	15.1	15.7
3/4"	73.9	10.4	26.1
1/2"	65.7	8.2	34.3
3/8"	58.7	7.0	41.3
#4	45.1	13.6	54.9
#8	35.3	9.8	64.7
#16	28.1	7.2	71.9
#30	21.2	6.9	78.8
#50	10.1	11.1	89.9
#100	3.1	7.0	96.9
LBW	1.4	1.7	98.6

PREPARED BY:
SM, LLC Technical Service

Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-101**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	350	2.18	2.57	11.5
IA	71-47	Presque Isle	1480	9.23	2.57	48.5
2NS	44-0030SG	Bechtel	1220	7.38	2.65	40.0
		Total Wt	**3050**	**18.79**		100.0

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

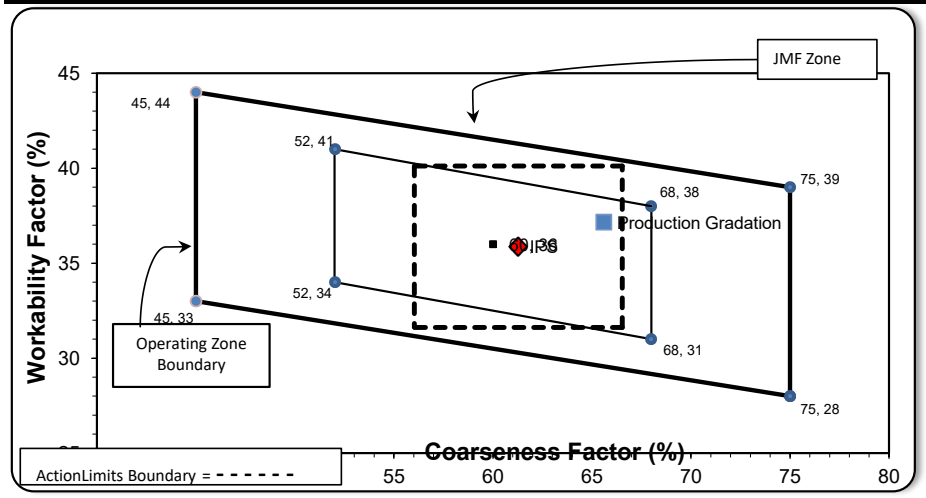
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.7	100.0	100.0	99.9	0.1	0.1
1"	40.1	100.0	100.0	93.1	6.7	6.9
3/4"	13.0	94.3	100.0	87.3	5.9	12.7
1/2"	3.3	60.1	100.0	69.5	17.7	30.5
3/8"	1.8	34.9	100.0	57.1	12.4	42.9
#4	1.4	3.6	97.8	41.0	16.1	59.0
#8	1.4	2.2	83.6	34.7	6.4	65.3
#16	1.4	1.6	68.0	28.1	6.5	71.9
#30	1.4	1.4	50.2	20.9	7.2	79.1
#50	1.3	1.3	23.8	10.3	10.6	89.7
#100	1.1	1.3	4.5	2.6	7.7	97.4
LBW	1.0	1.0	0.6	0.8	1.7	99.2

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Suite 500
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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:	66	Workability Factor:	35	Adjusted WF 37.2



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-101**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	350	2.18	2.57	11.4
IA	71-47	Presque Isle	1480	9.23	2.57	48.2
2NS	44-0030SG	Bechtel	1240	7.50	2.65	40.4
		Total Wt	**3070**	**18.91**		100.0

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

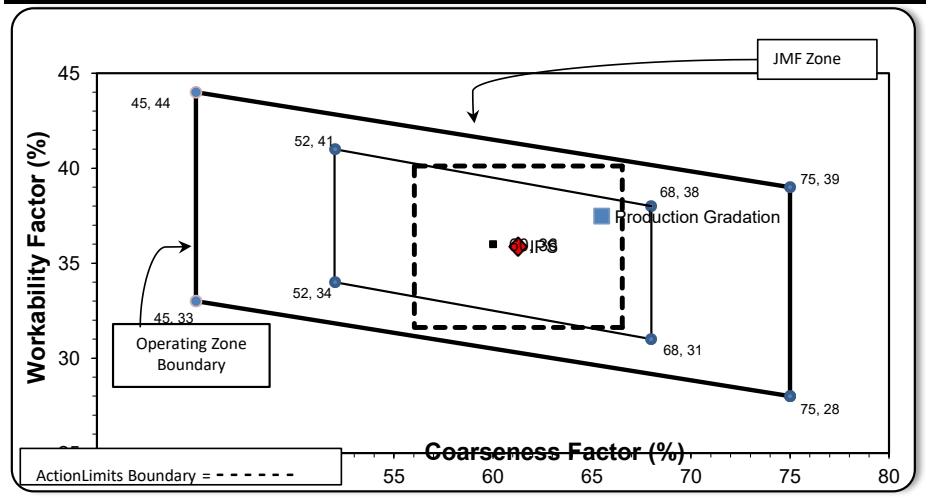
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30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.7	100.0	100.0	99.9	0.1	0.1
1"	40.1	100.0	100.0	93.2	6.7	6.8
3/4"	13.0	94.3	100.0	87.3	5.8	12.7
1/2"	3.3	60.1	100.0	69.7	17.6	30.3
3/8"	1.8	34.9	100.0	57.4	12.3	42.6
#4	1.4	3.6	97.8	41.4	16.0	58.6
#8	1.4	2.2	83.6	35.0	6.4	65.0
#16	1.4	1.6	68.0	28.4	6.6	71.6
#30	1.4	1.4	50.2	21.1	7.3	78.9
#50	1.3	1.3	23.8	10.4	10.7	89.6
#100	1.1	1.3	4.5	2.6	7.8	97.4
LBW	1.0	1.0	0.6	0.8	1.7	99.2

*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:	65	Workability Factor:	35	Adjusted WF 37.5



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

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Contractor:

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026 5" slump

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1120	6.67	2.69	35.6
IA	58-003	StoneCo	800	4.77	2.69	25.4
2NS	63-114	Highland	1230	7.41	2.66	39.0
		Total Wt	**3150**	**18.85**		100.0

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

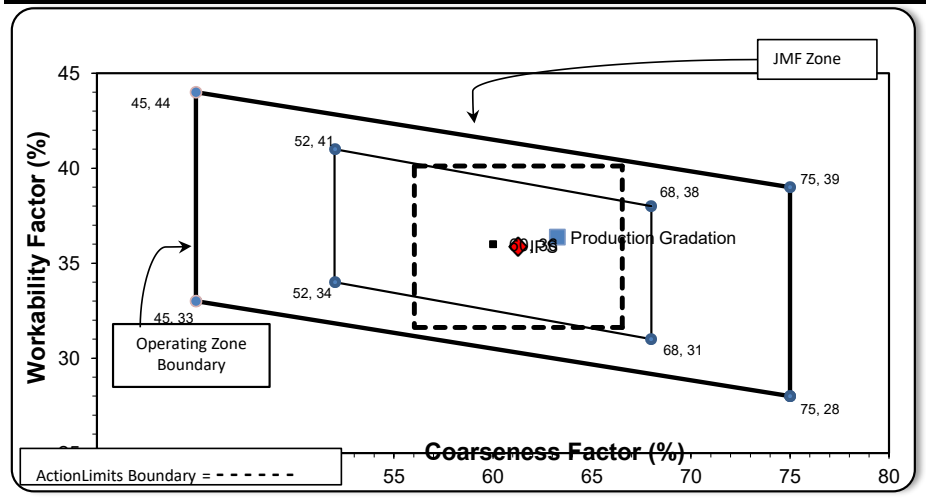
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

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"	55.3	100.0	100.0	84.1	15.9	15.9
3/4"	33.1	100.0	100.0	76.2	7.9	23.8
1/2"	5.3	82.6	100.0	61.9	14.3	38.1
3/8"	2.0	72.5	100.0	58.2	3.7	41.8
#4	1.2	16.7	98.4	43.1	15.1	56.9
#8	1.1	3.3	83.6	33.9	9.2	66.1
#16	1.0	2.2	65.1	26.3	7.5	73.7
#30	1.0	1.8	44.0	18.0	8.3	82.0
#50	0.9	1.5	22.0	9.3	8.7	90.7
#100	0.9	1.3	4.6	2.4	6.8	97.6
LBW	0.8	1.0	0.5	0.7	1.7	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

Coarseness Factor:	63	Workability Factor:	34	Adjusted WF 36.4



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-102**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

3" slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1140	6.79	2.69	36.0
IA	58-003	StoneCo	800	4.77	2.69	25.2
2NS	63-114	Highland	1230	7.41	2.66	38.8
		Total Wt	**3170**	**18.97**		100.0

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

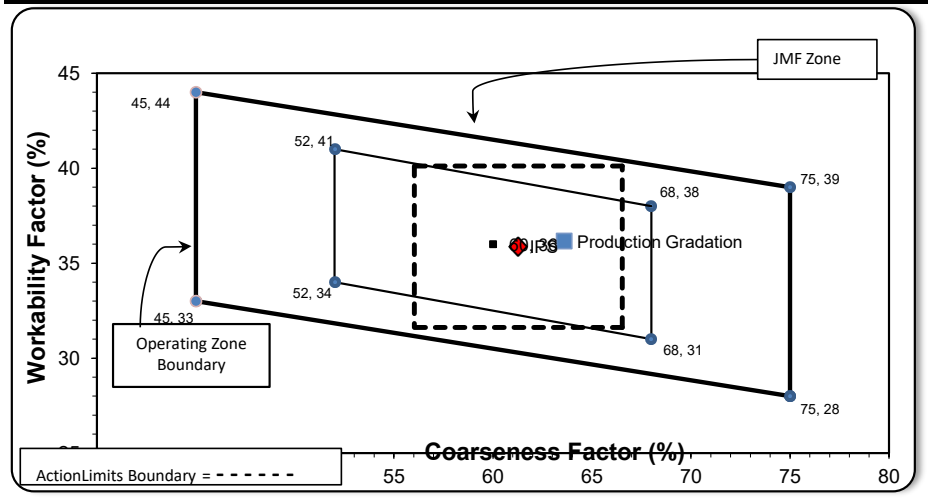
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

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"	55.3	100.0	100.0	83.9	16.1	16.1
3/4"	33.1	100.0	100.0	75.9	8.0	24.1
1/2"	5.3	82.6	100.0	61.6	14.4	38.4
3/8"	2.0	72.5	100.0	57.8	3.7	42.2
#4	1.2	16.7	98.4	42.8	15.0	57.2
#8	1.1	3.3	83.6	33.7	9.2	66.3
#16	1.0	2.2	65.1	26.2	7.5	73.8
#30	1.0	1.8	44.0	17.9	8.3	82.1
#50	0.9	1.5	22.0	9.2	8.6	90.8
#100	0.9	1.3	4.6	2.4	6.8	97.6
LBW	0.8	1.0	0.5	0.7	1.7	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

Coarseness Factor:	64	Workability Factor:	34	Adjusted WF: 36.2



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-103**

Contractor: _____

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026

3" slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1140	6.79	2.69	36.0
IA	58-003	StoneCo	800	4.77	2.69	25.2
2NS	63-114	Highland	1230	7.41	2.66	38.8
		Total Wt	**3170**	**18.97**		100.0

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

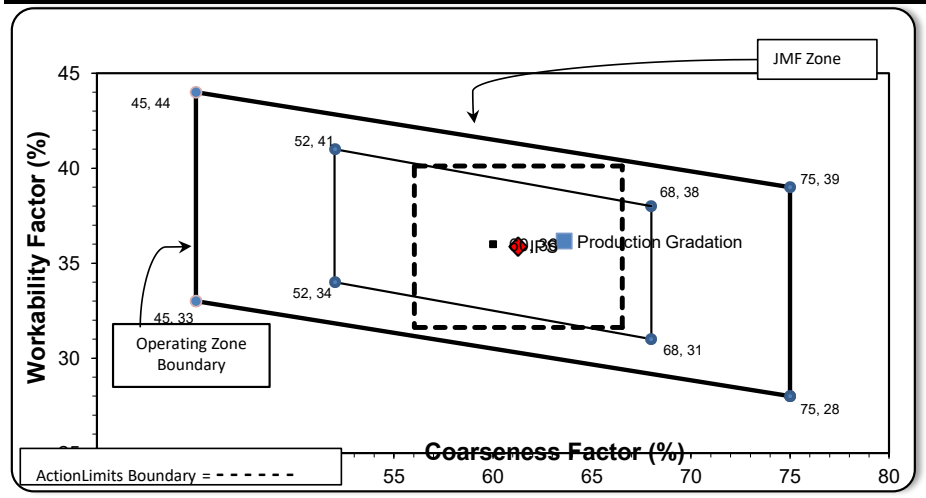
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	55.3	100.0	100.0	83.9	16.1	16.1
3/4"	33.1	100.0	100.0	75.9	8.0	24.1
1/2"	5.3	82.6	100.0	61.6	14.4	38.4
3/8"	2.0	72.5	100.0	57.8	3.7	42.2
#4	1.2	16.7	98.4	42.8	15.0	57.2
#8	1.1	3.3	83.6	33.7	9.2	66.3
#16	1.0	2.2	65.1	26.2	7.5	73.8
#30	1.0	1.8	44.0	17.9	8.3	82.1
#50	0.9	1.5	22.0	9.2	8.6	90.8
#100	0.9	1.3	4.6	2.4	6.8	97.6
LBW	0.8	1.0	0.5	0.7	1.7	99.3

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

Coarseness Factor:	64	Workability Factor:	34	Adjusted WF: 36.2



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-103**

Contractor:

Sample Date: 11/11/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/12/2026 through 11/18/2026 5" slump

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1120	6.67	2.69	35.6
IA	58-003	StoneCo	800	4.77	2.69	25.4
2NS	63-114	Highland	1230	7.41	2.66	39.0
		Total Wt	**3150**	**18.85**		100.0

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

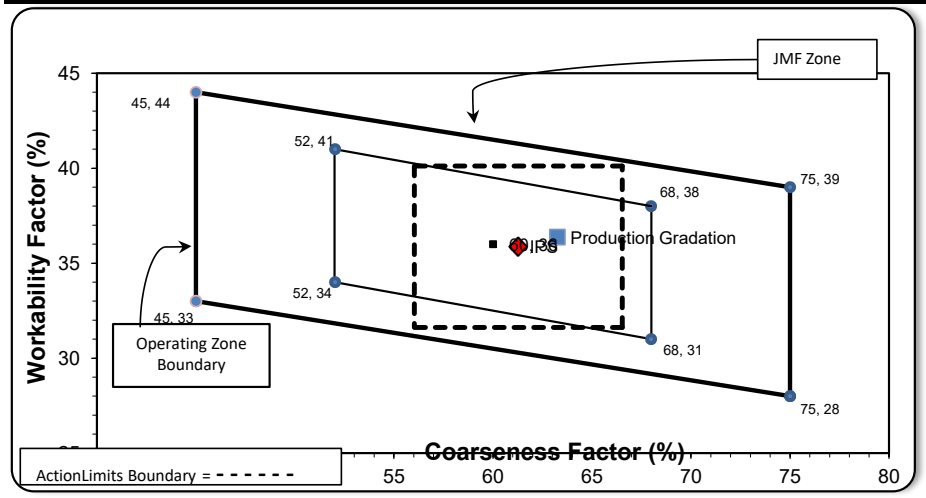
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

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"	55.3	100.0	100.0	84.1	15.9	15.9
3/4"	33.1	100.0	100.0	76.2	7.9	23.8
1/2"	5.3	82.6	100.0	61.9	14.3	38.1
3/8"	2.0	72.5	100.0	58.2	3.7	41.8
#4	1.2	16.7	98.4	43.1	15.1	56.9
#8	1.1	3.3	83.6	33.9	9.2	66.1
#16	1.0	2.2	65.1	26.3	7.5	73.7
#30	1.0	1.8	44.0	18.0	8.3	82.0
#50	0.9	1.5	22.0	9.3	8.7	90.7
#100	0.9	1.3	4.6	2.4	6.8	97.6
LBW	0.8	1.0	0.5	0.7	1.7	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

Coarseness Factor:	63	Workability Factor:	34	Adjusted WF 36.4



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