

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 7/28/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 7/29/2025 through 8/4/2025

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"	99.8	100.0	100.0	99.9	0.1	0.1
3/4"	83.5	100.0	100.0	91.3	8.6	8.7
1/2"	44.5	100.0	100.0	70.8	20.5	29.2
3/8"	22.0	86.3	100.0	57.9	13.0	42.1
#4	2.7	17.4	99.1	41.5	16.3	58.5
#8	1.3	4.6	85.3	34.3	7.2	65.7
#16	0.8	2.7	66.7	26.7	7.7	73.3
#30	0.8	2.2	47.0	18.9	7.7	81.1
#50	0.7	2.1	20.9	8.7	10.2	91.3
#100	0.7	2.0	4.0	2.1	6.6	97.9
LBW	0.8	1.8	0.4	0.7	1.4	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.



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Suite 500
Farmington Hills, MI 48336

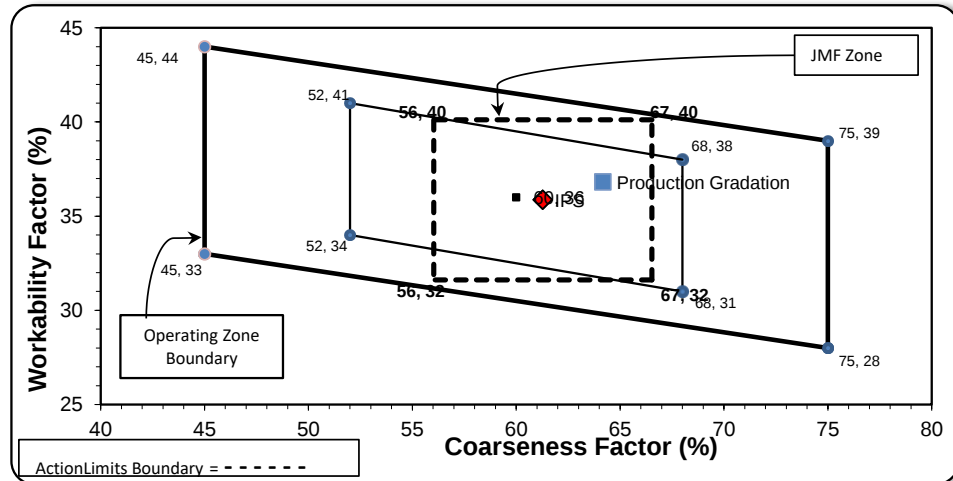
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	64	Workability Factor:	34	36.8
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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: **7/28/25**

Dates Test Represents: **7/29/2025** through **8/4/2025**

Concrete Grade: **DM, 4500HP**

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
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"	95.1	100.0	100.0	97.5	2.5	2.5
3/4"	78.6	100.0	100.0	89.3	8.3	10.7
1/2"	32.6	97.5	100.0	66.0	23.3	34.0
3/8"	15.2	89.2	100.0	56.4	9.6	43.6
#4	3.7	24.6	97.4	43.0	13.5	57.0
#8	1.8	9.4	82.1	34.4	8.6	65.6
#16	1.6	5.2	64.2	26.8	7.6	73.2
#30	1.5	4.1	46.6	19.6	7.1	80.4
#50	1.5	3.6	23.9	10.6	9.0	89.4
#100	1.4	3.3	5.7	3.3	7.3	96.7
LBW	1.1	2.8	1.0	1.2	2.1	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.

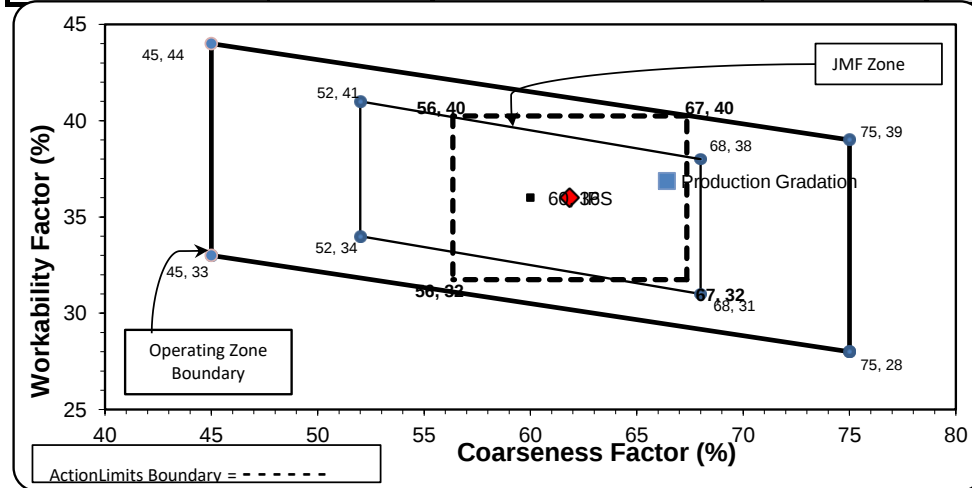


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Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF	36.9
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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

PREPARED BY:
 SM, LLC Technical Service

Approved By:

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-02**

Sample Date: 7/28/25

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 7/29/2025 through 8/4/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
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"	95.1	100.0	100.0	97.5	2.5	2.5
3/4"	78.6	100.0	100.0	89.3	8.3	10.7
1/2"	32.6	97.5	100.0	66.0	23.3	34.0
3/8"	15.2	89.2	100.0	56.4	9.6	43.6
#4	3.7	24.6	97.4	43.0	13.5	57.0
#8	1.8	9.4	82.1	34.4	8.6	65.6
#16	1.6	5.2	64.2	26.8	7.6	73.2
#30	1.5	4.1	46.6	19.6	7.1	80.4
#50	1.5	3.6	23.9	10.6	9.0	89.4
#100	1.4	3.3	5.7	3.3	7.3	96.7
LBW	1.1	2.8	1.0	1.2	2.1	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.



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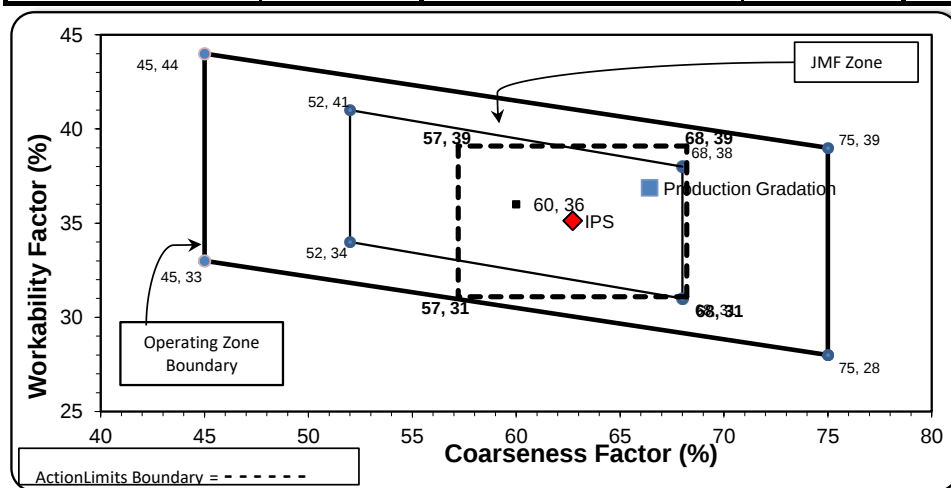
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	66	Workability Factor:	34	36.9
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Coarseness Factor:	63
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Workability Factor:	35
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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"	100.0	0.0	0.0
3/4"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1

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