Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Contractor: _____

Sample Date: 3/31/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 4/1/2025 through 4/7/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1450	8.64	2.69	49.2
26A	58-003	Stoneco	350	2.09	2.69	11.9
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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	86.1	100.0	100.0	93.2	6.8	6.8
1/2"	40.1	99.8	100.0	70.5	22.6	29.5
3/8"	25.7	88.0	100.0	62.1	8.5	37.9
#4	4.4	14.3	99.0	42.5	19.6	57.5
#8	2.0	4.6	84.8	34.6	7.9	65.4
#16	1.2	2.9	66.5	26.9	7.7	73.1
#30	1.0	2.4	47.3	19.2	7.6	80.8
#50	1.0	2.2	20.8	8.9	10.4	91.1
#100	0.9	2.0	4.3	2.4	6.5	97.6
LBW	1.0	1.9	1.1	1.1	1.2	98.9

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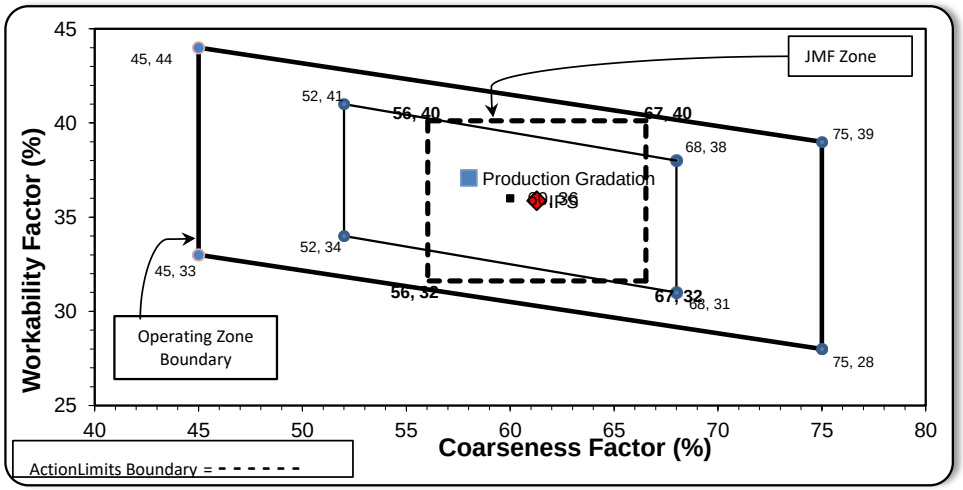
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	58	Workability Factor:	35	Adjusted WF 37.1



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:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Contractor: _____

Sample Date: 3/31/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 4/1/2025 through 4/7/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	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

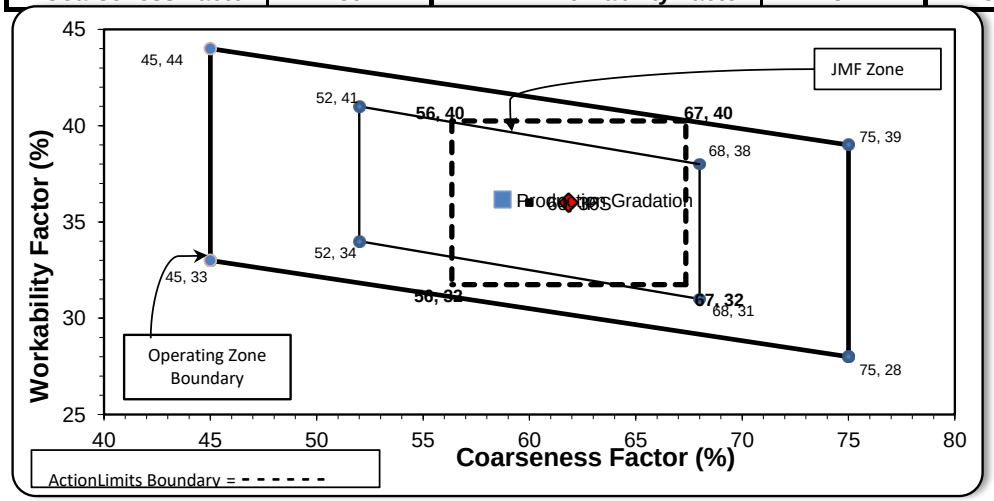
<----- Verify this number is 100%

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"	98.6	100.0	100.0	99.3	0.7	0.7
3/4"	86.1	100.0	100.0	93.1	6.2	6.9
1/2"	44.2	94.6	100.0	71.6	21.5	28.4
3/8"	26.0	80.7	100.0	61.0	10.5	39.0
#4	4.6	19.0	99.2	43.6	17.5	56.4
#8	2.3	5.8	80.6	33.7	9.9	66.3
#16	2.0	3.1	65.5	27.3	6.4	72.7
#30	1.8	2.5	49.6	20.8	6.5	79.2
#50	1.8	2.3	24.6	10.9	9.9	89.1
#100	1.7	2.2	4.5	2.9	8.0	97.1
LBW	1.4	2.0	0.8	1.2	1.6	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:	59	Workability Factor:	34	Adjusted WF	36.2



Intial Production Sample (IPS)

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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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Contractor: _____

Sample Date: 3/31/25

Concrete Grade: **DM, 4500HP**

Dates Test Represents: 4/1/2025 through 4/7/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	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"	98.6	100.0	100.0	99.3	0.7	0.7
3/4"	86.1	100.0	100.0	93.1	6.2	6.9
1/2"	44.2	94.6	100.0	71.6	21.5	28.4
3/8"	26.0	80.7	100.0	61.0	10.5	39.0
#4	4.6	19.0	99.2	43.6	17.5	56.4
#8	2.3	5.8	80.6	33.7	9.9	66.3
#16	2.0	3.1	65.5	27.3	6.4	72.7
#30	1.8	2.5	49.6	20.8	6.5	79.2
#50	1.8	2.3	24.6	10.9	9.9	89.1
#100	1.7	2.2	4.5	2.9	8.0	97.1
LBW	1.4	2.0	0.8	1.2	1.6	98.8

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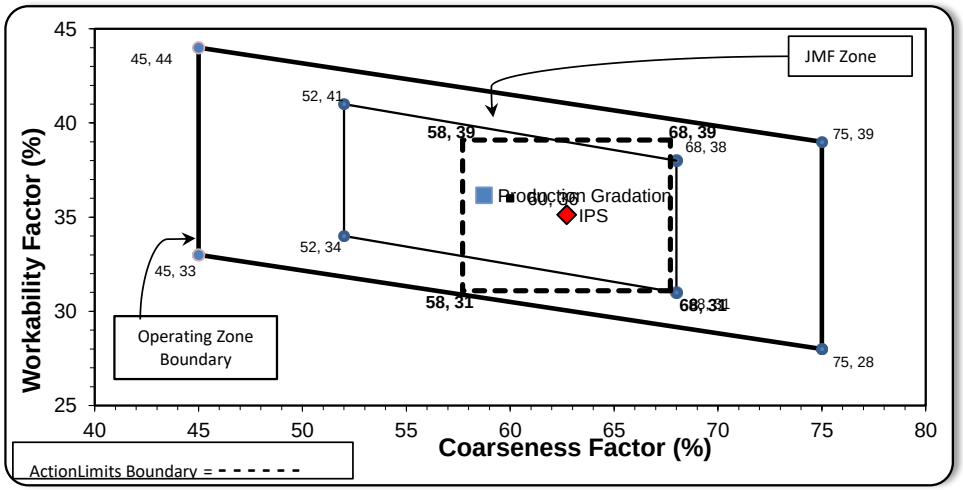
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate SupplierGradations

Coarseness Factor:	59	Workability Factor:	34	Adjusted WF 36.2



Intial Production Sample (IPS)

Coarseness Factor:	63
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"	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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