

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-36

Contractor: _____

Sample Date: 3/2/20

MDOT No.: _____

Dates Test Represents: 3/3/2020 through 3/9/2020

Concrete Grade: P1M

Agg. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	820	5.02	2.62	26.7
IA	71-47	Presque Isle	1050	6.42	2.62	34.2
NNS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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

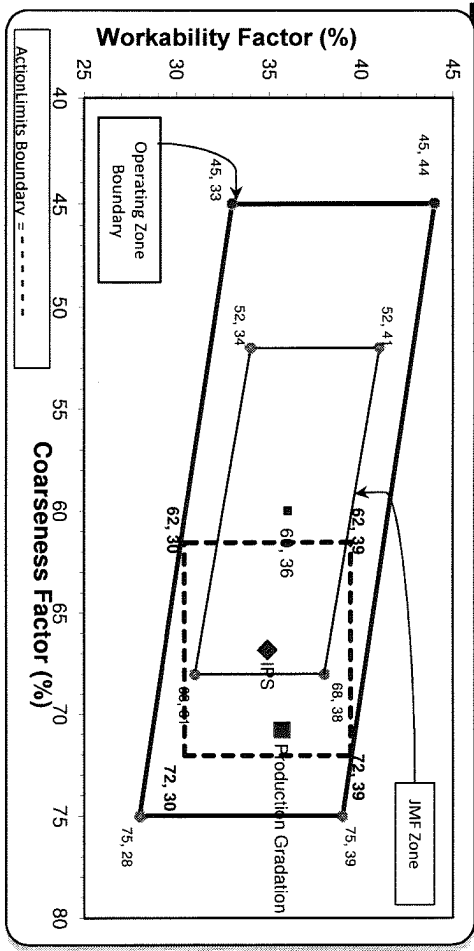
Sieve	CA	IA	NNS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	94.9	100.0	100.0	98.6	1.4	1.4
1"	27.6	100.0	100.0	80.7	18.0	19.3
3/4"	6.1	96.7	100.0	73.8	6.9	26.2
1/2"	2.8	71.5	100.0	64.3	9.5	35.7
3/8"	2.4	43.1	100.0	54.5	9.8	45.5
#4	2.1	8.3	97.7	41.6	12.9	58.4
#8	2.0	4.7	85.8	35.7	5.9	64.3
#16	2.0	3.7	70.6	29.4	6.3	70.6
#30	1.9	3.4	52.2	22.1	7.3	77.9
#50	1.9	3.1	22.9	10.5	11.6	89.5
#100	1.7	2.9	4.2	3.1	7.4	96.9
LBW	1.5	2.4	0.9	1.6	1.5	98.4

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

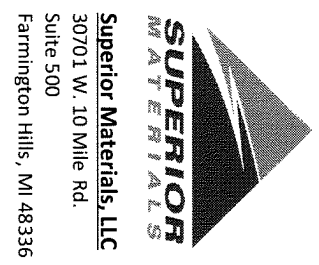
Initial Production Sample (IPS)

Coarseness Factor: 71 Workability Factor: 36

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



*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.

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Superior Auburn Hills
2470 Auburn Road
Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills
Product 7919-COARSE AGG P1M LS
Period: 03/01/2020 - 03/07/2020

Name/Title Doug Storey / QC Technician
Report Date 03/05/2020

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	94.9	%	
	1" (25mm)	27.6	%	
	3/4" (19mm)	6.1	%	
	1/2" (12.5mm)	2.8	%	
	3/8" (9.5mm)	2.4	%	
	#4 (4.75mm)	2.1	%	
	#8 (2.36mm)	2.0	%	
	#16 (1.18mm)	2.0	%	
	#30 (0.6mm)	1.9	%	
	#50 (0.3mm)	1.9	%	
	#100 (0.15mm)	1.7	%	
	#200 (75µm)	1.6	%	
	Wash Loss (#200/75um)	1.5	%	0-2
	Total Moisture	2.60	%	



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Plant S36-Superior Auburn Hills

Product 7920-INTERMED AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 03/01/2020 - 03/07/2020

Report Date 03/05/2020

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	96.7	%	
	1/2" (12.5mm)	71.5	%	
	3/8" (9.5mm)	43.1	%	
	#4 (4.75mm)	8.3	%	
	#8 (2.36mm)	4.7	%	
	#16 (1.18mm)	3.7	%	
	#30 (0.6mm)	3.4	%	
	#50 (0.3mm)	3.1	%	
	#100 (0.15mm)	2.9	%	
	#200 (75µm)	2.6	%	
	Wash Loss (#200/75um)	2.4	%	0-3
	Total Moisture	3.44	%	



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Plant S36-Superior Auburn Hills

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 03/01/2020 - 03/07/2020

Report Date 03/05/2020

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	97.7	%	95-100
	#8 (2.36mm)	85.8	%	65-95
	#16 (1.18mm)	70.6	%	35-75
	#30 (0.6mm)	52.2	%	20-55
	#50 (0.3mm)	22.9	%	10-30
	#100 (0.15mm)	4.2	%	0-10
	#200 (75µm)	1.1	%	
	FM	2.67		2.6-3
	Wash Loss (#200/75um)	0.9	%	0-3
	Total Moisture	4.02	%	