

# Aggregate Optimization Chart

# Production Gradation Report

PLANT #: **P-102**

Sample Date: **5/13/24**

Dates Test Represents: **5/14/2024** through **5/20/2024**

Concrete Grade: **DM, 4500HP**

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_

| Agg. Class      | Pit #  | Source   | Weight (ssd) | ft <sup>3</sup> | Specific Gravity | % Contribution |
|-----------------|--------|----------|--------------|-----------------|------------------|----------------|
| 6AA             | 58-003 | Stoneco  | 1600         | 9.53            | 2.69             | 54.2           |
| 26A             | 58-003 | Stoneco  | 200          | 1.19            | 2.69             | 6.8            |
| 2NS             | 63-114 | Highland | 1150         | 6.95            | 2.65             | 39.0           |
| <b>Total Wt</b> |        |          |              |                 |                  | <b>2950</b>    |
|                 |        |          |              |                 |                  | <b>17.68</b>   |

Verify this number is 100%

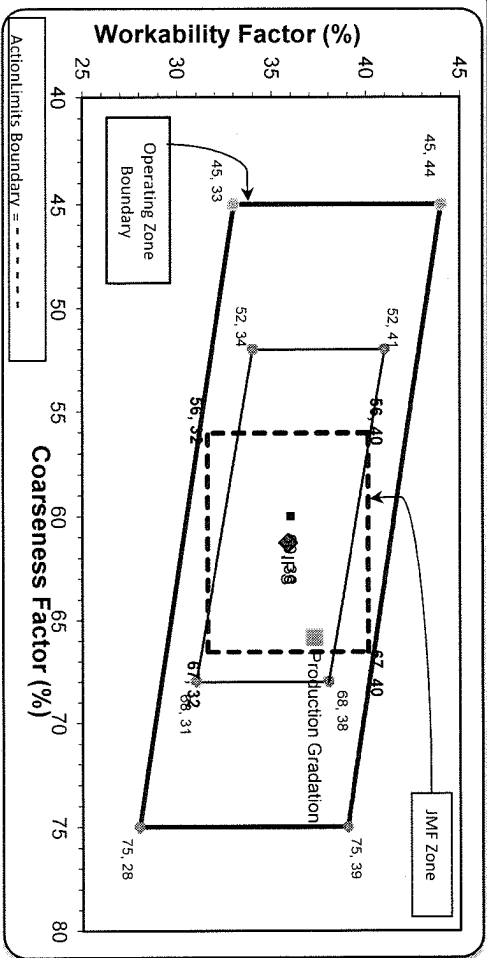
| Sieve | 6AA   | 26A   | 2NS   | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|-------|-------|-------|----------------------|------------|-----------------------|
| 2"    | 100.0 | 100.0 | 100.0 | 100.0                | 0.0        | 0.0                   |
| 1.5"  | 100.0 | 100.0 | 100.0 | 100.0                | 0.0        | 0.0                   |
| 1"    | 100.0 | 100.0 | 100.0 | 100.0                | 0.0        | 0.0                   |
| 3/4"  | 85.1  | 100.0 | 100.0 | 91.9                 | 8.1        | 8.1                   |
| 1/2"  | 43.6  | 99.5  | 100.0 | 69.4                 | 22.5       | 30.6                  |
| 3/8"  | 21.8  | 92.3  | 100.0 | 57.1                 | 12.3       | 42.9                  |
| #4    | 3.9   | 11.8  | 98.9  | 41.5                 | 15.6       | 58.5                  |
| #8    | 2.1   | 3.8   | 85.6  | 34.8                 | 6.7        | 65.2                  |
| #16   | 1.8   | 2.9   | 67.1  | 27.3                 | 7.4        | 72.7                  |
| #30   | 1.7   | 2.6   | 47.9  | 19.8                 | 7.6        | 80.2                  |
| #50   | 1.6   | 2.5   | 20.3  | 9.0                  | 10.8       | 91.0                  |
| #100  | 1.5   | 2.4   | 4.2   | 2.6                  | 6.3        | 97.4                  |
| LBW   | 1.2   | 2.2   | 0.9   | 1.2                  | 1.5        | 98.8                  |

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

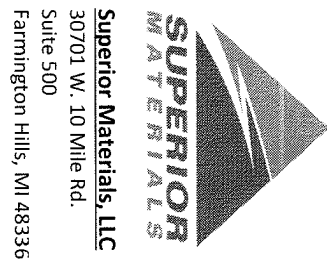
| Coarseness Factor: | 66 | Workability Factor: | 35 | Adjusted WF |
|--------------------|----|---------------------|----|-------------|
|                    |    |                     |    | <b>37.3</b> |

Initial Production Sample (IPS)

| Coarseness Factor: | 61        |
|--------------------|-----------|
|                    | <b>36</b> |



| 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: \_\_\_\_\_



Plant S102-Superior Novi

Product 1051-6AA LS

Name/Title Doug Storey / QC Technician

Period: 05/12/2024 - 05/18/2024

Report Date 05/18/2024

| Procedure | Sieve/Test            | Result | Unit | 6AA LS  |
|-----------|-----------------------|--------|------|---------|
|           | 2" (50mm)             | 100.0  | %    |         |
|           | 1 1/2" (37.5mm)       | 100.0  | %    | 100-100 |
|           | 1" (25mm)             | 100.0  | %    | 95-100  |
|           | 3/4" (19mm)           | 85.1   | %    |         |
|           | 1/2" (12.5mm)         | 43.6   | %    | 30-60   |
|           | 3/8" (9.5mm)          | 21.8   | %    |         |
|           | #4 (4.75mm)           | 3.9    | %    | 0-8     |
|           | #8 (2.36mm)           | 2.1    | %    |         |
|           | #16 (1.18mm)          | 1.8    | %    |         |
|           | #30 (.6mm)            | 1.7    | %    |         |
|           | #50 (.3mm)            | 1.6    | %    |         |
|           | #100 (.15mm)          | 1.5    | %    |         |
|           | #200 (75µm)           | 1.40   | %    |         |
|           | Wash Loss (#200/75um) | 1.2    | %    | 0-2     |
|           | Total Moisture        | 2.94   | %    |         |



Plant S102-Superior Novi

Product 1067-26A Mod LS

Name/Title Doug Storey / QC Technician

Period: 05/12/2024 - 05/18/2024

Report Date 05/18/2024

| Procedure | Sieve/Test            | Result | Unit | 26A Mod LS Spec |
|-----------|-----------------------|--------|------|-----------------|
|           | 2" (50mm)             | 100.0  | %    |                 |
|           | 1 1/2" (37.5mm)       | 100.0  | %    |                 |
|           | 1" (25mm)             | 100.0  | %    |                 |
|           | 3/4" (19mm)           | 100.0  | %    | 100-100         |
|           | 1/2" (12.5mm)         | 99.5   | %    | 95-100          |
|           | 3/8" (9.5mm)          | 92.3   | %    | 60-95           |
|           | #4 (4.75mm)           | 11.8   | %    | 5-30            |
|           | #8 (2.36mm)           | 3.8    | %    | 0-12            |
|           | #16 (1.18mm)          | 2.9    | %    |                 |
|           | #30 (.6mm)            | 2.6    | %    |                 |
|           | #50 (.3mm)            | 2.5    | %    |                 |
|           | #100 (.15mm)          | 2.4    | %    |                 |
|           | #200 (75µm)           | 2.3    | %    |                 |
|           | Wash Loss (#200/75um) | 2.2    | %    | 0-3             |
|           | Total Moisture        | 2.86   | %    |                 |



Plant S102-Superior Novi  
Product 1022-2NS GR  
Period: 05/12/2024 - 05/18/2024

Name/Title Doug Storey / QC Technician  
Report Date 05/18/2024

| Procedure | Sieve/Test            | Result | Unit | 2NS GR Spec |
|-----------|-----------------------|--------|------|-------------|
|           | 3/8" (9.5mm)          | 100.0  | %    | 100-100     |
|           | #4 (4.75mm)           | 98.9   | %    | 95-100      |
|           | #8 (2.36mm)           | 85.6   | %    | 65-95       |
|           | #16 (1.18mm)          | 67.1   | %    | 35-75       |
|           | #30 (.6mm)            | 47.9   | %    | 20-55       |
|           | #50 (.3mm)            | 20.3   | %    | 10-30       |
|           | #100 (.15mm)          | 4.2    | %    | 0-10        |
|           | #200 (75µm)           | 1.2    | %    |             |
|           | FM                    | 2.76   |      | 2.6-3       |
|           | Wash Loss (#200/75um) | 0.9    | %    | 0-3         |
|           | Total Moisture        | 3.64   | %    |             |