| Production | Gradation | Report |
|------------|-----------|--------|
|------------|-----------|--------|

| <b>PLANT</b> #   | <b>#:</b>   | P-101             |               |                            |                     |                         | Contractor:      |                          |                 |                   |
|------------------|-------------|-------------------|---------------|----------------------------|---------------------|-------------------------|------------------|--------------------------|-----------------|-------------------|
| Sample Date      | :           | 9/25/23           |               |                            | Concrete Grade:     | DM, 4500HP              |                  |                          |                 | -                 |
| Dates Test R     | epresents:  | 9/26/2023         | through       | 10/2/2023                  |                     |                         | MDOT No.:        |                          |                 | _                 |
| Agg. Class       | Pit #       | Source            | Weight (SSD)  | ft <sup>3</sup>            | Specific<br>Gravity | %<br>Contribution       |                  |                          |                 |                   |
| 6AA              | 71-47       | Presque Isle      | 1750          | 10.70                      | 2.62                | 60.3                    |                  |                          |                 | 8                 |
| 26A              | 71-47       | Presque Isle      | 0             | 0.00                       | 2.62                | 0.0                     |                  |                          |                 |                   |
| 2NS              | 75-051      | Mid Michigan      | 1150          | 6.93                       | 2.66                | 39.7                    |                  |                          |                 | é                 |
|                  |             | Total Wt          | 2900          | 17.63                      |                     | 100.0                   | < Verify this n  | umber is 100%            |                 | SM                |
| Sieve            |             | 6AA               | 26            | Α                          | 2NS                 | Cumulative<br>% Passing | % Retained       | Cumulative<br>% Retained |                 | <u>Sup</u><br>307 |
| 2"               | 1           | 00.0              | 100           | ).0                        | 100.0               | 100.0                   | 0.0              | 0.0                      |                 | Suit              |
| 1.5"             | 1           | 00.0              | 100           | ).0                        | 100.0               | 100.0                   | 0.0              | 0.0                      |                 | Farr              |
| 1"               | 1           | 00.0              | 100           | ).0                        | 100.0               | 100.0                   | 0.0              | 0.0                      |                 |                   |
| 3/4"             | 1           | 91.1              | 100           | ).0                        | 100.0               | 94.6                    | 5.4              | 5.4                      |                 |                   |
| 1/2"             |             | 54.7              | 97            | .0                         | 100.0               | 72.7                    | 22.0             | 27.3                     |                 |                   |
| 3/8"             |             | 34.7              | 88            | .7                         | 100.0               | 60.6                    | 12.1             | 39.4                     | *Maximum %      | Retained m        |
| #4               |             | 5.5               | 22            | .6                         | 96.1                | 41.4                    | 19.2             | 58.6                     | *Any two adja   | icent sieves      |
| #8               |             | 2.6               | 4.            | 9                          | 80.4                | 33.5                    | 8.0              | 66.5                     | nom. max., #10  | 00 and #200       |
| #16              |             | 2.4               | 2.            | 2                          | 65.6                | 27.5                    | 6.0              | 72.5                     | *% Retained     | must be at I      |
| #30              |             | 2.3               | 1.            | 8                          | 50.3                | 21.3                    | 6.1              | 78.7                     | nom. max., #10  | 00 and #200       |
| #50              |             | 2.2               | 1.            | -                          | 24.3                | 11.0                    | 10.4             | 89.0                     | *% Retained     | must be at l      |
| #100             |             | 2.1               | 1.            | -                          | 8.2                 | 4.5                     | 6.4              | 95.5                     | a 1.5" max. siz | e (nom. Ma        |
| LBW              |             | 1.8               | 1.            | 4                          | 1.1                 | 1.5                     | 3.0              | 98.5                     |                 |                   |
| Production G     | radation    | O Batch Plant Gra | dations 💿 Agg | regate Supplier Gr         | adations            | Adjusted WF             | Initial Producti | on Sample (IPS           | S)              | _                 |
| Coarsene         | ess Factor: | 59                | Work          | ability Factor             | : 33                | 36.0                    | Coars            | eness Factor:            | 62              |                   |
| 45               |             |                   |               |                            |                     |                         | Work             | ability Factor:          | 35              |                   |
|                  | 45, 44      |                   |               |                            | JMF Zone            | $\neg \mid \mathbf{I}$  | Sieve            | Cumulative               | %               | Cumula            |
| 1                | ,           |                   |               |                            | JIVIT ZOTIC         |                         | Sieve            | % Passing                | Retained        | % Retai           |
|                  |             | 52, 41            |               |                            |                     |                         | 2"               | 100.0                    | 0.0             | 0.0               |
| ्र <sup>40</sup> |             |                   | 57, 39        | 67, <del>39</del><br>68, 3 | 75, 39              |                         | 1.5"             | 100.0                    | 0.0             | 0.0               |

75, 28

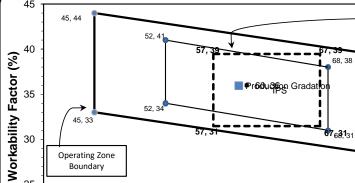
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Superior Materials, LLC 30701 W. 10 Mile Rd. Suite 500 Farmington Hills, MI 48336

Maximum % Retained must be above the 3/8" sieve. Any two adjacent sieves must equal 10% except max., m. max., #100 and #200 sieves. % Retained must be at least 4% for each sieve except max., m. max., #100 and #200 sieves. % Retained must be at least 4% for the 3/4" sieve when .5" max. size (nom. Max. 1.0") aggregate is used.



55

 $\textbf{Coarseness} \quad \textbf{Factor} \quad \textbf{(\%)}^{70}$ 

| Coars | eness Factor:   | 62       |            |
|-------|-----------------|----------|------------|
|       |                 | -        |            |
| WORK  | ability Factor: | 35       |            |
| Sieve | Cumulative      | %        | Cumulative |
| Sieve | % Passing       | Retained | % 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"  | 70.5            | 24.5     | 29.5       |
| 3/8"  | 60.0            | 10.5     | 40.0       |
| #4    | 44.4            | 15.6     | 55.6       |
| #8    | 35.5            | 9.0      | 64.5       |
| #16   | 28.5            | 7.0      | 71.5       |
| #30   | 21.5            | 7.0      | 78.5       |
| #50   | 10.2            | 11.3     | 89.8       |
| #100  | 3.1             | 7.1      | 96.9       |
| LBW   | 1.3             | 1.8      | 98.7       |

PREPARED BY: SM, LLC Technical Service

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ActionLimits Boundary = - - - - -

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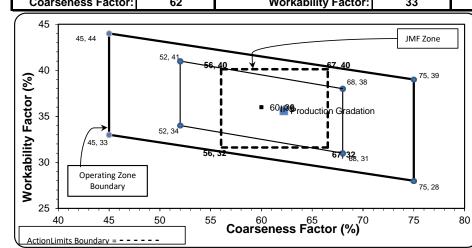
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Approved By: Mary 1. Ball

| PLANT        | #:          | P-102             |                |                    |                     |                         | Contractor:       |                          |                 |                          |                               |
|--------------|-------------|-------------------|----------------|--------------------|---------------------|-------------------------|-------------------|--------------------------|-----------------|--------------------------|-------------------------------|
| Sample Date  | e:          | 9/25/23           | -              |                    | Concrete Grade:     | DM, 4500HP              |                   |                          |                 | -                        |                               |
| Dates Test F | Represents: | 9/26/2023         | -<br>through   | 10/2/2023          |                     |                         | MDOT No.:         |                          |                 |                          |                               |
| Agg. Class   | Pit #       | Source            | Weight (SSD)   | ft <sup>3</sup>    | Specific<br>Gravity | %<br>Contribution       | ]                 |                          |                 |                          |                               |
| 6AA          | 58-003      | Stoneco           | 1500           | 8.94               | 2.69                | 50.8                    | 1                 |                          |                 |                          |                               |
| 26A          | 58-003      | Stoneco           | 300            | 1.79               | 2.69                | 10.2                    | 1                 |                          |                 |                          |                               |
| 2NS          | 81-019      | Pleasant Lake     | 1150           | 6.95               | 2.65                | 39.0                    | 1                 |                          |                 | SUP                      | PERIOR                        |
|              |             | Total Wt          | 2950           | 17.68              |                     | 100.0                   | < Verify this n   | umber is 100%            | _               |                          | ERIALS                        |
| Sieve        |             | 6AA               | 20             | 6A                 | 2NS                 | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained |                 |                          | Materials, LLC<br>10 Mile Rd. |
| 2"           |             | 100.0             | 10             | 0.0                | 100.0               | 100.0                   | 0.0               | 0.0                      | 1               | Suite 500                |                               |
| 1.5"         |             | 100.0             | 10             | 0.0                | 100.0               | 100.0                   | 0.0               | 0.0                      | 1               | Farmingto                | on Hills, MI 48336            |
| 1"           |             | 99.8              | 10             | 0.0                | 100.0               | 99.9                    | 0.1               | 0.1                      | 1               |                          |                               |
| 3/4"         |             | 83.1              | 10             | 0.0                | 100.0               | 91.4                    | 8.5               | 8.6                      | 1               |                          |                               |
| 1/2"         |             | 42.7              | 99             | 9.4                | 100.0               | 70.8                    | 20.6              | 29.2                     | 1               |                          |                               |
| 3/8"         |             | 20.7              | 87             | 7.3                | 100.0               | 58.4                    | 12.4              | 41.6                     | *Maximum %      | Retained must be         | above the 3/8" sieve          |
| #4           |             | 3.5               | 10             | ).1                | 97.5                | 40.8                    | 17.6              | 59.2                     | *Any two adja   | icent sieves must e      | equal 10% except ma           |
| #8           |             | 1.8               | 2              | .9                 | 81.8                | 33.1                    | 7.7               | 66.9                     | nom. max., #1   | 00 and #200 sieves       | S.                            |
| #16          |             | 1.6               | 2              | .1                 | 64.4                | 26.1                    | 7.0               | 73.9                     | *% Retained     | must be at least 4%      | % for each sieve exce         |
| #30          |             | 1.4               | 1              | .8                 | 45.6                | 18.7                    | 7.5               | 81.3                     | nom. max., #1   | 00 and #200 sieves       | S.                            |
| #50          |             | 1.4               | 1              | .6                 | 22.5                | 9.6                     | 9.0               | 90.4                     | *% Retained     | must be at least 4%      | % for the 3/4" sieve w        |
| #100         |             | 1.3               | 1              | .6                 | 6.3                 | 3.3                     | 6.4               | 96.7                     | a 1.5" max. siz | e (nom. Max. 1.0")       | aggregate is used.            |
| LBW          |             | 1.0               | 1              | .4                 | 1.1                 | 1.1                     | 2.2               | 98.9                     |                 |                          |                               |
| Production G | Gradation   | O Batch Plant Gra | adations 💿 Agg | regate Supplier Gr | adations            | Adjusted WF             | Intial Production | on Sample (IPS           | S)              |                          |                               |
| Coarsen      | ess Factor: | 62                | Wor            | ability Factor     | : 33                | 35.6                    | Coars             | eness Factor:            | 61              |                          |                               |
| 45           |             |                   |                |                    |                     |                         | Work              | ability Factor:          | 36              |                          |                               |
| 1 1          | 45, 44      |                   |                |                    | JMF Zone            |                         | Sieve             | Cumulative<br>% Passing  | %<br>Retained   | Cumulative<br>% Retained |                               |
| í – 1        |             | 52, 41            |                | -                  |                     |                         | 0"                | 100.0                    | 0.0             | 0.0                      | 1                             |



e above the 3/8" sieve. equal 10% except max., es. 1% for each sieve except max., es. 1% for the 3/4" sieve when )") aggregate is used.



| Coar  | seness Factor:   | 61       |            |
|-------|------------------|----------|------------|
|       | cability Factor: | 36       |            |
| Sieve | Cumulative       | %        | Cumulative |
| Sieve | % Passing        | Retained | % 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       |

Approved By: Mary 1. Ball

| PLANT #              | #:             | P-103             |                  |                         |                     |                         | Contractor:       |                          |                 |                     |                                      |
|----------------------|----------------|-------------------|------------------|-------------------------|---------------------|-------------------------|-------------------|--------------------------|-----------------|---------------------|--------------------------------------|
| Sample Date          |                | 9/25/23           |                  | (                       | Concrete Grade      | : DM, 4500HP            |                   |                          |                 |                     |                                      |
| Dates Test R         | Represents:    | 9/26/2023         | through          | 10/2/2023               |                     |                         | MDOT No.:         |                          |                 |                     |                                      |
| Agg. Class           | Pit #          | Source            | Weight (SSD)     | ft <sup>3</sup>         | Specific<br>Gravity | %<br>Contribution       |                   |                          |                 |                     |                                      |
| 6AA                  | 58-003         | Stoneco           | 1500             | 8.94                    | 2.69                | 50.8                    |                   |                          |                 |                     |                                      |
| 26A                  | 58-003         | Stoneco           | 300              | 1.79                    | 2.69                | 10.2                    |                   |                          |                 |                     |                                      |
| 2NS                  | 81-019         | Pleasant Lake     | 1150             | 6.95                    | 2.65                | 39.0                    |                   |                          |                 | SUP                 | ERIOR                                |
|                      |                | Total Wt          | 2950             | 17.68                   |                     | 100.0                   | < Verify this n   | umber is 100%            |                 |                     | RIALS                                |
| Sieve                |                | 6AA               | 26               | A                       | 2NS                 | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained |                 |                     | <b>Materials, LLC</b><br>10 Mile Rd. |
| 2"                   |                | 100.0             | 10               | 0                       | 100.0               | 100.0                   | 0.0               | 0.0                      |                 | Suite 500           |                                      |
| 1.5"                 |                | 100.0             | 10               |                         | 100.0               | 100.0                   | 0.0               | 0.0                      |                 | Farmingto           | n Hills, MI 48336                    |
| 1"                   |                | 99.8              | 10               | 0.0                     | 100.0               | 99.9                    | 0.1               | 0.1                      |                 |                     |                                      |
| 3/4"                 |                | 83.1              | 10               | 0.0                     | 100.0               | 91.4                    | 8.5               | 8.6                      |                 |                     |                                      |
| 1/2"                 |                | 42.7              | 99               | .4                      | 100.0               | 70.8                    | 20.6              | 29.2                     |                 |                     |                                      |
| 3/8"                 |                | 20.7              | 87               | .3                      | 100.0               | 58.4                    | 12.4              | 41.6                     | *Maximum %      | Retained must be    | above the 3/8" sieve.                |
| #4                   |                | 3.5               | 10               | ).1                     | 97.5                | 40.8                    | 17.6              | 59.2                     | *Any two adja   | icent sieves must e | qual 10% except max.,                |
| #8                   |                | 1.8               | 2.               | .9                      | 81.8                | 33.1                    | 7.7               | 66.9                     | nom. max., #10  | 00 and #200 sieves  |                                      |
| #16                  |                | 1.6               | 2.               |                         | 64.4                | 26.1                    | 7.0               | 73.9                     | *% Retained     | must be at least 4% | o for each sieve except              |
| #30                  |                | 1.4               | 1.               |                         | 45.6                | 18.7                    | 7.5               | 81.3                     |                 | 00 and #200 sieves  |                                      |
| #50                  |                | 1.4               | 1.               | -                       | 22.5                | 9.6                     | 9.0               | 90.4                     |                 |                     | o for the 3/4" sieve wher            |
| #100                 |                | 1.3               | 1.               | -                       | 6.3                 | 3.3                     | 6.4<br>2.2        | 96.7                     | a 1.5" max. siz | e (nom. Max. 1.0")  | aggregate is used.                   |
| LBW                  |                | 1.0               | 1.               |                         | 1.1                 | 1.1                     | 2.2               | 98.9                     |                 |                     |                                      |
| Production G         | Gradation      | O Batch Plant Gra | idations 💽 Agg   | regate Supplier Gra     | adations            | Adjusted WF             | Intial Production | on Sample (IPS           | 5)              |                     |                                      |
| Coarsene             | ess Factor:    | 62                | Work             | ability Factor:         | 33                  | 35.6                    | Coars             | eness Factor:            | 61              |                     |                                      |
| 45                   |                |                   |                  |                         |                     |                         | Work              | ability Factor:          | 36              |                     |                                      |
| 45                   | 45, 44         |                   |                  |                         | JMF Zone            |                         | Sieve             | Cumulative               | %               | Cumulative          |                                      |
| 1.                   | 45, 44         |                   |                  |                         | JIVII ZONC          |                         | Sleve             | % Passing                | Retained        | % Retained          |                                      |
| -                    |                | 52, 41 <b></b> 56 | 40               | 67 40                   |                     |                         | 2"                | 100.0                    | 0.0             | 0.0                 |                                      |
| ू <sup>40</sup> ]    |                |                   |                  | 68, 38                  | 75, 39              |                         | 1.5"              | 100.0                    | 0.0             | 0.0                 |                                      |
| ۹ ک                  |                |                   | ;                | 00, 30                  | I                   |                         | 1"                | 99.3                     | 0.7             | 0.7                 |                                      |
| <u>ŏ</u>             |                |                   | = 60 <b>13</b> 6 | roduction Gradatic      |                     |                         | 3/4"              | 89.2                     | 10.1            | 10.8                |                                      |
| Factor (%)           |                |                   | 1                | Toduction Gradatic      |                     |                         | 1/2"              | 70.7                     | 18.5            | 29.3                |                                      |
| Ľ ]                  |                | 52, 34            | <b>•</b>         | <b>i</b>                |                     |                         | 3/8"              | 60.7                     | 10.0            | 39.3                |                                      |
| lif.                 | 45, 33         | 56.               | L                |                         |                     |                         | #4                | 44.4                     | 16.3            | 55.6                |                                      |
| Workability          |                |                   | 52               | <b>67, 32</b><br>68, 31 |                     |                         | #8                | 35.9                     | 8.5             | 64.1                |                                      |
| 폰 :                  | Operating Zone |                   |                  |                         |                     |                         | #16               | 27.3                     | 8.6             | 72.7                |                                      |
| Ŝ                    | Boundary       |                   |                  |                         | 75, 28              |                         | #30               | 19.1                     | 8.2             | 80.9                |                                      |
| > <sub>25</sub>      |                | <u> </u>          |                  | <u> </u>                | <u></u>             |                         | #50<br>#100       | 7.4                      | 11.7            | 92.6                |                                      |
| /2 +                 |                |                   |                  |                         |                     | 00                      |                   | 1.9                      | 5.6             | 98.1                |                                      |
| 25 <del></del><br>40 | 45             | 50 55             | b 60             | <b>Factor (%)</b>       | 75                  | 80                      | LBW               | 0.7                      | 1.2             | 99.3                |                                      |

Approved BY: Mary 1. Ball

| PLANT #      | <b>#:</b>                  | 14                | _                  |                    |                     |                         | Contractor:       |                          |                | _                  |                                |
|--------------|----------------------------|-------------------|--------------------|--------------------|---------------------|-------------------------|-------------------|--------------------------|----------------|--------------------|--------------------------------|
| Sample Date  | :                          | 9/25/23           |                    | C                  | concrete Grade      | DM, 4500HP              |                   |                          |                |                    |                                |
| Dates Test R | epresents:                 | 9/26/2023         | through            | 10/2/2023          |                     |                         | MDOT No.:         |                          |                |                    |                                |
| Agg. Class   | Pit #                      | Source            | Weight (SSD)       | ft <sup>3</sup>    | Specific<br>Gravity | %<br>Contribution       |                   |                          |                | Γ                  |                                |
| 6AA          | 58-003                     | Stoneco           | 1500               | 8.94               | 2.69                | 50.7                    |                   |                          |                |                    |                                |
| 26A          | 58-003                     | Stoneco           | 360                | 2.14               | 2.69                | 12.2                    |                   |                          |                | L                  |                                |
| 2NS          | 19-04                      | Schlegel          | 1100               | 6.60               | 2.67                | 37.2                    |                   |                          |                | Bui                | lders'                         |
|              |                            | Total Wt          | 2960               | 17.68              |                     | 100.0                   | < Verify this n   | umber is 100%            | •              |                    | DI-MIX                         |
| Sieve        | e                          | SAA               | 26                 | A                  | 2NS                 | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained |                |                    | <b>Redi-Mix</b><br>10 Mile Rd. |
| 2"           |                            | 00.0              | 100                | -                  | 100.0               | 100.0                   | 0.0               | 0.0                      |                | Suite 500          |                                |
| 1.5"         |                            | 00.0              | 100                |                    | 100.0               | 100.0                   | 0.0               | 0.0                      | 1              | Farmingto          | n Hills, MI 48336              |
| 1"           |                            | 99.8              | 100                | -                  | 100.0               | 99.9                    | 0.1               | 0.1                      | 1              |                    |                                |
| 3/4"         |                            | 33.1              | 100                | -                  | 100.0               | 91.4                    | 8.5               | 8.6                      | 1              |                    |                                |
| 1/2"         |                            | 42.7              | 99.                |                    | 100.0               | 70.9                    | 20.5              | 29.1                     |                |                    |                                |
| 3/8"         |                            | 20.7              | 87.                |                    | 100.0               | 58.3                    | 12.6              | 41.7                     |                |                    | above the 3/8" sieve.          |
| #4           |                            | 3.5               | 10.                |                    | 99.9                | 40.1                    | 18.1              | 59.9                     |                |                    | equal 10% except max.,         |
| #8<br>#16    |                            | <u>1.8</u><br>1.6 | 2.9                |                    | 90.1<br>69.4        | 34.7<br>26.9            | <u>5.4</u><br>7.9 | 65.3<br>73.1             |                | 00 and #200 sieves |                                |
| #16<br>#30   |                            | 1.4               | 2.                 |                    | 44.5                | 17.5                    | 9.4               | 82.5                     |                |                    | 6 for each sieve except        |
| #30<br>#50   |                            | 1.4               | 1.0                |                    | 14.3                | 6.2                     | 11.2              | 93.8                     |                | 00 and #200 sieves | s.<br>6 for the 3/4" sieve whe |
| #100         |                            | 1.3               | 1.0                | -                  | 2.7                 | 1.9                     | 4.4               | 98.1                     |                |                    | aggregate is used.             |
| LBW          |                            | 1.0               | 1.4                |                    | 0.2                 | 0.8                     | 1.1               | 99.2                     | a 1.0 max. 012 |                    | aggregate to acca.             |
| Production G | radation                   | O Batch Plant Gra | idations 💿 Aggr    | egate Supplier Gra | dations             | Adjusted WF             | Intial Production | on Sample (IPS           | 5)             |                    |                                |
| Coarsene     | ess Factor:                | 64                | Work               | ability Factor:    | 35                  | 37.2                    | Coars             | eness Factor:            | 63             |                    |                                |
| 45           |                            |                   |                    |                    |                     |                         | Work              | ability Factor:          | 36             |                    | _                              |
|              | 15, 44                     |                   |                    |                    | JMF Zone            |                         | Sieve             | Cumulative               | %              | Cumulative         |                                |
| -            |                            | 50.44             |                    |                    |                     |                         |                   | % Passing                | Retained       | % Retained         |                                |
| 40           |                            | 52, 41            | 57, 40             | 68, 40             |                     |                         | 2"                | 100.0                    | 0.0            | 0.0                |                                |
| ຈີ ໄ         |                            |                   |                    | 68, 38             | 75, 39              |                         | 1.5"              | 100.0                    | 0.0            | 0.0                |                                |
| Ľ            |                            |                   | !                  | Production Grac    | lation              |                         | 1"                | 99.3                     | 0.7            | 0.7                |                                |
| £            |                            |                   | ■ 60, 3 <b>6</b> 1 | PS                 |                     |                         | 3/4"              | 89.0                     | 10.3           | 11.0               |                                |
| Factor (%)   |                            |                   | ļ                  |                    |                     |                         | 1/2"<br>3/8"      | 70.3<br>59.9             | 18.7<br>10.4   | 29.7<br>40.1       |                                |
| 2            | 45, 33                     | 52, 34            |                    | 1                  |                     |                         |                   | 41.9                     | 10.4           | 58.1               |                                |
| Workability  | .0,00                      |                   | 57,22              | 68, 32             |                     |                         | #4                | 35.9                     | 6.0            | 64.1               |                                |
|              |                            | 7                 |                    | 00, 31             |                     |                         | #16               | 27.8                     | 8.2            | 72.2               |                                |
| ž            | Operating Zone<br>Boundary |                   |                    |                    | 75, 28              |                         | #30               | 18.9                     | 8.8            | 81.1               |                                |
| š [L         | boundary                   |                   |                    |                    | 10,20               |                         | #50               | 6.3                      | 12.6           | 93.7               |                                |
| 25           |                            |                   |                    |                    |                     |                         | #400              | 4.7                      |                | 00                 |                                |

75

80

#100

LBW

1.7

1.0

4.6

0.7

45

ActionLimits Boundary = - - - - -

50

**Coarseness Factor (%)**<sup>70</sup>

55

25

40

Approved By: Mart P. Ball

98.3

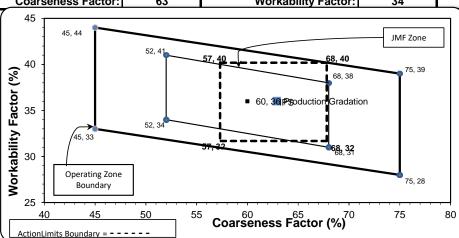
99.0

| PLANT #           | <b>#:</b>   | 12                |                 |                     |                     |                         | Contractor:       |                          |                 |                                  |
|-------------------|-------------|-------------------|-----------------|---------------------|---------------------|-------------------------|-------------------|--------------------------|-----------------|----------------------------------|
| Sample Date       | :           | 9/25/23           |                 | C                   | Concrete Grade      | DM, 4500HP              | _                 |                          |                 |                                  |
| Dates Test R      | epresents:  | 9/26/2023         | through         | 10/2/2023           |                     |                         | MDOT No.:         |                          |                 |                                  |
| Agg. Class        | Pit #       | Source            | Weight (SSD)    | ft <sup>3</sup>     | Specific<br>Gravity | %<br>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                    |                   |                          |                 | CLUDE                            |
|                   |             | Total Wt          | 2905            | 17.69               |                     | 100.0                   | < Verify this n   | umber is 100%            | -               | SUPE<br>MATE                     |
| Sieve             |             | 6AA               | 26              | A                   | 2NS                 | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained |                 | <u>Superior M</u><br>30701 W. 10 |
| 2"                | 1           | 00.0              | 100             | 0.0                 | 100.0               | 100.0                   | 0.0               | 0.0                      |                 | Suite 500                        |
| 1.5"              | 1           | 00.0              | 100             | 0.0                 | 100.0               | 100.0                   | 0.0               | 0.0                      |                 | Farmington I                     |
| 1"                |             | 97.5              | 100             | 0.0                 | 100.0               | 98.8                    | 1.2               | 1.2                      |                 |                                  |
| 3/4"              |             | 79.4              | 100             | 0.0                 | 100.0               | 89.7                    | 9.0               | 10.3                     |                 |                                  |
| 1/2"              |             | 38.3              | 93              | 3.0                 | 100.0               | 68.5                    | 21.2              | 31.5                     |                 |                                  |
| 3/8"              |             | 20.1              | 81              | .5                  | 100.0               | 58.2                    | 10.3              | 41.8                     | *Maximum %      | Retained must be al              |
| #4                |             | 2.5               | 19              | .2                  | 96.4                | 41.4                    | 16.8              | 58.6                     | *Any two adja   | cent sieves must eq              |
| #8                |             | 1.6               | 4.              | .6                  | 81.4                | 33.5                    | 7.9               | 66.5                     | nom. max., #10  | 00 and #200 sieves.              |
| #16               |             | 1.5               | 2.              | .4                  | 66.4                | 27.3                    | 6.2               | 72.7                     | *% Retained     | must be at least 4%              |
| #30               |             | 1.4               | 1.              | .9                  | 49.4                | 20.5                    | 6.8               | 79.5                     | nom. max., #10  | 00 and #200 sieves.              |
| #50               |             | 1.3               | 1.              | .8                  | 24.5                | 10.5                    | 9.9               | 89.5                     | *% Retained     | must be at least 4%              |
| #100              |             | 1.3               | 1.              | .7                  | 5.3                 | 2.9                     | 7.6               | 97.1                     | a 1.5" max. siz | e (nom. Max. 1.0") a             |
| LBW               |             | 1.0               | 1.              | .5                  | 0.6                 | 0.9                     | 2.0               | 99.1                     |                 |                                  |
| Production G      | radation    | O Batch Plant Gra | dations 💿 Agg   | regate Supplier Gra | dations             | Adjusted WF             | Intial Production | on Sample (IPS           | 5)              |                                  |
| Coarsene          | ess Factor: | 63                | Work            | ability Factor:     | 34                  | 36.0                    | Coars             | eness Factor:            | 63              |                                  |
| 45                |             |                   |                 |                     |                     | $\neg$                  | Work              | ability Factor:          | 36              |                                  |
| 4                 | 15, 44      | 50.44             |                 |                     | JMF Zone            |                         | Sieve             | Cumulative<br>% Passing  | %<br>Retained   | Cumulative<br>% Retained         |
| 40                |             | 52, 41            | 57, 40          | <u>68,</u> 40       |                     |                         | 2"                | 100.0                    | 0.0             | 0.0                              |
| (@ <sup>™</sup> ] |             |                   |                 | 68, 38              | 75, 39              |                         | 1.5"              | 100.0                    | 0.0             | 0.0                              |
| Factor (%)        |             |                   | ļ               |                     |                     |                         | 1"                | 99.3                     | 0.7             | 0.7                              |
| 9                 |             |                   | ■ 60, <b>36</b> | Psoduction Gradat   | ion                 |                         | 3/4"              | 89.0                     | 10.3            | 11.0                             |
| <b>e</b> 35       |             |                   | i               |                     |                     |                         | 1/2"              | 70.3                     | 18.7            | 29.7                             |
|                   |             | 52, 34            |                 | Ĭ                   |                     |                         | 3/8"              | 59.9                     | 10.4            | 40.1                             |
| lity              | 45, 33      |                   |                 | <b></b>             |                     |                         | #4                | 41.9                     | 18.0            | 58.1                             |



terials, LLC /ile Rd. lls, MI 48336

ve the 3/8" sieve. 10% except max., each sieve except max., the 3/4" sieve when regate is used.



| Coars | eness Factor:   | 63       |            |
|-------|-----------------|----------|------------|
| Work  | ability Factor: | 36       |            |
| Sieve | Cumulative      | %        | Cumulative |
| Sieve | % Passing       | Retained | % 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"  | 89.0            | 10.3     | 11.0       |
| 1/2"  | 70.3            | 18.7     | 29.7       |
| 3/8"  | 59.9            | 10.4     | 40.1       |
| #4    | 41.9            | 18.0     | 58.1       |
| #8    | 35.9            | 6.0      | 64.1       |
| #16   | 27.8            | 8.2      | 72.2       |
| #30   | 18.9            | 8.8      | 81.1       |
| #50   | 6.3             | 12.6     | 93.7       |
| #100  | 1.7             | 4.6      | 98.3       |
| LBW   | 1.0             | 0.7      | 99.0       |

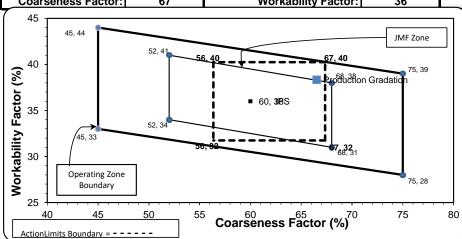
Approved By: Marthe Ball

| PLANT #          | <b>#:</b>   | p11               |                   |                   |                         |                         | Contractor:       |                          |                  |                                  |
|------------------|-------------|-------------------|-------------------|-------------------|-------------------------|-------------------------|-------------------|--------------------------|------------------|----------------------------------|
| Sample Date      | :           | 9/25/23           | -                 |                   | Concrete Grade:         | DM, 4500HP              |                   |                          |                  |                                  |
| Dates Test R     | epresents:  | 9/26/2023         | through           | 10/2/2023         |                         |                         | MDOT No.:         |                          |                  |                                  |
| Agg. Class       | Pit #       | Source            | Weight (SSD)      | ft <sup>3</sup>   | Specific<br>Gravity     | %<br>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              | 95-013      | Smelter Bay       | 1150              | 6.95              | 2.65                    | 39.6                    |                   |                          |                  | SUDER                            |
|                  |             | Total Wt          | 2905              | 17.69             |                         | 100.0                   | < Verify this n   | umber is 100%            |                  | MATERI                           |
| Sieve            |             | 6AA               | 26                | A                 | 2NS                     | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained |                  | Superior Mate<br>30701 W. 10 Mil |
| 2"               |             | 00.0              | 100               | -                 | 100.0                   | 100.0                   | 0.0               | 0.0                      |                  | Suite 500                        |
| 1.5"             | 1           | 00.0              | 100               | ).0               | 100.0                   | 100.0                   | 0.0               | 0.0                      |                  | Farmington Hills                 |
| 1"               |             | 95.1              | 100               | ).0               | 100.0                   | 97.5                    | 2.5               | 2.5                      |                  |                                  |
| 3/4"             |             | 70.8              | 100               | -                 | 100.0                   | 85.4                    | 12.2              | 14.6                     |                  |                                  |
| 1/2"             | ;           | 32.7              | 93                | .0                | 100.0                   | 65.6                    | 19.8              | 34.4                     |                  |                                  |
| 3/8"             |             | 18.6              | 81                | .5                | 100.0                   | 57.3                    | 8.2               | 42.7                     | *Maximum %       | Retained must be above           |
| #4               |             | 3.3               | 19                | .2                | 97.0                    | 42.0                    | 15.3              | 58.0                     | *Any two adja    | cent sieves must equal 10        |
| #8               |             | 2.0               | 4.                | 6                 | 86.8                    | 35.8                    | 6.2               | 64.2                     | nom. max., #10   | 0 and #200 sieves.               |
| #16              |             | 1.8               | 2.                | 4                 | 72.3                    | 29.8                    | 6.1               | 70.2                     | *% Retained r    | nust be at least 4% for ea       |
| #30              |             | 1.7               | 1.                | 9                 | 51.4                    | 21.4                    | 8.4               | 78.6                     | nom. max., #10   | 00 and #200 sieves.              |
| #50              |             | 1.6               | 1.                | 8                 | 24.3                    | 10.6                    | 10.8              | 89.4                     | *% Retained r    | nust be at least 4% for the      |
| #100             |             | 1.5               | 1.                |                   | 7.2                     | 3.8                     | 6.8               | 96.2                     | a 1.5" max. size | e (nom. Max. 1.0") aggreg        |
| LBW              |             | 1.1               | 1.                | 5                 | 1.6                     | 1.3                     | 2.4               | 98.7                     |                  |                                  |
| Production G     | radation    | O Batch Plant Gra | dations 💿 Aggr    | egate Supplier Gr | adations                | Adjusted WF             | Intial Production | on Sample (IPS           | 5)               |                                  |
| Coarsene         | ess Factor: | 67                | Work              | ability Factor    | : 36                    | 38.3                    | Coars             | eness Factor:            | 62               |                                  |
| 45               |             |                   |                   |                   |                         |                         | Work              | ability Factor:          | 36               |                                  |
| 4                | 15, 44      |                   |                   |                   | JMF Zone                |                         | Cieve             | Cumulative               | %                | Cumulative                       |
|                  |             | 52, 41            |                   |                   | JIVII 2011e             |                         | Sieve             | % Passing                | Retained         | % Retained                       |
| 40               |             | <sup>52, ¬</sup>  | 6.40              | 67, 40            |                         |                         | 2"                | 100.0                    | 0.0              | 0.0                              |
| ͡͡͡͡             |             |                   | i                 |                   | 75, 39<br>Ion Gradatich |                         | 1.5"              | 100.0                    | 0.0              | 0.0                              |
|                  |             |                   | !                 |                   | ion Gradation           |                         | 1"                | 100.0                    | 0.0              | 0.0                              |
| <b>actor (%)</b> |             |                   | ■ 60, <b>31</b> 8 | s 🍴               |                         |                         | 3/4"              | 95.0                     | 5.0              | 5.0                              |
| <b>8</b> 35      |             | 1                 | i                 |                   |                         |                         | 1/2"              | 72.3                     | 22.8             | 27.7                             |

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the 3/8" sieve. 0% except max., ach sieve except max., e 3/4" sieve when gate is used.



| Coars | eness Factor:   | 62       |            |
|-------|-----------------|----------|------------|
| Work  | ability Factor: | 36       |            |
| Sieve | Cumulative      | %        | Cumulative |
| Sleve | % Passing       | Retained | % 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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| PLANT #         | <b>#:</b>      | P-32              |                  |                                 |                     |                         | Contractor:     |                          |                 |                               |                                      |
|-----------------|----------------|-------------------|------------------|---------------------------------|---------------------|-------------------------|-----------------|--------------------------|-----------------|-------------------------------|--------------------------------------|
| Sample Date     | :              | 9/25/23           |                  | (                               | Concrete Grade      | DM, 4500HP              |                 |                          |                 |                               |                                      |
| Dates Test R    | epresents:     | 9/26/2023         | through          | 10/2/2023                       |                     |                         | MDOT No.:       |                          |                 |                               |                                      |
| Agg. Class      | Pit #          | Source            | Weight (SSD)     | ft <sup>3</sup>                 | Specific<br>Gravity | %<br>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             | 95-013         | Smelter Bay       | 1150             | 6.95                            | 2.65                | 39.6                    |                 |                          |                 | SUP                           | ERIOR                                |
|                 |                | Total Wt          | 2905             | 17.69                           |                     | 100.0                   | < Verify this n | umber is 100%            |                 |                               | RIALS                                |
| Sieve           | (              | 6AA               | 26               | A                               | 2NS                 | Cumulative<br>% Passing | % Retained      | Cumulative<br>% Retained |                 | <u>Superior</u><br>30701 W. 1 | <b>Materials, LLC</b><br>10 Mile Rd. |
| 2"              | 1              | 00.0              | 100              | 0.0                             | 100.0               | 100.0                   | 0.0             | 0.0                      |                 | Suite 500                     |                                      |
| 1.5"            |                | 00.0              | 100              | -                               | 100.0               | 100.0                   | 0.0             | 0.0                      |                 | Farmingto                     | n Hills, MI 48336                    |
| 1"              |                | 95.1              | 100              | 0.0                             | 100.0               | 97.5                    | 2.5             | 2.5                      |                 |                               |                                      |
| 3/4"            |                | 70.8              | 100              |                                 | 100.0               | 85.4                    | 12.2            | 14.6                     |                 |                               |                                      |
| 1/2"            |                | 32.7              | 93               | .0                              | 100.0               | 65.6                    | 19.8            | 34.4                     |                 |                               |                                      |
| 3/8"            |                | 18.6              | 81               |                                 | 100.0               | 57.3                    | 8.2             | 42.7                     | *Maximum %      | Retained must be              | above the 3/8" sieve.                |
| #4              |                | 3.3               | 19               |                                 | 97.0                | 42.0                    | 15.3            | 58.0                     | *Any two adja   | cent sieves must e            | qual 10% except max.,                |
| #8              |                | 2.0               | 4.               | -                               | 86.8                | 35.8                    | 6.2             | 64.2                     | nom. max., #10  | 00 and #200 sieves            |                                      |
| #16             |                | 1.8               | 2.               |                                 | 72.3                | 29.8                    | 6.1             | 70.2                     |                 |                               | for each sieve except                |
| #30             |                | 1.7               | 1.               |                                 | 51.4                | 21.4                    | 8.4             | 78.6                     | ,               | 00 and #200 sieves            |                                      |
| #50             |                | 1.6               | 1.               | -                               | 24.3                | 10.6                    | 10.8            | 89.4                     |                 |                               | for the 3/4" sieve wher              |
| #100<br>LBW     |                | <u>1.5</u><br>1.1 | 1.               |                                 | 7.2                 | 3.8<br>1.3              | 6.8<br>2.4      | 96.2<br>98.7             | a 1.5" max. sız | e (nom. Max. 1.0")            | aggregate is used.                   |
| Production G    |                | Batch Plant Gra   |                  | egate Supplier Gra              | -                   | -                       |                 | on Sample (IPS           | <b>.</b><br>5)  |                               |                                      |
|                 | ess Factor:    | 67                | Work             | ability Factor:                 | 36                  | 38.3                    |                 | eness Factor:            | 62              |                               |                                      |
|                 |                | 0.                |                  |                                 |                     |                         |                 | ability Factor:          | 36              |                               |                                      |
| <sup>45</sup> ] |                |                   |                  |                                 |                     |                         |                 | Cumulative               | %               | Cumulative                    |                                      |
| - 4             | 15, 44         |                   |                  |                                 | JMF Zone            |                         | Sieve           | % Passing                | Retained        | % Retained                    |                                      |
|                 |                | 52, 41            | 5. 40 V          | 67.40                           |                     |                         | 2"              | 100.0                    | 0.0             | 0.0                           |                                      |
|                 |                |                   |                  |                                 | 75, 39              |                         | 1.5"            | 100.0                    | 0.0             | 0.0                           |                                      |
| 8 I             |                |                   |                  |                                 | on Gradation        |                         | 1"              | 100.0                    | 0.0             | 0.0                           |                                      |
| Factor (%)      |                |                   | ■ 60, <b>3</b> 8 |                                 |                     |                         | 3/4"            | 95.0                     | 5.0             | 5.0                           |                                      |
| <b>3</b> 5      |                |                   |                  | · !                             |                     |                         | 1/2"            | 72.3                     | 22.8            | 27.7                          |                                      |
|                 |                | 52, 34            | -i               | <b>i</b>                        |                     |                         | 3/8"            | 60.4                     | 11.8            | 39.6                          |                                      |
| Ē               | 45, 33         |                   |                  |                                 |                     |                         | #4              | 42.6                     | 17.8            | 57.4                          |                                      |
| Workability     |                |                   | , 55             | <b>67, 32</b><br>68, 31         |                     |                         | #8              | 36.0                     | 6.6             | 64.0                          |                                      |
| ž               | Operating Zone |                   |                  |                                 |                     |                         | #16             | 29.5                     | 6.5             | 70.5<br>79.7                  |                                      |
| § L             | Boundary       |                   |                  |                                 | 75, 28              |                         | #30<br>#50      | 20.3<br>9.5              | 9.2<br>10.8     | 79.7<br>90.5                  |                                      |
| > <sub>25</sub> |                |                   |                  |                                 |                     |                         | #50<br>#100     | 9.5<br>3.4               | 6.1             | 90.5<br>96.6                  |                                      |
| 40              | 45             | 50 55             | 60               | <b>Factor (%)</b> <sup>70</sup> | 75                  | 80                      | LBW             | 1.3                      | 2.1             | 98.7                          |                                      |
|                 |                |                   | Coarseness       | Factor (%)                      |                     |                         |                 | 1.0                      | <u> </u>        | 00.1                          |                                      |

Approved By:

|  |                          | 9/25/23           |   |                              | Concrete Grade      |                         | Contractor:   |  |   |  |  |
|--|--------------------------|-------------------|---|------------------------------|---------------------|-------------------------|---|--|---|--|--|
| Sample Date<br>Dates Test F  |                          | 9/26/2023         | through   | 10/2/2023                    | Concrete Grade      | DW, 430011F             | MDOT No.:   |  |   |  |  |
| Agg. Class   | 1                        | Source            | Weight (SSD)  | ft <sup>3</sup>              | Specific<br>Gravity | %<br>Contribution       | MECTING.  |  |   |  |  |
| 6AA  | 58-003                   | Stoneco           | 1500  | 8.94                         | 2.69                | 50.8                    |   |  |   |  |  |
| 26A  | 58-003                   | Stoneco           | 300   | 1.79                         | 2.69                | 10.2                    |   |  |   |  |  |
| 2NS  | 81-019                   | Pleasant Lake     | 1150  | 6.95                         | 2.65                | 39.0                    |   |  |   | CUD  |  |
|  |                          | Total Wt          | 2950  | 17.68                        |                     | 100.0                   | < Verify this n   | umber is 100%  | _   | SUP<br>MATE  |  |
| Sieve 6AA  |                          |                   | 26  | A                            | 2NS                 | Cumulative<br>% Passing | % Retained  | Cumulative<br>% Retained   |   | <u>Superior I</u><br>30701 W. 1  |  |
| 2"   |                          | 100.0             | 100.0   |                              | 100.0               | 100.0                   | 0.0   | 0.0  |   | Suite 500  |  |
| 1.5"   | 1                        | 100.0             | 100   | 0.0                          | 100.0               | 100.0                   | 0.0   | 0.0  |   | Farmingtor   |  |
| 1"   |                          | 99.8              | 100   | ).0                          | 100.0               | 99.9                    | 0.1   | 0.1  |   |  |  |
| 3/4"   |                          | 83.1              | 100.0   |                              | 100.0<br>100.0      | 91.4                    | 8.5   | 8.6  |   |  |  |
| 1/2"   |                          | 42.7              | 99  | 99.4                         |                     | 70.8                    | 20.6  | 29.2   |   |  |  |
| 3/8"   |                          | 20.7              | 87  | .3                           | 100.0               | 58.4                    | 12.4  | 41.6   | *Maximum %  | Retained must be a   |  |
| #4   |                          | 3.5               | 10  | .1                           | 97.5                | 40.8                    | 17.6  | 59.2   | *Any two adjacent sieves mus  |  |  |
| #8   |                          | 1.8               | 2.  |                              | 81.8                | 33.1                    | 7.7   | 66.9   | nom. max., #10  | 0 and #200 sieves.   |  |
| #16  |                          | 1.6               | 2.  | 1                            | 64.4                | 26.1                    | 7.0   | 73.9   | *% Retained r   | nust be at least 4%  |  |
| #30  |                          | 1.4               | 1.  | 8                            | 45.6                | 18.7                    | 7.5   | 81.3   | nom. max., #100 and #200 siev   |  |  |
| #50  |                          | 1.4               | 1.  |                              | 22.5                | 9.6                     | 9.0   | 90.4   | *% Retained must be at least  |  |  |
| #100   |                          | 1.3               | 1.  |                              | 6.3                 | 3.3                     | 6.4   | 96.7   | a 1.5" max. siz   | e (nom. Max. 1.0") a   |  |
| LBW  | Ĺ                        | 1.0               | 1.  | 4                            | 1.1                 | 1.1                     | 2.2   | 98.9   |   |  |  |
| Production C   |                          | O Batch Plant Gra | 0.00  | egate Supplier Gra           |                     |                         |   | on Sample (IPS   |   | 1  |  |
| Coarsen  | ess Factor:              | 62                | Work  | ability Factor:              | : 33                | 35.6                    |   | eness Factor:  | 61  |  |  |
| 45   |                          |                   |   |                              |                     |                         | Work  | ability Factor:  | 36  |  |  |
|  | 45, 44                   |                   |   |                              | JMF Zone            |                         | Sieve   | Cumulative<br>% Passing  | %<br>Retained   | Cumulative<br>% Retained   |  |
| 1  |                          | 52, 41            |   |                              |                     |                         | 0"  | 100.0  | 0.0   | 0.0  |  |
|  |                          |                   | -40 🔻   | 67 40                        |                     |                         | 2"  | 100.0  |   |  |  |
| و <sup>40</sup>  |                          | 56,               | 40  | 67,40                        | 75, 39              |                         | 1.5"  | 100.0  | 0.0   | 0.0  |  |
| (%) <sup>40</sup>  |                          | 56,               | <del>10</del>   | 68, 38                       | 75, 39              |                         | 1.5"<br>1"  | 100.0<br>99.3  | 0.0<br>0.7  | 0.0<br>0.7   |  |
| tor (%)  |                          | 56,               | <b>40</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b> |                              | T I                 |                         | 1.5"<br>1"<br>3/4"  | 100.0<br>99.3<br>89.1  | 0.0<br>0.7<br>10.2  | 0.0<br>0.7<br>10.9   |  |
| actor (%)  |                          | 56,               | <b>40</b><br>■ 60<br>■ 60   | 68, 38<br>roduction Gradatic | T I                 |                         | 1.5"<br>1"<br>3/4"<br>1/2"  | 100.0<br>99.3<br>89.1<br>70.5  | 0.0<br>0.7<br>10.2<br>18.6  | 0.0<br>0.7<br>10.9<br>29.5   |  |
| <pre> Factor (%) Factor (%)</pre> | $\rightarrow$            | 52, 34            |   |                              | T I                 |                         | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"                                  | 100.0<br>99.3<br>89.1<br>70.5<br>60.5  | 0.0<br>0.7<br>10.2<br>18.6<br>10.0                                      | 0.0<br>0.7<br>10.9<br>29.5<br>39.5   |  |
| lity Factor (%)  | 45, 33                   |                   |   |                              | T I                 |                         | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"<br>#4                            | 100.0<br>99.3<br>89.1<br>70.5<br>60.5<br>44.1                                | 0.0<br>0.7<br>10.2<br>18.6<br>10.0<br>16.4                              | 0.0<br>0.7<br>10.9<br>29.5<br>39.5<br>55.9                                 |  |
| bility Factor (%)  | 45, 33                   | 52, 34<br>56,     |   |                              | n                   |                         | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8                      | 100.0<br>99.3<br>89.1<br>70.5<br>60.5<br>44.1<br>35.6                        | 0.0<br>0.7<br>10.2<br>18.6<br>10.0<br>16.4<br>8.5                       | 0.0<br>0.7<br>10.9<br>29.5<br>39.5<br>55.9<br>64.4                         |  |
| kability Factor (%)  | 45, 33<br>Operating Zone | 56,               |   | roduction Gradatic           | n                   |                         | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8<br>#16               | 100.0<br>99.3<br>89.1<br>70.5<br>60.5<br>44.1<br>35.6<br>27.7                | 0.0<br>0.7<br>10.2<br>18.6<br>10.0<br>16.4<br>8.5<br>7.9                | 0.0<br>0.7<br>10.9<br>29.5<br>39.5<br>55.9<br>64.4<br>72.3                 |  |
| (or kability Factor (%)  |                          | 56,               |   | roduction Gradatic           | n                   |                         | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8<br>#16<br>#30        | 100.0<br>99.3<br>89.1<br>70.5<br>60.5<br>44.1<br>35.6<br>27.7<br>20.6        | 0.0<br>0.7<br>10.2<br>18.6<br>10.0<br>16.4<br>8.5<br>7.9<br>7.1         | 0.0<br>0.7<br>10.9<br>29.5<br>39.5<br>55.9<br>64.4<br>72.3<br>79.4         |  |
| Workability Factor (%)   | Operating Zone           | 56,               |   | roduction Gradatic           | n                   |                         | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8<br>#16<br>#30<br>#50 | 100.0<br>99.3<br>89.1<br>70.5<br>60.5<br>44.1<br>35.6<br>27.7<br>20.6<br>8.7 | 0.0<br>0.7<br>10.2<br>18.6<br>10.0<br>16.4<br>8.5<br>7.9<br>7.1<br>11.8 | 0.0<br>0.7<br>10.9<br>29.5<br>39.5<br>55.9<br>64.4<br>72.3<br>79.4<br>91.3 |  |
| 40<br>35<br>25<br>40   | Operating Zone           | 56,               | 31  | roduction Gradatic           | on<br>75, 28        | 80                      | 1.5"<br>1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8<br>#16<br>#30        | 100.0<br>99.3<br>89.1<br>70.5<br>60.5<br>44.1<br>35.6<br>27.7<br>20.6        | 0.0<br>0.7<br>10.2<br>18.6<br>10.0<br>16.4<br>8.5<br>7.9<br>7.1         | 0.0<br>0.7<br>10.9<br>29.5<br>39.5<br>55.9<br>64.4<br>72.3<br>79.4         |  |

IOR ALS

rials, LLC e Rd. MI 48336

he 3/8" sieve. % except max., ch sieve except max., e 3/4" sieve when ate is used.

SM, LLC Technical Service

ActionLimits Boundary = - - - - -

PREPARED BY:

Approved By:

| PLANT #            | #:             | P-36            |                                 |   |                         |                                     | Contractor:  |  |   |  |                    |
|--------------------|----------------|-----------------|---------------------------------|---|-------------------------|-------------------------------------|--|--|---|--|--------------------|
| Sample Date        | ):             | 9/25/23         | •                               | (                                       | Concrete Grade:         | DM, 4500HP                          |  |  |   |  |                    |
| Dates Test R       | epresents:     | 9/26/2023       | through                         | 10/2/2023                               | -                       |                                     | MDOT No.:  |  |   |  |                    |
| Agg. Class         | Pit #          | Source          | Weight (SSD)                    | ft <sup>3</sup>                         | Specific<br>Gravity     | %<br>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                | 63-92          | Grange Hall     | 1150                            | 6.95                                    | 2.65                    | 39.6                                |  |  |   | SUP  | ERIOR              |
|                    |                | Total Wt        | 2905                            | 17.69                                   |                         | 100.0                               | < Verify this n                                      | umber is 100%  |   | MATE   | RIALS              |
| Sieve 6AA          |                | 26A             |                                 | 2NS                                     | Cumulative<br>% Passing | % Retained Cumulative<br>% Retained |  | Superior Materials, LLC<br>30701 W. 10 Mile Rd.              |   |  |                    |
| 2"                 | 1              | 00.0            | 10                              | 0.0                                     | 100.0                   | 100.0                               | 0.0  | 0.0  |   | Suite 500  |                    |
| 1.5"               |                | 00.0            | 10                              |   | 100.0                   | 100.0                               | 0.0  | 0.0  |   | Farmingto  | n Hills, MI 48336  |
| 1"                 |                | 97.5            | 10                              |   | 100.0                   | 98.8                                | 1.2  | 1.2  |   |  |                    |
| 3/4"               |                | 79.4            | 10                              | 0.0                                     | 100.0                   | 89.7                                | 9.0  | 10.3   |   |  |                    |
| 1/2"               |                | 38.3            | 93                              |   | 100.0                   | 68.5                                | 21.2   | 31.5   |   |  |                    |
| 3/8"               |                | 20.1            | 81.5                            |   | 100.0                   | 58.2                                | 10.3   | 41.8   | *Maximum % Retained must be above the 3/8" sieve  |  |                    |
| #4                 |                | 2.5             | 19.2                            |   | 97.3                    | 41.8                                | 16.4   | 58.2   | *Any two adjacent sieves must equal 10% except m  |  |                    |
| #8                 |                | 1.6             | 4.6                             |   | 82.8                    | 34.1                                | 7.7  | 65.9   | nom. max., #100 and #200 sieves.  |  |                    |
| #16                |                | 1.5             | 2.4                             |   | 68.0                    | 27.9                                | 6.1  | 72.1   | *% Retained must be at least 4% for each sieve exce                                       |  |                    |
| #30<br>#50         |                | 1.4<br>1.3      | 1.9<br>1.8                      |   | 49.6<br>20.2            | 20.5<br>8.8                         | 7.4<br>11.7  | 79.5<br>91.2   | nom. max., #100 and #200 sieves.<br>*% Retained must be at least 4% for the 3/4" sieve wi |  |                    |
| #30                |                | 1.3             | 1.8                             |   | 2.7                     | 1.9                                 | 6.9  | 91.2   | a 1.5" max. size (nom. Max. 1.0") aggregate is used.                                      |  |                    |
| LBW                |                | 1.0             | 1                               |   | 0.1                     | 0.7                                 | 1.2  | 99.3   | a 1.5 111ax. Siz  |  | ayyreyale is useu. |
| Production G       | radation       | Batch Plant Gra | dations 💿 Agg                   | regate Supplier Gra                     | adations                | Adjusted WF                         | Intial Production                                    | on Sample (IPS   | <b>6</b> )  |  |                    |
| Coarsene           | ess Factor:    | 63              | Work                            | ability Factor:                         | 34                      | 36.6                                | Coars  | eness Factor:  | 63  |  |                    |
|                    |                |                 |                                 | -                                       |                         |                                     | Work   | ability Factor:  | 35  |  |                    |
| 45                 | -              |                 |                                 |   | JMF Zone                |                                     | 0:   | Cumulative   | %   | Cumulative   |                    |
| - 4                | 45, 44         |                 |                                 |   | JIVIF ZOILE             |                                     | Sieve  | % Passing  | Retained  | % Retained   |                    |
| 1                  |                | 52, 41          |                                 |   |                         |                                     | 2"   | 100.0  | 0.0   | 0.0  |                    |
| . 1                |                |                 |                                 |   |                         |                                     |  |  | 0.0   | ~ ~  |                    |
| ्र <sup>40</sup>   |                |                 | 58, 39                          | <b>68, 99</b>                           | 75, 39                  |                                     | 1.5"   | 100.0  |   | 0.0  |                    |
| (%) <sup>40</sup>  |                |                 | 58, 39                          | <b>68, 38</b>                           |                         |                                     | 1"   | 99.1   | 0.9   | 0.9  |                    |
| tor (%)            |                |                 | 58, <u>39</u><br>60, 36         | Production Grad                         |                         |                                     | 1"<br>3/4"   | 99.1<br>90.3   | 0.9<br>8.8  | 0.9<br>9.7   |                    |
| actor (%)          | 4              |                 | 58, <u>39</u><br>60, 36         | • |                         |                                     | 1"<br>3/4"<br>1/2"                                   | 99.1<br>90.3<br>69.2   | 0.9<br>8.8<br>21.1  | 0.9<br>9.7<br>30.8   |                    |
| Factor (%)         |                | 52, 34          | <b>58, 39</b><br><b>6</b> 0, 36 | Production Grad                         |                         |                                     | 1"<br>3/4"<br>1/2"<br>3/8"                           | 99.1<br>90.3<br>69.2<br>59.1                                 | 0.9<br>8.8<br>21.1<br>10.1  | 0.9<br>9.7<br>30.8<br>40.9                                 |                    |
| Factor (%)         | 45, 33         | 52, 34          |                                 | Production Grad                         | ation                   |                                     | 1"<br>3/4"<br>1/2"<br>3/8"<br>#4                     | 99.1<br>90.3<br>69.2<br>59.1<br>41.8                         | 0.9<br>8.8<br>21.1<br>10.1<br>17.3  | 0.9<br>9.7<br>30.8<br>40.9<br>58.2                         |                    |
| Factor (%)         |                |                 | 58, 39<br>60, 36<br>58, 31      | Production Grad                         | ation                   |                                     | 1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8               | 99.1<br>90.3<br>69.2<br>59.1<br>41.8<br>35.1                 | 0.9<br>8.8<br>21.1<br>10.1<br>17.3<br>6.6   | 0.9<br>9.7<br>30.8<br>40.9<br>58.2<br>64.9                 |                    |
| Factor (%)         | Operating Zone |                 |                                 | Production Grad                         | ation                   |                                     | 1"<br>3/4"<br>1/2"<br>3/8"<br>#4                     | 99.1<br>90.3<br>69.2<br>59.1<br>41.8                         | 0.9<br>8.8<br>21.1<br>10.1<br>17.3  | 0.9<br>9.7<br>30.8<br>40.9<br>58.2                         |                    |
| Factor (%)         |                |                 |                                 | Production Grad                         | ation                   |                                     | 1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8<br>#16        | 99.1<br>90.3<br>69.2<br>59.1<br>41.8<br>35.1<br>28.5         | 0.9<br>8.8<br>21.1<br>10.1<br>17.3<br>6.6<br>6.6  | 0.9<br>9.7<br>30.8<br>40.9<br>58.2<br>64.9<br>71.5         |                    |
| ability Factor (%) | Operating Zone |                 | 58, 31                          | Production Grad                         | ation<br>1<br>75, 28    | 80                                  | 1"<br>3/4"<br>1/2"<br>3/8"<br>#4<br>#8<br>#16<br>#30 | 99.1<br>90.3<br>69.2<br>59.1<br>41.8<br>35.1<br>28.5<br>21.2 | 0.9<br>8.8<br>21.1<br>10.1<br>17.3<br>6.6<br>6.6<br>7.3                                   | 0.9<br>9.7<br>30.8<br>40.9<br>58.2<br>64.9<br>71.5<br>78.8 |                    |

Approved By:

| PLANT :                | #:             | P-38            |                     |                          |                         |                   | Contractor:              |                     |  |                    |                    |  |
|------------------------|----------------|-----------------|---------------------|--------------------------|-------------------------|-------------------|--------------------------|---------------------|--|--------------------|--------------------|--|
| Sample Date            | 9:             | 9/25/23         | -                   | C                        | Concrete Grade:         | DM, 4500HP        |                          |                     |  |                    |                    |  |
| Dates Test R           |                | 9/26/2023       | through             | 10/2/2023                |                         |                   | MDOT No.:                |                     |  |                    |                    |  |
| Agg. Class             | Pit #          | Source          | Weight (SSD)        | ft <sup>3</sup>          | Specific<br>Gravity     | %<br>Contribution |                          |                     |  |                    |                    |  |
| 6AA                    | 58-003         | Stoneco         | 1500                | 8.94                     | 2.69                    | 50.8              |                          |                     |  |                    |                    |  |
| 26A                    | 58-003         | Stoneco         | 300                 | 1.79                     | 2.69                    | 10.2              |                          |                     |  |                    |                    |  |
|                        |                | Pleasant Lake   |                     |                          | 2.65                    | 39.0              |                          |                     |  | SUP                | ERIOR              |  |
|                        |                | Total Wt        | 2950                | 17.68                    |                         | 100.0             | < Verify this n          | umber is 100%       |  |                    | RIALS              |  |
| Sieve 6AA              |                | 26A             |                     | 2NS                      | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained | Superior Materials, |  |                    |                    |  |
| 2"                     | 1              | 00.0            | 100                 | ).0                      | 100.0                   | 100.0             | 0.0                      | 0.0                 |  | Suite 500          |                    |  |
| 1.5"                   | 1              | 00.0            | 100                 | ).0                      | 100.0                   | 100.0             | 0.0                      | 0.0                 |  | Farmingto          | n Hills, MI 48336  |  |
| 1"                     |                | 99.8            | 100                 |                          | 100.0                   | 99.9              | 0.1                      | 0.1                 |  |                    |                    |  |
| 3/4"                   |                | 83.1            | 100                 |                          | 100.0                   | 91.4              | 8.5                      | 8.6                 |  |                    |                    |  |
| 1/2"                   |                | 42.7            | 99                  |                          | 100.0                   | 70.8              | 20.6                     | 29.2                |  |                    |                    |  |
| 3/8"                   |                | 20.7            | 87.3                |                          | 100.0                   | 58.4              | 12.4                     | 41.6                | *Maximum % Retained must be above the 3/8" sieve   |                    |                    |  |
| #4                     |                | 3.5             | 10.1                |                          | 97.5                    | 40.8              | 17.6                     | 59.2                | *Any two adjacent sieves must equal 10% except m   |                    |                    |  |
| #8                     |                | 1.8             | 2.9                 |                          | 81.8                    | 33.1              | 7.7                      | 66.9                | nom. max., #100 and #200 sieves.   |                    |                    |  |
| #16                    |                | 1.6             | 2.1                 |                          | 64.4                    | 26.1              | 7.0                      | 73.9                | *% Retained must be at least 4% for each sieve exce  |                    |                    |  |
| #30                    |                | 1.4             | 1.8<br>1.6          |                          | 45.6                    | 18.7<br>9.6       | 7.5                      | 81.3<br>90.4        | nom. max., #100 and #200 sieves.   |                    |                    |  |
| #50<br>#100            |                | 1.4<br>1.3      | 1.6                 |                          | 22.5<br>6.3             | 9.6<br>3.3        | 9.0<br>6.4               | 90.4<br>96.7        | *% Retained must be at least 4% for the 3/4" sieve will a 1.5" max. size (nom. Max. 1.0") aggregate is used. |                    |                    |  |
| LBW                    |                | 1.0             | 1.6                 |                          | 0.3                     | 3.3<br>1.1        | 2.2                      | 98.9                | a 1.5° max. siz  | e (nom. Max. 1.0") | aggregate is used. |  |
| Production G           | Fradation      | Batch Plant Gra |                     | regate Supplier Gra      |                         |                   |                          | on Sample (IPS      | 3)   |                    |                    |  |
|                        | ess Factor:    | 62              | -                   | ability Factor:          | 33                      | 35.6              |                          | eness Factor:       | ,)<br>61   |                    |                    |  |
|                        |                |                 |                     | using ration             |                         |                   |                          | ability Factor:     | 36   |                    |                    |  |
| 45                     |                |                 |                     |                          | <u> </u>                |                   |                          | Cumulative          | %  | Cumulative         |                    |  |
|                        | 45, 44         |                 |                     |                          | JMF Zone                |                   | Sieve                    | % Passing           | Retained   | % Retained         |                    |  |
| 1                      |                | 52, 41          | $ \longrightarrow $ |                          |                         |                   | 2"                       | 100.0               | 0.0  | 0.0                |                    |  |
|                        |                | 56,             |                     |                          | 75, 39                  |                   | 1.5"                     | 100.0               | 0.0  | 0.0                |                    |  |
| ڪ ا                    |                |                 |                     | 68, 38                   | Ť                       |                   | 1"                       | 99.3                | 0.7  | 0.7                |                    |  |
| <u>ס</u>               |                |                 | ■ 60-26             |                          |                         |                   | 3/4"                     | 89.1                | 10.2   | 10.9               |                    |  |
| <b>5</b> 35            |                | I               |                     | roduction Gradatio       | n                       |                   | 1/2"                     | 70.5                | 18.6   | 29.5               |                    |  |
| Щ I                    |                | 52, 34          | +                   |                          |                         |                   | 3/8"                     | 60.5                | 10.0   | 39.5               |                    |  |
| lity                   | 45, 33         |                 | 1                   | i                        |                         |                   | #4                       | 44.1                | 16.4   | 55.9               |                    |  |
| Workability Factor (%) |                | 56,             | 31                  | <b>67, 8</b> 8, 31       |                         |                   | #8                       | 35.6                | 8.5  | 64.4               |                    |  |
| ž                      | Operating Zone | ·               |                     |                          |                         |                   | #16<br>#30               | 27.7<br>20.6        | 7.9<br>7.1   | 72.3<br>79.4       |                    |  |
| ₽   L                  | Boundary       |                 |                     |                          | 75, 28                  |                   | #30<br>#50               | 20.6                | 11.8   | 79.4<br>91.3       |                    |  |
| <b>&gt;</b> 25         |                |                 |                     |                          |                         |                   | #50<br>#100              | 8.7<br>1.6          | 7.1  | 91.3               |                    |  |
|                        |                | E0 E1           |                     | 05 70                    | 75                      | 80                |                          |                     |  |                    |                    |  |
| 40                     | 45             | 50 55           | 5 60                | Factor (%) <sup>70</sup> | 75                      | 00                | LBW                      | 1.1                 | 0.6  | 98.9               |                    |  |

Approved By: Mart P. Ball

| PLANT #                | #:             | P-39            |                   |                     |                         |                   | Contractor:                               |                     |  |                    |                    |
|------------------------|----------------|-----------------|-------------------|---------------------|-------------------------|-------------------|---|---------------------|--|--------------------|--------------------|
| Sample Date            | :              | 9/25/23         |                   | (                   | Concrete Grade          | DM, 4500HP        |   |                     |  | -                  |                    |
| Dates Test R           | epresents:     | 9/26/2023       | through           | 10/2/2023           |                         |                   | MDOT No.:                                 |                     |  |                    |                    |
| Agg. Class             | Pit #          | Source          | Weight (SSD)      | ft <sup>3</sup>     | Specific<br>Gravity     | %<br>Contribution |   |                     |  |                    |                    |
| 6AA                    | 71-47          | Presque Isle    | 1805              | 11.04               | 2.62                    | 62.1              |   |                     |  |                    |                    |
| 26A                    | 71-47          | Presque Isle    | 0                 | 0.00                | 2.62                    | 0.0               |   |                     |  |                    |                    |
| 2NS                    | 44-051         | Krake Willis Rd |                   | 6.65                | 2.65                    | 37.9              |   |                     |  | SUP                | ERIOR              |
|                        |                | Total Wt        | 2905              | 17.69               |                         | 100.0             | < Verify this n                           | umber is 100%       | 1  |                    | RIALS              |
| Sieve 6AA              |                | 26A             |                   | 2NS                 | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained                  | Superiorivialeriais |  |                    |                    |
| 2"                     |                | 100.0           | 10                | 0.0                 | 100.0                   | 100.0             | 0.0                                       | 0.0                 |  | Suite 500          |                    |
| 1.5"                   |                | 100.0           | 10                | 0.0                 | 100.0                   | 100.0             | 0.0                                       | 0.0                 |  | Farmingto          | n Hills, MI 48336  |
| 1"                     |                | 100.0           | 10                | 0.0                 | 100.0                   | 100.0             | 0.0                                       | 0.0                 |  |                    |                    |
| 3/4"                   |                | 91.1            | 10                |                     | 100.0                   | 94.5              | 5.5                                       | 5.5                 | 1  |                    |                    |
| 1/2"                   |                | 54.7            | 97                | -                   | 100.0                   | 71.9              | 22.6                                      | 28.1                |  |                    |                    |
| 3/8"                   |                | 34.7            | 88.7              |                     | 100.0                   | 59.4              | 12.4                                      | 40.6                | *Maximum % Retained must be above the 3/8" siev  |                    |                    |
| #4                     |                | 5.5             | 22.6              |                     | 98.9                    | 40.9              | 18.6                                      | 59.1                | *Any two adjacent sieves must equal 10% except m   |                    |                    |
| #8                     |                | 2.6             | 4.9               |                     | 84.6                    | 33.6              | 7.2                                       | 66.4                | nom. max., #100 and #200 sieves.   |                    |                    |
| #16                    |                | 2.4             | 2.2               |                     | 68.9                    | 27.6              | 6.1                                       | 72.4                | *% Retained must be at least 4% for each sieve exc                                       |                    |                    |
| #30<br>#50             |                | 2.3             | <u>1.8</u><br>1.6 |                     | 49.7                    | 20.2              | 7.3<br>9.9                                | 79.8<br>89.6        | nom. max., #100 and #200 sieves.<br>*% Retained must be at least 4% for the 3/4" sieve w |                    |                    |
| #50<br>#100            |                | 2.2             | 1.5               |                     | 23.8<br>6.5             | 3.8               | <u>9.9</u><br>6.6                         | 89.6<br>96.2        | a 1.5" max. size (nom. Max. 1.0") aggregate is used.                                     |                    |                    |
| LBW                    |                | 1.8             | 1.5               |                     | 1.6                     | 3.0<br>1.7        |   | 2.0 98.3            |  | e (nom. Max. 1.0") | aggregate is used. |
| Production G           | radation       | Batch Plant Gra |                   | regate Supplier Gra | _                       | Adjusted WF       |   | on Sample (IPS      | <b>(</b> )   |                    |                    |
|                        | ess Factor:    | 61              | Work              | ability Factor:     | 34                      | 36.1              | Coarseness Factor:<br>Workability Factor: |                     | 63   |                    |                    |
|                        |                | 01              |                   |                     |                         |                   |   |                     | 36   |                    |                    |
| <sup>45</sup> ]        |                |                 |                   |                     |                         |                   |   | Cumulative          | %  | Cumulative         |                    |
| _ 4                    | 15, 44         |                 |                   |                     | JMF Zone                |                   | Sieve                                     | % Passing           | Retained   | % Retained         |                    |
| 1                      |                | 52, 41          |                   |                     |                         |                   | 2"  | 100.0               | 0.0  | 0.0                |                    |
| <b>a</b> <sup>40</sup> |                |                 |                   | 00, 40              | 75, 39                  |                   | 1.5"                                      | 100.0               | 0.0  | 0.0                |                    |
| ల్                     |                |                 |                   | 68, 38              |                         |                   | 1"  | 100.0               | 0.0  | 0.0                |                    |
| ō                      |                |                 |                   | duction Gradition   |                         |                   | 3/4"                                      | 89.7                | 10.3   | 10.3               |                    |
| <b>5</b> 35            |                |                 |                   | IPS Clark           |                         |                   | 1/2"                                      | 70.3                | 19.4   | 29.7               |                    |
| ш́ į                   |                | 52, 34          |                   |                     |                         |                   | 3/8"                                      | 59.1                | 11.2   | 40.9               |                    |
| lity                   | 45, 33         |                 |                   |                     |                         |                   | #4  | 42.8                | 16.3   | 57.2               |                    |
| Workability Factor (%) |                | _               | 50, 22            | 68,83               | 32                      |                   | #8  | 35.5                | 7.3  | 64.5               |                    |
| <u>8</u>               | Operating Zone | 2               |                   |                     |                         |                   | #16                                       | 29.0                | 6.5  | 71.0               |                    |
| § ]                    | Boundary       |                 |                   |                     | 75, 28                  |                   | #30                                       | 21.2                | 7.7  | 78.8               |                    |
| <b>&gt;</b> 25         |                |                 |                   |                     | <u></u>                 |                   | #50<br>#100                               | 9.8<br>3.7          | 11.5   | 90.2<br>96.3       |                    |
| 40                     | 45             | 50 55           | 60                | <b>Factor (%)</b>   | 75                      | 80                | LBW                                       | 3.7                 | 6.1<br>2.5   | 96.3<br>98.8       |                    |
| 40                     |                |                 |                   |                     |                         |                   |   |                     |  |                    |                    |

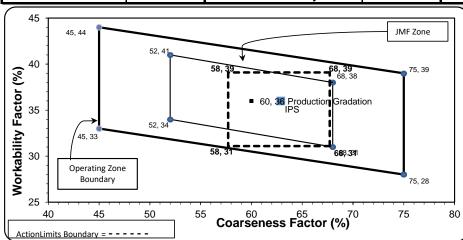
Approved By: Mart P. Ball

| PLANT #                    | #:            | P-02                | _                       |                              |                |                         | Contractor:       |                          |                 |                                   |
|----------------------------|---------------|---------------------|-------------------------|------------------------------|----------------|-------------------------|-------------------|--------------------------|-----------------|-----------------------------------|
| Sample Date                |               | 9/25/23             |                         |                              | Concrete Grade | e: DM, 4500HP           | ·                 |                          |                 |                                   |
| Dates Test R<br>Agg. Class | Pit #         | 9/26/2023<br>Source | through<br>Weight (SSD) | 10/2/2023<br>ft <sup>3</sup> | Specific       | %                       | MDOT No.:         |                          |                 |                                   |
|                            |               |                     | <b>U</b>                |                              | 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                    |                   |                          |                 | SUPE                              |
|                            |               | Total Wt            | 2905                    | 17.69                        |                | 100.0                   | < Verify this n   | umber is 100%            | 1               | MATEI                             |
| Sieve                      |               | 6AA                 | 26                      | A                            | 2NS            | Cumulative<br>% Passing | % Retained        | Cumulative<br>% Retained |                 | <u>Superior Ma</u><br>30701 W. 10 |
| 2"                         | 1             | 100.0               | 100                     | ).0                          | 100.0          | 100.0                   | 0.0               | 0.0                      |                 | Suite 500                         |
| 1.5"                       | 1             | 100.0               | 100                     | ).0                          | 100.0          | 100.0                   | 0.0               | 0.0                      |                 | Farmington H                      |
| 1"                         |               | 97.5                | 100                     | ).0                          | 100.0          | 98.8                    | 1.2               | 1.2                      |                 |                                   |
| 3/4"                       |               | 79.4                | 100                     | ).0                          | 100.0          | 89.7                    | 9.0               | 10.3                     |                 |                                   |
| 1/2"                       |               | 38.3                | 93                      | .0                           | 100.0          | 68.5                    | 21.2              | 31.5                     |                 |                                   |
| 3/8"                       |               | 20.1                | 81                      | .5                           | 100.0          | 58.2                    | 10.3              | 41.8                     | *Maximum %      | Retained must be abo              |
| #4                         |               | 2.5                 | 19                      | .2                           | 96.4           | 41.4                    | 16.8              | 58.6                     | *Any two adja   | cent sieves must equa             |
| #8                         |               | 1.6                 | 4.                      | 6                            | 81.4           | 33.5                    | 7.9               | 66.5                     | nom. max., #10  | 00 and #200 sieves.               |
| #16                        |               | 1.5                 | 2.                      | 4                            | 66.4           | 27.3                    | 6.2               | 72.7                     | *% Retained r   | must be at least 4% fo            |
| #30                        |               | 1.4                 | 1.                      | 9                            | 49.4           | 20.5                    | 6.8               | 79.5                     | nom. max., #10  | 00 and #200 sieves.               |
| #50                        |               | 1.3                 | 1.                      | 8                            | 24.5           | 10.5                    | 9.9               | 89.5                     | *% Retained r   | must be at least 4% fo            |
| #100                       |               | 1.3                 | 1.                      | 7                            | 5.3            | 2.9                     | 7.6               | 97.1                     | a 1.5" max. siz | e (nom. Max. 1.0") ag             |
| LBW                        |               | 1.0                 | 1.                      | 5                            | 0.6            | 0.9                     | 2.0               | 99.1                     |                 |                                   |
| Production G               | Gradation     | O Batch Plant Gra   | dations 💿 Aggr          | egate SupplierGra            | dations        | Adjusted WF             | Intial Production | on Sample (IPS           | 5)              |                                   |
| Coarsene                   | ess Factor:   | 63                  | Work                    | ability Factor:              | 34             | 36.0                    | Coars             | eness Factor:            | 63              |                                   |
| 45                         |               |                     |                         |                              |                |                         | Work              | ability Factor:          | 35              |                                   |
| -                          | 45, 44        |                     |                         |                              | JMF Zone       |                         | Sieve             | Cumulative<br>% Passing  | %<br>Retained   | Cumulative<br>% Retained          |
|                            |               | 52, 41              |                         |                              |                |                         | 2"                | 100.0                    | 0.0             | 0.0                               |
| <b>a</b> <sup>40</sup>     |               |                     | 58.39                   | 68, 39                       | 75, 39         |                         | 1.5"              | 100.0                    | 0.0             | 0.0                               |
| Factor (%)                 |               |                     |                         | <b>68, 39</b><br>68, 38      | 10,00          |                         | 1"                | 100.0                    | 0.0             | 0.0                               |
| 5                          |               |                     |                         | , i i                        |                |                         | 3/4"              | 95.1                     | 4.9             | 4.9                               |
| <b>5</b> 35                |               |                     | ■ 60, <b>36</b>         | Production Grada             | tion           |                         | 1/2"              | 74.6                     | 20.5            | 25.4                              |
| E                          | $\rightarrow$ | 52.34               |                         |                              |                |                         | 3/8"              | 59.3                     | 15.3            | 40.7                              |



erials, LLC le Rd. MI 48336

the 3/8" sieve. 0% except max., ach sieve except max., e 3/4" sieve when gate is used.



| Coar  | seness Factor:   | 63       |                          |  |  |
|-------|------------------|----------|--------------------------|--|--|
| Wor   | kability Factor: | 35       |                          |  |  |
| Sieve | Cumulative       | %        | Cumulative<br>% Retained |  |  |
| Sleve | % Passing        | 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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