



## Concrete Cylinder Test Report

### PROJECT INFO

ASTM C31, ASTM C39, AASHTO T23, AASHTO T22, ASTM C172, AASHTO R60

|                      |                                     |                   |                   |
|----------------------|-------------------------------------|-------------------|-------------------|
| Client               | WSP                                 | Date Of Placement | 08/17/2020        |
| Project Name         | PW-7018 HMA Mill & Resurfacing 2020 | Specimen Type     | Concrete Cylinder |
| Project Number       | 2020073E                            | Contractor        | WEST SIDE         |
| Project Location     | Detroit, MI                         | Concrete Supplier | McCoig            |
| MDOT Job Number      |                                     | Field Tested By   | Alex Hinz         |
| MDOT Control Section |                                     | Date Issued       | 09/14/2020        |

|                          |                 |
|--------------------------|-----------------|
| Results Recorded In      | English Units   |
| Supplier Mix Description | Pavement & Curb |

### DESIGN PARAMETER

|                                   |            |                |      |                                    |  |
|-----------------------------------|------------|----------------|------|------------------------------------|--|
| Mix Design Number                 | 0771 P1-SW |                |      |                                    |  |
| Design Compressive Strength (psi) | 3500       |                |      |                                    |  |
| Air (% Max)                       | 8.5        | Slump (in Max) | 3.00 | Unit Weight (lbs/ft <sup>3</sup> ) |  |
| Air (% Min)                       | 5.5        | Slump (in Min) | 0    |                                    |  |

### TESTING DATA

| Placed 8.50 +/- yds <sup>3</sup> /ft <sup>3</sup> of concrete at the following location: Curbs on Tireman from Southfield Service Drive to Spinoza. Tested on Tireman at Stout. |           |                      |                           |                                              |               |                          |                       |                   |                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------|---------------------------|----------------------------------------------|---------------|--------------------------|-----------------------|-------------------|-------------------------------------------------------------------------|
| Time Tested                                                                                                                                                                     | Truck Num | Slump ASTM C143 (in) | Air ASTM C231 or C173 (%) | Unit Weight ASTM C138 (lbs/ft <sup>3</sup> ) | Air Temp (°F) | Mix Temp ASTM C1064 (°F) | Concrete Cylinder Set | Water Added (gal) | Cumulative Concrete Placed At Test (yds <sup>3</sup> /ft <sup>3</sup> ) |
| 12:55 PM                                                                                                                                                                        | 2436      | 2.00                 | 4.80                      | 0.0                                          | 81            | 82                       | 1                     | 0                 | 4                                                                       |

### MATERIAL DATA

| Concrete Cylinder Set | Concrete Cylinder Num | Diameter (in) | X-Sec Area (in <sup>2</sup> ) | Weight (lbs) | Fracture Type     | Capping Process | Age Of Concrete Cylinder (Days) | Date Tested | Total Load At Failure (lbs) | Cumulative Strength (psi/mpa) |
|-----------------------|-----------------------|---------------|-------------------------------|--------------|-------------------|-----------------|---------------------------------|-------------|-----------------------------|-------------------------------|
| 1                     | 79614                 | 4.00          | 12.57                         | 8.72         | 3-(Vertical)      | Unbonded Cap    | 28                              | 09/14/2020  | 50810                       | 4040                          |
| 1                     | 79615                 | 4.00          | 12.57                         | 8.71         | 2-(Cone/Vertical) | Unbonded Cap    | 28                              | 09/14/2020  | 50070                       | 3980                          |

**Average 28 Day Compressive Strength (psi): 4010**

\*Cylinders tested with Unbonded Caps followed ASTM C1231, cylinders tested with Bonded Caps followed ASTM C617.

\*All Air Content % tests were performed per C231 unless otherwise noted in the remarks.

\*Inspector was notified of non-conformance items, if any.

\*Average Compressive Strength results did meet project specifications.

|                      |                          |
|----------------------|--------------------------|
| Remarks:             |                          |
| Results Reported To: | WSP(Jason Lukasik, P.E.) |
| Report Approved By:  | Matthew Johnson          |