

## MIX DESIGN REVIEW CHECKLIST

|                                                                                          |                         |                                                 |                                      |                                      |
|------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------|--------------------------------------|--------------------------------------|
| CS-JN<br>PW-7027 Van Dyke                                                                |                         | JMF #<br>P1-DETM-1 - P1 5 inch                  |                                      |                                      |
| REVIEWER<br>Dominic Conti                                                                |                         | APPROVED<br><input checked="" type="checkbox"/> | AS NOTED<br><input type="checkbox"/> | REJECTED<br><input type="checkbox"/> |
|                                                                                          |                         | DATE<br>06-29-2021                              |                                      |                                      |
| <b>THE SUBMITTAL MUST INCLUDE THE FOLLOWING:</b>                                         |                         |                                                 | <b>YES</b>                           | <b>NO</b>                            |
| Form 1976 – Job Mix Formula (JMF) Concrete Field Communication                           |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Source of Materials                                                                      |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Batch Weights of Constituent Materials (Dry)                                             |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| For Optimized Gradations Only – Individual Aggregate Gradations                          |                         |                                                 | <input type="checkbox"/>             | <input type="checkbox"/>             |
| Specific Gravity of Constituent Materials (Dry - Required, SSD - Optional)               |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Typical Ranges:                                                                          | Type I Portland Cement: | 3.15(approximate)                               | 3.15                                 |                                      |
|                                                                                          | Class F Fly Ash:        | 2.20 – 2.70                                     |                                      |                                      |
|                                                                                          | Class C Fly Ash:        | 2.55 – 2.80                                     |                                      |                                      |
|                                                                                          | Slag Cement:            | 2.85 – 2.95                                     |                                      |                                      |
|                                                                                          | Coarse Aggregate:       | 2.55 – 2.85                                     | 2.53                                 |                                      |
|                                                                                          | Intermediate Aggregate: | 2.55 – 2.85                                     |                                      |                                      |
|                                                                                          | Fine Aggregate:         | 2.60 – 2.80                                     | 2.61                                 |                                      |
| Dry Loose or Dry Rodded Unit Weight of Coarse Aggregate                                  |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Water/Cementitious Ratio (w/cm) – 0.45 max                                               |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Volume (dry, rodded) of coarse aggregate per unit volume concrete – 65 – 75% (inclusive) |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Aggregate Absorptions and Correction Factors                                             |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Typical Absorptions:                                                                     | Coarse Aggregate:       | ≤ 2.5%                                          | 1.5                                  |                                      |
|                                                                                          | Intermediate Aggregate: | ≤ 2.5%                                          |                                      |                                      |
|                                                                                          | Fine Aggregate:         | ≤ 2.0%                                          | 1.1                                  |                                      |
| Alkali-Silica Reactivity (ASR) testing results for fine aggregate                        |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Date of completion within the last 2 years                                               |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| Conforms with one of the methods in c.5.A of 12SP604B                                    |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| <b>STRENGTH, COMPRESSION</b>                                                             |                         |                                                 |                                      |                                      |
| The Lower Specification Limit (LSL) at 28 days, or                                       |                         |                                                 | <input checked="" type="checkbox"/>  | <input type="checkbox"/>             |
| 70% of the Lower Specification Limit (LSL) at 7 days (Method 1 verification only)        |                         |                                                 | <input type="checkbox"/>             | <input checked="" type="checkbox"/>  |
| <b>SUPPLEMENTAL CEMENTITIOUS MATERIALS (SCM)</b>                                         |                         |                                                 |                                      |                                      |
| If Used, Maximum Slag Cement Replacement is 40% (Minimum replacement 25% for P1M and DM) |                         |                                                 | <input type="checkbox"/>             | <input checked="" type="checkbox"/>  |
| If Used, Maximum Fly Ash Replacement is 40% (Minimum replacement 25% for P1M and DM)     |                         |                                                 | <input type="checkbox"/>             | <input checked="" type="checkbox"/>  |
| If Both Are Used, They Must Not Exceed 40% of Cementitious Material                      |                         |                                                 | <input type="checkbox"/>             | <input checked="" type="checkbox"/>  |

**DOCUMENTATION**

|                                                    |                                                                   |                                                                                                                        |      |
|----------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------|
| Air Content                                        | Average Values<br>from Test Data: 04-<br>23-2020 - 03-02-<br>2021 | 6.67                                                                                                                   | (%)  |
| Slump                                              |                                                                   | 5.13                                                                                                                   | Inch |
| Compressive Strength                               |                                                                   | 5424                                                                                                                   | Psi  |
| Concrete Age at Time of Test                       |                                                                   | 28                                                                                                                     | Days |
| Verification Method Use (ref. c.5.B.2 of 12SP604B) |                                                                   | 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> |      |

**QPL/APPROVED SOURCE CHECK**

|                                                              | YES                                 | NO                       | N/A                                 |
|--------------------------------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| Coarse Aggregate Calcite - 71-003                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Intermediate Aggregate                                       | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Fine Aggregate Spring Mill - 47-003                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Cement Ash Grove - Mississauga                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Fly Ash                                                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Slag Cement                                                  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Admixtures Polychem SA-50, KB-1200, Polychem R               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Specified Dosage Greater Than Minimum or Within Dosage Range | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

**CEMENTITIOUS CONTENT**

|                                               |         |       |                                     |                          |  |
|-----------------------------------------------|---------|-------|-------------------------------------|--------------------------|--|
| Meets Requirements (ref. Table 1 of 12SP604B) | 517-611 | "564" | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |
|-----------------------------------------------|---------|-------|-------------------------------------|--------------------------|--|

**YIELD AND OPTIMIZED GRADATION CHECK**

|                                                                                  |                                     |                                     |                                     |
|----------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Mix Design Yields (Use Concrete Job Mix Formula Yield Calculator) 27.17          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| If Used, Optimized Aggregate Gradation Meets Appendix 1 requirements of 12SP602D | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Trial Batch Test Records (expires every 2 years)                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Stockpile Management Plan                                                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| General Letter of Certification                                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Material Data Test Reports                                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Alkali-Silica Reactivity Report (expires every 2 years)                          | Expires 02-17-2023                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Plant NRMCA Certification (expires every 2 years)                                | Expires 1-14-2023                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Aggregate Scale Certificate of Calibration (expires every 6 months)              | Expires 07-13-2021                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Admixture Dispensing Equipment Check (expires every 90 days)                     | Expires 07-12-2021                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Water Supply Documentation                                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |

**COMMENTS/NOTES:**

- Provide updated certs as required.
- Test data is identical from previous submittal of mix without retarder. Need updated test results.