



WEAVER CONSTRUCTION MANAGEMENT, INC.
 3679 S. Huron St., Suite 404
 Englewood, CO 80110
 Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

January 11, 2012
WCM Submittal No: 03300-024

PROJECT: **Harold Thompson Regional WRF**
 Birdsell Rd.
 Fountain, CO 80817
 Job No. 2908

ENGINEER: **GMS, Inc.**
 611 No. Weber St., #300
 Colorado Springs, CO 80903
 719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan
 Sewage Disposal District**
 901 S. Santa Fe Ave.
 Fountain, CO 80817
 719-382-5303 James Heckman

CONTRACTOR: **Rocky Mountain Materials**

SUBJECT: Flo-Fill at Conduits in Electrical Room inside E&M Building

SPEC SECTION: 03300 - Cast-In-Place Concrete

PREVIOUS SUBMISSION DATES: n/a

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by WCM and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto.

| | |
|---|---------------------------------|
| <p>Contractor's Stamp:</p> <p>Date: 1/11/12</p> <p>Reviewed by: H.C. Myers <input checked="" type="checkbox"/> Reviewed Without Comments <input type="checkbox"/> Reviewed With Comments</p> <p>ENGINEER'S COMMENTS: _____</p> | <p>Engineer's Stamp:</p> |
|---|---------------------------------|

| Sieve Size | Percent Passing |
|------------|-----------------|
| ½" | 100 |
| 3/8" | 99 |
| #4 | 92 |
| #8 | 73 |
| #16 | 52 |
| #30 | 36 |
| #50 | 22 |
| #100 | 11 |
| #200 | 6.3 |



Rocky Mountain Premix, Inc.
2895 Capital Drive
Colorado Springs, Colorado 80935
Office: (719) 591-8080
Fax: (719) 550-8000
Dispatch: (719) 638-8000

CONCRETE MIXTURE DESIGN REPORT

RMPM Mixture ID#: A10FFF
Date Mix Reported : 1/9/2012
Class / Use: Flowable Fill

| Material | Amount / Cubic Yard | Source / Type | ASTM Std. |
|---------------|---------------------|---------------------------------|-----------|
| Cement | 100 lbs | GCC, Pueblo Plant, Type I-II LA | C 150 |
| Aggregate* | 2700 lbs | RMMA, South Batch Plant | N/A |
| Water (gal.) | 400 lbs | Municipal | C 94 |

*Aggregate masses determined in SSD condition.

Design Physical Properties

Unit Weight: **118.5** pcf
Relative Yield: 1.00 cy
Cementitious Content: 100 lbs.

Specified Physical Properties

Compressive Strength: **100 - 150** psi (Range)

Compressive Strength Data

| Age | PSI | Ave: | |
|--------|-----|------------|--|
| 7 Day | 75 | | |
| 7 Day | 65 | 70 | |
| 28 Day | 130 | | |
| 28 Day | 140 | 135 | |

Prepared by Rocky Mountain Premix, Inc.

Zachariah J. Ballard, EI
Quality Control Manager

GCC of America

130 Rampart Way, Ste. 205 Denver, CO 80230
Sales (303) 739-5900 Customer Service (800) CALL GCC

| | |
|------------------------------|--|
| Plant: Pueblo | Cement Type: <u>III,III(MH), Low Alkali</u> |
| <u>3372 Lime Road</u> | Date: <u>9-Dec-11</u> |
| <u>Pueblo, CO 81004</u> | Production Period: <u>Nov-11</u> |
| Contact: Frank Scott | Silo: <u>1, 2, 4</u> |
| Phone: (719) 647-6800 | |

STANDARD REQUIREMENTS ASTM C 150 -09/AASHTO M 85

| CHEMICAL | | |
|--|-------------|-------------|
| Item | Spec. Limit | Test Result |
| SiO ₂ (%) | A | 20.8 |
| Al ₂ O ₃ (%) | 6.0 max | 4.6 |
| Fe ₂ O ₃ (%) | 6.0 max | 3.3 |
| CaO (%) | A | 64.3 |
| MgO (%) | 6.0 max. | 1.0 |
| SO ₃ (%) | 3.0 max. | 3.0 |
| Ignition Loss (%) | 3.0 max. | 2.5 |
| Na ₂ O (%) | A | 0.14 |
| K ₂ O (%) | A | 0.60 |
| Equivalent Alkalies (%) | B | 0.54 |
| Insoluble Residue (%) | 0.75 max. | 0.74 |
| CO ₂ (%) | A | 1.12 |
| Limestone (%) | 5.0 max. | 3.1 |
| CaCO ₃ in Limestone (%) | 70 min | 87 |
| Potential Compounds (%) | | |
| C ₃ S | A | 58 |
| C ₂ S | A | 14 |
| C ₃ A | 8 max | 7 |
| C ₄ AF | A | 10 |
| C ₃ S + 4.75 C ₃ A | 100 max | 89 |

| PHYSICAL | | | |
|---|---------------|--------------------------------|------|
| Item | Spec. Limit | Test Result | |
| Air content of mortar (volume %) | 12 max | 8 | |
| Blaine fineness (m ² /kg) | 280 min. | 403 | |
| | 430 max. | | |
| C-1038 | 0.02 max. | 0.00 | |
| Autoclave expansion (%) | 0.80 max. | -0.03 | |
| False set (%) | 50 min. | 69 | |
| Compressive strength (MPa) | | MPa | psi |
| 1 day, Minimum MPa (psi) | A | 20 | 2930 |
| 3 day, Minimum MPa (psi) | 12 (1740) | 32 | 4710 |
| 7 day, Minimum MPa (psi) | 19 (2760) | 38 | 5490 |
| 28 day, Minimum MPa (psi) | A | In Progress | |
| Time of setting, Vicat (minutes) | | | |
| Initial | Not less than | 45 | 108 |
| Final | Not more than | 375 | |
| ADDITION (If Applicable) | | | |
| Pozzolan Type: | N/A | Potential Compounds (%) | |
| SiO ₂ (%) | N/A | C ₃ S | N/A |
| Al ₂ O ₃ (%) | N/A | C ₂ S | N/A |
| Fe ₂ O ₃ (%) | N/A | C ₃ A | N/A |
| CaO (%) | N/A | C ₄ AF | N/A |
| SO ₃ (%) | N/A | | |

A Not applicable.
B Limit not specified by purchaser. Test result for information only.

GCC of America Portland Cement is warranted to conform at the time of shipment with ASTM C-150/AASHTO 85. No other warranty is made or implied. Having no control over the use of its cements, GCC of America does not guarantee finished work. GCC is not responsible for any additives not stated in the Certificate of Compliance. GCC of America certifies that the data described above under "Process Addition" represents the materials in the cement manufactured during the production period indicated.

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of
ASTM C 150-09 and AASHTO M 85-09.

Signature: _____

Title: _____ Plant Manager