

Test Number: 2-1.581 - 905 - 0001 - 2021

Materials Laboratory Testing System Tests On:

Materials Diary Inspection

Lab Site:

SE Region-All WisDOT field sites  
WisDOT SE Region remote  
141 NW Barstow Street  
Waukesha, WI 53186

Main Project ID: 9999-99-99

Date Entered: 05/13/21 By: JUSTIN KUTSCHENREUTER

Category:

Bid Item	Inspection Date	Bid Item Description	Manufacturer Name Location	Quantity	Satisfactory
415.0070	05/13/21	Concrete Pavement 7"	AW OAKS RACINE, WI	128 CUBIC YARDS	Y

Inspected By

Product Name

Basis for Acceptance **Be sure to included mixes that were used.**

Used mix designs P3 918 and P3 920 see 501.Zignego.01  
see 715.Pavement for QMP documentation and test results

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report
- Buy America
- Product Data Sheets
- PAL / Approved List
- QMP Plan
- WISDOT Test
- QC Test
- Other

501.Zignego.01	05/13/21	Mix Designs	ZIGENGO WAUKESHA, WI	128 SQUARE YARD:	Y
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Inspected By

Product Name

Basis for Acceptance **For the page with all the mix designs call the "Bid Item Description", "Mix Design" Group mix designs together if they have the same sources. If source change start a new series of entries for this case it would be 501.Zignego.02**

Mix design meets 501 requirements

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report
- Buy America
- Product Data Sheets
- PAL / Approved List
- QMP Plan
- WISDOT Test
- QC Test
- Other Doc Id: 501.Zignego.01

Test Number: 2-1.581 - 905 - 0001 - 2021

Lab Site:

SE Region-All WisDOT field sites

Materials Laboratory Testing System Tests On:

WisDOT SE Region remote

Materials Diary Inspection

141 NW Barstow Street

Waukesha, WI 53186

Main Project ID: 9999-99-99

Date Entered: 05/13/21 By: JUSTIN KUTSCHENREUTER

Category:

Bid Item	Inspection Date	Bid Item Description	Manufacturer Name Location	Quantity	Satisfactory
501.Zignego.01	05/13/21	Mix Design - Cement	ST. MARY'S CEMENT	128	Y
			CHARLESVOIX PLANT	SQUARE YARD:	

For each ingredient under "Bid Item Description" state

Inspected By "Mix Design - cement, fly ash, aggregate, ect"

Product Name PORTLAND CEMENT TYPE I

Basis for Acceptance

Certified report of test results and sources is on APL

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report Doc Id: 501.Zignego.01
- Buy America
- Product Data Sheets
- PAL / Approved List Doc Id: 501.Zignego.01

- QMP Plan
- WISDOT Test
- QC Test
- Other

501.Zignego.01	05/13/21	Mix Design - Concrete Aggregates	HILLSIDE AGGREGATES (55-51-010-PIT 128 RACINE COUNTY	Y	SQUARE YARD:
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Inspected By

Product Name

For aggregates state unique source identifier found on APL

Basis for Acceptance

Material is on the APL, with satisfactory quality test results. Source used for fine aggregate and #1 stone.

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report
- Buy America
- Product Data Sheets
- PAL / Approved List Doc Id: 501.Zignego.01

- QMP Plan
- WISDOT Test
- QC Test
- Other

For each source state what that source was used for

Test Number: 2-1.581 - 905 - 0001 - 2021

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Waukesha, WI 53186

Materials Laboratory Testing System Tests On:

Materials Diary Inspection

Main Project ID: 9999-99-99

Date Entered: 05/13/21 By: JUSTIN KUTSCHENREUTER

Category:

Bid Item	Inspection Date	Bid Item Description	Manufacturer Name Location	Quantity	Satisfactory
501.Zignego.01	05/13/21	Mix Design - Concrete Aggregates	BURLINGTON SPRING VALLEY (55-51-C) RACINE COUNTY	128 SQUARE YARD	Y

Inspected By

Product Name

Basis for Acceptance

Material is on the APL, with satisfactory quality test results. Source used for #2 stone

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report
- Buy America
- Product Data Sheets
- PAL / Approved List Doc Id: 501.Zigengo.01
- QMP Plan
- WISDOT Test
- QC Test
- Other

501.Zignego.01	05/13/21	Mix Design - Admixture	SIKA LYNDHURST, NJ	128 SQUARE YARD	Y
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Inspected By

Product Name SIKAE 260

Basis for Acceptance

Product is on APL

Each add mixture needs to have its own entry

Documents Included in Material Records

- Mfg Certification Doc Id: 501.Zignego.01
- Certified Test of Report
- Buy America
- Product Data Sheets
- PAL / Approved List Doc Id: 501.Zignego.01
- QMP Plan
- WISDOT Test
- QC Test
- Other

Date Verified:

Verified By:

Test Number: 2-1.581 - 905 - 0001 - 2021

Materials Laboratory Testing System Tests On:

Materials Diary Inspection

Lab Site:

SE Region-All WisDOT field sites  
WisDOT SE Region remote  
141 NW Barstow Street  
Waukesha, WI 53186

Main Project ID: 9999-99-99

Date Entered: 05/13/21 By: JUSTIN KUTSCHENREUTER

Category:

Bid Item	Inspection Date	Bid Item Description	Manufacturer Name Location	Quantity	Satisfactory
501.Zignego.01	05/13/21	Mix Design - Admixture	SITKA LYNDHURST, NJ	128	Y

Inspected By

Product Name SIKTA PC 250

Basis for Acceptance

ON APL

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report Doc Id: 501.Zignego.01
- Buy America
- Product Data Sheets
- PAL / Approved List Doc Id: 501.Zignego.01
- QMP Plan
- WISDOT Test
- QC Test
- Other

501.Zignego.01	05/13/21	Mix Design - Admixture	SITKA LYNDHURST, NJ	128	Y
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Inspected By

Product Name SITKA 1000

Basis for Acceptance

Product is on APL

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report Doc Id: 501.Zignego.01
- Buy America
- Product Data Sheets
- PAL / Approved List Doc Id: 501.Zignego.01
- QMP Plan
- WISDOT Test
- QC Test
- Other

Test Number: 2-1.581 - 905 - 0001 - 2021

Lab Site:

SE Region-All WisDOT field sites  
WisDOT SE Region remote  
141 NW Barstow Street  
Waukesha, WI 53186

Materials Laboratory Testing System Tests On:

Materials Diary Inspection

Main Project ID: 9999-99-99

Date Entered: 05/13/21 By: JUSTIN KUTSCHENREUTER

Category:

Bid Item	Inspection Date	Bid Item Description	Manufacturer Name Location	Quantity	Satisfactory
501.Zignego.01	05/13/21	Mix Deisgn -Flay Ash	LAFARGE OAK CREEK, WI	10 TON(s)	Y

Inspected By

Product Name FLY ASH CLASS C

Basis for Acceptance

Certified report of test, less than 100 tosn used no sample required (note: if sample required check Wisdot test box)

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report Doc Id: 501.Zignego.01
- Buy America
- Product Data Sheets
- PAL / Approved List

- QMP Plan
- WISDOT Test
- QC Test
- Other

715.Pavement	05/13/21	QMP Concrete Pavement	AW OAKS RACINE, WI	128 SQUARE YARD:	Y
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Inspected By

Product Name

Basis for Acceptance

see report 155.xxx-xxx-xxx for additional details. Documents listed below are located in QMP-Concrete Pavement Binder

Documents Included in Material Records

- Mfg Certification
- Certified Test of Report
- Buy America
- Product Data Sheets
- PAL / Approved List
- QMP Plan Doc Id: 715.Pavement.01
- WISDOT Test Doc Id: 715.Pavement.03
- QC Test Doc Id: 715.Pavement.02
- Other

Date Verified:

Verified By:

# Zignego Ready Mix

W226 N2940 Duplainville Road

Waukesha, WI 53186

Received 6/13/20

JMK

Reviewed/Approved 6/15/20

June 12, 2020

## MIX WORKSHEET

Account #: OA04

A W OAKES & SONS  
2000 OAKES RD  
RACINE WI 53406

Project:

STH 20 Racine Co  
WisDOT 3833-03-73  
04/14/2020 Letting #20

Fax # (262)886-1897

Material	Type	Manufacturer	Notes
Cement	Type I Portland	St. Mary's Cement	ASTM C-150 (Cement)
Flyash	Class "C"	LaFarge North Am.	ASTM C-618 (Flyash)
Slag	N/A	N/A	N/A
Sand	Torpedo	Hillside Aggregates	ASTM C-33 ( torpedo )
Stone #1	3/4" Stone	Hillside Aggregates	ASTM C-33 67(#1 stone)
Stone #2	1.5" Stone	Bur. Spring Valley	ASTM C-33 4 (#2 Stone)
Admix 1	Air Entrainment	Sika	ASTM C-260 (AE 260)
Admix 2	Water Reducer	Sika	ASTM C-494 (PC 250)
Admix 3	Mid-Range WR	Sika	ASTM C-494 (1000)

Mix #	Cement Lb.	Flyash Lb.	Slag Lb.	Sand Lb.	Stone #1 3/4" Stone	Stone #2 1.5" Stone	Water Gal.	Admix 1	Admix 2	Admix 3
P3 918	395	170	0	1,214	1,074	878	28.6	4 oz	28 oz	--
P3 920	560	100	0	1,167	1,032	844	33.0	7 oz	--	26 oz
P3 915	395	170	0	1,261	1,905	0	28.6	4 oz	28 oz	--
P3 945	845	0	0	1,095	1,003	669	42.0	6 oz	42 oz	--

Mix #	Mix Description	Air %	Slump	W/C Ratio	Mix Placement
P3 918	WI A/FA 30% #1&#2	6.0%	4		Handpour / Exterior
P3 920	WI C/FA #1&#2	6.0%	4.0		Handpour / Exterior
P3 915	WI A/FA 30% #1	6.0%	4		Handpour / Exterior
P3 945	WI 9 BAG #1&#2	6.0%	4		HES Handpour

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_

501.Zigengo.01

**Pavement Summary Report For Lot 11**

Printed On 09/17/2020 at 8:17 AM

**Contract:**

20180612006

**County:**

RACINE

**Project ID:**

2704-00-75

**Lot ID:**

11

**Description:**

International Dr, V Mount Pleasant

**Highway:**

LOC STR

**Testing Company:****Tested By:****Pay Equation:**

QMP 3.01

**Number of Sublots:**

7

**Spec. Limit:**

3700

**Station Start:****Station End:****Lot Sq. Yards:**

6300.00

**Average Comp. Strength:**

0.0

**Standard Deviation:**

0.00

**LQI:**

1.91

**Percent Within Limit:**

99.10

**Adj. / Cu. Yards:**

0.41

**Est. Total Strength Adj.:**

\$ 2583.00

**Mix Design:****P4 918 (Contractor)**

QCT001.185-132-65-2019 (WisDOT)

**Reviewed By:**

NICOLE ROBERTS

**Date Reviewed:**

11/08/19

Reviewer Approved Lot \$ Adj.:  
\$ 2236.22

Reviewer Approved Lot Sq Yd.:  
5454.20

Review Comments:

SY Calc --> 1515 CY placed in Lot 11 Pvmnt Thickness --> 10"/12"/3' = 0.277 Yards Total SY --> 1515 CY/0.277 YD = 5454.2  
SY QMP 3.01 PWL=99.10 Incentive/SY = (0.1\*99.10)-9.5 = \$0.41/SY Total Incentive = 0.41\*5454.2 = \$2236.22

Sublot Details

Sublot ID	Date & Time Poured	Station Start	Station End	Sublot Sq Yd	Lot Spec	Avg. Comp. Strength
11-1	08/02/2019 11:55			900.00	3,700	4834.9
11-2	08/06/2019 13:15			900.00	3,700	4392.5
11-3	08/07/2019 13:15			900.00	3,700	3967.2
11-4	08/08/2019 13:10			900.00	3,700	4325.6
11-5	08/09/2019 13:00			900.00	3,700	3917.9
11-6	08/13/2019 11:55			900.00	3,700	4235.5
11-7	08/15/2019 09:00			900.00	3,700	4291.3

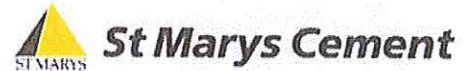
Air Slump Details

Sublot ID	Date Poured	Time Poured	Station Start	Station End	Test Type	Slump	Net Air Pct	Sample #
11-1	08/02/2019	11:55			QC	3.00	4.60	
11-1	08/02/2019	09:30			SU	2.50	5.00	
11-2	08/06/2019	13:15			QC	2.75	5.20	
11-2	08/05/2019	08:55			SU	2.00	4.60	
11-2	08/06/2019	09:05			SU	3.50	4.60	
11-3	08/07/2019	13:15			QC	3.00	5.90	
11-3	08/07/2019	11:15			SU	3.75	5.30	
11-4	08/08/2019	13:10			QC	3.00	5.30	
11-4	08/08/2019	07:00			SU	2.75	5.20	
11-5	08/09/2019	13:00			QC	3.00	5.70	
11-5	08/09/2019	07:00			SU	2.00	4.50	
11-6	08/13/2019	11:55			QC	3.00	5.70	0.25
11-6	08/12/2019	08:00			SU	3.00	5.30	
11-6	08/13/2019	09:45			SU	2.00	5.10	
11-7	08/15/2019	09:00			QC	3.25	5.60	
11-7	08/15/2019	07:50			SU	2.75	5.00	

Reviewed By: \_\_\_\_\_



Printed Name: \_\_\_\_\_



To: Mrs. Andrea Breen  
Zignego Ready Mix, Inc.  
W226 N2940 Duplainville Road  
Waukesha, WI 53186

From: James Palmer

Date: January 8, 2020

Subject: 2020 St Marys Cement Certification, Charlevoix Plant, Type I/II Portland Cement

Dear Mrs. Breen,

This letter is to certify that St. Marys Cement Inc. (U.S.), Charlevoix Plant, manufactures Type I/II Portland Cement which meets the requirements of ASTM C150 'Standard Specification for Portland Cement' for both Type I and Type II Portland Cement. In addition, the Wisconsin Department of Transportation, Materials and Technology Divisions, recognizes St Marys Cement Inc. (U.S.), Charlevoix Plant, as an approved producer of Type I/II Portland Cement.

Please contact me if we can be of further assistance.

Sincerely,

A handwritten signature in black ink that reads 'James Palmer', written over a yellow rectangular highlight.

James Palmer

Technical Services Engineer

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St. Marys Cement Inc. (U.S.)  
12101 South Doty Avenue  
Chicago, IL 60633  
Tel 630 294 2151  
Fax 313 849 4555  
James.Palmer@vcimentos.com

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votorantimcimentos.com  
stmaryscement.com

### Portland Cement Type I-II

Production Period : 1/1/2020 To 1/31/2020

#### STANDARD REQUIREMENTS (ASTM C150)

Chemical Data			Physical Data		
Item	Spec. Limit	Results	Item	Spec. Limit	Results
SiO <sub>2</sub> (%)		19.6	Air Content of mortar (volume %)	12 max	8
Al <sub>2</sub> O <sub>3</sub> (%)		4.9	Blaine fineness (m <sup>2</sup> /kg)	260 min	383
Fe <sub>2</sub> O <sub>3</sub> (%)		3.1	Autoclave expansion (%)	0.80 max	0.15
CaO (%)		62.5			
MgO (%)	6.0 max	3.6	Compressive strength (MPa/psi):		
SO <sub>3</sub> (%)*	3.0 max	4.0	1 day		22.6 [3280]
Loss of ignition (%)	3.5 max	0.6	3 days	12.0[1740] min	32.1 [4660]
Na <sub>2</sub> O (%)		0.10	7 days	19.0[2760] min	37.5 [5430]
K <sub>2</sub> O (%)		0.88	28 days (previous month)	28.0[4060] min	45.9 [6662]
Insoluble residue (%)	1.5 max	0.28	Time of setting (minutes)		
CO <sub>2</sub> (%)		0.4	(Vicat) Initial	45 min	83
Limestone (%)	5.0 max	0.9	(Vicat) Final	375 max	210
CaCO <sub>3</sub> in limestone (%)	70 min	79			
Inorganic process addition (%)	5.0 max				
			Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.011
Potential phase composition			Base Cement Phase Composition		
C <sub>3</sub> S (%)		56	C <sub>3</sub> S (%)		56
C <sub>2</sub> S (%)		14	C <sub>2</sub> S (%)		14
C <sub>3</sub> A (%)		8	C <sub>3</sub> A (%)		8
C <sub>4</sub> AF (%)		9	C <sub>4</sub> AF (%)		9

#### OPTIONAL REQUIREMENTS (ASTM C150)

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies	A	0.68	False Set (%)	50 min	66
			Retained No. 325 Sieve (%)		1.3

#### Additional Data (ASTM C150)

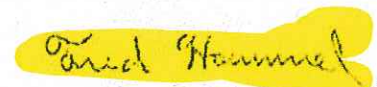
Type	Limestone	Inorganic Processing Addition
Amount	0.9	
SiO <sub>2</sub> (%)	10.7	
Al <sub>2</sub> O <sub>3</sub> (%)	2.8	
Fe <sub>2</sub> O <sub>3</sub> (%)	1.3	
CaO (%)	41.4	
SO <sub>3</sub> (%)	1.4	

This cement meets ASTM C150-16 and AASHTO M 85-16 Specification for Type I Portland Cement

\*It is permissible to exceed the max value for SO<sub>3</sub> content, provided it is demonstrated by C1038 that the cement will not develop expansion exceeding 0.020% in 14 Days

A Test result provided for information only.

February 24, 2020  
 Charlevoix Cement Plant  
 St. Marys Cement  
 16000 Bells Bay Road  
 Charlevoix, MI 49719  
 Tel: (231) 547-1362 - Fax: (231) 547-6202

  
 Fred Hommel  
 Lab Supervisor

**PORTLAND CEMENT MANUFACTURERS - CERTIFIED SUPPLIERS**

Date last edited: 6/24/2020

Manufacturer	Mill Location	Cement Types	Notes
Buzzi Unicem USA	Cape Girardeau, MO Greencastle, IN Festus, MO	I, II I, III I, II	
Continental Cement Company	Hannibal, MO Davenport, IA	I, II, III I, II	
Ash Grove Cement Company CRH documentation acceptable through 3/31/2021	Mississauga, Ontario, Canada Joliette, Quebec, Canada Canakkale, Turkey (Arkansa Plant)	I I, II, II(MH) I, II	**CEMENT FROM THIS SOURCE TO BE FIELD-SAMPLED EVERY 1000 TONS**
GCC of America	Rapid City, SD	I, II, III	
Illinois Cement Company	LaSalle, IL	I, III	
LaFargeHolcim Corporation	Alpena, MI St. Genevieve/Bloomsdale, MO Portland, CO	I, II, III I, II I, II	
Lehigh Cement Company	Mason City, IA	I, III	
St Marys, Inc.	Charlevoix, MI Bowmanville, Ontario, Canada	I, II, III I, II, III	

Note: Mill Test Reports must accompany all cement shipments, and should be reviewed at the project level. If there is any notation on the mill cert that fly ash or slag has been added as a process addition during the manufacture of the cement, the maximum percent by weight of these materials added in the field should be reduced by the same amount. Use contact below for further inquiries.

Contact:  
DOTProductSubmittal@dot.wi.gov



LafargeHolcim  
2815 Dodd Road  
Suite 102  
Eagan, MN 55121

Phone 952-890-2732  
800-562-3989  
Fax 952-890-2109  
www.lafargeholcim.com



January 1, 2020

TO: Whom It May Concern

FROM: Brian Borowski  
Technical Service Engineer  
LafargeHolcim

RE: 2020 CERTIFICATION STATEMENT

To Whom It May Concern:

This letter is to certify that the Class C fly ash produced by Lafarge, a member of LafargeHolcim, at the Elm Road facility in Oak Creek, WI meets ASTM C618 and AASHTO M 295 for Class C fly ash.

Should you have any further questions, please contact your local LafargeHolcim representative.

Best Regards,

Brian Borowski  
Technical Service Engineer  
LafargeHolcim  
brian.borowski@lafargeholcim.com  
Cell: 630-561-1198



Material: Fly Ash  
Class: C

## Material Certification Report

Test Period: 3/21/20 to 4/1/20  
Date Issued: 24-Apr-20

### Certification

This fly ash meets the specifications of ASTM C618 and AASHTO M 295 for Class C Fly Ash.

### General Information

Supplier:	Holcim (US) Inc. d/b/a LafargeHolcim US	Source Location:	ELM ROAD 2
Address:	8700 West Bryn Mawr Ave Chicago, IL 60831		11060 S. Chicago Road Oak Creek, WI 53154
		Contact:	Brian Borowski (815) 838-4671

This report is based on test results of a composite sample as defined by ASTM C311. The data are typical of product shipped from this source; individual shipments may vary.

### Test Data on ASTM Standard Requirements for Class C Fly Ash

Chemical			Physical		
Item	Limit <sup>1</sup>	Result	Item	Limit <sup>1</sup>	Result
Silicon Dioxide (SiO <sub>2</sub> ) (%)	-	35.76	Fineness		
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ) (%)	-	18.61	Amount Retained 45 µm Sieve (%)	34 max	15.7
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> ) (%)	-	7.80	Variation, Points from Average	5 max	0.4
SUM (SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub> ) (%)	50.0 min	62.2	Strength Activity Index with Portland Cement <sup>2</sup>		
Calcium Oxide (CaO) (%)	>18.0	22.82	7 day (% of cement control)	75 min	100
Magnesium Oxide (MgO) (%)	-	5.00	Water Requirement		
Sulfur Trioxide (SO <sub>3</sub> ) (%)	5.0 max	2.35	(% of cement control)	105 max	93
Sodium Oxide (Na <sub>2</sub> O) (%)	-	1.48	Soundness		
Potassium Oxide (K <sub>2</sub> O) (%)	-	0.63	Autoclave Expansion or Contraction (%)	0.8 max	0.05
Equivalent Alkalies (Na <sub>2</sub> O Eq) (%)	-	1.89	Density (g/cm <sup>3</sup> )		2.67
Moisture Content (%)	3.0 max	0.09	Variation, Points from Average	5 max	1.1
Loss on Ignition (%) <sup>3</sup>	6.0 max <sup>4</sup>	0.28			

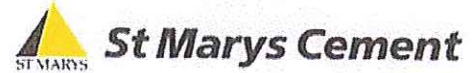
### Notes (\*1-9)

- 1 - Dashes in the Limit / Result column means Not Applicable
- 2 - LafargeHolcim Ste. Genevieve Type I/II cement.
- 3 - Finely divided materials may tend to reduce the entrained air content of concrete. Hence, if a fly ash or natural pozzolan is added to any concrete for which entrainment of air is specified, provision should be made to ensure that the specified air content is maintained by air content tests and by use of additional air-entraining admixture or use of an air-entraining admixture in combination with air-entraining hydraulic cement.
- 4 - The limit under ASTM C618 is 6.0 max; the limit under AASHTO M 295 is 5.0 max.

Testing performed at LafargeHolcim US MPC, Renwick Lab, 20408 Renwick Road, Lockport, IL 60441.

**BB1**

Brian Borowski  
Quality Manager, US MPC



To: Mrs. Andrea Breen  
Zignego Ready Mix, Inc.  
W226 N2940 Duplainville Road  
Waukesha, WI 53186

From: James Palmer

Date: January 8, 2020

Subject: 2020 St Marys Cement Certification, Badger Plant, CemPlus Grade 100 GGBFS

Dear Mrs. Breen,

This letter is to certify that St. Marys Cement Inc. (U.S.), Badger Plant, manufactures Grade 100 Ground Granulated Blast Furnace Slag (GGBFS) which meets the requirements of ASTM C989 'Standard Specification for Slag Cement for Use in Concrete and Mortars' for Grade 100 GGBFS. In addition, Grade 100 Ground Granulated Blast Furnace Slag produced at the St Marys Cement Inc. (U.S.), Badger Plant, meets the requirements for slag set forth in Section 501.2 of the Wisconsin Department of Transportation standard specification.

Please contact me if we can be of further assistance.

Sincerely,

A handwritten signature in black ink that reads 'James Palmer'.

James Palmer

Technical Services Engineer

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St. Marys Cement Inc. (U.S.)  
12101 South Doty Avenue  
Chicago, IL 60633  
Tel 630 294 2151  
Fax 313 849 4555  
James.Palmer@vcimentos.com

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votorantimcimentos.com  
stmaryscement.com

APPROVED AGGREGATE SOURCES INFORMATION SORTED BY SOURCE NAME  
TEST YEARS BETWEEN 2011 AND 2021

Date Printed: 05/03/2021

Source Name	P/Q	Qrt	Sect	Town	Range	County	Test Number	% Light weight Pieces	Freeze Thaw %	% SDS	LA Wear (%)			Sp. Gravity			Absorp. %
											100	500	OD	SSD	Crse	Fine	
HILGER	P	8	30N	8W	Chippewa		0-225-70-2014	0.0	0.0	2.2	4.2	19.7	2.724	2.754	1.100		
55-09-031-PIT	Approved Use : HMA<E-3, HMA>=E-3, CONCRETE, OGBC, Base Aggregate																
Created On:	02/03/14																
Updated On:																	
HILGER	P	8	30N	8W	Chippewa		0-225-75-2019	0.9	0.0	1.5	3.6	17.4	2.702	2.733	1.123		
55-09-031-PIT	Approved Use : HMA<MT, HMA>=MT, CONCRETE, Base Aggregate																
Created On:	01/08/19																
Updated On:																	
* HILLPOINT	Q	SW	22	11N	3E	Sauk	0-225-194-2011	1.2	4.9	10.6	10.6	40.0	2.622	2.681	2.234		
55-56-010-QRY	Approved Use : HMA<E-3, HMA>=E-3, CONCRETE, OGBC, Base Aggregate																
Created On:	06/23/11																
Updated On:																	
* HILLPOINT	Q	SW	22	11N	3E	Sauk	0-225-175-2015	0.3	1.2	2.5	10.5	41.7	2.629	2.682	2.011		
55-56-010-QRY	Approved Use : HMA<E-3, HMA>=E-3, CONCRETE, Base Aggregate																
Created On:	05/14/15																
Updated On:																	
* HILLPOINT	Q	SW	22	11N	3E	Sauk	0-225-158-2018	0.3	0.0	7.6	12.1	44.8	2.609	2.670	2.362		
55-56-010-QRY	Approved Use : HMA<MT, HMA>=MT, CONCRETE, OGBC, Base Aggregate																
Created On:	04/10/18																
Updated On:																	
HILLSIDE	P	SE	7	2N	19E	Racine	0-225-108-2014	0.5	0.0	1.0	5.1	24.4	2.696	2.729	1.239		
55-51-010-PIT	Approved Use : HMA<E-3, HMA>=E-3, CONCRETE, OGBC, Base Aggregate																
Created On:	04/02/14																
Updated On:																	
HILLSIDE	P	SE	7	2N	19E	Racine	0-225-107-2019	0.7	7.1	1.8	5.4	26.0	2.663	2.712	1.877		
55-51-010-PIT	Approved Use : HMA<MT, HMA>=MT, CONCRETE, OGBC, Base Aggregate																
Created On:	02/20/19																
Updated On:																	



TEST YEARS BETWEEN 2011 AND 2021

Source Name	Location Description				Test Number	% Light weight Pieces	Freeze Thaw %	% SDS	LA Wear (%)			Coarse Sp. Gravity			Absorp. %	
	P/Q	Qrt	Sect	Town					Range	County	100	500	OD	SSD	Crse	Fine

BUCKLEY  
 55-16-002-QRY  
 Created On: 08/15/17  
 Updated On:

BUCKLEY  
 55-16-002-QRY  
 Created On: 01/08/20  
 Updated On:

BUECHEL STONE OAKFIELD  
 55-20-056-QRY  
 Created On: 03/24/21  
 Updated On:

\* BURIC  
 55-03-009-PIT  
 Created On: 06/13/16  
 Updated On:

BURLINGTON SPRING VALLEY  
 55-51-006-PIT  
 Created On: 03/24/16  
 Updated On:

BURLINGTON SPRING VALLEY  
 55-51-006-PIT  
 Created On: 01/05/21  
 Updated On:

BURMEISTER  
 55-54-029-QRY  
 Created On: 08/20/20  
 Updated On:

BUILDING TRUST



Sika Corporation • 201 Polito Avenue • Lyndhurst, NJ 07071 • USA

Mr. Scott Zignego  
Zignego Ready Mix  
W226N2940 Duplainville Road  
Waukesha, WI 53186

**CONTACT**

Nathaniel Artman  
Concrete Specialist  
Phone: +1.330.495.0109  
Mobile: +1.330.495.0109  
artman.nathaniel@us.sika.com

RE: CERTIFICATE OF COMPLIANCE - SIKA AIR-260

January 2, 2020

This is to confirm that Sika Air-260, air entraining admixture, conforms to the requirements of ASTM C 260/AASHTO M 154.

Sika Air-260 is manufactured under quality control conditions by Sika Corporation. Sika Air-260 exhibits the typical physical properties as stated in the current data sheet for the product found at Sika's website [www.usa.sika.com](http://www.usa.sika.com) when used as directed within the product's shelf life for one year from the date of installation. Always read the current applicable product data sheet, safety data sheet and label prior to use.

Results may differ based upon statistical variations depending upon mix design, mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKa SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SIKa SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathaniel Artman", with a horizontal line extending to the right.

Nathaniel Artman, EI  
Concrete Specialist

**SIKA CORPORATION**

201 Polito Avenue • Lyndhurst • NJ 07071 • USA  
Phone: +1 201 933 8800 • Fax: +1 201 933 6225 • [www.usa.sika.com](http://www.usa.sika.com)

BUILDING TRUST



Sika Corporation · 201 Polito Avenue · Lyndhurst, NJ 07071 · USA

Mr. Scott Zignego  
Zignego Ready Mix  
W226N2940 Duplainville Road  
Waukesha, WI 53186

CONTACT

Nathaniel Artman  
Concrete Specialist  
Phone: +1.330.495.0109  
Mobile: +1.330.495.0109  
artman.nathaniel@us.sika.com

RE: CERTIFICATE OF COMPLIANCE - SIKA AIR-360

January 2, 2020

This is to confirm that Sika Air-360, air entraining admixture, conforms to the requirements of ASTM C 260/AASHTO M 154.

Sika Air-360 is manufactured under quality control conditions by Sika Corporation. Sika Air-360 exhibits the typical physical properties as stated in the current data sheet for the product found at Sika's website [www.usa.sika.com](http://www.usa.sika.com) when used as directed within the product's shelf life for one year from the date of installation. Always read the current applicable product data sheet, safety data sheet and label prior to use.

Results may differ based upon statistical variations depending upon mix design, mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathaniel Artman", with a horizontal line extending to the right.

Nathaniel Artman, EI  
Concrete Specialist

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Mr. Scott Zignego  
Zignego Ready Mix  
W226N2940 Duplainville Road  
Waukesha, WI 53186

**CONTACT**

Nathaniel Artman  
Concrete Specialist  
Phone: +1.330.495.0109  
Mobile: +1.330.495.0109  
artman.nathaniel@us.sika.com

RE: CERTIFICATE OF COMPLIANCE - PLASTOCRETE-250

January 2, 2020

This is to confirm that Plastocrete-250, water reducing admixture, conforms to the requirements of ASTM C 494/AASHTO M 194, Type A, B & D.

Plastocrete-250 is manufactured under quality control conditions by Sika Corporation. Plastocrete-250 exhibits the typical physical properties as stated in the current data sheet for the product found at Sika's website [www.usa.sika.com](http://www.usa.sika.com) when used as directed within the product's shelf life for one year from the date of installation. Always read the current applicable product data sheet, safety data sheet and label prior to use.

Results may differ based upon statistical variations depending upon mix design, mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathaniel Artman", with a horizontal line extending to the right.

Nathaniel Artman, EI  
Concrete Specialist

BUILDING TRUST



Sika Corporation • 201 Polito Avenue • Lyndhurst, NJ 07071 • USA

Mr. Scott Zignego  
Zignego Ready Mix  
W226N2940 Duplainville Road  
Waukesha, WI 53186

CONTACT

Nathaniel Artman  
Concrete Specialist  
Phone: +1.330.495.0109  
Mobile: +1.330.495.0109  
artman.nathaniel@us.sika.com

RE: CERTIFICATE OF COMPLIANCE - SIKA VISCOCRETE-1000

January 2, 2020

This is to confirm that Sika ViscoCrete-1000, high range water reducing admixture, conforms to the requirements of ASTM C 494/AASHTO M 194, Type A & F.

Sika ViscoCrete-1000 is manufactured under quality control conditions by Sika Corporation. Sika ViscoCrete-1000 exhibits the typical physical properties as stated in the current data sheet for the product found at Sika's website [www.usa.sika.com](http://www.usa.sika.com) when used as directed within the product's shelf life for one year from the date of installation. Always read the current applicable product data sheet, safety data sheet and label prior to use.

Results may differ based upon statistical variations depending upon mix design, mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathaniel Artman", written over a horizontal line.

Nathaniel Artman, EI  
Concrete Specialist

Trenton Ventures, LLC  
30621 52<sup>nd</sup> Street, Salem WI 53168  
P 262-321-9900 F 262-537-2237  
[trentonventures@gmail.com](mailto:trentonventures@gmail.com)

January 2020

Zignego Ready Mix Inc.  
W226 N2940 Duplainville Road  
Waukesha, WI 53186

RE: Certification of A to Z Aggregate Solutions  
WisDOT Source ID: 55-51-001-PIT  
Test Number 0-223-12-2017, 0-225-56-2017

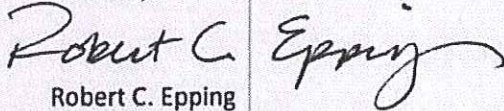
Certification of Hillside Aggregates  
WisDOT Source ID: 55-51-010-PIT  
Test Number: 0-223-22-2019, 0-225-107-2019

Certification of Burlington Spring Valley  
WisDOT Source ID: 55-51-006-PIT  
Test Number: 0-162-32-2016, 0-225-0114-2016

This letter hereby certifies that our #1 Stone, #2 Stone, Torpedo Sand meets ASTM requirements of C33, Class 4S for deleterious substances and physical properties for the locations listed above (A to Z Aggregates, Hillside Aggregates, and Burlington Spring Valley). The #1 Stone, #2 stone, Torpedo sand all meet WisDOT gradation requirements.

Please call with any questions.

Sincerely,



Robert C. Epping  
President

Trenton Ventures, LLC – DBA Pine Lake Materials  
TTT Real Estate, LLC – DBA Hillside Aggregates  
Burlington Spring Valley, LLC – DBA Spring Valley  
A to Z Aggregate Solutions, LLC – DBA Parkview Sand & Gravel



2135 South 116th Street  
 West Allis, WI 53227  
 414-321-8378  
 Page 1 of 2

REPORT: Sieve Analysis of Aggregate

LAB NO: 20-1050-1

Project: 6400 - Aggregate Testing - 2020  
 Client: Zignego Ready Mix. Inc.

Report Date: 03/18/2020  
 Date Sampled: 03/18/2020  
 Sampled By: Client  
 Report No: 20-1050-1

**TEST RESULTS**

Material: Concrete Sand - Hillside Pit  
 Description: Brown f-c Sand  
 Location: Plant 3 - Racine

Sieve	% Passing	Low	High
3/8 in	100	100	100
No. 4	100	90	100
No. 8	85		
No. 16	61	45	85
No. 30	41		
No. 50	16	5	30
No. 100	4	0	10
No. 200	2.0	0.0	3.5

Date Received: 03/18/2020

Date Tested: 03/20/2020

Tested By: Craig Englund

Remarks: FM = 2.93

Test Method (As Applicable): AASHTO T-27

Orig: Zignego Ready Mix. Inc. (Waukesha, WI)  
 Attn: Scott Zignego (1-ec copy)  
 1-ec Zignego Ready Mix. Inc. Attn: Andrea Breen

Respectfully Submitted,  
 GeoTest, Inc.

Kevin J. Schmidt, Staff Engineer



REPORT: Sieve Analysis of Aggregate

LAB NO: 20-1050-2

Project: 6400 - Aggregate Testing - 2020  
 Client: Zignego Ready Mix. Inc.

Report Date: 03/18/2020  
 Date Sampled: 03/18/2020  
 Sampled By: Client  
 Report No: 20-1050-2

**TEST RESULTS**

Material: #1 Stone - Hillside Pit  
 Description: Grey crushed Gravel  
 Location: Plant 3 - Racine

Sieve	% Passing	Low	High
1.00 in	100	100	100
3/4 in	97	90	100
1/2 in	69		
3/8 in	49	20	55
No. 4	10	0	10
No. 8	3	0	5
No. 16	2		
No. 30	2		
No. 50	2		
No. 100	2		
No. 200	1.5	0.0	1.5

Date Received: 03/18/2020

Date Tested: 03/19/2020

Tested By: Craig Englund

Test Method (As Applicable): AASHTO T-27

Orig: Zignego Ready Mix. Inc. (Waukesha, WI)  
 Attn: Scott Zignego (1-ec copy)  
 1-ec Zignego Ready Mix. Inc. Attn: Andrea Breen

Respectfully Submitted,  
 GeoTest, Inc.

Kevin J. Schmidt, Staff Engineer





2135 South 116th Street  
 West Allis, WI 53227  
 414-321-8378  
 Page 1 of 1

REPORT: Sieve Analysis of Aggregate

LAB NO: 20-1050-3

Project: 6400 - Aggregate Testing - 2020  
 Client: Zignego Ready Mix. Inc.

Report Date: 03/18/2020  
 Date Sampled: 03/18/2020  
 Sampled By: Client  
 Report No: 20-1050-3

**TEST RESULTS**

Material: #2 Stone - Spring Valley  
 Description: Grey crushed Gravel  
 Location: Plant 3 - Racine

Sieve	% Passing	Low	High
2 in	100	100	100
1 1/2 in	98	90	100
1.00 in	40	20	55
3/4 in	7	0	15
1/2 in	2		
3/8 in	2	0	5
No. 4	1		
No. 8	1		
No. 16	1		
No. 30	1		
No. 50	1		
No. 100	1		
No. 200	1.0	0.0	1.5

Date Received: 03/18/2020

Date Tested: 03/19/2020

Tested By: Craig Englund

Test Method (As Applicable): AASHTO T-27

Orig: Zignego Ready Mix. Inc. (Waukesha, WI)  
 Attn: Scott Zignego (1-ec copy)  
 1-ec Zignego Ready Mix. Inc. Attn: Andrea Breen

Respectfully Submitted,  
 GeoTest, Inc.

Kevin J. Schmidt, Staff Engineer

## Concrete Aggregate Sieve Analysis Lab Worksheet

**Project:** Agg 2020  
**Project No.:** 6400      **Lab No.:** 20-1050  
**Location:** \_\_\_\_\_  
**Client:** ZRM  
**WisDOT ID No.:** \_\_\_\_\_      **Lot No.:** \_\_\_\_\_  
**Sampled By:** Client      **Date:** 3-18-20  
 (Full Name)

**Sampled From:**  BELT     STOCKPILE     BIN     TRUCK  
**Sampled At:**  
 Aggregate Source  
 Batch Site

**Mix ID:** \_\_\_\_\_      **Ticket No.:** \_\_\_\_\_  
**Time:** \_\_\_\_\_      **Load (CY):** \_\_\_\_\_

**BATCH WEIGHTS (SSD)**

Fine Aggregate _____	Cement _____
#1 Stone _____	Fly Ash _____
#2 Stone _____	Slag _____
Water _____ gal	A. E. _____ oz
Other _____	W. R. _____ oz
Pea Gravel _____	Other _____ oz

**Fine Aggregate**  
**Source:** Hillside

**Moisture Content**  
 Wet Wgt + Tare (0.1g) 531.2      A  
 Dry Wgt + Tare (0.1g) 505.7      B  
 Tare ID/Wgt (0.1g): L2 / 0      C  
 % Moisture \_\_\_\_\_      (A-B)/(B-C)\*100

**Washed?**  Yes      **Washed Wgt:** 496.9

Sieve	Weight Retained		% Retained	% Passing	Spec
	1st Run	1st Run + 2nd Run			
3/8" (0.5mm)	0			100	100
#4 (4.75mm)	0.6			100	90-100
#8 (2.36mm)	75.6				
#16 (1.18mm)	194.8			6	45-85
#30 (0.60mm)	298.2				
#50 (0.30mm)	412.7			16	5-30
#100 (0.150mm)	486.9			4	0-10
F.M			2.93		
#200 (0.075mm)	495.4			2.0	0-3.5
Pan	496.5				

**Tested By:** Gregory      **Date:** 3-19-20

**No. 2 Stone**  
**Source:** Spring valley

**Moisture Content**  
 Wet Wgt + Tare (0.1g) 15939.2      A  
 Dry Wgt + Tare (0.1g) 15732.9      B  
 Tare ID/Wgt (0.1g): B807 / 0      C  
 % Moisture \_\_\_\_\_      (A-B)/(B-C)\*100

**Washed?**  Yes      **Washed Wgt:** 15614.3  
 Crushed Stone     Crushed Gravel

Sieve	Weight Retained		% Retained	% Passing	Spec
	1st Run	1st Run + 2nd Run			
2" (50 mm)	0			100	
1.5" (37.5 mm)	353.8			98	00-100
1" (25 mm)	9267.6			40	20-55
3/4" (19mm)	14649.6			7	0-15
1/2" (12.5mm)	15383.3				
3/8" (0.5mm)	15451.9			2	0-5
#4 (4.75mm)	15514.2				
#8 (2.36mm)	15524.5				
#16 (1.18mm)	15529.5				
#30 (0.60mm)	15534.2				
#50 (0.30mm)	15543.1				
#100 (0.150mm)	15556.8				
#200 (0.075mm)	15578.5			10	0-1.5
Pan	15601.6				

**Tested By:** Gregory      **Date:** 3-19-20

**No. 1 Stone**  
**Source:** Hillside

**Moisture Content**  
 Wet Wgt + Tare (0.1g) 5800.9      A  
 Dry Wgt + Tare (0.1g) 5658.1      B  
 Tare ID/Wgt (0.1g): RD / 0      C  
 % Moisture \_\_\_\_\_      (A-B)/(B-C)\*100

**Washed?**  Yes      **Washed Wgt:** 5588.5  
 Crushed Stone     Crushed Gravel

Sieve	Weight Retained		% Retained	% Passing	Spec
	1st Run	1st Run + 2nd Run			
2" (50 mm)					
1.5" (37.5 mm)					
1" (25 mm)	0			100	100
3/4" (19mm)	151.6			97	90-100
1/2" (12.5mm)	1728.7				
3/8" (0.5mm)	2874.3			49	20-55
#4 (4.75mm)	3081.4			10	0-10
#8 (2.36mm)	5274.6			3	0-5
#16 (1.18mm)	5577.9				
#30 (0.60mm)	5594.7				
#50 (0.30mm)	5595.8				
#100 (0.150mm)	5565.3				
#200 (0.075mm)	5575.0			1.5	0-1.5
Pan	5584.0				

**Tested By:** Gregory      **Date:** 3-19-20

**Calculated By:** Mane Paule Nana      **Date:** 3/23/20

Equipment Name	Equipment ID #
Scale	<input type="checkbox"/> 4.02.013 <input type="checkbox"/> 4.02.025
Shaker - 8" diameter	4.08.001
Shaker - 15"X23"	3.01.029

**Reviewed By:** \_\_\_\_\_      **Date:** \_\_\_\_\_

Equipment Name	Equipment ID #
Sieves - 8" diameter	Blue Dot
Sieves - 15"X23"	Red Dot
#200 Wash Sieve	4.08.169C



APPROVED Portland Cement Concrete Admixtures		Important! Type A and Type D admixtures may not be compatible only use in combination in the same batch if the manufacturer allows.	
Date last edited: 11/11/2020			
Manufacturer	Air-Entraining Admixtures AASHTO M154 Std. Spec. 501.2.2	Water Reducers AASHTO M194 - Type A Std. Spec. 501.2.3	Water Reducing Set Retarders AASHTO M194 - Type D Std. Spec. 501.2.3
Master Builders Solutions US LLC Cleveland, OH 800-628-9990 (Formerly BASF Admixtures)	MasterAir AE 200 MasterAir AE 90 MasterAir AE 400 MasterAir VR 10	MasterPolyheed 997 MasterPolyheed 1020 MasterPozzolith 80 MasterGlenium 7920 MasterGlenium 7500	MasterSet Delvo MasterPozzolith 80 MasterSet R300
Cellular Concrete Technologies Cheshire, CT 877-828-1954	Stable Air		
Chryso Rockwall, TX 800-936-7553	Chryso Air 260 Chryso Air TX	Chryso Fluid Premia 180 Chryso Fluid Optima 203 Chryso EnviroMix 159 Chryso EnviroMix 728 Chryso Plast 209	Chryso ControlSet 100R
Euclid Chemical Company Cleveland, OH 800-321-7628	Eucon AEA-92-S Eucon Air MAC-12 Eucon Air Mix 250 Eucon AEA-92	Eucon MR Eucon WR Eucon WR-91 Plastol 6420 Eucon MRX	Eucon WR Eucon WR-91 Eucon Stasis
Fritz-Pak Concrete Admixtures Mesquite, TX 888-745-4116	Air Plus Super Air Plus		FR-1 Delayed Set Standard Delayed Set Mini
GCP Technologies Cambridge MA 617-498-4555	Darex II AEA Daravair 1000 Daravair 1400 TERAPAVE AEA	WRDA 82 MIRA 62 ADVA Cast 600 MIRA 110 ZYLA 630	Recover Daratard 17 WRDA 82
Mapei Americas Deerfield Beach, FL 954-246-8888	Polychem AE Polychem VR Polychem SA Polychem SA-50	Polychem 400NC Polychem Paver Plus KB-1200 Dynamon SX	Polychem R Polychem 400 NC
Pinova Brunswick, GA 912-265-3650	Vinsol		
Premiere Concrete Admixtures Pioneer, OH 800-503-3418	ConAir ConAir 260 ConAir X ConAir VR	Optiflo 50 Optiflo 500 Optiflo MR Optiflo Plus Optiflo 700	Prolong L Optiflo 500 Optiflo 50
Russtech Louisville, KY 502-267-7700	RSA-10 RVR-15 RAE-260	Superflo 2000 RM Superflo 2000 SCC Extendflo X90 LC-400P FinishEase-NC	LC-400R LC-400P RENU
Sika Lyndhurst, NJ 201-933-8800	Sika Air 260 Sika Air 360 Sika Multi-Air 25 Sika AEA-14	Sikament 686 Plastocrete 250 Sikaplast 200 Sikaplast 300 GP Sika Viscocrete 1000	Plastiment XR Sikatard 440 Plastocrete 250

Contact:  
[DOTProductSubmittal@dot.wj.gov](mailto:DOTProductSubmittal@dot.wj.gov)

**CONCRETE MIXTURE DESIGN**

WS5014

5/2015

Wisconsin Department of Transportation

**COMPLETE ONE FORM PER MIX ID****Project Information**

Construction Project ID 3833-03-73	Contract ID 20200414020	Highway STH 20	County Racine
Project Title STH 20		Project Limits USH 45 to IH 94	
Prime Contractor Kraemer NA		Subcontractor (If applicable) A.W. Oakes & Son, Inc	

**Concrete Mix Information**

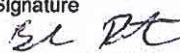
Mix ID 918	Mix Grade AFA	MRS Mix Design # (132 Prefix) 132-0009-2020	Design Date 2011
---------------	------------------	--	---------------------

Mix to be used on following bid items:

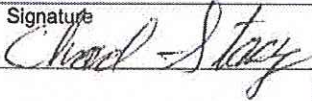
415.0070, 415.0410

Concrete Plant Contact Name John Barlett	Area Code – Telephone Number 262-542-0333		
Plant Location (Address) 14425 58 <sup>th</sup> Road	City Sturtevant	State WI	Zip Code 53177

**Contractor Certification**

Prime Contractor - Project Manager/Superintendent Name (Print) Bob Deuth	Signature 	Date 9/21/20	
Prime Contractor Company Kraemer NA	Area Code – Telephone Number 608-546-2311		
Address One Plainview Road	City Plain	State WI	Zip Code 53577

*The mix design and materials used in the design are representative of the concrete mix that will be used for this project.*

Concrete Paving Superintendent Name (Print) Chad Stacy	Signature 	Date 9-21-20	
Paving Contractor Company A.W. Oakes & Son, Inc	Area Code – Telephone Number 262-886-4474		
Address 2000 Oakes Road	City Racine	State WI	Zip Code 53406

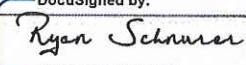
**Mix Design Certification**

*This mix design and the materials used in the design are representative of the concrete mix that will be used for this project. The aggregates used for the mix design came from the same source that will be used for the concrete for the project.*

Mix Designer Name (Print) Andrea L Breen	Signature Andrea L Breen	HTCP# 101743	Date 09/17/2020
Company Name Zignego Ready Mix	Area Code – Telephone Number 414-750-7229		
Address W226 N2940 Duplainville Road	City Waukesha	State WI	Zip Code 53186

**Project Staff Review**

*I have had the opportunity to review this concrete mix design; to check that it meets the concrete mix requirements. I've had the opportunity to convey my comments and concerns to the contractor's concrete pavement representatives.*

Project Leader Name (Print) Ryan Schnurer	Signature 	Date 18 November 2020	
Company Name WisDOT	Area Code – Telephone Number 414-303-0029		
Address 141 NW Barstow St	City Waukesha	State WI	Zip Code 53187



Received 6/11/20

JMK

Reviewed/Approved 6/14/20

**QUALITY CONTROL PLAN  
QMP CONCRETE PAVEMENT  
QMP CONCRETE ANCILLARY  
Small Quantities**

STH 20  
USH 45 TO IH 94  
STH 29  
RACINE COUNTY

STATE PROJECT NUMBER 3833-03-73

Created: 6/11/2020

Revised:

715.Pavement.01

The following compilation represents the Contractors Quality Control Testing Plan for the below referenced project.

The quality control testing plan covers the following materials / items:

Standard Specifications – Section 701, General QMP Requirements

Standard Specifications – Section 710, General Concrete QMP

Standard Specifications – Section 715, QMP Concrete Pavement and Concrete Structures

Standard Specifications – Section 716, QMP Ancillary Concrete

The following plan will detail the steps taken to control the materials and processes involved in each of the referenced items. The goal of the contractor quality control program is to monitor the methods and materials during production and construction to assure that the specification requirements are met. The plan will also be used by the paving contractor to document their operations and the responsibilities of their key personnel.

The paving contractor will comply with the Standard Specifications, “Quality Management Program, Concrete Pavement” to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements whether manufactured by the contractor or produced from subcontractors or vendors.

This plan will be maintained permanently on AW Oakes server. Additional copies will be distributed to key project personnel as follows:

#### **QC Plan Distribution**

<b>Organization</b>	<b>Personnel</b>
AW Oakes & Sons	Jason Andrews
QC Tech	Scott Wall
WisDOT	Ryan Schnurer, P.E.
Kraemer NA	Bob Deuth

## Job Description

Project #: 3833-03-73  
Project Location: STH 20 USH 45 TO IH 94 STH 20  
County: Racine County  
Project Manager: Todd Birdsall  
Engineer: Ryan Schnurer, P.E.  
Type of Work: Concrete Pavement, Concrete Ancillary  
QC Plan Prepared by: Jason Andrews

## Project Personnel

The contractors for the project are:

Contractor	Project Responsibilities	Project Supervisor
AW Oakes & Son	Concrete Pavement Contractor	Jason Andrews
QC Tech	Cylinder breaks, aggregate testing	Scott Wall

The paving contractor encourages everyone involved in the project to participate in quality management. The following individuals are, however, directly responsible for implementing the provisions of this quality control plan.

Organization Personnel	QC Responsibilities	Certification	Mobile Phone / Email
<b>AW Oakes &amp; Son</b>			
Todd Birdsall	Project Manager	MCT-C, PCCTEC-I 103522	262-770-7586 <a href="mailto:tbirdsall@awoakes.com">tbirdsall@awoakes.com</a>
Jason Andrews	Project Materials Coordinator	AGGTEC-I, CST, Grading, MCT-C, Nucdensity, PCCTEC-I, PCCTEC-II, TMS, Profiler Tec I - 103750	414-491-8111 <a href="mailto:jandrews@awoakes.com">jandrews@awoakes.com</a>
Matthew Christensen	Field Technician	PCCTEC-I 201890	262-221-2631
Jason Doern	Field Technician	PCCTEC-I 104524	480-729-1718
Timothy Fors	Field Technician	PCCTEC-I 102123	262-206-8166
Chad Stacy	Field Technician	PCCTEC-I 106361	262-977-3350
Raymundo Zavala	Field Technician	PCCTEC-I 104856	262-902-9972
<b>QC Tech</b>			
Scott Wall	QC Manager	*See Appendix 1	414-406-5839
<b>WisDOT</b>			
Ryan Schnurer, P.E.	Project Manager		414-303-0029 <a href="mailto:Ryan.schnurer@dot.wi.gov">Ryan.schnurer@dot.wi.gov</a>
Bob Deuth	Materials Coordinator		<a href="mailto:bdeuth@kraemerna.com">bdeuth@kraemerna.com</a>



## Materials Sources

### Zignego Ready Mix

Material	Type	Supplier	Source Location
Fine Aggregate	Natural Sand	Trenton Ventures-Hillside	0-223-22-2019
#1 Stone	Crushed Stone	Trenton Ventures-Hillside	0-225-107-2019
#2 Stone	Crushed Stone	Trenton Ventures-Spring Valley	0-225-114-2016
Cement	Type I	St Marys Cement	Charlevoix Plant
Fly Ash	Class C	LaFargeHolcim	
Air Entrainment		Sika Air 360, Air 260	Sika
Water Reducer		Sika PlastoCrete 250	Sika
Mix Water	Potable	Municipal	Hydrant

Specification sheets and certifications for all mix materials can be obtained by contacting the paving contractor. Fly ash (if used) and cement will be delivered to the plant in bulk trailers and stored in dedicated silos until needed. Concrete admixtures will also be delivered in bulk and stored in sealed containers to prevent contamination.

### Aggregates

The aggregates will be crushed, washed and screened, as needed, to meet the gradation ranges identified in the standard provisions. The gradation targets listed below are only guidelines to produce the material to be used by the aggregate supplier:

#### Individual Aggregate Gradations (Percent Passing)

Sieve Size	#2 Coarse Aggregate	#1 Coarse Aggregate	Fine Aggregate
2"	100		
1 ½"	90 – 100		
1"	20 – 55	100	
¾"	0 – 15	90 – 100	
½"			
3/8"	0-5	20 - 55	100
No. 4		0 - 10	90 – 100
No. 8		0 - 5	
No. 16			45 – 85
No. 30			
No. 50			5 - 30
No. 100			0 – 10
No. 200	0 – 1.5	0 – 1.5	0 – 3.5

The material will be tested on an individual basis and accepted on a combined basis. The combined gradation ranges are listed on the following table:

**Combined Aggregate Gradations (WisDOT standard specification)**

Sieve Size	Combined Gradation
2"	100%
1"	89% Max
No. 4	42% Max
No. 200	2.3% Max

Aggregate testing will be performed during concrete production.

The aggregates have or are being subjected to aggregate properties testing to ensure quality of aggregates, and to determine the specific gravity and absorption for determining batch weights of concrete. These test results are available through the Atwood Systems Materials Tracking website.

## Mix Design

The mixes employed on this project comply with the minimum specifications and requirements set forth in the standard specifications Section 715.2.3.2 – Concrete Mixes.

### Mix Design Requirements

Mix designs are attached in Appendix 2.

## Laboratory Facilities

### Laboratory Locations

The locations of all the testing facilities used for the project are as follows:

#### Testing Facilities

Organization	Type of Testing	Locations
A.W. Oakes & Son	Fresh Concrete Testing Compressive Strength Testing Aggregate Gradations Moisture Contents Materials finer than #200	9631 Charles St Sturtevant, WI 53177
QC Tech	Fresh Concrete Testing Compressive Strength Testing Aggregate Gradations Moisture Contents Materials finer than #200	315 76 <sup>th</sup> St Franksville, WI 53126

## Equipment

All laboratory scales and compressive strength testing machines used on this project are calibrated annually using equipment traceable to NIST Standards. Other equipment, such as air meters, are calibrated and maintained regularly by a qualified laboratory technician to ensure accuracy.

## Construction Operations

### Aggregate Production

The aggregate production methods and procedures employed by the aggregate producer shall meet all applicable standard specifications. The aggregates will be produced by the aggregate producers as part of their normal commercial operations. The aggregates will be tested by AW Oakes & Son or QC Tech at the batch plant during concrete production for this project.

### Concrete Production

Concrete with consistent properties at the project is essential to the production of a high-quality pavement. Concrete production at the batch plant must be adjusted to provide consistency as conditions may change. The project foreman or site QC personnel will relay information to the batch plant operator whenever the mix needs adjustment. Observations by the loader operator and other plant personnel can also provide valuable feedback.

### Bid Items

The estimated quantities of concrete for the paving bid items covered by this QC plan are as follows:

Item No. 415.0070	Concrete Pavement 7-Inch	128	SY
Item No. 415.0410	Concrete Pavement Approach Slab	378	SY
Item No. 416.1010	Concrete Surface Drains	35.8	CY
Item No. 715.0412	Incentive Strength Concrete Pavement	500	DOL

## Quality Control Testing

The goal of the quality control testing program is to accurately test the properties of the concrete and aggregate. By following the high standards specified below we intend to remove testing as a cause of significant deviation in the measured material properties.

## Aggregate Testing

### Sampling and Testing During Concrete Production

A complete gradation, including P200, using a washed analysis for both fine and coarse aggregates shall be performed in accordance with AASHTO T-11, T-27 & T-255 as modified by the Department on randomly selected samples during concrete production in accordance with the frequencies listed in SS 710.5.6.3.

Daily Concrete Production	Minimum Frequency Per Stockpile
250 or less	One test per cumulative 250 cy
>250 cy to 1000 cy	One test per day
>1000 cy	Two tests per day

In addition, the fine and coarse aggregate moisture content for each sample used to test for gradation will be determined. Samples will be obtained, when possible, from the discharge of the conveyor belt. If this is not possible, samples will be obtained from the working face of the stockpile or bin in a manner consistent with QMP procedures.

### Documentation

Upon completion, individual test results will be reported for the 1 ½", 1", ¾", 3/8", #4, #8, #16, #30, #50, #100, and #200 sieves.

1. Each sample will be evaluated to meet the requirements of 715.2.2. for acceptance.

The target batch weights for each mix will be calculated and reported when production of that mix begins. Reports will be available from AW Oakes.

### Corrective Action

The contractor shall notify the engineer whenever an individual test value exceeds a control limit. Action regarding the disposition for unacceptable material shall be in accordance with Subsection 106.5 of the Standard Specifications.

Additional samples and testing will be performed as often as practical until the aggregate(s) in question are conforming.

Whenever the moisture content of the fine or coarse aggregate changes by more than 0.5 percent, the batch weights will be adjusted to maintain the design water/cement ratio.

## **Compressive Strength**

### **Concrete Sampling**

A pay adjustment for compressive strength shall be applied on a lot-by-lot basis. Concrete shall be accepted or rejected on a subplot-by-subplot basis. The contractor shall designate the location and size of all lots for the project prior to concrete placement.

For sampling by lane-feet, each lot is one paving pass in width and may be either one or two lanes wide. Lots and sublots may include concrete from more than one day of paving; however, a lot shall have a minimum of 4 sublots and a maximum of 8 sublots. Sublots at either end of a paving pass may be greater than 1000 lane feet (500 lane feet for two-lane paving) in size to accommodate the actual project length and staging requirements.

For sampling by cubic yard, only one subplot will be taken from a truckload of concrete. Lots will be a maximum of 2000 cubic yards divided into approximately equal 250 cubic yard or smaller sublots. The contractor may designate lots smaller than standard size. An undersized lot is eligible for incentive payment under 715.5 of the Standard Specifications if the contractor defines 4 or more sublots in that lot.

A project specific Material Tracking and Random Number Workbook will be created for each mix design and placement method. These will be provided to the engineering staff separately and will be updated as required.

All samples will be taken from the grade or from the discharge stream of the truck. Increments will be spread out over the middle 1/3 of the load. No increment will be collected from material after it has been moved by the paver or spreader augers.

The contractor, in accordance with CMM 8.30, shall determine subplot random sampling locations. The concrete shall be sampled, and test cylinders cast and cured in accordance with AASHTO T-141 and T-23, respectively. One set of three 6-inch x 12-inch cylinders shall be taken for each subplot from the plastic concrete delivered to the job site. Each of the three cylinders shall be cast from the same concrete sample.

### **Concrete Cylinder Curing**

The contractor shall provide adequate facilities for the initial curing of cylinders. During the 24 hours after molding, the temperature immediately adjacent to the specimens should be maintained in the range of 60° to 80° Fahrenheit and the loss of moisture from specimens prevented. The specimens shall be stored to ensure that the temperature and moisture loss requirements are met.

Between 24 and 48 hours following fabrication, the specimens shall be transported to a WisDOT qualified laboratory. Laboratory curing, and compressive strength testing of cores and cylinder shall be performed by technicians certified as Concrete Compressive Strength Testers by the Department's Highway Technician Certification Program.

The compressive strength, in pounds per square inch (psi), of each cylindrical concrete specimen shall be determined 28 days following the casting, in accordance with the requirements of AASHTO T-22. Two randomly selected cylinders will be tested for each subplot. If the lower strength divided by the higher strength is less than 0.9, the additional cylinder from the set will be tested and the strengths of the two higher cylinders will be averaged.

The compressive strength test machine shall automatically record the date, time, rate of loading and maximum load of each strength cylinder. Each cylinder shall be tested to failure. A printout of this information shall accompany the compressive strength documentation for each cylinder cast for the subplot.

We understand the Department reserves the right to periodically observe sampling and testing performed by the contractor, monitor strength testing, and to direct the contractor to make additional test cylinders for testing and evaluation by the state. The additional samples will not be used for determining the pay adjustment for the lot. All test results shall be available to the engineer to review at any time during normal working hours.

## **Payment Adjustment**

Any incentive or disincentive pay adjustment will be based on the compressive strength results of the quality control cylinders fabricated from each subplot included in the lot. The dollar amount of the pay adjustment, for concrete, will be determined in accordance with the standard specification, Section No. 715.5.2 "Pavements".

In no case shall a compressive strength bonus be paid on material within a subplot that has been determined to have air content outside the control limits.

## **Removal and Replacement**

The material contained in a subplot will be assessed for removal if the contractor's average of two 28-day compressive strength test results that represent the subplot is below 2500 psi.

The department may assess further strength penalty or require removal and replacement only after coring the subplot. The engineer may initially evaluate the subplot strength using a non-destructive method. Based on the results of non-destructive testing, the department may accept the subplot at the previously determined pay for the lot, or direct the contractor to core the lot.

If the engineer directs coring, obtain three cores from the subplot in question. Have an HTCP certified PCCTEC-I perform or observe core sampling in accordance to AASHTO T-24.

Have an independent consultant test cores according to AASHTO T-24, except test cores after air-curing if the cores are from above-grade concrete elements that will only be superficially wet in service.

The assessment shall determine the compressive strength of the concrete based upon an evaluation of three cores obtained from the subplot in question. If the strengths of each of the three cores is greater than 2500 psi the pavement is said to be conforming and the engineer will accept the subplot. If compressive strength of any core is less than 2500 psi, the subplot is nonconforming and the engineer may require the contractor to remove and replace the subplot or otherwise determine the final disposition of nonconforming material as specified in 106.5

## **Air Content**

On each day of production, the air content of the fresh concrete shall be tested as early and as frequently as possible until the material being produced meets the specifications and the production process is under control. Thereafter, an air content test shall be performed for each compressive strength subplot. Air content tests shall be performed, by a certified PCCTEC-I or higher, on concrete taken from the same concrete sample from which the quality control strength cylinders are produced, unless otherwise required. Air content tests shall be performed in accordance with AASHTO T-152 as modified by the Department.

The lower and upper control limits for Air Content in hand placed mixtures shall be 4.5% and 7.5%, respectively. The lower and upper control limits for Air Content for slip-formed concrete shall be 5.5% and 8.5%, respectively.

The entrained air will also be tested once per lot using the Super Air Meter (SAM), for informational purposes only.

## Concrete Temperature

The concrete temperature shall be measured in accordance with ASTM C 1064, by a certified PCCTEC-I or higher, from the same concrete sample from which the quality control strength cylinders are produced.

## Slump

Tests for slump shall be made in accordance with AASHTO T-119, by a certified PCCTEC-I or higher, at the same frequency and from the same composite sample as the compressive strength cylinders, or as requested by the engineer. The contractor need not test slump for concrete placed by slip-form methods, unless the engineer requests. Slump shall be measured to the nearest ¼". The concrete material shall comply with Subsection 501.3.7.1 of the Standard Specifications.

## Documentation

All observations, inspection records and process adjustments shall be documented daily. The test results will be discussed verbally with on-site personnel as soon as they become available. In addition, observations and reports will be submitted to WisDOT selected personnel at agreed upon intervals.

## Corrective Action

If a test result approaches a control limit, process control tests may be run at the request of the contractor to help control the mix. In addition, process control tests shall be performed whenever the mix grade or method of placement changes and as the engineers direct.

If an individual test result is outside the control limits, the contractor shall notify the engineer, and perform additional tests as often as practical on subsequent loads of material being delivered to the work site until the results is inside the control limits. The material shall be considered unacceptable when an individual test result exceeds a control limit. The quantity of unacceptable material shall be that material contained within the load of the first test result exceeding the control limit, continuing to but not including the load with the first subsequent test result that is within the control limits. Compensation, rejection or removal / replacement of unacceptable material shall be in accordance with Subsection 106.5 of the Standard Specifications. In no case shall a compressive strength bonus be paid on the quantity of material determined to be unacceptable.

## Batch Plant Locations

### **Zignego Ready Mix – Plant 3**

14425 58<sup>th</sup> Rd  
Sturtevant, WI 53177

Andrea Breen  
[andreab@zignego.com](mailto:andreab@zignego.com)  
414-750-1229



## Frequency of Contractor Quality Control Testing

Contractor will follow section 716 QMP Ancillary Concrete testing frequencies:

Perform random QC testing at the following frequencies:

1. Test air content and slump a minimum of once per 100 cubic yards for each mix grade and placement method.
2. Cast one set of 2 cylinders per 200 cubic yards for each mix grade and placement method. Cast a minimum of one set of 2 cylinders per contract for each mix grade and placement method. Random 28-day compressive strength cylinders are not required for HES or SHES concrete.
3. For deck overlays, perform tests and cast cylinders once per 50 cubic yards of grade E concrete placed.
4. For concrete base, one set of tests and one set of cylinders per 250 cubic yards.

Conform to the initial curing requirements under 710.5.5 except the contractor may extend initial curing for 72 hours before transporting the cylinders to a department-qualified laboratory.

Test aggregate gradations, including P200, as specified in 710.5.6 at the frequency listed below which results in the least number of tests:

- A maximum of one test per day.
- A minimum of one test per 400 cubic yards of cumulative concrete placed.

Alternatively, the engineer may accept aggregate based on documented previous testing.

Department verification testing is optional for aggregate used in class II concrete.



Project Name: STH 20  
 Project Number: 3833-03-73  
 County: Racine  
 Contractor: A.W. Oakes & Son

Last Update (Date): 9/15/2020  
 Submitted (Date): 9/17/2020  
 To:

**Ancillary Aggregate Sampling**

Grade	Test #	Random #	Qty Satisfied	Test Qty	Range Low	Range High	Description
	1	0.039	0	16	0	- 400	
	2		400	400	400	- 800	
	3		800	800	800	- 1200	
	4		1200	1200	1200	- 1600	
	5		1600	1600	1600	- 2000	
	6		2000	2000	2000	- 2400	
	7		2400	2400	2400	- 2800	
	8		2800	2800	2800	- 3200	
	9		3200	3200	3200	- 3600	
	10		3600	3600	3600	- 4000	
	11		4000	4000	4000	- 4400	
	12		4400	4400	4400	- 4800	
	13		4800	4800	4800	- 5200	
	14		5200	5200	5200	- 5600	
	15		5600	5600	5600	- 6000	
	16		6000	6000	6000	- 6400	
	17		6400	6400	6400	- 6800	
	18		6800	6800	6800	- 7200	
	19		7200	7200	7200	- 7600	
	20		7600	7600	7600	- 8000	
	21		8000	8000	8000	- 8400	
	22		8400	8400	8400	- 8800	
	23		8800	8800	8800	- 9200	
	24		9200	9200	9200	- 9600	
	25		9600	9600	9600	- 10000	
	26		10000	10000	10000	- 10400	
	27		10400	10400	10400	- 10800	
	28		10800	10800	10800	- 11200	
	29		11200	11200	11200	- 11600	
	30		11600	11600	11600	- 12000	
	31		12000	12000	12000	- 12400	
	32		12400	12400	12400	- 12800	
	33		12800	12800	12800	- 13200	
	34		13200	13200	13200	- 13600	
	35		13600	13600	13600	- 14000	
	36		14000	14000	14000	- 14400	
	37		14400	14400	14400	- 14800	
	38		14800	14800	14800	- 15200	
	39		15200	15200	15200	- 15600	
	40		15600	15600	15600	- 16000	
	41		16000	16000	16000	- 16400	
	42		16400	16400	16400	- 16800	
	43		16800	16800	16800	- 17200	
	44		17200	17200	17200	- 17600	
	45		17600	17600	17600	- 18000	
	46		18000	18000	18000	- 18400	
	47		18400	18400	18400	- 18800	
	48		18800	18800	18800	- 19200	

Project Name: STH 20  
 Project #: 3833-03-73  
 County: Racine  
 Contractor: A.W. Oakes & Son

EXISTING GRADE-METHODS			
915-HP	-	-	-



ANCILLARY										ANCILLARY									
Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High
915-HP-1	1	0.13	0.005	915 YES	HP	0	13	0	100	--1	1	0.244	0.169	915 YES		0	24	0	100
915-HP-2	2	0.948		915 NO	HP	100	195	100	200	--2	2	0.559		915 NO		100	156	100	200
915-HP-3	3				HP	200	200	200	300	--3	3					200	200	200	300
915-HP-4	4				HP	300	300	300	400	--4	4					300	300	300	400
915-HP-5	5				HP	400	400	400	500	--5	5					400	400	400	500
915-HP-6	6				HP	500	500	500	600	--6	6					500	500	500	600
915-HP-7	7				HP	600	600	600	700	--7	7					600	600	600	700
915-HP-8	8				HP	700	700	700	800	--8	8					700	700	700	800
915-HP-9	9				HP	800	800	800	900	--9	9					800	800	800	900
915-HP-10	10				HP	900	900	900	1000	--10	10					900	900	900	1000
915-HP-11	11				HP	1000	1000	1000	1100	--11	11					1000	1000	1000	1100
915-HP-12	12				HP	1100	1100	1100	1200	--12	12					1100	1100	1100	1200

ANCILLARY										ANCILLARY									
Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High
--1	1					0	0	0	100	--1	1					0	0	0	100
--2	2					100	100	100	200	--2	2					100	100	100	200
--3	3					200	200	200	300	--3	3					200	200	200	300
--4	4					300	300	300	400	--4	4					300	300	300	400
--5	5					400	400	400	500	--5	5					400	400	400	500
--6	6					500	500	500	600	--6	6					500	500	500	600
--7	7					600	600	600	700	--7	7					600	600	600	700
--8	8					700	700	700	800	--8	8					700	700	700	800
--9	9					800	800	800	900	--9	9					800	800	800	900
--10	10					900	900	900	1000	--10	10					900	900	900	1000
--11	11					1000	1000	1000	1100	--11	11					1000	1000	1000	1100
--12	12					1100	1100	1100	1200	--12	12					1100	1100	1100	1200

ANCILLARY										ANCILLARY									
Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High
--1	1					0	0	0	100	--1	1					0	0	0	100
--2	2					100	100	100	200	--2	2					100	100	100	200
--3	3					200	200	200	300	--3	3					200	200	200	300
--4	4					300	300	300	400	--4	4					300	300	300	400
--5	5					400	400	400	500	--5	5					400	400	400	500
--6	6					500	500	500	600	--6	6					500	500	500	600
--7	7					600	600	600	700	--7	7					600	600	600	700
--8	8					700	700	700	800	--8	8					700	700	700	800
--9	9					800	800	800	900	--9	9					800	800	800	900
--10	10					900	900	900	1000	--10	10					900	900	900	1000
--11	11					1000	1000	1000	1100	--11	11					1000	1000	1000	1100
--12	12					1100	1100	1100	1200	--12	12					1100	1100	1100	1200

ANCILLARY										ANCILLARY									
Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Cylinder Random	Grade: Cyl. Required	METHOD:	Qty satisfied	Test Qty.	Range Low	Range High
--1	1					0	0	0	100	--1	1					0	0	0	100
--2	2					100	100	100	200	--2	2					100	100	100	200
--3	3					200	200	200	300	--3	3					200	200	200	300
--4	4					300	300	300	400	--4	4					300	300	300	400
--5	5					400	400	400	500	--5	5					400	400	400	500
--6	6					500	500	500	600	--6	6					500	500	500	600
--7	7					600	600	600	700	--7	7					600	600	600	700
--8	8					700	700	700	800	--8	8					700	700	700	800
--9	9					800	800	800	900	--9	9					800	800	800	900
--10	10					900	900	900	1000	--10	10					900	900	900	1000
--11	11					1000	1000	1000	1100	--11	11					1000	1000	1000	1100
--12	12					1100	1100	1100	1200	--12	12					1100	1100	1100	1200



Project Name: STH 20  
Project Number: 3833-03-73  
County: Racine  
Contractor: A.W. Oakes & Son

Last Update (Date): 9/15/2020  
Submitted (Date): 9/17/2020  
To:

**Pavement Aggregate Sampling**

Test #	Random #	Qty Satisfied	Test Qty	Range Low	Range High	Description
1	0.166	0	42	0	-	250
2	0.215	250	304	250	-	500
3	0.796	500	699	500	-	750
4	0.383	750	846	750	-	1000
5	0.774	1000	1194	1000	-	1250

Project Name: STH 20  
 Project #: 3833-03-73  
 County: Racine  
 Contractor: A.W. Oakes & Son

EXISTING MIX-METHODS			
918-HP	945-HP	-	-
920-HP	-	-	-



PAVEMENT RANDOMS

LOT 1							LOT 2						
Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High
LOT 1-1	1	0.155	0	39	0	250	LOT 2-1	1	0.294	0	29	0	100
LOT 1-2	2		250	250	250	500	LOT 2-2	2		100	100	100	200
LOT 1-3	3		500	500	500	750	LOT 2-3	3		200	200	200	300
LOT 1-4	4		750	750	750	1000	LOT 2-4	4		300	300	300	400
LOT 1-5	5		1000	1000	1000	1250	LOT 2-5	5		400	400	400	500
LOT 1-6	6		1250	1250	1250	1500	LOT 2-6	6		500	500	500	600
LOT 1-7	7		1500	1500	1500	1750	LOT 2-7	7		600	600	600	700
LOT 1-8	8		1750	1750	1750	2000	LOT 2-8	8		700	700	700	800

LOT 3							LOT 4						
Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High
LOT 3-1	1	0.138	0	14	0	100	LOT 4-1	1		0	0	0	100
LOT 3-2	2		100	100	100	200	LOT 4-2	2		100	100	100	200
LOT 3-3	3		200	200	200	300	LOT 4-3	3		200	200	200	300
LOT 3-4	4		300	300	300	400	LOT 4-4	4		300	300	300	400
LOT 3-5	5		400	400	400	500	LOT 4-5	5		400	400	400	500
LOT 3-6	6		500	500	500	600	LOT 4-6	6		500	500	500	600
LOT 3-7	7		600	600	600	700	LOT 4-7	7		600	600	600	700
LOT 3-8	8		700	700	700	800	LOT 4-8	8		700	700	700	800

LOT 5							LOT 6						
Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High
LOT 5-1	1		0	0	0	100	LOT 6-1	1		0	0	0	100
LOT 5-2	2		100	100	100	200	LOT 6-2	2		100	100	100	200
LOT 5-3	3		200	200	200	300	LOT 6-3	3		200	200	200	300
LOT 5-4	4		300	300	300	400	LOT 6-4	4		300	300	300	400
LOT 5-5	5		400	400	400	500	LOT 6-5	5		400	400	400	500
LOT 5-6	6		500	500	500	600	LOT 6-6	6		500	500	500	600
LOT 5-7	7		600	600	600	700	LOT 6-7	7		600	600	600	700
LOT 5-8	8		700	700	700	800	LOT 6-8	8		700	700	700	800

LOT 7							LOT 8						
Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High	Lot/sublot:	Test #	random #	Qty satisfied	Test Qty.	Range Low	Range High
LOT 7-1	1		0	0	0	100	LOT 8-1	1		0	0	0	100
LOT 7-2	2		100	100	100	200	LOT 8-2	2		100	100	100	200
LOT 7-3	3		200	200	200	300	LOT 8-3	3		200	200	200	300
LOT 7-4	4		300	300	300	400	LOT 8-4	4		300	300	300	400
LOT 7-5	5		400	400	400	500	LOT 8-5	5		400	400	400	500
LOT 7-6	6		500	500	500	600	LOT 8-6	6		500	500	500	600
LOT 7-7	7		600	600	600	700	LOT 8-7	7		600	600	600	700
LOT 7-8	8		700	700	700	800	LOT 8-8	8		700	700	700	800

Final Report  
Received: 10/12/20  
JMK  
Reviewed: 10/14/20



QMP CONCRETE PAVEMENT

2000 OAKES ROAD RACINE, WI 53406

## **QMP CONCRETE PAVEMENT**

**STH 20  
USH 45 TO IH 94  
STH 20  
RACINE COUNTY  
3833-03-73**



QMP CONCRETE PAVEMENT 2000 OAKES ROAD RACINE, WI 53406

<b>Project Name:</b> STH 20	<b>Batch Plant:</b> P3
<b>Project #:</b> 3833-03-73	<b>Foreman:</b> Chad Stacy
<b>County:</b> Racine	<b>Contractor:</b> A.W. Oakes & Son
<b>Technician:</b> Jason Andrews - 103750	<b>Pour Date:</b> 9/18/2020
<b>Weather:</b> 57-60	<b>Estimated CY:</b> 80
<b>Start Pour:</b> 12:00 PM	<b>Actual CY:</b> 87
<b>End Pour:</b> 4:30 PM	<b>Load Size:</b> 9,6

Random Sample Calculations:							
Lot	Sublot	Test Range	Random Number	Sublot Size	Test Quantity	Quantity Satisfied	Cumul. Test Quantity
1	1-1	0 - 250	0.155	250	39	0	39

Note: Random numbers generated by computer.

Startup Testing:							
	Slump (in)	Air (%)	CY Out	Time	Concrete Mix	Conc Temp (°F)	Amb Temp (°F)
	3.25	4.9	2	12:45 PM	918	70	57

Test Location: East bridge approach  
 Source: Zignego Ready Mix  
 Truck #: 309  
 Placement Method: Hand Pour  
 # of Breaker Cylinders: 3

Notes:

Random Sample # 1-1							
	Slump (in)	Air (%)	Sublot Qty	Time	Concrete Mix	Conc Temp (°F)	Amb Temp (°F)
	3.25	5.0	39	2:10 PM	918	72	59

Location: East bridge approach  
 Source: Zignego Ready Mix  
 Truck #: 309  
 Placement Method: Hand Pour  
 # of Breaker Cylinders: None

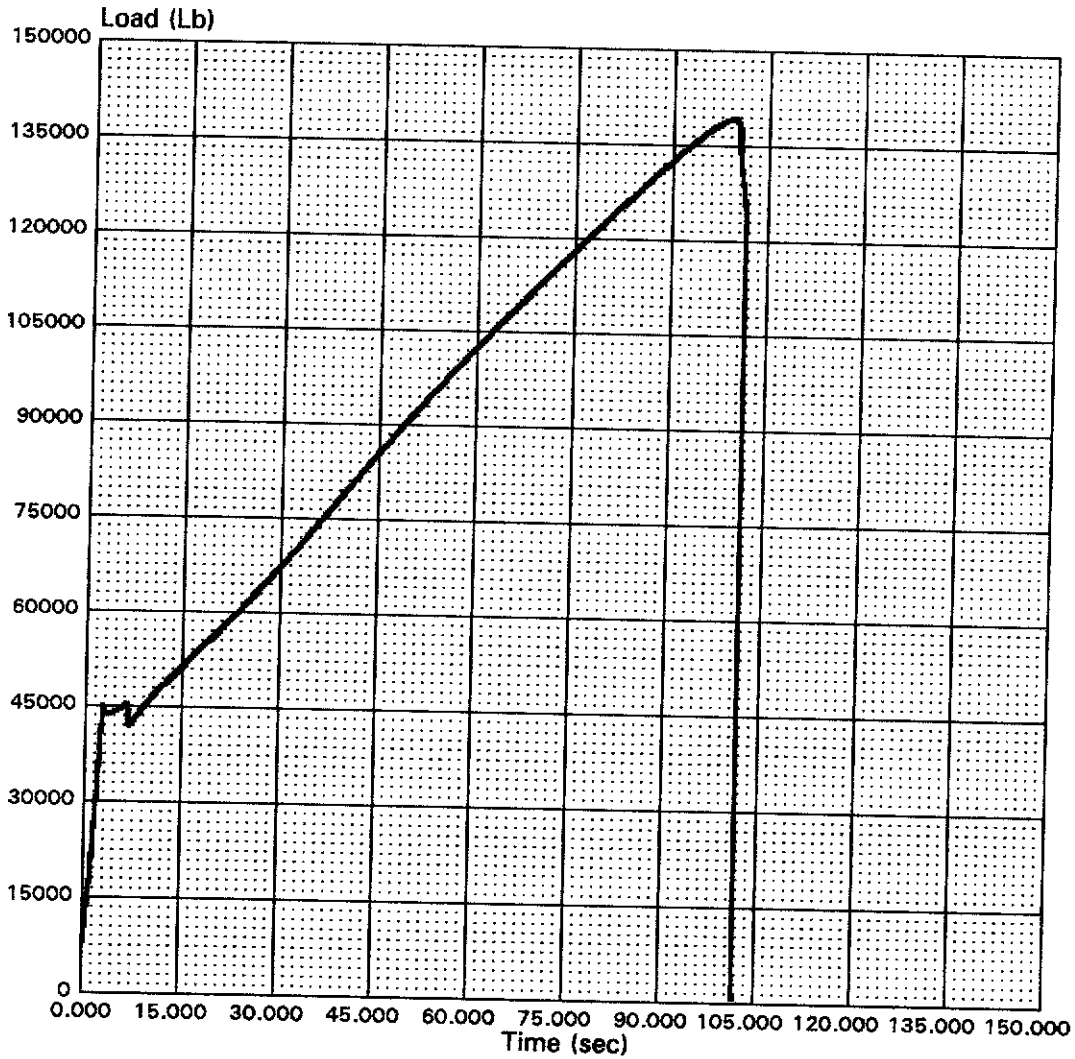
Notes:

RESULTS

Date: 10-16-20  
Time: 13:48:21  
Specimen ID#: 1-1  
Operator ID#: 6  
Specimen Type: CYLINDER  
Specimen Length (in): 12.000  
Specimen Area (sqin): 28.463  
Cylinder Break Type: SHEAR  
Specimen Age: 28 days

Peak (Lb): 139110  
Peak (psi): 4888  
Rate (Lb/sec): 1034  
Rate (psi/sec): 36

QC Tech Inc. Raymond Lab  
Project: STH 20 OAKES  
Date Cast: 9/18  
1-1  
STH 20  
3833-03-73  
9/18/2020  
A.W. Oakes & Son  
Lot 1-1



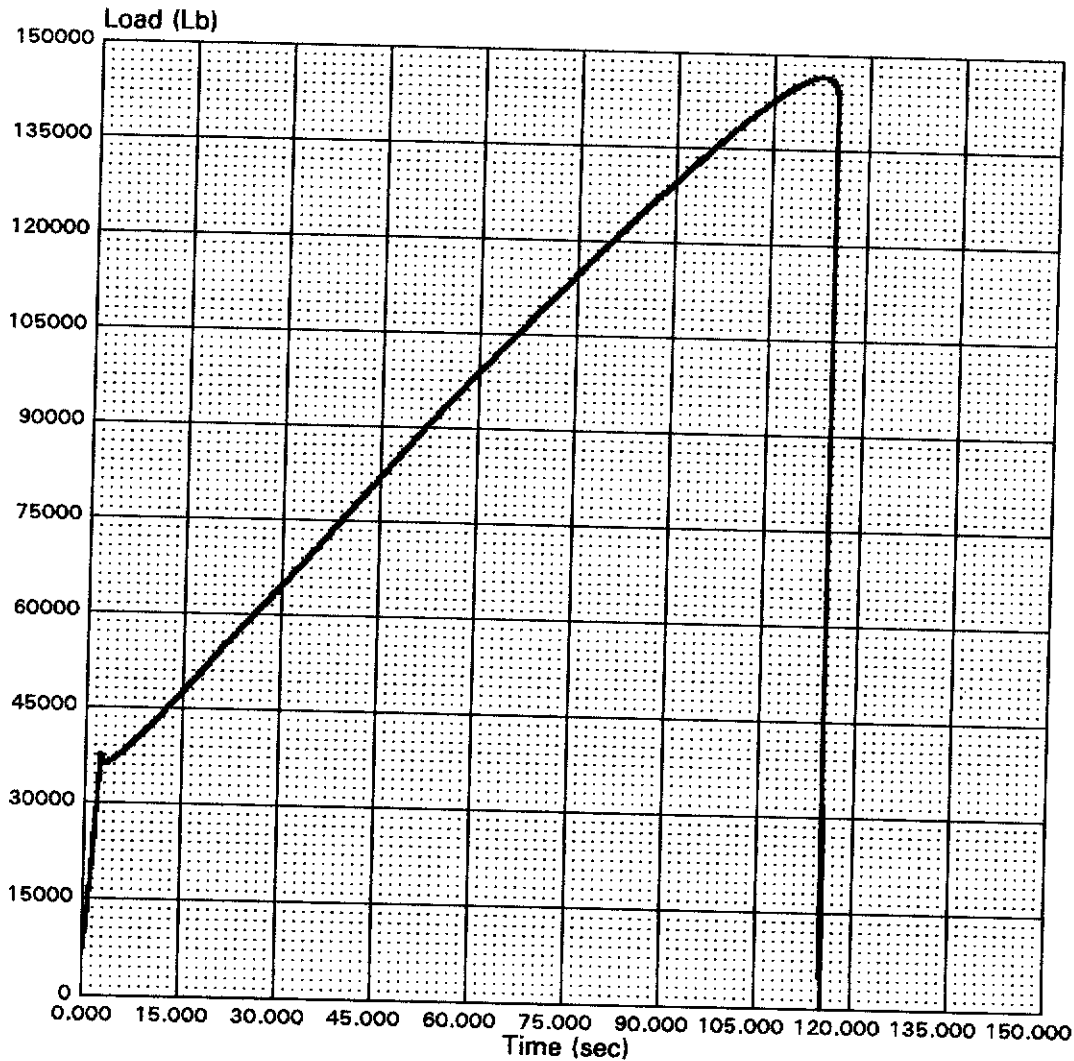


RESULTS

Date: 10-16-20  
Time: 13:44:25  
Specimen ID#: 1-1  
Operator ID#: 6  
Specimen Type: CYLINDER  
Specimen Length (in): 12.000  
Specimen Area (sqin): 28.274  
Cylinder Break Type: CONE & SHEAR  
Specimen Age: 28 days

Peak (Lb): 146470  
Peak (psi): 5180  
Rate (Lb/sec): 978  
Rate (psi/sec): 35

QC Tech Inc.  
Project: STH20  
Date Cast: 9/18  
1-1  
Raymond Lab  
OAKES  
STH 20  
3833-03-73  
9/18/2020  
A.W. Oakes & Son  
Lot 1-1





QMP CONCRETE PAVEMENT 2000 OAKES ROAD RACINE, WI 53406

<b>Project Name:</b> STH 20	<b>Batch Plant:</b> ZRM P3
<b>Project #:</b> 3833-03-73	<b>Foreman:</b> Chad Stacy
<b>County:</b> Racine	<b>Contractor:</b> A.W. Oakes & Son
<b>Technician:</b> Chad Stacy - 106361	<b>Pour Date:</b> 9/30/2020
<b>Weather:</b> 50-52	<b>Estimated CY:</b> 27
<b>Start Pour:</b> 7:00 AM	<b>Actual CY:</b> 27
<b>End Pour:</b> 9:30 AM	<b>Load Size:</b> 9

**Startup Testing:**

	Slump (in)	Air (%)	CY Out	Time	Concrete Mix	Conc Temp (°F)	Amb Temp (°F)
	2.50	4.8	2	7:16 AM	918	65	50

Test Location: Approach

Source: Zignego Ready Mix

Truck #: 1st

Placement Method: Hand Pour

# of Breaker Cylinders: 3

Notes:



QMP CONCRETE PAVEMENT 2000 OAKES ROAD RACINE, WI 53406

<b>Project Name:</b> STH 20	<b>Batch Plant:</b> ZRM P3
<b>Project #:</b> 3833-03-73	<b>Foreman:</b> Chad Stacy
<b>County:</b> Racine	<b>Contractor:</b> A.W. Oakes & Son
<b>Technician:</b> Chad Stacy - 106361	<b>Pour Date:</b> 9/30/2020
<b>Weather:</b> 52-54	<b>Estimated CY:</b> 27
<b>Start Pour:</b> 1:00 PM	<b>Actual CY:</b> 27
<b>End Pour:</b> 3:00 PM	<b>Load Size:</b> 9

**Startup Testing:**

	Slump (in)	Air (%)	CY Out	Time	Concrete Mix	Conc Temp (°F)	Amb Temp (°F)
	3.00	5.3	2	1:05 PM	920	67	52

Test Location: Approach

Source: Zignego Ready Mix

Truck #: 1st

Placement Method: Hand Pour

# of Breaker Cylinders: 4

Notes: Unanticipated mix change. Did not reach random sample quantity for pavement item.  
Provisional test on mix 920 taken on ancillary item.



QMP CONCRETE PAVEMENT 2000 OAKES ROAD RACINE, WI 53406

<b>Project Name:</b> STH 20	<b>Batch Plant:</b> ZRM P3
<b>Project #:</b> 3833-03-73	<b>Foreman:</b> Chad Stacy
<b>County:</b> Racine	<b>Contractor:</b> A.W. Oakes & Son
<b>Technician:</b> Jason Andrews - 103750	<b>Pour Date:</b> 10/3/2020
<b>Weather:</b> 46-48	<b>Estimated CY:</b> 27
<b>Start Pour:</b> 8:00 AM	<b>Actual CY:</b> 29
<b>End Pour:</b> 10:55 AM	<b>Load Size:</b> 9,2

**Startup Testing:**

Slump (in)	Air (%)	CY Out	Time	Concrete Mix	Conc Temp (°F)	Amb Temp (°F)
3.25	4.9	2	8:20 AM	918	67	46

Test Location: West approach B-51-158

Source: Zignego Ready Mix

Truck #: 363

Placement Method: Hand Pour

# of Breaker Cylinders: 3

Notes: Informed Zignego of results asked for increase in AE.



QMP CONCRETE PAVEMENT 2000 OAKES ROAD RACINE, WI 53406

<b>Project Name:</b> STH 20	<b>Batch Plant:</b> ZRM P3
<b>Project #:</b> 3833-03-73	<b>Foreman:</b> Chad Stacy
<b>County:</b> Racine	<b>Contractor:</b> A.W. Oakes & Son
<b>Technician:</b> Chad Stacy - 106361	<b>Pour Date:</b> 10/6/2020
<b>Weather:</b> 72-74	<b>Estimated CY:</b> 27
<b>Start Pour:</b> 1:30 PM	<b>Actual CY:</b> 28
<b>End Pour:</b> 4:30 PM	<b>Load Size:</b> 9,1.5

**Startup Testing:**

	Slump (in)	Air (%)	CY Out	Time	Concrete Mix	Conc Temp (°F)	Amb Temp (°F)
	2.50	5.7	2	1:45 PM	918	71	72

Test Location: Approach B-51-59

Source: Zignego Ready Mix

Truck #: 364

Placement Method: Hand Pour

# of Breaker Cylinders: 4

Notes:

# Concrete Aggregate Gradation

**QC Tech Inc.**  
Construction Materials Testing

PROJECT #: 3833-03-73 STH 20	SAMPLED BY: <b>Jason Andrews</b>	LABORATORY: QC Tech Raymond Lab 315 76th Street, Franksville, WI 53126
SOURCE: ZRM p3	TESTED BY: <b>Austin Sudik</b>	STANDARD: AASHTO T 27
DATE SAMPLED: 9/18/2020	CONTRACTOR: AW Oakes	MATERIAL: SAMPLE #: 1 Crushed Gravel, Torpedo Sand

<b>Fine Aggregate</b>			WASHED
Sample wet weight (g):		565	
Sample dry weight (g):		538	
Moisture Lost (g): 27		=	5.0%
Sieve	Wt.Ret.	% Pass	
3/8"	0	<b>100</b>	
no.4	2	<b>100</b>	
no.8	76	<b>86</b>	
no.16	178	<b>67</b>	
no.30	290	<b>46</b>	
no.50	454	<b>16</b>	
no.100	515	<b>4</b>	
no.200	526	<b>2.2</b>	
Fineness Modulus:		<b>2.82</b>	

<b># One Stone</b>			WASHED
Sample wet weight (g):		5690	
Sample dry weight (g):		5526	
Moisture Lost (g): 164		=	3.0%
Sieve	Wt.Ret.	% Pass	
1"	0	<b>100</b>	
3/4"	472	<b>92</b>	
1/2"	2301	<b>58</b>	
3/8"	3336	<b>40</b>	
no.4	5186	<b>6</b>	
no.8	5424	<b>2</b>	
no.200	5499	<b>0.5</b>	

Proportions for Concrete Mix:		918
Fine Agg:	40.0%	
One Stone:	36.0%	
Two Stone:	24.0%	

<b># Two Stone</b>			WASHED
Sample wet weight (g):		15516	
Sample dry weight (g):		15289	
Moisture Lost (g): 227		=	1.5%
Sieve	Wt.Ret.	% Pass	
2"	0	<b>100</b>	
1-1/2"	637	<b>96</b>	
1"	9208	<b>40</b>	
3/4"	14553	<b>5</b>	
1/2"	15162	<b>1</b>	
3/8"	15171	<b>1</b>	
no.4	15186	<b>1</b>	
no.200	15238	<b>0.3</b>	

Combined Gradation Compilation				
Sieve	WPP Fine	WPP #1	WPP #2	Total
1-1/2"	40.0	36.0	23.0	<b>99</b>
1"	40.0	36.0	9.5	<b>86</b>
3/4"	40.0	32.9	1.2	<b>74</b>
1/2"	40.0	21.0	0.2	<b>61</b>
3/8"	40.0	14.2	0.2	<b>54</b>
no.4	39.9	2.2	0.2	<b>42</b>
no.8	34.4	0.6	0.1	<b>35</b>
no.16	26.8	0.2	0.1	<b>27</b>
no.30	18.5	0.2	0.1	<b>19</b>
no.50	6.2	0.2	0.1	<b>6</b>
no.100	1.7	0.2	0.1	<b>2</b>
no.200	0.9	0.2	0.1	<b>1.1</b>

Specified Combined Gradation		
Sieve	Ttl % Pass	Upper Control Limit
2"	<b>100</b>	100
1"	<b>86</b>	89
no.4	<b>42</b>	42
no.200	<b>1.1</b>	2.3

Aggregate % Absorption	
Fine Agg:	1.235%
One Stone:	0.789%
Two Stone:	0.789%

Batch Moisture Calculations				
	Fine Agg	#1 Stone	#2 Stone	Total Wt
SSD Weights	1245	1119	746	3110
Wet Weights	1292	1143	751	3187
Free Moisture	47	24	5	77 = 9.2 gal.

Test Number: 095.186 - 130 - 0292 - 2020

Lab Site

Page 1 of 2

Materials Laboratory Testing System Tests On:

Concrete Cylinders  
Type: V - VERIFICATION

Behnke Materials Engineering  
Site 1  
1209 Elmwood Ave  
Beloit, WI 53511

Main Project ID: 3833-03-73

Sth 20  
Ush 45 To I94  
STH 020, Racine County

Date Sampled:

10/03/20  
By: Wesley Sigl / 201854

Date Requested / Received:

10/05/20

Date Tested:

10/31/20  
By: Morgan Bathalon / 202343

Source: 55-51-010-PIT : HILLSIDE

PIT

Legal Description: , SE, Section: 7, T: 2 N, R: 19, E

County: RACINE

Compressive Strength of Cylinders: AASHTO T-22

Grade: A-FA

Class:

Cement content: 393 lb

Brand/Mill: St. Marys-Charlevoix,MI

Type: 1/2

Supplementary Cementitious Materials:

Fly Ash

Content: 173 lb

Source: LaFarge- Oak Creek

Class: C

Slag content: lb

Source:

Grade:

Lot: 1

Sublot: 1

Sample Location: West Pavement Approach Slab at B-51-158 EB Lane

Concrete Supplier: Zignego - Johnson Creek

Admixtures:

Brand and Trade Name	Dosage Rate (oz)
1 Sika Air 260	6.33
2 Plastocrete 250	28.00

Aggt. Source Names:

Fine: HILLSIDE

Coarse: HILLSIDE

Coarse 2/ SPRINGVALLEY

Other:

Cylinder Information:

Cylinder Number	Cylinder Made For	Diameter	Area	Max Load	Age	Compressive Strength	Rate of Loading	Date Tested
		inches	inches <sup>2</sup>	lbs	Days	Psi	Psi/second	
6470	PAVEMENT	6.00	28.28	134,582	28	4,758.3	35	10/31/2020
6471	PAVEMENT	5.98	28.10	136,482	28	4,856.2	35	10/31/2020

Total Aggregate: 3,242 lb/cy

Fine Aggregate: 40 %

Slump: 2.75 inches

Net Air: 5.1 %

Lab certifies strength is per ASTM C39. Other data not certified. Conical break unless otherwise noted.

Remarks:

Verified Date: 11/02/2020

Verified By: JOSH AMUNDSON

Test Number: 095.186 - 130 - 0292 - 2020

**Lab Site**

Page 2 of 2

**Materials Laboratory Testing System Tests On:**

Concrete Cylinders  
Type: V - VERIFICATION

Behnke Materials Engineering  
Site 1  
1209 Elmwood Ave  
Beloit, WI 53511

**Main Project ID:** 3833-03-73

Sth 20  
Ush 45 To I94  
STH 020, Racine County

**Date Sampled:**

10/03/20  
By: Wesley Sigl / 201854

**Date Requested / Received:**

10/05/20

**Date Tested:**

10/31/20  
By: Morgan Bathalon / 202343

Source: 55-51-010-PIT : HILLSIDE

PIT

Legal Description: , SE, Section: 7, T: 2 N, R: 19, E

County: RACINE

Verified Date: 11/02/2020

Verified By: JOSH AMUNDSON



Materials Laboratory Testing System Tests On:

Concrete Cylinders  
Type: V - VERIFICATION

Behnke Materials Engineering  
Site 1  
1209 Elmwood Ave  
Beloit, WI 53511

Main Project ID: 3833-03-73

Sth 20  
Ush 45 To I94  
STH 020, Racine County

Date Sampled:

10/07/20  
By: Wesley Sigl / 201854

Date Requested / Received:

10/08/20

Date Tested:

11/04/20  
By: Morgan Bathalon / 202343

Source: 55-51-010-PIT : HILLSIDE

PIT

Legal Description: , SE, Section: 7, T: 2 N, R: 19, E

County: RACINE

Compressive Strength of Cylinders: AASHTO T-22

Grade: A-FA

Class:

Cement content: 393 lb

Brand/Mill: St. Marys-Charlevoix,MI

Type: 1/2

Supplementary Cementitious Materials:

Fly Ash

Content: 173 lb

Source: LaFarge- Oak Creek

Class: C

Slag content: lb

Source:

Grade:

Lot: 1

Sublot: 1

Sample Location: B-51-59 NW Surface Drain

Concrete Supplier: Zignego - Johnson Creek

Admixtures:

Brand and Trade Name

Dosage Rate (oz)

1 Sika Air 260

7.80

2 Plastocrete 250

28.00

Aggt. Source Names:

Fine: HILLSIDE

Coarse: HILLSIDE

Coarse 2/ SPRINGVALLEY

Other:

Cylinder Information:

Cylinder Number	Cylinder Made For	Diameter	Area	Max Load	Age	Compressive Strength	Rate of Loading	Date Tested
		inches	inches <sup>2</sup>	lbs	Days	Psi	Psi/second	
6497	ANCILLARY	6.02	28.46	146,977	28	5,163.8	35	11/4/2020
6498	ANCILLARY	6.00	28.26	142,411	28	5,040.1	35	11/4/2020

Total Aggregate: 3,242 lb/cy

Fine Aggregate: 41 %

Slump: 2.25 inches

Net Air: 5.7 %

Lab certifies strength is per ASTM C39. Other data not certified. Conical break unless otherwise noted.

Remarks:

Test Number: 095.186 - 130 - 0303 - 2020

**Lab Site**

Page 2 of 2

**Materials Laboratory Testing System Tests On:**

Concrete Cylinders  
Type: V - VERIFICATION

Behnke Materials Engineering  
Site 1  
1209 Elmwood Ave  
Beloit, WI 53511

**Main Project ID:** 3833-03-73

Sth 20  
Ush 45 To I94  
STH 020, Racine County

**Date Sampled:**

10/07/20  
By: Wesley Sigl / 201854

**Date Requested / Received:**

10/08/20

**Date Tested:**

11/04/20  
By: Morgan Bathalon / 202343

Source: 55-51-010-PIT : HILLSIDE

PIT

Legal Description: , SE, Section: 7, T: 2 N, R: 19, E

County: RACINE

Verified Date: 11/06/2020

Verified By: JOSH AMUNDSON