

# INVOICE

Reviewed  
HT

Mr. Bob Hebert  
FORT BEND COUNTY  
301 Jackson Street, Suite 719  
Richmond, TX 77469

June 19, 2018  
Project No: 700316003  
Invoice No: 218976

Construction Materials Testing and Observation Services  
Cane Island Parkway  
Fort Bend County, Texas  
PO No.: 154995

Invoice for materials testing services for the referenced project through May 25, 2018. Services included field services, laboratory testing, report preparation and project management.

## Professional Services

Task 01 Field Services

			Hours	Rate	Amount
Technician					
Badkoobeh, Hamid	5/19/2018 Ovt		6.00	75.00	450.00
Gates, Nathaniel	5/23/2018		4.00	50.00	200.00
Sanchez, Joel	5/24/2018		4.00	50.00	200.00
Savage, Brian	4/28/2018 Ovt		4.00	75.00	300.00
Walbert, John	5/4/2018		4.00	50.00	200.00
Walbert, John	5/5/2018 Ovt		4.00	75.00	300.00
Zimmer, Marcus	5/18/2018 Ovt		4.50	75.00	337.50
<b>Total Labor</b>					<b>1,987.50</b>

Task 04 Data Processing

			Hours	Rate	Amount
Data Processor					
Hooper, Tiffany	5/8/2018		.50	40.00	20.00
Hooper, Tiffany	5/9/2018		.25	40.00	10.00
Schuhmacher, Lauren	4/30/2018		.25	40.00	10.00
Schuhmacher, Lauren	5/1/2018		.25	40.00	10.00
Schuhmacher, Lauren	5/2/2018		.25	40.00	10.00
Schuhmacher, Lauren	5/4/2018		.25	40.00	10.00
Schuhmacher, Lauren	5/7/2018		.25	40.00	10.00
Schuhmacher, Lauren	5/21/2018		.25	40.00	10.00
Schuhmacher, Lauren	5/25/2018		.25	40.00	10.00

Project 700316003 FBC/CANE ISLAND PARKWAY, FM 1463 to IH10 Invoice 218976

Smith, Kaitlyn 5/4/2018 .25 40.00 10.00  
**Total Labor 110.00**

Task 11 Project Coordination

		Hours	Rate	Amount	
Principal Engineer/Geologist/Scientist					
Sunderwala, Jay	5/18/2018	.25	165.00	41.25	
Field Operations Manager					
Urban, Glenn	5/1/2018	.50	80.00	40.00	
Urban, Glenn	5/7/2018	1.00	80.00	80.00	
Urban, Glenn	5/17/2018	1.00	80.00	80.00	
Urban, Glenn	5/21/2018	1.00	80.00	80.00	
Urban, Glenn	5/23/2018	.50	80.00	40.00	
Urban, Glenn	5/24/2018	.25	80.00	20.00	
Urban, Glenn	5/25/2018	.50	80.00	40.00	
Technician					
Nix, Joshua	4/30/2018	.25	50.00	12.50	
Nix, Joshua	5/4/2018	.25	50.00	12.50	
Nix, Joshua	5/7/2018	.25	50.00	12.50	
Nix, Joshua	5/18/2018	.25	50.00	12.50	
Nix, Joshua	5/21/2018	.25	50.00	12.50	
Nix, Joshua	5/23/2018	.25	50.00	12.50	
Nix, Joshua	5/24/2018	.25	50.00	12.50	
<b>Total Labor</b>				<b>508.75</b>	

Task 17 Laboratory Testing

Bulk Density Lab Molded Samples (set)	1.0 Test @ 50.00	50.00	
Extraction, % Asphalt, incl. Gradation	2.0 Tests @ 190.00	380.00	
Hveem Stability and Unit Weight	1.0 Test @ 90.00	90.00	
Maximum Theoretical Unit Weight	2.0 Tests @ 80.00	160.00	
Molding Specimens (Set)	1.0 Test @ 55.00	55.00	
Compressive Strength	8.0 Tests @ 15.00	120.00	
Asphalt Core Thickness	2.0 Tests @ 10.00	20.00	
Bulk Specific Gravity Roadway Cores	2.0 Tests @ 45.00	90.00	
<b>Total Units</b>		<b>965.00</b>	<b>965.00</b>

Task 21 Reimbursables

Coring Subcontractor	1.0 Test @ 300.00	300.00	
Field Vehicle Usage			
5/25/2018	30.5 Hours @ 9.00	274.50	
Nuclear Density Gauge			
5/25/2018	10.5 Hours @ 10.00	105.00	
<b>Total Units</b>		<b>679.50</b>	<b>679.50</b>

Project 700316003

FBC/CANE ISLAND PARKWAY, FM 1463 to IH10

Invoice

218976

**TOTAL THIS INVOICE**

**Contract Summary**

Previously Invoiced	\$94,531.00 ✓
Amount This Invoice	\$4,250.75
Total Invoiced	\$98,781.75 ✓
Contract Amount	\$118,900.00 ✓
Funds Remaining	\$20,118.25 ✓
Percent Billed	83%

**\$4,250.75**

OK, JSS  
07/23/18

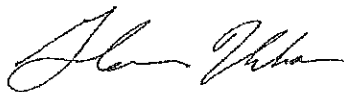
## Report of Daily Activity

<b>Project Name:</b>	Cane Island Parkway, FM 1463 to IH-10	<b>Project No.:</b>	700316003
<b>Client:</b>	Fort Bend County	<b>Report No.:</b>	256
<b>Contractor:</b>	Earth Builders	<b>Date:</b>	4/28/18
		<b>Technician:</b>	Brian Savage

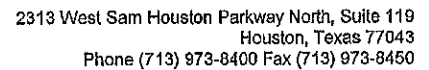
As requested, a Ninyo & Moore technician went to the referenced project to pick up one (1) set of four concrete cylinders cast on April 27, 2018.

The cylinders were returned to the laboratory for processing and placed in the water curing tanks.

Regular Hours	O.T. Hours
0	4



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## Report of Concrete Cylinder Compressive Strength

<b>Project Name:</b>	Cane Island Parkway, FM 1463 to IH-10	<b>Project No.:</b>	700316003
<b>Client:</b>	Fort Bend County	<b>Report No.:</b>	257
<b>Contractor:</b>	Earth Builders	<b>Placement Date:</b>	5/4/18
<b>Sample Location:</b>	STA 54+00 to STA 54+50	<b>Technician:</b>	John Walbert
<b>Placement Location:</b>	West Curb, Southbound, STA 47+50 to STA 60+00		

<b>Supplier:</b>	Cemex	<b>Plant No.:</b>	4364A	<b>Mix Design No.:</b>	1501632
<b>Truck No.:</b>	10064694	<b>Ticket No.:</b>	44616899	<b>Water Added, gal:</b>	15
<b>Time Batched:</b>	8:02 AM	<b>Time Sampled:</b>	8:50 AM	<b>Age of Concrete:</b>	48 Minutes
<b>Sampled From:</b>	Truck Chute	<b>at</b>	8	<b>Yds of</b>	23 Total Yards

<b>Slump, in.:</b>	1/2	<b>Specification:</b>	2 to 4	<b>Concrete Temperature, °F:</b>	81
<b>Air Content, %:</b>	6.0	<b>Specification:</b>	-	<b>Air Temperature, °F:</b>	76
<b>Unit Weight, pcf:</b>	-	<b>Specification:</b>	-	<b>Set No.:</b>	1 of 1
<b>Required Strength:</b>	3000	<b>psi at 28 days</b>		<b>Curing Method:</b>	Water Tanks

### Compressive Strength Test Method

Sample No.	Date Tested	Age Tested, days	Total Load, lb	Average Diameter, in.	Surface Area, in. <sup>2</sup>	Compressive Strength, psi	Type of Fracture	Tested By
1A	5/11/18	7	85,740	6.02	28.46	3010	5	DL
1B	5/11/18	7	87,480	6.02	28.46	3070	5	DL
1C	6/1/18	28	112,830	6.02	28.46	3960	5	DL
1D	6/1/18	28	119,030	6.02	28.46	4180	5	DL

**Cylinder Size:** ☒ 6 x 12 ☐ 4 x 8 ☐ 3 x 6

Average compressive strength at 28 days conforms to Project Specifications. ☒ Yes ☐ No

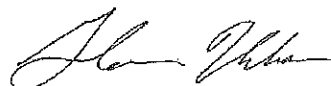
Initial curing temperature range, Min / Max, °F: 69 / 82

Initial curing method: Ambient

Samples prepared and tested in accordance with:

ASTM C-31, (excluding 10.1.2), C-138, C-143, C-172, C-173, C-231, C-39, C-1064

Regular Hours	O.T. Hours
4	0



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## MATERIALS TESTING SERVICE

**Ninyo & Moore**

[illegible]

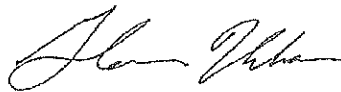
## Report of Daily Activity

<b>Project Name:</b>	Cane Island Parkway, FM 1463 to IH-10	<b>Project No.:</b>	700316003
<b>Client:</b>	Fort Bend County	<b>Report No.:</b>	258
<b>Contractor:</b>	Earth Builders	<b>Date:</b>	5/5/18
		<b>Technician:</b>	John Walbert

As requested, a Ninyo & Moore technician went to the referenced project to pick up one (1) set of four concrete cylinders cast on May 4, 2018.

The cylinders were returned to the laboratory for processing and placed in the water curing tanks.

Regular Hours	O.T. Hours
0	4



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<b>TECHNICIANS DAILY REPORT</b>		DAY: <b>SATURDAY</b>	DATE: <b>5/5/18</b>
PROJECT NAME: <b>CANE (SLAND)</b>		P.M.: <b>Isa Lopez</b>	
PROJECT NO.: <b>100316003</b>	REPORT NO.: <b>258</b>	PAGE 1 OF 1	
CONTRACTOR: <b>EARTH Builders</b>	CLIENT: <b>FORT BOND County</b>		
FIELD TECHNICIAN: <b>JML</b>	TYPE OF WORK:		
DESCRIPTION OF WORK PERFORMED:  <div style="font-size: 1.2em; margin-top: 20px;">             P/V 1 set of 4 cylinders min 68°F max 82°F              BOT STUCK on job site           </div>			
REG. HOURS	O.T. HOURS	No. OF FDT'S	No. OF SAMPLES
<b>2</b>	<b>4</b>		
TYPE OF SAMPLE:			
Time Left Office:	Time Arrived Site:	Time Left Site:	Time Arrived Office:
<b>1:00 pm</b>	<b>2:30 pm</b>	<b>2:45 pm</b>	<b>4:00 pm</b>

**Report of Asphalt Stabilized Base Core Properties**

<b>Project Name:</b>	Cane Island Parkway	<b>Sample Date:</b>	5/16/18
<b>Client:</b>	Fort Bend County	<b>Project Number:</b>	700316003
<b>Contractor:</b>	Earth Builders	<b>Report No:</b>	259
<b>Sample Type / Source:</b>	Century Asphalt / Asphalt Stabilized Base Gr.2 PG 70-22	<b>Technician:</b>	Glenn Urban
		<b>Pages:</b>	1 of 1

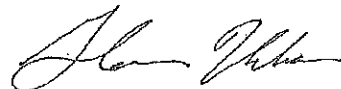
**Core Test Results**  
Tex 207-F, Part I

Core ID	Thickness (in.)	Unit Wt. (pcf)	Absorption (%)	Compaction (%)	Air Voids (%)
1A	9.0	149.8	0.1	100.0	2.1
1B	8.8	150.4	0.1	100.4	1.7
Average				100.2	1.7
Tolerance				97.0 Minimum	5.0 Maximum

**Core Locations**

Core ID	Location
A / B	FM 1463 Detour, STA 108+00

A bulk specific gravity (Tex-126) value of 149.8 pcf determined by the supplier was used to calculate the compaction percent.

  
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**Report of Hot Mix Asphalt Properties**

Project Name:	Cane Island Parkway, FM 1463 to IH-10	Project No.:	700316003
Client:	Fort Bend County	Report No.:	260
Contractor:	Earth Builders	Date:	5/19/18
Sample Type/Source:	Asphalt Stabilized Base Gr. 2, Century Asphalt	Technician:	Marcus Zimmer
Location:	FM 1463 Detour, At Curve		

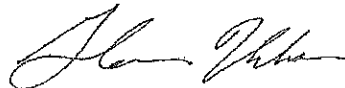
**AGGREGATE SIEVE ANALYSIS  
TEX 200-F**

SIEVE SIZE	PERCENT PASSING	JOB MIX FORMULA	JMF TOLERANCES
1¼ in.	100	100	100
1½ in.	100	100	90 - 100
No. 4	52.8	53.2	43.7 - 55
No. 40	22.4	18.9	16.6 - 36.6

**HOT MIX ASPHALT PROPERTIES**

TESTS	RESULTS	JMF TOLERANCES
Asphalt Content, % by total weight	4.3	3.5% to 4.5 %
Maximum Theoretical Density, lbs/ft <sup>3</sup>	153.0	-
Laboratory Molded Density, lbs/ft <sup>3</sup>	150.6	-

\*Lab molded density provided by supplier in accordance with Tex-126-E.



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**Report of Hot Mix Asphalt Densities by Nuclear Gauge Method**

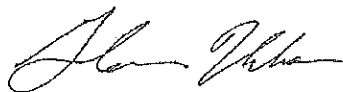
Project Name:	Cane Island Parkway, FM 1463 to IH-10	Project No.:	700316003
Client:	Fort Bend County	Report No.:	261
Contractor:	Earth Builders	Date:	5/18/18
Supplier:	Century Asphalt	Technician:	Marcus Zimmer
Requirement:	97%		

**DENSITY TEST RESULTS**

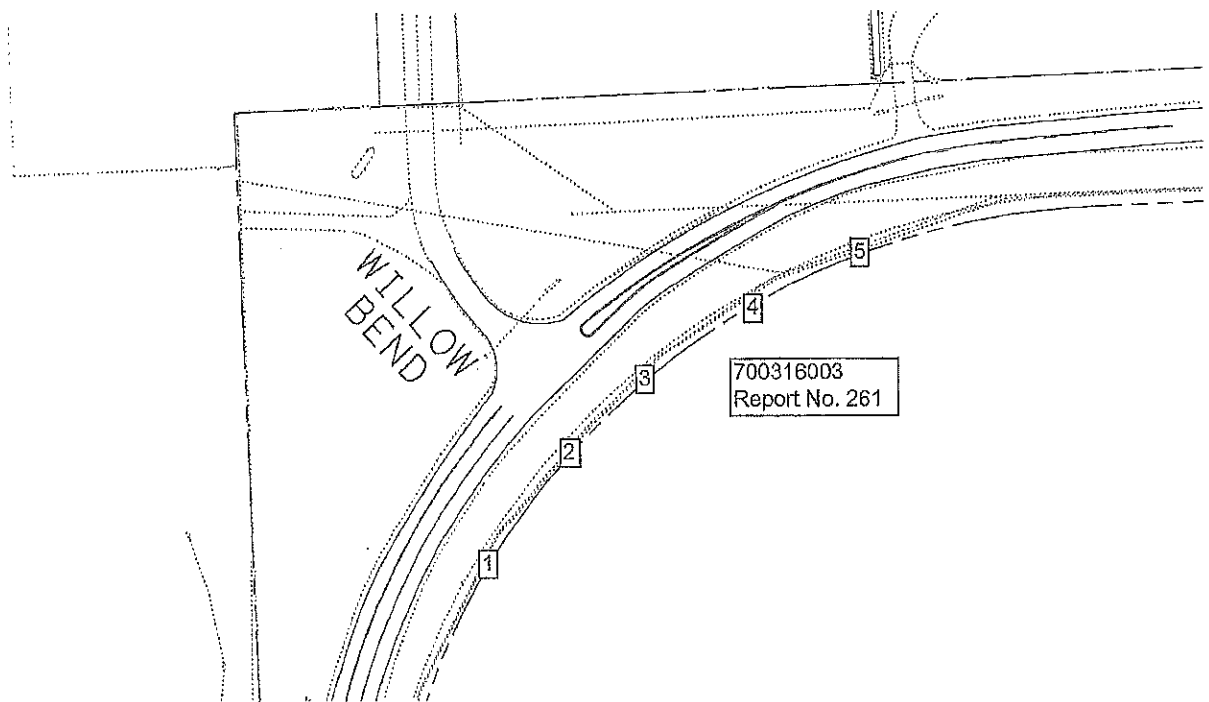
Test No.	Test Location	Nuclear Gauge Wet Density, pcf	Compaction, %
1	FM 1463 Detour, Base, See Attached Sketch	154.3	102.3
2	FM 1463 Detour, Base, See Attached Sketch	153.3	101.9
3	FM 1463 Detour, Base, See Attached Sketch	151.5	100.7
4	FM 1463 Detour, Base, See Attached Sketch	152.2	100.9
5	FM 1463 Detour, Base, See Attached Sketch	151.9	101.0

Tested in general accordance with TEX 207-F, Part III. A laboratory density (Tex-126-E) value of 151.3 pcf was provided from Century Asphalt to calculate the percent compaction.

Regular Hours	O.T. Hours
0	4.5



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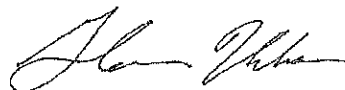
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**Report of Hot Mix Asphalt Densities by Nuclear Gauge Method****Project Name:** Cane Island Parkway, FM 1463 to IH-10**Project No.:** 700316003**Client:** Fort Bend County**Report No.:** 262**Contractor:** Earth Builders**Date:** 5/19/18 to 5/20/18**Supplier:** Century Asphalt**Technician:** Hamid Badkoobeh**Requirement:** 92-97**DENSITY TEST RESULTS**

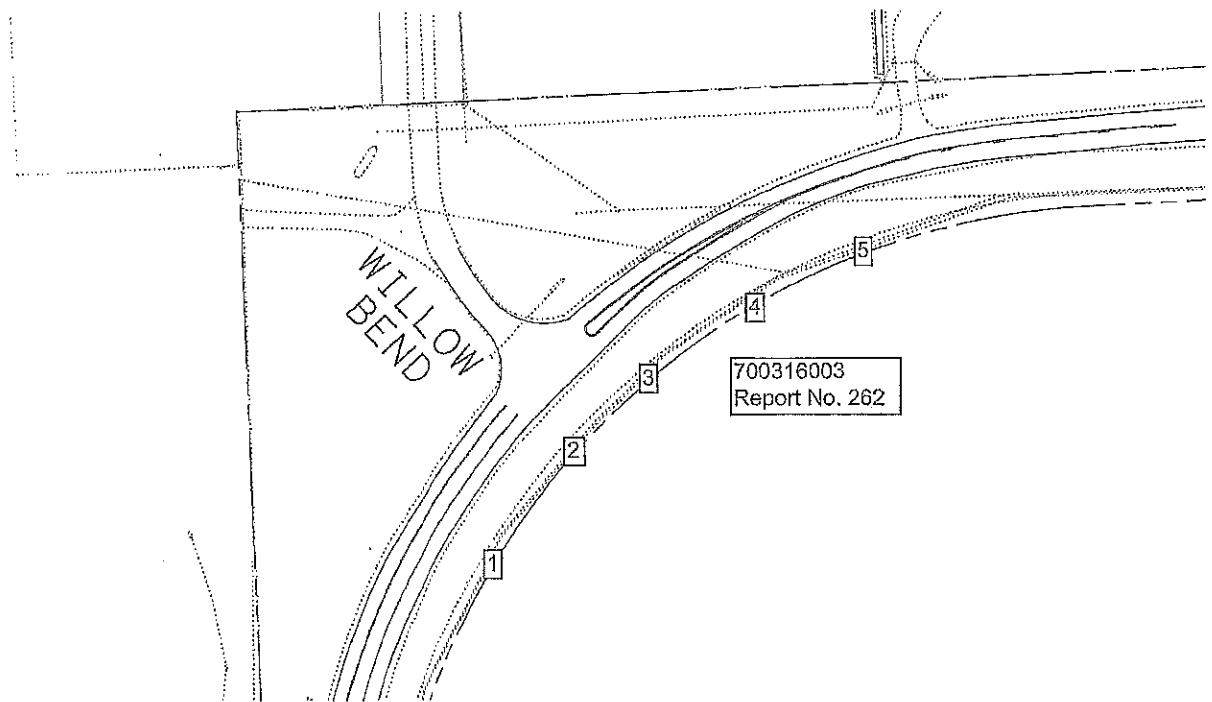
Test No.	Test Location	Nuclear Gauge Wet Density, pcf	Compaction, %
1	FM 1463 Detour, Surface Coarse, See Attached Sketch	145.3	96
2	FM 1463 Detour, Surface Coarse, See Attached Sketch	148.1	98
3	FM 1463 Detour, Surface Coarse, See Attached Sketch	147.2	97
4	FM 1463 Detour, Surface Coarse, See Attached Sketch	146.7	97
5	FM 1463 Detour, Surface Coarse, See Attached Sketch	147.1	97

Tested in general accordance with TEX 207-F, Part III. A maximum theoretical density value of 151.3 pcf from a sample obtained from this days production was used calculate the percent compaction.

Regular Hours	O.T. Hours
6	0



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**Report of Hot Mix Asphalt Properties**

<b>Project Name:</b>	Cane Island Parkway, FM 1463 to IH-10	<b>Project No.:</b>	700316003
<b>Client:</b>	Fort Bend County	<b>Report No.:</b>	263
<b>Contractor:</b>	Earth Builders	<b>Date:</b>	5/19/18
<b>Sample Type/Source:</b>	Type C / Century Asphalt Katy	<b>Technician:</b>	Hamid Badkoobeh
<b>Location:</b>	FM 1463 Detour		

**AGGREGATE SIEVE ANALYSIS  
TEX 200-F**

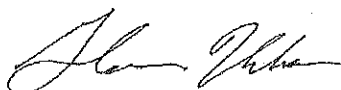
SIEVE SIZE	PERCENT PASSING	JOB MIX FORMULA
½ in.	100	100
¾ in.	100	100
3/8 in.	<b>94.8</b>	76.9
No. 4	<b>63.6</b>	54.8
No. 8	38.8	37.5
No. 30	21.2	24.1
No. 50	15.3	16.6
No. 200	4.6	4.1
Asphalt Content, %	5.54	4.5

Asphalt content determined in general accordance with TEX 236-F.

**HOT MIX ASPHALT PROPERTIES**

TESTS	RESULTS	TEST PROCEDURE
Hveem Stability, %	36	TEX 208-F
Maximum Theoretical Density, lb/ft <sup>3</sup>	151.3	TEX 227-F
Laboratory Molded Density, lb/ft <sup>3</sup>	146.8	TEX 206-F and 207-F (Part I)
Laboratory Density, %	97.0	-

Tested in general accordance with TEX 208-F, 207-F, 206-F, 236-F, and 227-F. Bolded results outside of tolerance for Job Mix Formula.



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## Report of Concrete Cylinder Compressive Strength

<b>Project Name:</b>	Cane Island Parkway, FM 1463 to IH-10	<b>Project No.:</b>	700316003
<b>Client:</b>	Fort Bend County	<b>Report No.:</b>	264
<b>Contractor:</b>	Earth Builders	<b>Placement Date:</b>	5/23/18
<b>Sample Location:</b>	2nd Panel from East Side	<b>Technician:</b>	Nathan Gates
<b>Placement Location:</b>	Slope Paving, South of Creek, West of Bridge, STA 44+40		

<b>Supplier:</b>	Cemex	<b>Plant No.:</b>	4364B	<b>Mix Design No.:</b>	1442459
<b>Truck No.:</b>	10064708	<b>Ticket No.:</b>	44645055	<b>Water Added, gal:</b>	0
<b>Time Batched:</b>	8:40 AM	<b>Time Sampled:</b>	9:10 AM	<b>Age of Concrete:</b>	30 Minutes
<b>Sampled From:</b>	Truck Chute	<b>at</b>	40	<b>Yds of</b>	50 Total Yards

<b>Slump, in.:</b>	3	<b>Specification:</b>	2 to 4	<b>Concrete Temperature, °F:</b>	86
<b>Air Content, %:</b>	6.4	<b>Specification:</b>	-	<b>Air Temperature, °F:</b>	80
<b>Unit Weight, pcf:</b>	-	<b>Specification:</b>	-	<b>Set No.:</b>	1 of 1
<b>Required Strength:</b>	2000	<b>psi at 28 days</b>		<b>Curing Method:</b>	Water Tanks

### Compressive Strength Test Method

Sample No.	Date Tested	Age Tested, days	Total Load, lb	Average Diameter, in.	Surface Area, in. <sup>2</sup>	Compressive Strength, psi	Type of Fracture	Tested By
1A	5/30/18	7	117,450	6.02	28.46	4130	5	DL
1B	5/30/18	7	107,920	6.02	28.46	3790	5	DL
1C	6/20/18	28						
1D	6/20/18	28						

**Cylinder Size:** ☒ 6 x 12 ☐ 4 x 8 ☐ 3 x 6

Average compressive strength at 28 days conforms to Project Specifications. ☐ Yes ☐ No

Initial curing temperature range, Min / Max, °F: Not Recorded

Initial curing method: Ambient

Samples prepared and tested in accordance with:

ASTM C-31, (excluding 10.1.2), C-138, C-143, C-172, C-173, C-231, C-39, C-1064

Regular Hours	O.T. Hours
4	0

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## Report of Daily Activity

Project Name: Cane Island Parkway, FM 1463 to IH-10

Project No.: 700316003

Client: Fort Bend County

Report No.: 265

Contractor: Earth Builders

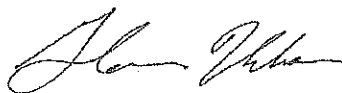
Date: 5/24/18

Technician: Joel Sanchez

As requested, a Ninyo & Moore technician went to the referenced project to pick up one (1) set of four concrete cylinders cast on May 23, 2018.

The cylinders were returned to the laboratory for processing and placed in the water curing tanks.

Regular Hours	O.T. Hours
4	0



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