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INVOICE

INVOICE # :H013528

CONSULTANTS * ENVIRONMENTAL * FACILITIES * INFRASTRUCTURE

BILLING DATE :
5/29/2020
CLIENT :09C04647
Fort Bend County Texas

PROJECT : AHD2004700
Clodine Road Project No. 17417



ACH INSTRUCTIONS for RABA KISTNER, Inc.
Bank: JP Morgan Chase Bank, NA

EMAIL: ar@rkci.com

Fort Bend County Texas
P.O. Box 148
Richmond, TX 77406-0148

REMITTANCE ADDRESS:
RABA KISTNER, INC.
P.O. BOX 971037
DALLAS, TX 75397-1037

PHONE (210) 699-9090

CONSULTING SERVICES

INVOICE SUMMARY INFORMATION

Clodine Road Project No. 17417

rbarnett@lia.com

PO No. 189392

FOR PROFESSIONAL SERVICES RENDERED THROUGH: 5/9/2020

DATE	REPORT / ASSIGNMENT	SERVICE	CODE	QUANTITY	RATE	UNIT	AMOUNT
04/24/2020	H20-012671	Technician	109000	1.00	65.00	/HR	65.00
	H20-012671	Administrative/Engineering Assistant	115000	0.25	70.00	/HR	17.50
	H20-012671	Vehicle Charge	150000	1.00	12.00	/HR	12.00
	H20-012671	OMD Standard Treated Material	945000	1.00	256.00	/EA	256.00
	H20-012720	Compressive Strength of C.S.S.	941000	4.00	81.00	/EA	324.00
04/27/2020	H20-012723	Technician	109000	3.00	65.00	/HR	195.00
	H20-012723	Administrative/Engineering Assistant	115000	0.25	70.00	/HR	17.50
	H20-012723	Vehicle Charge	150000	3.00	12.00	/HR	36.00
	H20-012723	Liquid and Plastic Limits	901000	1.00	71.00	/EA	71.00
	H20-012723	Percent Passing #200 Sieve	906000	1.00	55.00	/EA	55.00
	H20-012723	OMD Standard Compaction	923000	1.00	231.00	/EA	231.00
	H20-012725	Liquid and Plastic Limits	901000	1.00	71.00	/EA	71.00
	H20-012725	Percent Passing #200 Sieve	906000	1.00	55.00	/EA	55.00
	H20-012725	OMD Standard Compaction	923000	1.00	231.00	/EA	231.00
	H20-012856	Technician	109000	6.00	65.00	/HR	390.00
04/30/2020	H20-012856	Administrative/Engineering Assistant	115000	0.25	70.00	/HR	17.50
	H20-012856	Vehicle Charge	150000	6.00	12.00	/HR	72.00
	H20-012856	Nuclear Density	951000	6.00	12.00	/HR	72.00
	H20-012856	Equipment Rental					
05/01/2020	H20-012888	Technician	109000	8.00	65.00	/HR	520.00
	H20-012888	Technician OT	109010	0.50	97.50	/HR	48.75

* Invoices are submitted monthly and are due on receipt. * Carrying charges may be assessed on invoices unpaid beyond 30 days from billing date.

BILLING DATE :
5/29/2020

PROJECT :
AHD2004700 09C04647
Clodine Road Project No. 17417
Fort Bend County Texas

DATE	REPORT / ASSIGNMENT	SERVICE	CODE	QUANTITY	RATE	UNIT	AMOUNT
05/01/2020	H20-012888	Administrative/Engineering Assistant	115000	0.25	70.00	/HR	17.50
	H20-012888	Vehicle Charge	150000	8.50	12.00	/HR	102.00
	H20-012888	Nuclear Density Equipment Rental	951000	8.50	12.00	/HR	102.00
SUBTOTAL INVOICE *							2,978.75
AMOUNT DUE THIS INVOICE **							2,978.75

Authorization Amount	\$58,325.00
Amount Previously Billed	\$0.00
Amount This Invoice	\$2,978.75
Total Billed to Date	\$2,978.75
Amount Remaining	\$55,346.25
Percent Billed	5%

* Invoices are submitted monthly and are due on receipt. * Carrying charges may be assessed on invoices unpaid beyond 30 days from billing date.
AP May-20 **PLEASE PAY FROM THIS INVOICE.**

LABORATORY TESTING REPORT



Raba Kistner Consultants Inc.
3602 Westchase
Houston, Texas 77042
(713) 996-8990 • (713) 996-8993
www.rkci.com
TBPE Firm F-3257

Moisture-Density Relationship

ATTN.: MR. ROBERT W. BARNETT P.E. VICE PRESIDENT/ TRANSPORTATION

TO: **LJA ENGINEERING**
2929 BRIAR PARK DR.
SUITE 600
HOUSTON, TX U.S. 77042

PROJECT NO.: AHD20-047-00
SAMPLE DATE: 04/24/2020
REPORT NO.: 1 (H20-012671)
REPORT VERSION: A
SHEET NUMBER: 1 of 1
TECHNICIAN: MOHAMMED H AL HELLI
CERTIFICATION: ACI FIELD GRADE I
CURVE NO.: 1

PROJECT: Clodine Road Project No. 17417

- 7:45 am Arrived at the project site
A sample of the following material was obtained by RKCI for laboratory testing : Cement Stabilization Sand - CSS (Proposed Backfill Material). This material was obtained from the following location: Gulf Coast Plant #7 Located at 16204 Old Richmond Rd. Sugarland Tx. 77498.
This material was obtained from Gulf Coast Plant and is intended for use as Proposed Backfill Material in the following area: Utility Backfill.
- 8:00 am Departed the project site

Moisture-Density Relationship Test, ASTM D 558 Method A	
Maximum Dry Density, (pcf)	109.7
Optimum Moisture Content, (%)	11.9

The Proctor curve is available upon request.

Tested By: MOHAMMAD SABER DEHQAN

Remarks: CSS supposed to be 1.5SK as per the plant.

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RABA KISTNER CONSULTANTS, INC.

BY: KAUSHAL K. JHA
114339
PROFESSIONAL ENGINEER
04/27/2020

Depart Lab: 7:30 am Arrive Site: 7:45 am Lunch: 0.00 Hrs

Depart Site: 8:00 am Arrive Lab: 8:40 am Time: 1.00



Updated By: NMG 4/27/2020 1:17:10PM

H20-012671 Reviewed By: NMG 4/27/2020 1:17:15PM

Austin • Brownsville • Dallas • Houston • McAllen • Mexico • New Braunfels • Salt Lake City • San Antonio

Project : AHD20-047-00 : Clodine Road Project No. 17417

Work Type: Authorized Project

Project Manager:

Project Start Date: 04/14/2020

Anticipated Completion Date: 09/30/2020

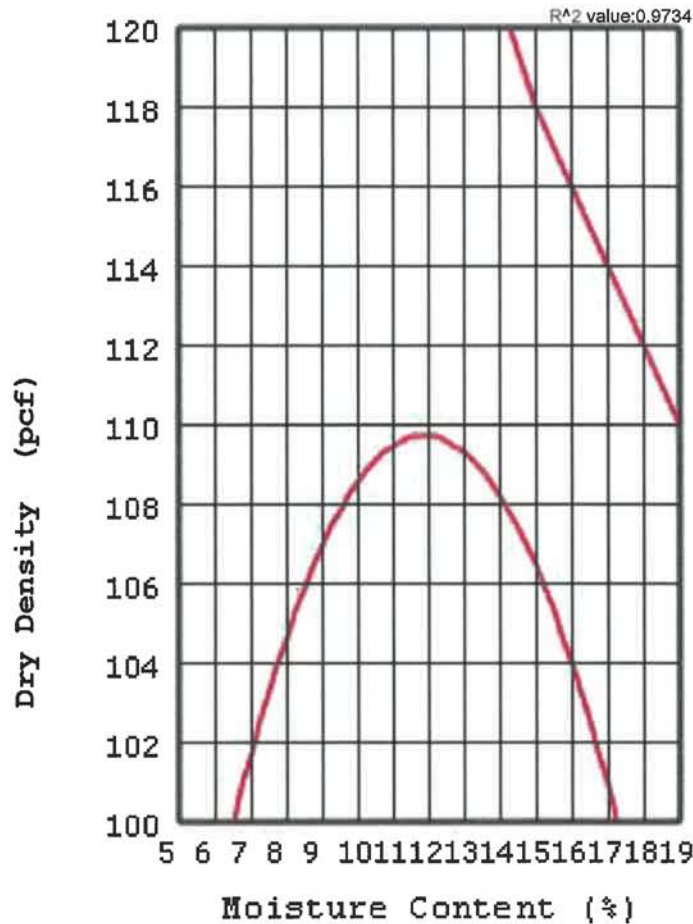
Project Client: Fort Bend County Texas

Assignment No.: H20-012671

Sample Date: 04/24/2020

Sample Location: Gulf Coast Plant #7 Located at 16204 Old Richmond Rd.
Sugarland Tx. 77498

Field Crew: MHA



Max. Dry Density (pcf): 109.7

Optimum Moisture Content (%): 11.9

Material Description: Cement Stabilization Sand - CSS (Proposed Backfill Material)

Assumed Specific Gravity: 2.65

Remarks: CSS supposed to be 1.5SK as per the plant.

LABORATORY TEST REPORT

Sand - Cement Test (ASTM D 1633 - COH/HCPID Method)



Raba Kistner Consultants Inc.
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(713) 996-8990 • (713) 996-8993
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ATTN.: MR. ROBERT W. BARNETT P.E. VICE PRESIDENT/ TRANSPOR
TO: **LJA ENGINEERING**
2929 BRIAR PARK DR.
SUITE 600
HOUSTON, TX U.S. 77042

PROJECT NO.: AHD20-047-00
REPORT NO.: 3 (H20-012720)
DATE: 04/24/2020
TECHNICIAN: MOHAMMED H AL HELLI
CERTIFICATION: ACI FIELD GRADE I

PROJECT: Clodine Road Project No. 17417
CONTRACTOR: Tripple B Services

Supplier/Plant: Gulf Coast Plant #7 Located At 16204 Old Richmond Rd.
Specification: HC 433
Sample Location: Gulf Coast Plant
Description of Material: Cement Stabilized Sand (CSS)- Proposed Utility Backfill Material
Specimen Size: Diameter(in): 4.00 Height(in): 4.584 Area(sq. in): 12.57
Type of Curing: Sealed in Plastic Bags
Time Batched/Mixed: 7:50 a.m. Time Delivered to Lab: 8:30 a.m.
Time Sampled: 8:00 a.m. Time Molded: 8:45 a.m.

Required Strength @ 48 Hrs, psi:				100
Specimen I.D. No.	Date Tested	Age	Maximum Load, lbs	Compressive Strength,(psi)
1	04/26/2020	48 Hrs	1,440	115
2	04/26/2020	48 Hrs	1,380	110
3	05/01/2020	7 Days	2,140	170
4	05/01/2020	7 Days	2,270	180

* - Indicates noncompliance with specifications.
Moisture Content at time of molding: 10.80 %
REMARKS: CSS supposed to be 1.5SK as per the plant.

Average at 48 Hrs : 110 psi

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RABA KISTNER CONSULTANTS, INC.

Kaushal K. Jha
BY: _____
05/01/2020

Depart Lab: 7:30 am Arrive Site: 7:45 am Lunch: 0.00

Depart Site: 8:00 am Arrive Lab: 8:00 am Time: 1.00

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Updated By: RD 5/1/2020 3:51:12PM

H20-012720

Reviewed By: NMG 4/27/2020 2:02:15PM

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Project : AHD20-047-00 : Clodine Road Project No. 17417

Work Type: Authorized Project

Project Manager:

Project Start Date: 04/14/2020

Anticipated Completion Date: 09/30/2020

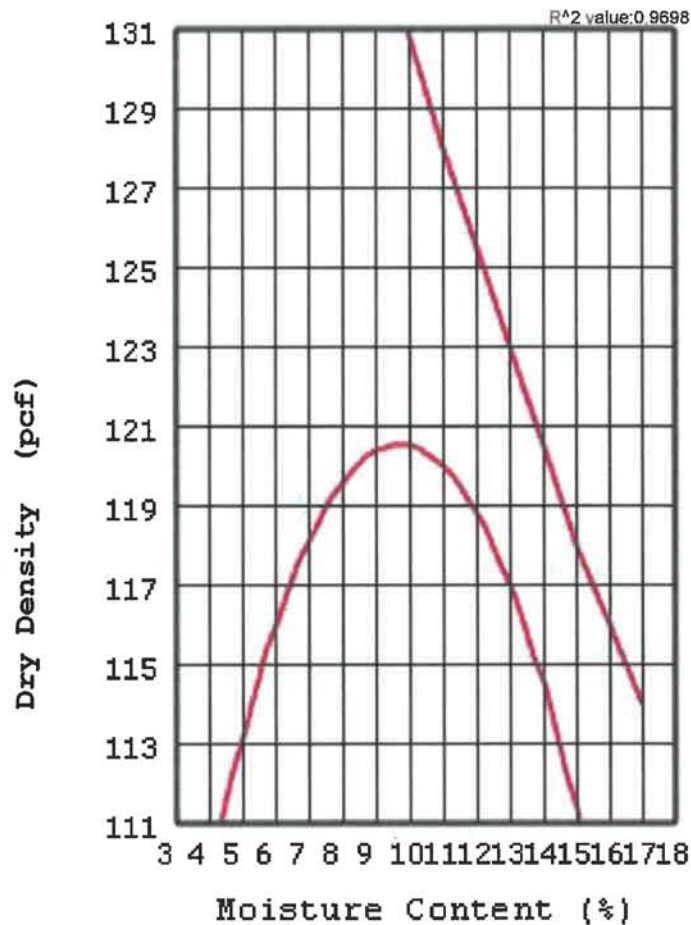
Project Client: Fort Bend County Texas

Assignment No.: H20-012723

Sample Date: 04/27/2020

Sample Location: Along Clodine Rd. Near STA.: 33+71

Field Crew: WAH



Max. Dry Density (pcf): 120.5

Average Plasticity Index: 12

Material Description: Brown Tan Clayey Sand (Proposed Backfill Material)

Optimum Moisture Content (%): 9.7

Average Liquid Limit: 20

Assumed Specific Gravity: 2.65

LABORATORY TESTING REPORT



Raba Kistner Consultants Inc.
3602 Westchase
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TBPE Firm F-3257

Moisture-Density Relationship, Atterberg Limits, and Minus No. 200 Determination

ATTN.: MR. ROBERT W. BARNETT P.E. VICE PRESIDENT/ TRANSPORTATION

TO: **LJA ENGINEERING**
2929 BRIAR PARK DR.
SUITE 600
HOUSTON, TX U.S. 77042

PROJECT NO.: AHD20-047-00
SAMPLE DATE: 04/27/2020
REPORT NO.: 2 (H20-012725)
REPORT VERSION: A
SHEET NUMBER: 1 of 1
TECHNICIAN: WAEL AL HABEEB
CERTIFICATION: ACI FIELD GRADE I
CURVE NO.:

PROJECT: Clodine Road Project No. 17417

7:00 am Arrived at the project site
A sample of the following material was obtained by RKCI for laboratory testing : Brown Tan Clayey Sand (Subgrade Material). This material was obtained from the following location: Along Clodine Rd. Near STA.: 26+64.
This material was obtained from The Project Site and is intended for use as Subgrade Material in the following area: Pavement Section.

8:00 am Departed the project site
On the basis of the testing conducted and in general accordance with ASTM D 2487: Unified Soil Classification System, the material is classified as SC

Moisture-Density Relationship Test, ASTM D 698 Method A	
Maximum Dry Density, (pcf)	118.8
Optimum Moisture Content, (%)	9.2

The Proctor curve is available upon request. Tested By: MOHAMMAD SABER DEHQAN

Finer Than No. 200 Sieve Determination, ASTM D 1140 Method A	
Finer Than No. 200 Sieve, (%)	36.5

Soaking Time: 12 Hrs. Tested By: MOHAMMAD SABER DEHQAN

Atterberg Limits, ASTM D 4318 Method A	
Average Liquid Limit	24
Average Plastic Limit	12
Average Plasticity Index	12

Tested By: RAMAJYOTHI MANGICHETTY

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RABA KISTNER CONSULTANTS, INC.
Kaushal K. Jha
BY: KAUSHAL K. JHA
114339
PROFESSIONAL ENGINEER
05/11/2020

Depart Lab: 6:00 am Arrive Site: 7:00 am Lunch: 0.00 Hrs

Depart Site: 8:00 am Arrive Lab: 9:00 am Time: 3.00

Updated By: NMG 5/11/2020 12:44:53PM

H20-012725 Reviewed By: NMG 5/11/2020 12:44:59PM



Project : AHD20-047-00 : Clodine Road Project No. 17417

Work Type: Authorized Project

Project Manager:

Project Start Date: 04/14/2020

Anticipated Completion Date: 09/30/2020

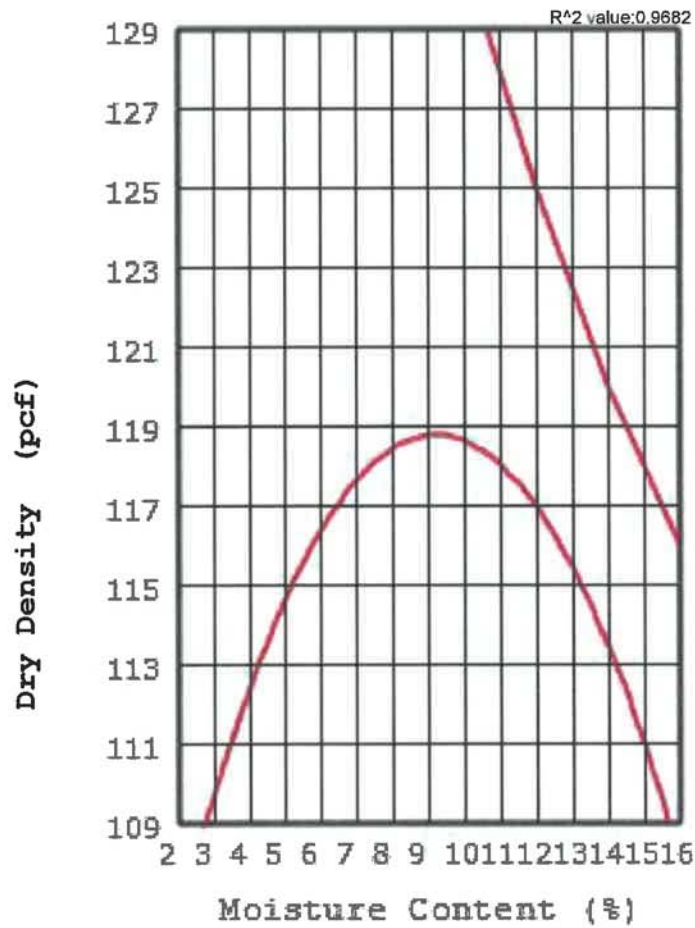
Project Client: Fort Bend County Texas

Assignment No.: H20-012725

Sample Date: 04/27/2020

Sample Location: Along Clodine Rd. Near STA.: 26+64

Field Crew: WAH



Max. Dry Density (pcf): 118.8

Average Plasticity Index: 12

Material Description: Brown Tan Clayey Sand (Subgrade Material)

Optimum Moisture Content (%): 9.2

Average Liquid Limit: 24

Assumed Specific Gravity: 2.65

FIELD TEST REPORT

Soil/Base Material Nuclear Density Test



Raba Kistner Consultants Inc.
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ATTN.: MR. ROBERT W. BARNETT P.E. VICE PRESIDENT/ TRANSPORTATION

TO: **LJA ENGINEERING**

2929 BRIAR PARK DR.

SUITE 600

HOUSTON, TX U.S. 77042

PROJECT: Clodine Road Project No. 17417

PROJECT NO.: AHD20-047-00

REPORT NO.: 6, 1 of 1 (H20-012856)

REPORT VERSION: A

DATE: 04/30/2020

TECHNICIAN: ZAIR J BENITEZ ARIAS

CERTIFICATION: ACI FIELD GRADE I

CONTRACTOR: Triple B Services

SPECIFICATION: HC 433

TEST NO.	TEST LOCATION	SOIL TYPE	LIFT NO. /DEPTH	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT COMPACTION (%)
	Backfill Over 24" Dia. RCP Located Along Clodine Rd. Northbound Between STA.: 10+76 and STA.: 11+24					
1	Near STA.: 11.00	1	Bedding	10.5	104.4	95
2	Near STA.: 11.17	1	Side of Pipe	11.4	104.5	95
3	Near STA.: 10+90	1	Side of Pipe	10.8	104.7	95

CURVE ID.	SOIL TYPE	OPTIMUM MOISTURE (%)	MAX. DRY DEN. (PCF)	REQUIRED MOISTURE (%)	REQUIRED DENSITY (%)	LAB TEST PROCEDURE
1	Cement Stabilization Sand - CSS (Proposed Backfill Material)	11.9	109.7	0.1-11.9	95	ASTM D 558 Method A

REFERENCE: Backfill/Utility Line

TRANS DEPTH: 6"

TEST MODE: Method A

DENSITY COUNT: 2575

MOISTURE COUNT: 408

FIELD TEST PROCEDURE: ASTM D 6938

GAUGE NO.: 7602 /7602

REMARKS: Lift information was provided by the contractor. Mr. Raul Davila w/Triple B was verbally notified of field test results.

* - Indicates noncompliance with specifications.

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RABA KISTNER CONSULTANTS, INC.

BY: *Kaushal K. Jha*
05/05/2020

Updated By: NMG 5/5/2020 1:31:44PM H20-012856

Reviewed By: NMG 5/5/2020 1:31:49PM

Depart Lab: 12:30 p.m. Arrive Site: 1:15 p.m. Lunch: --- Hrs
Depart Site: 5:30 p.m. Arrive Lab: 6:30 p.m. Time: 6.00 Hrs

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FIELD TEST REPORT

Soil/Base Material Nuclear Density Test



Raba Kistner Consultants Inc.
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Houston, Texas 77042
(713) 996-8990 • (713) 996-8993
www.rkci.com
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ATTN.: MR. ROBERT W. BARNETT P.E. VICE PRESIDENT/ TRANSPORTATION

TO: **LJA ENGINEERING**

2929 BRIAR PARK DR.

SUITE 600

HOUSTON, TX U.S. 77042

PROJECT: **Clodine Road Project No. 17417**

PROJECT NO.: AHD20-047-00

REPORT NO.: 7, 1 of 2 (H20-012888)

REPORT VERSION: A

DATE: 05/01/2020

TECHNICIAN: ZAIR J BENITEZ ARIAS

CERTIFICATION: ACI FIELD GRADE I

CONTRACTOR: Tripple B Services

SPECIFICATION: HC 433

TEST NO.	TEST LOCATION	SOIL TYPE	LIFT NO. /DEPTH	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT COMPACTION (%)
	Backfill Over 24" Dia. RCP Located Along Clodine Rd. Northbound Lane Between STA.: 12+80 and STA.: 13+35					
4	Near STA.: 13+00	1	Bedding	10.3	105.9	96
5	Near STA.: 13+25	1	Side of Pipe	10.9	104.7	95
6	Near STA.: 12+90	1	Side of Pipe	11.1	106.1	97
	Backfill Over 24" Dia. RCP Located Along Clodine Rd. Northbound Lane Between STA.: 13+47 and STA.: 13+89					
7	Near STA.: 13+70	1	Bedding	10.1	107.4	98
8	Near STA.: 13+80	1	Side of Pipe	10.4	105.8	96

CURVE ID.	SOIL TYPE	OPTIMUM MOISTURE (%)	MAX. DRY DEN. (PCF)	REQUIRED MOISTURE (%)	REQUIRED DENSITY (%)	LAB TEST PROCEDURE
1	Cement Stabilization Sand - CSS (Proposed Backfill Material)	11.9	109.7	0.1-11.9	95	ASTM D 558 Method A

REFERENCE: Backfill/Utility Line

TRANS DEPTH: 6"

TEST MODE: Method A

DENSITY COUNT: 2575

MOISTURE COUNT: 408

FIELD TEST PROCEDURE: ASTM D 6938

GAUGE NO.: 7602 /7602

REMARKS: Lift information was provided by the contractor. Mr. Raul Davila w/Triple B was verbally notified of field test results.

* - Indicates noncompliance with specifications.

Depart Lab: 8:00 a.m. Arrive Site: 9:00 a.m. Lunch: 0.50 Hrs
 Depart Site: 4:00 p.m. Arrive Lab: 5:00 p.m. Time: 8.50 Hrs

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FIELD TEST REPORT

Soil/Base Material Nuclear Density Test



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ATTN.: MR. ROBERT W. BARNETT P.E. VICE PRESIDENT/ TRANSPORTATION
TO: **LJA ENGINEERING**
2929 BRIAR PARK DR.
SUITE 600
HOUSTON, TX U.S. 77042

PROJECT: Clodine Road Project No. 17417

PROJECT NO.: AHD20-047-00
REPORT NO.: 7, 2 of 2 (H20-012888)
REPORT VERSION: A
DATE: 05/01/2020
TECHNICIAN: ZAIR J BENITEZ ARIAS
CERTIFICATION: ACI FIELD GRADE I

CONTRACTOR: Tripple B Services
SPECIFICATION: HC 433

TEST NO.	TEST LOCATION	SOIL TYPE	LIFT NO. /DEPTH	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT COMPACTION (%)
9	Near STA.: 13+58	1	Top of Pipe	11.3	106.9	97

CURVE ID.	SOIL TYPE	OPTIMUM MOISTURE (%)	MAX. DRY DEN. (PCF)	REQUIRED MOISTURE (%)	REQUIRED DENSITY (%)	LAB TEST PROCEDURE
1	Cement Stabilization Sand - CSS (Proposed Backfill Material)	11.9	109.7	0.1-11.9	95	ASTM D 558 Method A

REFERENCE: Backfill/Utility Line

TRANS DEPTH: 6"

TEST MODE: Method A

DENSITY COUNT: 2575

MOISTURE COUNT: 408

FIELD TEST PROCEDURE: ASTM D 6938

GAUGE NO.: 7602 /7602

REMARKS: Lift information was provided by the contractor. Mr. Raul Davila w/Triple B was verbally notified of field test results.

* - Indicates noncompliance with specifications.

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RABA KISTNER CONSULTANTS, INC.



Updated By: NMG 5/5/2020 1:29:50PM H20-012888

Reviewed By: NMG 5/5/2020 1:29:55PM

Depart Lab: 8:00 a.m. Arrive Site: 9:00 a.m. Lunch: 0.50 Hrs
Depart Site: 4:00 p.m. Arrive Lab: 5:00 p.m. Time: 8.50 Hrs

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