KANSAS CITY TESTING & ENGINEERING, LLC

Kansas City Testing & Engineering, LLC
1308 Adams Street
Kansas City, KS 66103
Phone 913.321.8100
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REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

REDFORD

PROJECT NO.: R20-17-165
REPORT NO.: K19416
DATE OF SERVICE: 08/24/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 09/12/2017

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	Not provided

GAUGE: Troxler 3430
GAUGE SERIAL NO.: 19985
STANDARD COUNTS
MOISTURE - CURRENT: 606 PREVIOUS: 604
DENSITY - CURRENT: 1746 PREVIOUS: 1746
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS: OPTIMUM MOISTURE %	MOISTURE/DENSITY RELATIONS: MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	19.5	99.2	K18706
2.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
1.	Main line trench backfill near lot 85	6	8	2	22.0	19.9	115.4	94.6	103.7	91 *
2.	Main line trench backfill near lot 85	6	9	1	21.8	19.5	105.6	86.7	99.2	87 *
3.	Main line trench backfill near lot 85	6	10	1	23.0	19.5	110.7	90.0	99.2	91 *
4.	Main line trench backfill near lot 85	6	11	2	22.4	19.9	120.3	98.3	103.7	95
5.	Main line trench backfill near lot 85	6	12	1	21.9	19.5	109.3	89.7	99.2	90 *

LOT 05 RETESTED - SEE 8/25
04 " " 8/29

Report of Tests continued on page 2

REPORT OF TESTS (continued)

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC. DATE OF SERVICE: 08/24/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
6.	Main line trench backfill near lot 85	6	13	2	22.3	19.9	122.1	99.8	103.7	96
7.	Trench backfill lot 85	6	8	2	23.1	19.9	116.9	95.0	103.7	92 *
8.	Trench backfill lot 85	6	9	2	23.0	19.9	117.6	95.6	103.7	92 *
9.	Trench backfill lot 85	6	10	2	22.9	19.9	117.0	95.2	103.7	92 *
10.	Trench backfill lot 85	6	11	1	23.6	19.5	112.5	91.0	99.2	92 *
11.	Trench backfill lot 84	6	8	2	21.9	19.9	116.3	95.4	103.7	92 *
12.	Trench backfill lot 84	6	9	2	23.4	19.9	117.4	95.1	103.7	92 *
13.	Trench backfill lot 84	6	10	1	23.7	19.5	111.5	90.1	99.2	91 *
14.	Trench backfill lot 84	6	11	1	24.7	19.5	118.2	94.8	99.2	96
15.	Trench backfill lot 84	6	12	2	23.6	19.9	123.2	99.7	103.7	96

An asterisk (*) appears next to test results which do NOT meet the project specifications as noted above.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

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(1) TRAVIS@SUMMITHOMESKC.COM

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REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

SPALDING / REDFORD

PROJECT NO.: R20-17-165
REPORT NO.: K19462
DATE OF SERVICE: 08/25/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 09/12/2017

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	±2% of Opt

GAUGE: Troxler 3430
GAUGE SERIAL NO.: 19985
STANDARD COUNTS
MOISTURE - CURRENT: 00 PREVIOUS: 606
DENSITY - CURRENT: 1740 PREVIOUS: 1746
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS: OPTIMUM MOISTURE %	MOISTURE/DENSITY RELATIONS: MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	19.5	99.2	K18706
2.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
1.	SW MERRYMAN DRIVE @ STA: 6+00	6	0.6' bfg	2	21.0	19.9	125.7	103.9	103.7	100
2.	7+00	6	1.3' bfg	2	20.7	19.9	125.5	104.0	103.7	100
3.	8+00	6	1.6' bfg	2	18.8	19.9	120.0	101.0	103.7	97
4.	9+00	6	0.6' bfg	2	21.1	19.9	125.1	103.3	103.7	100
5.	10+00	6	0.6' bfg	2	19.8	19.9	122.2	102.0	103.7	98
6.	11+00	6	1.6' bfg	2	19.6	19.9	120.4	100.7	103.7	97
7.	12+00	6	1.9' bfg	2	19.2	19.9	123.6	103.7	103.7	100

Report of Tests continued on page 2

KANSAS CITY TESTING & ENGINEERING, LLC

REPORT OF TESTS (continued)

REPORT NO.: K19462

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 08/25/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
8.	3+00	6	fg	2	20.4	19.9	125.7	104.4	103.7	101
9.	4+00	6	fg	2	20.8	19.9	122.6	101.5	103.7	98
10.	5+00	6	fg	2	19.9	19.9	120.9	100.8	103.7	97
11.	6+00	6	fg	2	19.6	19.9	121.8	101.8	103.7	98
12.	7+00	6	0.7' bg	2	18.8	19.9	123.7	104.1	103.7	100
13.	8+00	6	0.8' bfg	2	20.1	19.9	123.3	102.7	103.7	99
14.	9+00	6	fg	2	19.9	19.9	122.8	102.4	103.7	99
15.	10+00	6	fg	2	18.2	19.9	118.0	99.8	103.7	96
16.	11+00	6	0.6' bfg	2	19.7	19.9	124.5	104.0	103.7	100
17.	12+00	6	0.8' bfg	2	17.9	19.9	121.8	103.3	103.7	100
18.	SW Grindstone, 0+30	6	fg	2	18.4	19.9	122.8	103.7	103.7	100
19.	SW Alabaster, 0+25	6	fg	1	19.1	19.5	120.9	101.5	99.2	102
21.	Sanitary sewer trench, lot 85	6	8' bfg	2	21.0	19.9	119.4	98.7	103.7	95
22.	Sanitary sewer trench, lot 85	6	7' bfg	2	21.2	19.9	120.1	99.1	103.7	96
23.	Sanitary sewer trench, lot 85	6	6' bfg	2	19.9	19.9	118.1	98.5	103.7	95
24.	Sanitary sewer trench, lot 85	6	5' bfg	2	19.6	19.9	117.8	98.5	103.7	95
25.	Sanitary sewer trench, lot 85	6	4' bfg	2	20.4	19.9	119.3	99.1	103.7	96
26.	Sanitary sewer trench, lot 85	6	4' bfg	2	20.4	19.9	119.3	99.1	103.7	96
27.	Sanitary sewer trench, lot 85	6	3' bfg	2	20.7	19.9	120.5	99.8	103.7	96
28.	Sanitary sewer trench, lot 85	6	2' bfg	2	21.2	19.9	120.7	99.6	103.7	96
29.	Sanitary sewer trench, lot 85	6	1' bfg	2	20.8	19.9	119.2	98.7	103.7	95
30.	Sanitary sewer trench, lot 85	6	fg	2	21.3	19.9	119.8	98.8	103.7	95

BS RETEST

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

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REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

REDFORD

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

PROJECT NO.: R20-17-165
REPORT NO.: K19544
DATE OF SERVICE: 08/29/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 09/12/2017

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	±2% of Opt

GAUGE: Troxler 3430
GAUGE SERIAL NO.: 19985
STANDARD COUNTS
MOISTURE - CURRENT: 600 PREVIOUS: 604
DENSITY - CURRENT: 1740 PREVIOUS: 1744
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS: OPTIMUM MOISTURE %	MOISTURE/DENSITY RELATIONS: MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944
2.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	22.4	97.4	K18707

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
1.	BACKFILL OF SAN SEWER LATERAL TRENCHES: Lot 87, 15' LOC	6	8' bfg	1	21.2	19.9	121.4	100.2	103.7	97
2.	Lot 87, 15' LOC	6	7' bfg	1	20.2	19.9	120.2	100.0	103.7	96
3.	Lot 87, 15' LOC	6	6' bfg	1	21.0	19.9	120.8	99.8	103.7	96
4.	Lot 87, 15' LOC	6	5' bfg	1	21.6	19.9	122.5	100.7	103.7	97
5.	Lot 87, 15' LOC	6	4' bfg	1	21.4	19.9	122.6	101.0	103.7	97
6.	Lot 87, 15' LOC	6	3' bfg	1	20.9	19.9	121.0	100.1	103.7	97

Report of Tests continued on page 2

KANSAS CITY TESTING & ENGINEERING, LLC

REPORT OF TESTS (continued)

REPORT NO.: K19544

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 08/29/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
7.	Lot 87, 15' LOC	6	2' bfg	1	20.8	19.9	120.7	99.9	103.7	96
8.	Lot 87, 15' LOC	6	1' bfg	1	21.7	19.9	122.4	100.6	103.7	97
9.	Lot 84, 12' LOC	6	8' bfg	1	19.6	19.9	119.6	100.0	103.7	96
10.	Lot 84, 12' LOC	6	7' bfg	1	19.4	19.9	119.3	99.9	103.7	96
11.	Lot 84, 12' LOC	6	6' bfg	1	20.2	19.9	118.3	98.4	103.7	95
12.	Lot 84, 12' LOC	6	5' bfg	1	21.4	19.9	119.8	98.7	103.7	95
13.	Lot 84, 12' LOC	6	4' bfg	1	20.9	19.9	120.8	99.9	103.7	96
14.	Lot 84, 12' LOC	6	3' bfg	1	21.3	19.9	119.7	98.7	103.7	95
15.	Lot 84, 12' LOC	6	2' bfg	1	20.8	19.9	120.2	99.5	103.7	96
16.	Lot 84, 12' LOC	6	1' bfg	1	21.1	19.9	120.4	99.4	103.7	96
17.	Lot 82, 10' LOC	6	8' bfg	1	21.2	19.9	124.2	102.5	103.7	99
18.	Lot 82, 10' LOC	6	7' bfg	1	20.8	19.9	123.3	102.1	103.7	98
19.	Lot 82, 10' LOC	6	6' bfg	1	21.5	19.9	124.5	102.5	103.7	99
20.	Lot 82, 10' LOC	6	5' bfg	1	21.0	19.9	124.3	102.7	103.7	99
21.	Lot 82, 10' LOC	6	4' bfg	1	19.4	19.9	119.6	100.2	103.7	97
22.	Lot 82, 10' LOC	6	3' bfg	1	21.0	19.9	121.7	100.6	103.7	97
23.	Lot 82, 10' LOC	6	2' bfg	1	20.9	19.9	120.8	99.9	103.7	96
24.	Lot 82, 10' LOC	6	1' bfg	1	21.1	19.9	122.3	101.0	103.7	97
25.	Lot 83, 11' LOC	6	6' bfg	1	20.8	19.9	121.6	100.7	103.7	97
26.	Lot 83, 11' LOC	6	5' bfg	1	21.4	19.9	121.3	99.9	103.7	96
27.	Lot 83, 11' LOC	6	4' bfg	1	19.6	19.9	122.8	102.7	103.7	99
28.	Lot 83, 11' LOC	6	3' bfg	1	19.8	19.9	118.2	98.7	103.7	95
29.	Lot 83, 11' LOC	6	2' bfg	1	19.9	19.9	118.1	98.5	103.7	95
30.	Lot 83, 11' LOC	6	1' bfg	1	19.7	19.9	119.1	99.5	103.7	96

B4 RETEST

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

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REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

REDFORD

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

PROJECT NO.: R20-17-165
REPORT NO.: K19605
DATE OF SERVICE: 08/31/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 09/12/2017

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	±2% of Opt

GAUGE: troxler 3440
GAUGE SERIAL NO.: 22322
STANDARD COUNTS
MOISTURE - CURRENT: 708 PREVIOUS: 706
DENSITY - CURRENT: 2010 PREVIOUS: 2007
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS: OPTIMUM MOISTURE %	MOISTURE/DENSITY RELATIONS: MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	22.4	97.4	K18707
2.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
1.	Backfill of sanitary sewer trench across from lot 88	6	12' bfg	2	18.8	19.9	117.0	98.5	103.7	95
2.	Backfill of sanitary sewer trench across from lot 88	6	11' bfg	2	21.0	19.9	119.7	98.9	103.7	95
3.	Backfill of sanitary sewer trench across from lot 88	6	10' bfg	2	20.7	19.9	119.0	98.6	103.7	95

Report of Tests continued on page 2

REPORT OF TESTS (continued)

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 08/31/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
4.	Backfill of sanitary sewer trench across from lot 88	6	9' bfg	2	18.9	19.9	117.2	98.6	103.7	95
5.	Backfill of sanitary sewer trench across from lot 88	6	8' bfg	2	17.9	19.9	116.8	99.1	103.7	96
6.	Backfill of sanitary sewer trench across from lot 88	6	7' bfg	2	19.2	19.9	118.7	99.6	103.7	96
7.	Backfill of sanitary sewer trench across from lot 88	6	6' bfg	2	19.3	19.9	118.3	99.2	103.7	96
8.	Backfill of sanitary sewer trench across from lot 88	6	5' bfg	2	19.4	19.9	119.8	100.3	103.7	97
9.	Backfill of sanitary sewer trench across from lot 88	6	4' bfg	2	19.2	19.9	117.4	98.5	103.7	95
10.	Backfill of sanitary sewer trench across from lot 88	6	3' bfg	2	21.1	19.9	119.5	98.7	103.7	95
11.	Backfill of sanitary sewer trench across from lot 88	6	2' bfg	2	20.9	19.9	119.2	98.6	103.7	95
12.	Backfill of sanitary sewer trench across from lot 88	6	1' bfg	2	21.0	19.9	119.9	99.1	103.7	96
13.	Backfill of sanitary sewer trench across from lot 88	6	grade	2	19.9	19.9	118.5	98.8	103.7	95
14.	Merryman Lane, 13+00	6	2.3' bfg	2	19.4	19.9	122.4	102.5	103.7	99
15.	Merryman Lane, 14+00	6	2.6' bfg	2	20.2	19.9	120.2	100.0	103.7	96
16.	Merryman Lane, 15+00	6	2.1' bfg	2	20.7	19.9	125.6	104.1	103.7	100

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

Report Distribution:

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REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

REDFORD

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

PROJECT NO.: R20-17-165
REPORT NO.: K19632
DATE OF SERVICE: 09/01/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 09/12/2017

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	±2% of Opt

GAUGE: Troxler 3440
GAUGE SERIAL NO.: 22322
STANDARD COUNTS
MOISTURE - CURRENT: 704 PREVIOUS: 708
DENSITY - CURRENT: 2008 PREVIOUS: 2010
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS: OPTIMUM MOISTURE %	MOISTURE/DENSITY RELATIONS: MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
1.	BACKFILL OF SAN SEWER LINE TRENCH: 600' main line connection	6	8' bfg	1	20.1	19.9	119.4	99.4	103.7	96
2.	600' main line connection	6	7' bfg	1	19.8	19.9	119.3	99.6	103.7	96
3.	600' main line connection	6	6' bfg	1	19.2	19.9	117.7	98.7	103.7	95
4.	600' main line connection	6	5' bfg	1	20.4	19.9	119.1	98.9	103.7	95

Report of Tests continued on page 2

REPORT OF TESTS (continued)

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC. DATE OF SERVICE: 09/01/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
5.	600' main line connection	6	4' bfg	1	21.0	19.9	120.6	99.7	103.7	96
6.	600' main line connection	6	3' bfg	1	18.9	19.9	117.2	98.6	103.7	95
7.	600' main line connection	6	2' bfg	1	18.2	19.9	116.4	98.5	103.7	95
8.	600' main line connection	6	1' bfg	1	19.7	19.9	119.7	100.0	103.7	96
9.	600' main line connection	6	fg	1	20.4	19.9	119.0	98.8	103.7	95
11.	Street crossing near lot 89, 6' LOC	6	9' bfg	1	19.8	19.9	118.2	98.7	103.7	95
12.	Street crossing near lot 89, 6' LOC	6	8' bfg	1	18.7	19.9	117.3	98.8	103.7	95
13.	Street crossing near lot 89, 6' LOC	6	7' bfg	1	18.4	19.9	117.6	99.3	103.7	96
14.	Street crossing near lot 89, 6' LOC	6	6' bfg	1	19.7	19.9	117.9	98.5	103.7	95
15.	Street crossing near lot 89, 6' LOC	6	5' bfg	1	20.2	19.9	120.0	99.8	103.7	96
16.	Street crossing near lot 89, 6' LOC	6	4' bfg	1	18.8	19.9	117.8	99.2	103.7	96
17.	Street crossing near lot 89, 6' LOC	6	3' bfg	1	21.1	19.9	119.6	98.8	103.7	95
18.	Street crossing near lot 89, 6' LOC	6	2' bfg	1	20.4	19.9	119.6	99.3	103.7	96
19.	Street crossing near lot 89, 6' LOC	6	1' bfg	1	19.6	19.9	119.0	99.5	103.7	96
20.	Street crossing near lot 89, 6' LOC	6	fg	1	18.7	19.9	117.5	99.0	103.7	95
21.	900' main line connection	6	8' bfg	1	20.1	19.9	119.0	99.1	103.7	96
22.	900' main line connection	6	7' bfg	1	20.2	19.9	118.5	98.6	103.7	95
23.	900' main line connection	6	6' bfg	1	19.4	19.9	119.0	99.7	103.7	96
24.	900' main line connection	6	5' bfg	1	18.0	19.9	116.7	98.9	103.7	95

Report of Tests continued on page 3

REPORT OF TESTS (continued)

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 09/01/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
25.	900' main line connection	6	4' bfg	1	19.2	19.9	117.5	98.6	103.7	95
26.	900' main line connection	6	3' bfg	1	19.7	19.9	118.1	98.7	103.7	95
27.	900' main line connection	6	2' bfg	1	20.2	19.9	120.4	100.2	103.7	97
28.	900' main line connection	6	1' bfg	1	21.0	19.9	119.2	98.5	103.7	95
29.	900' main line connection	6	fg	1	21.0	19.9	119.5	98.8	103.7	95
31.	Street crossing near lot 90, 4' LOC	6	7' bfg	1	19.0	19.9	117.9	99.1	103.7	96
32.	Street crossing near lot 90, 4' LOC	6	6' bfg	1	20.0	19.9	118.2	98.5	103.7	95
33.	Street crossing near lot 90, 4' LOC	6	5' bfg	1	19.2	19.9	117.7	98.7	103.7	95
34.	Street crossing near lot 90, 4' LOC	6	4' bfg	1	18.7	19.9	117.0	98.6	103.7	95
35.	Street crossing near lot 90, 4' LOC	6	3' bfg	1	21.0	19.9	121.5	100.4	103.7	97
36.	Street crossing near lot 90, 4' LOC	6	2' bfg	1	20.0	19.9	118.4	98.7	103.7	95
37.	Street crossing near lot 90, 4' LOC	6	1' bfg	1	19.7	19.9	117.9	98.5	103.7	95
38.	Street crossing near lot 90, 4' LOC	6	fg	1	18.1	19.9	117.3	99.3	103.7	96

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

Report Distribution:

(1) THOMAS@REDFORDCONSTRUCTION.COM
(1) TRAVIS@SUMMITHOMESKC.COM

KANSAS CITY TESTING & ENGINEERING,

JIM BYRNES, R.G.
PROJECT MANAGER

KANSAS CITY TESTING & ENGINEERING, LLC

Kansas City Testing & Engineering, LLC
1308 Adams Street
Kansas City, KS 66103
Phone 913.321.8100
Fax 913.321.8181

REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

SPALDING / REDFORD

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

PROJECT NO.: R20-17-165
REPORT NO.: K19758
DATE OF SERVICE: 09/08/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 09/12/2017

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	±2% of Opt

GAUGE: Troxler 3440
GAUGE SERIAL NO.: 26934
STANDARD COUNTS
MOISTURE - CURRENT: 628 PREVIOUS: 630
DENSITY - CURRENT: 1740 PREVIOUS: 1746
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS: OPTIMUM MOISTURE %	MOISTURE/DENSITY RELATIONS: MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944
2.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	19.5	99.2	K18706
3.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	22.4	97.4	K18707

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
1.	SANITARY SEWER LINE TRENCH: Lot 93, 3' LOC	6	8' bfg	1	17.9	19.9	116.4	98.7	103.7	95
2.	Lot 93, 6' LOC	6	7' bfg	1	18.8	19.9	117.6	99.0	103.7	95
3.	Lot 93, 9' LOC	6	6' bfg	1	21.0	19.9	121.0	100.0	103.7	96
4.	Lot 93, 5' ROC	6	5' bfg	1	21.2	19.9	121.1	99.9	103.7	96
5.	Lot 93, 6' ROC	6	4' bfg	1	20.7	19.9	119.6	99.1	103.7	96
6.	Lot 93, 9' ROC	6	3' bfg	1	20.6	19.9	120.4	99.8	103.7	96

Report of Tests continued on page 2

REPORT OF TESTS (continued)

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 09/08/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
7.	Lot 93, 3' LOC	6	2' bfg	1	21.5	19.9	121.7	100.2	103.7	97
8.	Lot 93, 6' LOC	6	1' bfg	1	20.2	19.9	121.0	100.7	103.7	97
11.	Lot 92, 3' LOC	6	8' bfg	1	18.8	19.9	118.8	100.0	103.7	96
12.	Lot 92, 6' LOC	6	7' bfg	1	21.2	19.9	120.1	99.1	103.7	96
13.	Lot 92, 9' LOC	6	6' bfg	1	21.4	19.9	120.8	99.5	103.7	96
14.	Lot 92, 3' ROC	6	5' bfg	1	21.0	19.9	119.7	98.9	103.7	95
15.	Lot 92, 6' ROC	6	4' bfg	1	18.4	19.9	117.5	99.2	103.7	96
16.	Lot 92, 9' ROC	6	3' bfg	1	19.8	19.9	118.6	99.0	103.7	95
17.	Lot 92, 3' LOC	6	2' bfg	1	19.9	19.9	119.8	99.9	103.7	96
18.	Lot 92, 6' LOC	6	1' bfg	1	20.1	19.9	120.3	100.2	103.7	97
19.	Lot 92, 9' LOC	6	fg	1	20.7	19.9	120.7	100.0	103.7	96
21.	Lot 91, 3' LOC	6	8' bfg	1	18.8	19.9	118.8	100.0	103.7	96
22.	Lot 91, 6' LOC	6	7' bfg	1	20.7	19.9	120.5	99.8	103.7	96
23.	Lot 91, 9' LOC	6	6' bfg	1	21.2	19.9	120.6	99.5	103.7	96
24.	Lot 91, 3' ROC	6	5' bfg	1	19.9	19.9	118.6	98.9	103.7	95
25.	Lot 91, 6' ROC	6	4' bfg	1	18.9	19.9	117.9	99.2	103.7	96
26.	Lot 91, 9' ROC	6	3' bfg	1	19.2	19.9	120.0	100.7	103.7	97
27.	Lot 91, 3' LOC	6	2' bfg	1	19.5	19.9	119.6	100.1	103.7	97
28.	Lot 91, 6' LOC	6	1' bfg	1	20.5	19.9	120.0	99.6	103.7	96
29.	Lot 91, 9' LOC	6	fg	1	21.0	19.9	121.0	100.0	103.7	96
31.	Eastern future cul-de-sac	6	4.8' bfg	3	21.4	22.4	115.5	95.1	97.4	98
32.	Eastern future cul-de-sac	6	3.8' bfg	3	22.2	22.4	115.6	94.6	97.4	97
33.	Eastern future cul-de-sac	6	2.8' bfg	1	21.0	19.9	120.0	99.2	103.7	96
34.	Eastern future cul-de-sac	6	1' bfg	1	21.4	19.9	121.5	100.1	103.7	97
35.	Merryman Sta. 13+00	6	3.3' bfg	3	22.7	22.4	115.5	94.1	97.4	97
36.	Merryman Sta. 13+00	6	2.3' bfg	3	20.1 *	22.4	115.3	96.0	97.4	99
37.	Merryman Sta. 13+00	6	1' bfg	1	20.9	19.9	120.8	99.9	103.7	96
38.	Merryman Sta. 13+00	6	fg	1	18.6	19.9	117.1	98.7	103.7	95
39.	Merryman Sta. 14+00	6	3.5' bfg	1	18.7	19.9	117.8	99.2	103.7	96
40.	Merryman Sta. 14+00	6	2.5' bfg	1	19.0	19.9	117.8	99.0	103.7	95
41.	Merryman Sta. 14+00	6	1' bfg	1	21.2	19.9	122.3	100.9	103.7	97

Report of Tests continued on page 3

KANSAS CITY TESTING & ENGINEERING, LLC

REPORT OF TESTS (continued)

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 09/08/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf) WET	FIELD DENSITY (pcf) DRY	MAXIMUM DENSITY (pcf)	DENSITY (% max)
42.	Merryman Sta. 14+00	6	fg	1	20.9	19.9	120.9	100.0	103.7	96
43.	Merryman Sta. 15+00	6	2' bfg	3	23.8	22.4	115.1	93.0	97.4	95
44.	Merryman Sta. 15+00	6	1' bfg	1	21.6	19.9	122.8	101.0	103.7	97
45.	Merryman Sta. 15+00	6	fg	1	18.7	19.9	118.7	100.0	103.7	96
46.	Merryman Sta. 16+00	6	1' bfg	1	18.4	19.9	116.5	98.4	103.7	95
47.	Merryman Sta. 16+00	6	fg	1	19.0	19.9	117.6	98.8	103.7	95

An asterisk (*) appears next to test results which do NOT meet the project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

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(1) TRAVIS@SUMMITHOMESKC.COM

KANSAS CITY TESTING & ENGINEERING,

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PROJECT MANAGER

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