

IN-PLACE DENSITY: K37144

CLIENT: CHOYCE, LLC
PO BOX 847
LEE'S SUMMIT, MO 64063

REPORT NO: K37144
REPORT DATE: 8/29/2020
SERVICE DATE: 8/25/2020

PROJECT: R20-20-096
NAPA VALLEY 4TH PLAT

AUTHORIZATION:
CONTRACTOR:

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

Gauge

| Type | Serial No. | Test Mode | Density Current | Density Previous | Moisture Current | Moisture Previous |
|--------------|------------|---------------------|-----------------|------------------|------------------|-------------------|
| TROXLER 3440 | 77187 | Direct Transmission | 2788 | 2774 | 654 | 657 |

Requirements

| No. | Density Method | Density Specification | Moisture Method | Moisture Specification |
|-----|----------------|-----------------------|-----------------|------------------------|
| 1 | ASTM D6938 | Min: 95% | ASTM D3017 | -3% to +3% |

Test Proctors

| No. | Test Type | Material | Optimum Moisture | Max Density | Reference |
|-----|---|-----------------------|------------------|-------------|-----------|
| 1 | STANDARD PROCTOR ASTM D698, Method A | GRAY-BROWN SILTY CLAY | 20.7% | 98.5 pcf | K37124 |
| 2 | STANDARD PROCTOR ASTM D698, Method A | BROWN SILTY CLAY | 20.3% | 98.9 pcf | K37128 |



Results

| No. | Location | Probe Depth | Lift/Elev | Proctor | Field Moisture % | Optimum Moisture % | Moisture Result | Dry Density | Max Density | Density % | Density Result |
|-----|--|-------------|-----------|---------|------------------|--------------------|-----------------|-------------|-------------|-----------|----------------|
| 1 | Sanitary Sewer line at lot 165 under road | 8 | -6' | 1 | 21.0 | 20.7 | Pass | 96.5 | 98.5 | 98.0 | Pass |
| 2 | Sanitary Sewer line at lot 165 under road | 8 | -4' | 1 | 18.0 | 20.7 | Pass | 106.1 | 98.5 | 108.0 | Pass |
| 3 | Sanitary Sewer line at lot 166 under road | 8 | -5' | 1 | 21.2 | 20.7 | Pass | 97.7 | 98.5 | 99.0 | Pass |
| 4 | Sanitary Sewer line at lot 166 under road | 8 | -3' | 1 | 16.8 | 20.7 | Fail | 102.8 | 98.5 | 104.0 | Pass |
| 5 | Sanitary Sewer line at lot 165 under road retest | 8 | -3' | 1 | 19.1 | 20.7 | Pass | 100.5 | 98.5 | 102.0 | Pass |
| 6 | Sanitary Sewer line at lot 163 under road | 8 | -4' | 1 | 18.1 | 20.7 | Pass | 94.8 | 98.5 | 96.0 | Pass |
| 7 | Sanitary Sewer line at lot 163 under road | 8 | -3' | 1 | 18.9 | 20.7 | Pass | 99.3 | 98.5 | 101.0 | Pass |
| 8 | Sanitary Sewer line at lot 162 under road | 8 | -4' | 1 | 13.0 | 20.7 | Fail | 105.0 | 98.5 | 107.0 | Pass |
| 9 | Sanitary Sewer line at lot 165 under road retest | 8 | -4' | 1 | 16.4 | 20.7 | Fail | 103.7 | 98.5 | 105.0 | Pass |
| 10 | Sanitary Sewer line at lot 162 under road retest | 8 | -4' | 1 | 18.8 | 20.7 | Pass | 99.4 | 98.5 | 101.0 | Pass |
| 11 | Sanitary Sewer line at lot 162 under road | 8 | -1' | 1 | 17.9 | 20.7 | Pass | 98.0 | 98.5 | 99.0 | Pass |
| 12 | Sanitary Sewer line at lot 161 under road | 8 | -4' | 1 | 22.6 | 20.7 | Pass | 95.5 | 98.5 | 97.0 | Pass |
| 13 | Sanitary Sewer line at lot 161 under road | 8 | -2' | 1 | 17.4 | 20.7 | Fail | 95.7 | 98.5 | 97.0 | Pass |
| 14 | Sanitary Sewer line at lot 161 under road retest | 8 | -2' | 1 | 23.3 | 20.7 | Pass | 95.5 | 98.5 | 97.0 | Pass |
| 15 | Sanitary Sewer line at lot 160 under road | 8 | -4' | 1 | 19.4 | 20.7 | Pass | 100.5 | 98.5 | 102.0 | Pass |
| 16 | Sanitary Sewer line at lot 160 under road | 8 | -2' | 2 | 21.3 | 20.3 | Pass | 98.5 | 98.9 | 100.0 | Pass |
| 17 | Sanitary Sewer line at lot 159 under road | 8 | -4' | 2 | 26.5 | 20.3 | Fail | 91.9 | 98.9 | 93.0 | Fail |
| 18 | Sanitary Sewer line at lot 159 under road retest | 8 | -4' | 2 | 23.5 | 20.3 | Fail | 95.9 | 98.9 | 97.0 | Pass |
| 19 | Sanitary Sewer line at lot 159 under road | 8 | -2' | 2 | 23.3 | 20.3 | Pass | 97.8 | 98.9 | 99.0 | Pass |
| 20 | Sanitary Sewer line at lot 158 under road | 8 | -3' | 2 | 24.8 | 20.3 | Fail | 94.4 | 98.9 | 95.0 | Pass |
| 21 | Sanitary Sewer line from lot 158 under road | 8 | -1' | 2 | 18.0 | 20.3 | Pass | 102.6 | 98.9 | 104.0 | Pass |
| 22 | Sanitary Sewer line from lot 157 under road | 8 | -4' | 1 | 20.7 | 20.7 | Pass | 100.8 | 98.5 | 102.0 | Pass |
| 23 | Sanitary Sewer line from lot 157 under road | 8 | -2' | 1 | 22.1 | 20.7 | Pass | 97.8 | 98.5 | 99.0 | Pass |
| 24 | Sanitary Sewer line from lot 156 under road | 8 | -3' | 1 | 17.2 | 20.7 | Fail | 106.8 | 98.5 | 108.0 | Pass |
| 25 | Sanitary Sewer line from lot 157 under road retest | 8 | -3' | 1 | 15.0 | 20.7 | Fail | 103.7 | 98.5 | 105.0 | Pass |
| 26 | Sanitary Sewer line from lot 157 under road retest | 8 | -3' | 1 | 20.5 | 20.7 | Pass | 103.5 | 98.5 | 105.0 | Pass |
| 27 | Sanitary Sewer line from lot 156 under road | 8 | -2' | 1 | 17.1 | 20.7 | Fail | 102.5 | 98.5 | 104.0 | Pass |
| 28 | Sanitary Sewer line from lot 156 under road retest | 8 | -2' | 1 | 15.3 | 20.7 | Fail | 103.0 | 98.5 | 105.0 | Pass |
| 29 | Sanitary Sewer line from lot 156 under road retest | 8 | -2' | 1 | 14.8 | 20.7 | Fail | 98.8 | 98.5 | 100.0 | Pass |
| 30 | Sanitary Sewer line from lot 155 under road | 8 | -3' | 1 | 22.3 | 20.7 | Pass | 101.3 | 98.5 | 103.0 | Pass |



| No. | Location | Probe Depth | Lift/Elev | Proctor | Field Moisture % | Optimum Moisture % | Moisture Result | Dry Density | Max Density | Density % | Density Result |
|-----|--|-------------|-----------|---------|------------------|--------------------|-----------------|-------------|-------------|-----------|----------------|
| 31 | Sanitary Sewer line from lot 155 under road | 8 | -1' | 1 | 14.7 | 20.7 | Fail | 106.1 | 98.5 | 108.0 | Pass |
| 32 | Sanitary Sewer line from lot 155 under road retest | 8 | -1' | 1 | 21.2 | 20.7 | Pass | 96.4 | 98.5 | 98.0 | Pass |

TECHNICIAN: Johnny Shao, EI
Engineering Technician

REPORT DISTRIBUTION:

KEVIN HIGDON
CHAD SIPES
MATT SCHLICHT
MARC COOK
STEVEN ROBBINS
JOHN JACKSON
JOHN DIMAURO

KANSAS CITY TESTING & ENGINEERING, LLC,

A handwritten signature in blue ink, appearing to read 'Jim Byrnes', written over a horizontal line.

JIM BYRNES, R.G.
PROJECT MANAGER