APPENDIX G

COMPACTION TEST RESULTS
# EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>September 14th, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.:</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Jin Tian Zhu</td>
</tr>
<tr>
<td>Report ID:</td>
<td>9-14-15 Earthwork Daily Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services Requested By:</td>
<td>Charter Environmental Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Contact:</td>
<td>Mike Gentile – Charter Environmental Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Contractor:</td>
<td>Charter Environmental Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td>333 Adelaide, Providence, RI 02903</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope of Work:</td>
<td>Perform earthwork observations, lift thickness observation and density testing.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reference Drawings:** Proposed Site Plan C-102, 6/24/2015.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** Material S & S.

**Material Classification:** Light brown Poorly-graded Sand with Silt (SP-SM)

**Material Type:** Common Borrow.

**Earthwork Location:** Backfill proposed Parcel C area with Sandy Fill material.

**Subgrade Review:** Subgrade consisted of in-situ material overlain with geo-fabric.

**Groundwater:** No groundwater was encountered during today’s earthwork activities.

**Lift Thickness:** Material was placed in approximate 6-inch compacted lifts.

**Method of Compaction:** Material was compacted using a BOMAG 10-ton vibratory roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Modified Proctor. (ASTM D1557)

**Laboratory Sample No.:** T.E.I. 15-MC-668.

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**Note:** Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
**Test Results:**

Five (5) compaction tests were performed. Test results were above 90% of the proctor value, and in general accordance with project specifications.

**Comments:**

Mike Gentile of Charter Environmental Inc. was notified of test results prior to departure.

**Report ID:**


**Attachments:**

9-14-15 Earthwork QC Report and 9-14-15 Field Sketch.
# Earthwork Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 9/14/2015

## Density Gauge Information
- **Make:** Troxler
- **Model No.:** 3440
- **Serial No.:** 18207
- **Date of Calibration:** 1/16/2015
- **Source of Calibration:** QC Resources
- **Duration of Test:** 15 Seconds
- **Standard Counts:** D: 2247 M: 593
- **Corrected Max Dry Unit Wt. (pcf):** 102.3
- **Corrected Opt Water Content (%):** 13.1
- **Req. Minimum Compaction (%):** 90.0

## Material Information
- **Description:** Light Brown Poorly-graded Sand with Silt (SP-SM)
- **Source:** Material S & S
- **Location:** Proposed Parcel C Area
- **Datum:** Top Soil subgrade
- **TEI Laboratory Sample Number:** 15-MC-668

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>10.3</td>
<td>97.2</td>
<td>95.0%</td>
</tr>
<tr>
<td>2</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>11.6</td>
<td>94.3</td>
<td>92.2%</td>
</tr>
<tr>
<td>3</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>8.9</td>
<td>96.6</td>
<td>94.4%</td>
</tr>
<tr>
<td>4</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>9.3</td>
<td>95.3</td>
<td>93.2%</td>
</tr>
<tr>
<td>5</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>11.0</td>
<td>95.2</td>
<td>93.1%</td>
</tr>
</tbody>
</table>

- **Results Within Specification Limits:** ✓
- **Results Outside Specification Limits:** □

## Comments:

**Tested By:** Jin Tian Zhu  
**Reviewed By:** Matthew Colman, EIT  
**Title:** Field Engineer  
**Date:** 9/17/2015  
**Title:** Staff Engineer  
**Date:** 9/22/2015
Approximate earthwork activity locations
EARTHWORK FIELD REPORT

Project: Textron Providence  
Service Date:  September 17th, 2015

Project No. CTS 74-15-0087  
Technician: Kyle Hogan

Report ID:  9-17-15 Earthwork Daily Report

Services Requested By: Charter Environmental Inc.

Site Contact: Mike Gentile – Charter Environmental Inc.

Site Contractor: Charter Environmental Inc.

Location: 333 Adelaide, Providence, RI 02903

Scope of Work: Perform earthwork observations, lift thickness observation and density testing.

Reference Drawings: Proposed Site Plan C-102, 6/24/2015.

Earthwork Contractor: Charter Environmental Inc.

Material Source: Material S & S.

Material Classification: Light brown Poorly-graded Sand with Silt (SP-SM)

Material Type: Common Borrow.

Earthwork Location: Backfill proposed Parcel C area with Sandy Fill material.

Subgrade Review: Subgrade consisted of in-situ material overlain with geo-fabric.

Groundwater: No groundwater was encountered during today’s earthwork activities.

Lift Thickness: Material was placed in approximate 6-inch compacted lifts.

Method of Compaction: Material was compacted using a BOMAG 10-ton vibratory roller.

Method of Density Testing: In-place test method using nuclear gauge. (ASTM D6938)

Proctor Method: Standard Proctor. (ASTM D698)

Laboratory Sample No.: T.E.I. 15-SC-668.

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Test Results: Fifteen (15) compaction tests were performed. Test results were above 90% of the proctor value, and in general accordance with project specifications.

Comments: Mike Gentile of Charter Environmental Inc. was notified of test results prior to departure.


# Earthwork Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 9/17/2015

## Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Date of Calibration</th>
<th>Source of Calibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troxler</td>
<td>1/16/2015</td>
<td>QC Resources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model No.:</th>
<th>Serial No.:</th>
<th>Standard Counts:</th>
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</thead>
<tbody>
<tr>
<td>3440</td>
<td>18207</td>
<td>D: 2247 M: 593</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration of Test</th>
<th>Moisture Offset (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Seconds</td>
<td>N/A</td>
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</tbody>
</table>

## Material Information

**Description:** Light Brown Poorly-graded Sand with Silt (SP-SM)  
**TEI Laboratory Sample Number:** 15-SC-668  
**Corrected Max Dry Unit Wt. (pcf):** 102.3  
**Corrected Opt Water Content (%):** 13.1  
**Req. Minimum Compaction (%):** 90.0

<table>
<thead>
<tr>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>3.7</td>
<td>99.6</td>
</tr>
<tr>
<td>2</td>
<td>FG</td>
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<td>2.5</td>
<td>93.8</td>
<td>91.7%</td>
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<tr>
<td>3</td>
<td>FG</td>
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<td>3.1</td>
<td>96.4</td>
<td>94.2%</td>
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<tr>
<td>4</td>
<td>FG</td>
<td>4</td>
<td>4.2</td>
<td>97.0</td>
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<tr>
<td>5</td>
<td>FG</td>
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<td>94.6%</td>
</tr>
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<td>FG</td>
<td>4</td>
<td>2.4</td>
<td>96.2</td>
<td>94.0%</td>
</tr>
<tr>
<td>12</td>
<td>FG</td>
<td>4</td>
<td>2.8</td>
<td>98.4</td>
<td>96.2%</td>
</tr>
<tr>
<td>13</td>
<td>FG</td>
<td>4</td>
<td>2.7</td>
<td>94.0</td>
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<tr>
<td>14</td>
<td>FG</td>
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<td>6.1</td>
<td>99.4</td>
<td>97.2%</td>
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<tr>
<td>15</td>
<td>FG</td>
<td>4</td>
<td>5.0</td>
<td>98.6</td>
<td>96.4%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: [ ]  
Results Outside Specification Limits: [ ]

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
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<td>3.7</td>
<td>99.6</td>
<td>97.4%</td>
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<tr>
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<td>FG</td>
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<td>2.5</td>
<td>93.8</td>
<td>91.7%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
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<td>3.1</td>
<td>96.4</td>
<td>94.2%</td>
<td></td>
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<tr>
<td>4</td>
<td>FG</td>
<td>4</td>
<td>4.2</td>
<td>97.0</td>
<td>94.8%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>FG</td>
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<td>96.8</td>
<td>94.6%</td>
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</tr>
<tr>
<td>6</td>
<td>FG</td>
<td>4</td>
<td>3.7</td>
<td>92.2</td>
<td>90.1%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>FG</td>
<td>4</td>
<td>3.3</td>
<td>92.8</td>
<td>90.7%</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>FG</td>
<td>4</td>
<td>3.0</td>
<td>94.1</td>
<td>92.0%</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>FG</td>
<td>4</td>
<td>3.6</td>
<td>96.7</td>
<td>94.5%</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>FG</td>
<td>4</td>
<td>4.1</td>
<td>97.0</td>
<td>94.8%</td>
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</tr>
<tr>
<td>11</td>
<td>FG</td>
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<td>12</td>
<td>FG</td>
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<td>91.9%</td>
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<td>FG</td>
<td>4</td>
<td>6.1</td>
<td>99.4</td>
<td>97.2%</td>
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<tr>
<td>15</td>
<td>FG</td>
<td>4</td>
<td>5.0</td>
<td>98.6</td>
<td>96.4%</td>
<td></td>
</tr>
</tbody>
</table>

## Comments:

Tested By: Kyle Hogan  
Reviewed By: Matthew Colman, EIT  
Title: Field technician  
Date: 9/17/2015  
Title: Staff Engineer  
Date: 10/5/2015
Approximate Earthwork Activity and Thickness Verification Locations.
## EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>September 21st, 2015</th>
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<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Jin Tian Zhu</td>
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</table>

**Report ID:** 9-21-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing

### Reference Drawings:

Proposed Site Plan C-102, 6/24/2015.

### Earthwork Contractor:

Charter Environmental Inc.

### Material Source:

Material S & S.

### Material Classification:

Light brown poorly-graded Sand with Silt (SP-SM)

### Material Type:

Sandy Fill.

### Earthwork Location:

Backfill proposed Parcel C area with Sandy fill material.

### Subgrade Review:

Subgrade consisted of existing material.

### Groundwater:

No groundwater was encountered during today’s earthwork activities.

### Lift Thickness:

Material was placed in approximate 6-inch compacted lifts.

### Method of Compaction:

Material was compacted using a BOMAG 10-ton vibratory roller.

### Method of Density Testing:

In-place test method using nuclear gauge. (ASTM D6938)

### Proctor Method:

Standard Proctor. (ASTM D698)

### Laboratory Sample No.:


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**Note:** Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
### EARTHWORK FIELD REPORT Cont.

<table>
<thead>
<tr>
<th>Test Results:</th>
<th>Three (3) compaction tests were performed. Test results were above 90% of the proctor value, and in general accordance with project specifications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Lift thickness for topsoil and common borrow material was observed to be 6-inches compacted prior to testing of each lift. Mike Gentile of Charter Environmental Inc. was notified of test results prior to departure.</td>
</tr>
</tbody>
</table>

Observed By: Jin Tian Zhu  
Field Engineer  

Reviewed By: Matthew Colman, EIT  
Staff Engineer  

---

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
# Earthwork Field Density Report

<table>
<thead>
<tr>
<th>Project Address:</th>
<th>333 Adelaide, Providence, RI 02903</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Service:</td>
<td>9/21/2015</td>
</tr>
</tbody>
</table>

**Density Gauge Information**

<table>
<thead>
<tr>
<th>Make:</th>
<th>Troxler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.:</td>
<td>3440</td>
</tr>
<tr>
<td>Serial No.:</td>
<td>18207</td>
</tr>
<tr>
<td>Date of Calibration:</td>
<td>1/16/2015</td>
</tr>
<tr>
<td>Source of Calibration:</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Standard Counts:</td>
<td>D: 2246 M 595</td>
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<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
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<tr>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Material Information**

<table>
<thead>
<tr>
<th>Description:</th>
<th>Light brown Poorl-graded Sand with Silt (SP-SM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>Material S &amp; S</td>
</tr>
<tr>
<td>Location:</td>
<td>Proposed Parcel C area</td>
</tr>
<tr>
<td>Datum:</td>
<td>Top soil subgrade</td>
</tr>
<tr>
<td>TEI Laboratory Sample Number:</td>
<td>15-SC-668</td>
</tr>
<tr>
<td>Corrected Max Dry Unit Wt. (pcf):</td>
<td>102.3</td>
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<td>Corrected Opt Water Content (%):</td>
<td>13.1</td>
</tr>
<tr>
<td>Req. Minimum Compaction (%):</td>
<td>90.0</td>
</tr>
</tbody>
</table>

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>8.0</td>
<td>97.5</td>
<td>95.3%</td>
</tr>
<tr>
<td>2</td>
<td>FG</td>
<td>4</td>
<td>9.0</td>
<td>96.0</td>
<td>93.8%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
<td>4</td>
<td>9.7</td>
<td>95.5</td>
<td>93.4%</td>
<td></td>
</tr>
</tbody>
</table>

Results Within Specification Limits: [✓]
Results Outside Specification Limits: [ ]

**Comments:**

Tested By: Jin Tian Zhu |
Reviewed By: Matthew Colman, EIT |
Title: Field Engineer |
Date: 9/22/2015 |
Title: Staff Engineer |
Date: 10/5/2015
Approximate Earthwork Activity and Thickness Verification Locations.
# EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>September 25\textsuperscript{th}, 2015</th>
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<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Jin Tian Zhu</td>
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**Report ID:** 9-25-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

**Reference Drawings:** Proposed Site Plan C-102, 6/24/2015.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** Material S & S.

**Material Classification:** Light brown poorly-graded Sand with Silt (SP-SM)

**Material Type:** Sandy Fill.

**Earthwork Location:** Backfill proposed Parcel C area with Sandy fill material.

**Subgrade Review:** Subgrade consisted of existing material.

**Groundwater:** No groundwater was encountered during today’s earthwork activities.

**Lift Thickness:** Material was placed in approximate 6-inch compacted lifts.

**Method of Compaction:** Material was compacted using a BOMAG 10-ton vibratory roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-SC-668.

---

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Test Results: Three (3) compaction tests were performed. Test results were above 90% of the proctor value, and in general accordance with project specifications for given backfill elevations.

Comments: Lift thickness for topsoil and common borrow material was observed to be 6-inches compacted prior to testing of each lift. Mike Gentile of Charter Environmental Inc. was notified of test results prior to departure.


Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Earthwork Field Density Report

Project: Textron Providence
Project Address: 333 Adelaide, Providence, RI 02903
TEI Project No.: CTS 74-15-0087
Date of Service: 9/25/2015

Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Troxler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td>3440</td>
</tr>
<tr>
<td>Serial No.</td>
<td>18207</td>
</tr>
<tr>
<td>Date of Calibration</td>
<td>1/16/2015</td>
</tr>
<tr>
<td>Source of Calibration</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Standard Counts:</td>
<td>D: 2249  M: 598</td>
</tr>
<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
</tr>
<tr>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Light brown Poorl-graded Sand with Silt (SP-SM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Material S &amp; S</td>
</tr>
<tr>
<td>Location</td>
<td>Proposed Parcel C area</td>
</tr>
<tr>
<td>Datum</td>
<td>Top soil subgrade</td>
</tr>
<tr>
<td>TEI Laboratory Sample Number</td>
<td>15-SC-668</td>
</tr>
<tr>
<td>Corrected Max Dry Unit Wt. (pcf):</td>
<td>102.3</td>
</tr>
<tr>
<td>Corrected Opt Water Content (%):</td>
<td>13.1</td>
</tr>
<tr>
<td>Req. Minimum Compaction (%):</td>
<td>90.0</td>
</tr>
</tbody>
</table>

Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>FG</td>
<td>4</td>
<td>8.2</td>
<td>99.9</td>
<td>97.7%</td>
</tr>
<tr>
<td>2</td>
<td>FG</td>
<td>4</td>
<td>7.4</td>
<td>98.5</td>
<td>96.3%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
<td>4</td>
<td>8.6</td>
<td>97.8</td>
<td>95.6%</td>
<td></td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔  Results Outside Specification Limits:  ☐

Comments:

Tested By: Jin Tian Zhu
Reviewed By: Matthew Colman, EIT
Title: Field Engineer  Date: 9/29/2015  Title: Staff Engineer  Date: 10/5/2015
Approximate Earthwork Activity and Thickness Verification Locations.
## EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>October 5th, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Imtiaz Ahmed</td>
</tr>
</tbody>
</table>

**Report ID:** 10-05-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

### Reference Drawings:
Proposed Site Plan C-102, 6/24/2015.

### Earthwork Contractor:
Charter Environmental Inc.

### Material Source:
Material S&S.

### Material Classification:
Light brown Poorly-graded Sand with Silt (SP-SM)

### Material Type:
Common Borrow.

### Earthwork Location:
Backfill of Parcel C and southern entrance area.

### SubgradeReview:
Subgrade consisted of in-situ material overlain with geo-fabric.

### Groundwater:
No groundwater was encountered during today’s earthwork inspection time.

### Lift Thickness:
Material was placed in approximate 6-inch compacted lifts.

### Method of Compaction:
Material was compacted using a BOMAG 10-ton vibratory roller.

### Method of Density Testing:
In-place test method using nuclear gauge. (ASTM D6938)

### Proctor Method:
Standard Proctor. (ASTM D698)

### Laboratory Sample No.:

---

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Test Results: Twelve (12) compaction tests were performed. Test results were above 90% of the proctor value, and in general accordance with project specifications. Compaction tests at southern site entrance were over 100%. These results may be due to material change or exposure to heavy construction traffic.

Comments: Lift thickness for common borrow material was observed to be 6-inches compacted prior to testing. Mike Gentile of Charter Environmental was notified of test results prior to departure.


Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Earthwork Field Density Report

Project: Textron Providence
Project Address: 333 Adelaide, Providence, RI 02903
TEI Project No.: CTS 74-15-0087
Date of Service: 10/5/2015

Density Gauge Information

Make: Humboldt
Model No.: HS-5001EZ
Serial No.: 4294
Date of Calibration: 1/16/2015
Source of Calibration: QC Resources
Duration of Test: 15 Seconds
Moisture Offset (%): N/A

Material Information

Description: Light brown Poorl-graded Sand with Silt (SP-SM)
Source: On-Site
Location: North corner of parcel C and Site Entrance
Datum: Capping subgrade
Datum: Capping subgrade
Location: North corner of parcel C and Site Entrance
Datum: Capping subgrade
Location: North corner of parcel C and Site Entrance
Datum: Capping subgrade

Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>1</td>
<td>6</td>
<td>17.8</td>
<td>94.3</td>
<td>92.2</td>
</tr>
<tr>
<td>2</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>15.1</td>
<td>95.5</td>
<td>93.4</td>
</tr>
<tr>
<td>3</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>14.9</td>
<td>99.6</td>
<td>97.4</td>
</tr>
<tr>
<td>4</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>14.8</td>
<td>100.6</td>
<td>98.3</td>
</tr>
<tr>
<td>5</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>17.1</td>
<td>92.7</td>
<td>90.6</td>
</tr>
<tr>
<td>6</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>22.0</td>
<td>94.6</td>
<td>92.5</td>
</tr>
<tr>
<td>7</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>16.9</td>
<td>94.0</td>
<td>91.9</td>
</tr>
<tr>
<td>8</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>14.8</td>
<td>92.2</td>
<td>90.1</td>
</tr>
<tr>
<td>9</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>13.9</td>
<td>110.2</td>
<td>107.7</td>
</tr>
<tr>
<td>10</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>14.2</td>
<td>108.5</td>
<td>106.1</td>
</tr>
<tr>
<td>11</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>14.7</td>
<td>108.0</td>
<td>105.6</td>
</tr>
<tr>
<td>12</td>
<td>Site Entrance</td>
<td>1</td>
<td>6</td>
<td>16.1</td>
<td>107.9</td>
<td>105.5</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔ Results Outside Specification Limits: ☐

Comments:

Tested By: Imtiaz Ahmed
Reviewed By: Matthew Colman, EIT
Title: Field Engineer
Date: 10/5/2015
Title: Staff Engineer
Date: 10/16/2015
# EARTHWORK FIELD REPORT

**Project:** Textron Providence  
**Project No.:** CTS 74-15-0087  
**Service Date:** November 4th, 2015  
**Technician:** Imtiaz Ahmed

## Reference Drawings
- Proposed site plan sheet 3 of 3.

## Earthwork Contractor
- Charter Environmental Inc.

## Material Source
- On-site processed.

## Material Classification
- Dark brown silty sand with gravel (SM).

## Material Type
- Cove Sediment with 6% KLD Blend.

## Earthwork Location
- Proposed upland soil cap, see field sketch for test locations.

## Subgrade Review
- Material was placed prior to TEI’s arrival.

## Groundwater
- No groundwater was encountered during today’s earthwork inspection time.

## Lift Thickness
- Material was placed in approximate 12-inch compacted lifts.

## Method of Compaction
- Material was compacted using an Ingersoll Rand (Pro-Pac series 70) vibratory roller.

## Method of Density Testing
- In-place test method using nuclear gauge. (ASTM D6938)

## Proctor Method
- Standard Proctor. (ASTM D698)

## Laboratory Sample No.

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**Note:** Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
**Test Results:**

Four (4) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.

**Comments:**

Mike Gentile of Charter Environmental Inc. was notified of test strip results prior to departure.

**Report ID:**

11-4-15 Earthwork Daily Report.

**Attachments:**

11-4-15 Earthwork QC Report & 11-4-15 Field Sketch.

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Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
## Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**Date of Service:** 11/4/2015  
**TEI Project No.:** CTS 74-15-0087

### Density Gauge Information

- **Make:** Humboldt  
- **Model No.:** 5001EZ  
- **Serial No.:** 4295  
- **Date of Calibration:** 4/1/2015  
- **Source of Calibration:** QC Resources  
- **Standard Counts:** D: 2527.3, M: 448.1  
- **Moisture Offset (%):** N/A  
- **Duration of Test:** 15 Seconds

### Material Information

- **Description:** Dark Brown Silty Sand with Gravel (SM)  
- **Location:** Proposed Upland Soil Cap  
- **Datum:** Bottom of Cap  
- **Source:** On-Site Cove Sediment with 6% KLD Blend  
- **Datum:** Bottom of Cap  
- **Corrected Max Dry Unit Wt. (pcf):** 92.6  
- **Corrected Opt Water Content (%):** 22.9  
- **Req. Minimum Compaction (%):** 90.0  
- **TEI Laboratory Sample Number:** 15-S-1110

### Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Main Cap Area (See Field Sketch)</td>
<td>1</td>
<td>8</td>
<td>26.9</td>
<td>84.5</td>
<td>91.3%</td>
</tr>
<tr>
<td>2</td>
<td>Main Cap Area (See Field Sketch)</td>
<td>1</td>
<td>8</td>
<td>23.6</td>
<td>91.1</td>
<td>98.4%</td>
</tr>
<tr>
<td>3</td>
<td>Main Cap Area (See Field Sketch)</td>
<td>1</td>
<td>8</td>
<td>25.5</td>
<td>85.4</td>
<td>92.2%</td>
</tr>
<tr>
<td>4</td>
<td>Main Cap Area (See Field Sketch)</td>
<td>1</td>
<td>8</td>
<td>24.9</td>
<td>86.4</td>
<td>93.3%</td>
</tr>
</tbody>
</table>

- **Results Within Specification Limits:** ✓  
- **Results Outside Specification Limits:** ☐

**Comments:** 6% KLD Blend - 15-SC-1110 92.6pcf @ 22.9% moisture.

**Tested By:** Imtiaz Ahmed  
**Reviewed By:** Matthew Colman, EIT

**Title:** Field Engineer  
**Date:** 11/4/2015  
**Title:** Staff Engineer  
**Date:** 11/16/2015
Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
## EARTHWORK FIELD REPORT Cont.

<table>
<thead>
<tr>
<th>Test Results:</th>
<th>Three (3) compaction tests were performed. Test results were above 93% of the proctor value and in general accordance with project specifications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Mike Gentile of Charter Environmental Inc. was notified of test results for the cap area prior to departure.</td>
</tr>
</tbody>
</table>

Observed By: Imtiaz Ahmed  
Field Engineer  
Reviewed By: Matthew Colman, EIT  
Staff Engineer

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
# Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 11/5/2015

## Density Gauge Information

<table>
<thead>
<tr>
<th>Make:</th>
<th>Humboldt</th>
<th>Date of Calibration:</th>
<th>4/1/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.:</td>
<td>5001EZ</td>
<td>Source of Calibration:</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Serial No.:</td>
<td>4295</td>
<td>Standard Counts:</td>
<td>D: 2533.1  M: 442.6</td>
</tr>
<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Material Information

<table>
<thead>
<tr>
<th>Description:</th>
<th>Dark Brown Silty Sand with Gravel (SM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>On-Site Cove Sediment with 6% KLD Blend</td>
</tr>
<tr>
<td>Location:</td>
<td>Proposed Upland Soil Cap</td>
</tr>
<tr>
<td>Datum:</td>
<td>Bottom of Cap</td>
</tr>
</tbody>
</table>

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Perimeter) See field sketch</td>
<td>1</td>
<td>8</td>
<td>28.6</td>
<td>86.3</td>
<td>93.2%</td>
</tr>
<tr>
<td>2</td>
<td>(Perimeter) See field sketch</td>
<td>1</td>
<td>8</td>
<td>26.4</td>
<td>90.1</td>
<td>97.3%</td>
</tr>
<tr>
<td>3</td>
<td>(Perimeter) See field sketch</td>
<td>1</td>
<td>8</td>
<td>26.2</td>
<td>87.1</td>
<td>94.1%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔️ Results Outside Specification Limits: ☐

**Comments:**

- Tested By: Imtiaz Ahmed  
- Reviewed By: Matthew Colman, EIT  
- Title: Field Engineer  
- Date: 11/5/2015  
- Title: Staff Engineer  
- Date: 11/16/2015
Approximate compaction testing area at perimeter.
**EARTHWORK FIELD REPORT**

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>November 10th, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Imtiaz Ahmed</td>
</tr>
</tbody>
</table>

**Report ID:** 11-10-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

**Reference Drawings:** Proposed site plan sheet 3 of 3.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** Material S&S.

**Material Classification:** Light brown poorly graded sand with silt (SP-SM).

**Material Type:** Common borrow.

**Earthwork Location:** Upland area (see field sketch).

**Subgrade Review:** Material was placed prior to TEI’s arrival.

**Groundwater:** No groundwater was encountered during today’s earthwork inspection time.

**Lift Thickness:** Material was placed in approximate 12-inch compacted lifts.

**Method of Compaction:** Material was compacted using an HYPAC C-840D 11-ton vibratory roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-S-668.

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**Note:** Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
EARTHWORK FIELD REPORT Cont.

Test Results: Seven (7) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.

Comments: Mike Gentile of Charter Environmental Inc. was notified of results prior to departure.


Observed By: Imtiaz Ahmed
Field Engineer

Reviewed By: Matthew Colman, EIT
Staff Engineer

Note: Thielisch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
# Earthwork Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 11/10/2015

## Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Troxler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Calibration:</td>
<td>1/6/2015</td>
</tr>
<tr>
<td>Model No.:</td>
<td>3440</td>
</tr>
<tr>
<td>Source of Calibration:</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Serial No.:</td>
<td>18207</td>
</tr>
<tr>
<td>Standard Counts:</td>
<td>D: 2248 M 660</td>
</tr>
<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
</tr>
<tr>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Material Information

<table>
<thead>
<tr>
<th>Description: Brown Silty Sand with Gravel (SM)</th>
<th>TEI Laboratory Sample Number: 15-S-668</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Material &amp; S&amp;S</td>
<td>Corrected Max Dry Unit Wt. (pcf): 102.3</td>
</tr>
<tr>
<td>Location: Upland Area</td>
<td>Corrected Opt Water Content (%): 13.1</td>
</tr>
<tr>
<td>Datum: Finished Grade</td>
<td>Req. Minimum Compaction (%): 90.0</td>
</tr>
</tbody>
</table>

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>6.8</td>
<td>103.7</td>
<td>101.4%</td>
</tr>
<tr>
<td>2</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>7.7</td>
<td>99.5</td>
<td>97.3%</td>
</tr>
<tr>
<td>3</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>7.3</td>
<td>101.9</td>
<td>99.6%</td>
</tr>
<tr>
<td>4</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>6.5</td>
<td>103.1</td>
<td>100.8%</td>
</tr>
<tr>
<td>5</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>7.8</td>
<td>103.8</td>
<td>101.5%</td>
</tr>
<tr>
<td>6</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>7.5</td>
<td>105.4</td>
<td>103.0%</td>
</tr>
<tr>
<td>7</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>6.1</td>
<td>102.0</td>
<td>99.7%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: [✓]  
Results Outside Specification Limits: [ ]

Comments:

 Tested By: Imtiaz Ahmed  
 Reviewed By: Matthew Colman, EIT

**Title:** Field Engineer  
**Date:** 11/10/2015  
**Title:** Staff Engineer  
**Date:** 11/16/2015
Upland area for approximate compaction testing

1
2
3
4
5
6
7
EARTHWORK FIELD REPORT A

Project: Textron Providence
Project No. CTS 74-15-0087
Report ID: 11-12-15 Earthwork Daily Report

Service Date: November 12th, 2015
Technician: Jason Rapose

Services Requested By: Charter Environmental Inc.
Site Contact: Mike Gentile – Charter Environmental Inc.
Site Contractor: Charter Environmental Inc.
Location: 333 Adelaide, Providence, RI 02903
Scope of Work: Perform earthwork observations, lift thickness observation and density testing.

Reference Drawings: Proposed site plan sheet 3 of 3.

Earthwork Contractor: Charter Environmental Inc.
Material Source: On-site 6% KLD processed.
Material Classification: Dark brown silty sand with gravel (SM).
Material Type: Cove Sediment with 6% KLD blend.
Earthwork Location: Main body area shown in field sketch.
Subgrade Review: Material was placed prior to TEI’s arrival.
Groundwater: No groundwater was encountered during today’s earthwork inspection time.
Lift Thickness: Material was placed in approximate 12-inch compacted lifts.
Method of Compaction: Material was compacted using an Ingersoll Rand (Pro-Pac series 70) vibratory sheepfoot roller.
Method of Density Testing: In-place test method using nuclear gauge. (ASTM D6938)
Proctor Method: Standard Proctor. (ASTM D698)
Laboratory Sample No.: T.E.I. 15-S-1110.

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
### Test Results:

Four (4) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.

### Comments:

Area tested was the second lift (2nd) placed for this area. Mike Gentile of Charter Environmental Inc. was notified of test results prior to departure.

### Report ID:

11-12-15 Earthwork Daily Report A.

### Attachments:

11-12-15 Earthwork QC Report A & 11-12-15 Field Sketch.

---

**Observed By:**
Jason Rapose  
Field Technician

**Reviewed By:**
Matthew Colman, EIT  
Staff Engineer

---

**Note:** Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
EARTHWORK FIELD REPORT Cont.

Test Results: Six (6) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.

Comments: At the request of Mike Gentile of Charter Environmental, two test pits were dug in the phase III area tested to verify at least six inches (6") of coverage over the placed poly membrane. Mike Gentile of Charter Environmental Inc. was notified of test results and depth verification prior to departure

Report ID: 11-12-15 Earthwork Daily Report B.

Attachments: 11-12-15 Earthwork QC Report B & 11-12-15 Field Sketch.

Observed By: Jason Rapose
Field Technician

Reviewed By: Matthew Colman, EIT
Staff Engineer

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
## Field Density Report A

### Project Information
- **Project:** Textron Providence
- **Project Address:** 333 Adelaide, Providence, RI 02903
- **TEI Project No.:** CTS 74-15-0087
- **Date of Service:** 11/12/2015

### Material Information
- **Description:** Dark Brown Silty Sand with gravel (SM)
- **Source:** On-Site Cove Sediment with 6% KLD Blend
- **Location:** Main Body Area
- **Datum:** Bottom of Cap
- **TEI Laboratory Sample Number:** 15-S-1110
- **Corrected Max Dry Unit Wt. (pcf):** 92.6
- **Corrected Opt Water Content (%):** 22.9
- **Req. Minimum Compaction (%):** 90.0

### Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Main Body, See Field Sketch</td>
<td>2 / 59.0</td>
<td>12</td>
<td>33.4</td>
<td>84.7</td>
<td>91.5%</td>
</tr>
<tr>
<td>2</td>
<td>Main Body, See Field Sketch</td>
<td>2 / 59.0</td>
<td>12</td>
<td>34.1</td>
<td>83.4</td>
<td>90.1%</td>
</tr>
<tr>
<td>3</td>
<td>Main Body, See Field Sketch</td>
<td>2 / 59.0</td>
<td>12</td>
<td>31.2</td>
<td>86.3</td>
<td>93.2%</td>
</tr>
<tr>
<td>4</td>
<td>Main Body, See Field Sketch</td>
<td>2 / 59.0</td>
<td>12</td>
<td>28.1</td>
<td>89.5</td>
<td>96.7%</td>
</tr>
</tbody>
</table>

### Comments:
- **6% KLD Blend** - 15-SC-1110 92.6pcf @ 22.9% moisture. Elevation is approximate.

---

### Tested By: Jason Rapose
### Reviewed By: Matthew Colman, EIT

**Title:** Field Technician | **Date:** 11/12/2015 | **Title:** Staff Engineer | **Date:** 11/17/2015
## Field Density Report B

### Project Information
- **Project:** Textron Providence
- **Project Address:** 333 Adelaide, Providence, RI 02903
- **TEI Project No.:** CTS 74-15-0087
- **Date of Service:** 11/12/2015

### Density Gauge Information
- **Make:** Troxler
- **Model No.:** 3440
- **Serial No.:** 22318
- **Date of Calibration:** 1/6/2015
- **Source of Calibration:** QC Resources
- **Standard Counts:** D: 2210 M 663
- **Duration of Test:** 15 Seconds
- **Moisture Offset (%):** N/A

### Material Information
- **Description:** Light brown Poorly-graded Sand with Silt (SP-SM)
- **Source:** Material S&S
- **Location:** Parcel C-1 Phase III Area
- **Datum:** Finished Grade
- **TEI Laboratory Sample Number:** 15-S-668
- **Corrected Max Dry Unit Wt. (pcf):** 102.3
- **Corrected Opt Water Content (%):** 13.1
- **Req. Minimum Compaction (%):** 90.0

### Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Upland area, See Field Sketch</td>
<td>65.0</td>
<td>6</td>
<td>5.1</td>
<td>99.9</td>
<td>97.7%</td>
</tr>
<tr>
<td>2</td>
<td>Upland area, See Field Sketch</td>
<td>65.0</td>
<td>6</td>
<td>6.1</td>
<td>98.0</td>
<td>95.8%</td>
</tr>
<tr>
<td>3</td>
<td>Upland area, See Field Sketch</td>
<td>65.0</td>
<td>6</td>
<td>8.4</td>
<td>99.2</td>
<td>97.0%</td>
</tr>
<tr>
<td>4</td>
<td>Upland area, See Field Sketch</td>
<td>65.0</td>
<td>6</td>
<td>9.5</td>
<td>97.7</td>
<td>95.5%</td>
</tr>
<tr>
<td>5</td>
<td>Upland area, See Field Sketch</td>
<td>65.0</td>
<td>6</td>
<td>7.3</td>
<td>98.6</td>
<td>96.4%</td>
</tr>
<tr>
<td>6</td>
<td>Upland area, See Field Sketch</td>
<td>65.0</td>
<td>6</td>
<td>8.3</td>
<td>99.3</td>
<td>97.1%</td>
</tr>
</tbody>
</table>

### Results
- **Results Within Specification Limits:** ✔
- **Results Outside Specification Limits:** ☐

### Comments
- Elevation is approximate.

### Personnel Information
- **Tested By:** Jason Rapose
- **Reviewed By:** Matthew Colman, EIT
- **Date:** 11/12/2015
- **Title:** Field Technician
- **Date:** 11/12/2015
- **Title:** Staff Engineer
# EARTHWORK FIELD REPORT A

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Date:</td>
<td>November 13th, 2015</td>
</tr>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
</tr>
<tr>
<td>Technician:</td>
<td>Imtiaz Ahmed</td>
</tr>
</tbody>
</table>

**Report ID:** 11-13-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

**Reference Drawings:** Proposed site plan sheet 3 of 3.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** Material S&S.

**Material Classification:** Light brown poorly graded sand with silt (SP-SM)

**Material Type:** Common borrow.

**Earthwork Location:** Parcel C-1 in field sketch.

**Subgrade Review:** Material was placed prior to TEI’s arrival.

**Groundwater:** No groundwater was encountered during today’s observed earthwork.

**Lift Thickness:** Material was placed in approximate 12-inch compacted lifts.

**Method of Compaction:** Material was compacted using an HYPAC C-840D 11 ton vibratory roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-S-668.

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*Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.*
**EARTHWORK FIELD REPORT Cont.**

**Test Results:**

Five (5) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.

**Comments:**

Mike Gentile of Charter Environmental Inc. was notified of results prior to departure.

**Report ID:**


**Attachments:**


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**Observed By:** Imtiaz Ahmed  
Field Engineer

**Reviewed By:** Matthew Colman, EIT  
Staff Engineer

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*Note: Thielisch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.*
# Earthwork Field Density Report A

**Project:** Textron Providence  
**TEI Project No.:** CTS 74-15-0087  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**Date of Service:** 11/13/2015

## Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Date of Calibration</th>
<th>Source of Calibration</th>
<th>Standard Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troxler</td>
<td>1/6/2015</td>
<td>QC Resources</td>
<td>D: 975 M 650</td>
</tr>
<tr>
<td>Model No.:</td>
<td>3440</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serial No.:</td>
<td>16826</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Test</td>
<td>15 Seconds</td>
<td>Moisture Offset (%)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Material Information

<table>
<thead>
<tr>
<th>Description</th>
<th>TEI Laboratory Sample Number</th>
<th>Datum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Silty Sand with Gravel (SM)</td>
<td>15-S-668</td>
<td>Finished Grade</td>
</tr>
<tr>
<td>Material S&amp;S</td>
<td>Corrected Max Dry Unit Wt. (pcf): 102.3</td>
<td></td>
</tr>
<tr>
<td>Location: Parcel C-1 Phase III Area</td>
<td>Corrected Opt Water Content (%): 13.1</td>
<td></td>
</tr>
<tr>
<td>Req. Minimum Compaction (%): 90.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>9.2</td>
<td>110.3</td>
<td>107.8%</td>
</tr>
<tr>
<td>2</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>9.5</td>
<td>105.2</td>
<td>102.8%</td>
</tr>
<tr>
<td>3</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>9.8</td>
<td>104.4</td>
<td>102.1%</td>
</tr>
<tr>
<td>4</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>9.8</td>
<td>100.9</td>
<td>98.6%</td>
</tr>
<tr>
<td>5</td>
<td>See Field Sketch</td>
<td>65</td>
<td>8</td>
<td>9.1</td>
<td>104.3</td>
<td>102.0%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔  
Results Outside Specification Limits: ☐

## Comments:

Tested By: Imtiaz Ahmed  
Reviewed By: Matthew Colman, EIT  
Title: Field Engineer  
Date: 11/13/2015  
Title: Staff Engineer  
Date: 11/17/2015
**EARTHWORK FIELD REPORT B**

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
</tr>
<tr>
<td>Service Date:</td>
<td>November 13th, 2015</td>
</tr>
<tr>
<td>Technician:</td>
<td>Imtiaz Ahmed</td>
</tr>
</tbody>
</table>

**Report ID:** 11-13-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

**Reference Drawings:** Proposed site plan sheet 3 of 3.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** On-site 6% KLD processed.

**Material Classification:** Dark brown silty sand with gravel (SM).

**Material Type:** Cove sediment with 6% KLD blend.

**Earthwork Location:** Upland soil cap 20-foot buffer around perimeter slope. (see in the field sketch)

**Subgrade Review:** Material was placed prior to TEI’s arrival.

**Groundwater:** No groundwater was encountered during today’s earthwork inspection time.

**Lift Thickness:** Material was placed in approximate 12-inch compacted lifts (2nd lift).

**Method of Compaction:** Material was compacted using an Ingersoll Rand (Pro-Pac series 70) vibratory roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-S-1110.

*Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.*
## EARTHWORK FIELD REPORT Cont.

<table>
<thead>
<tr>
<th>Test Results:</th>
<th>Three (3) compaction tests were performed. Test results were above 93% of the proctor value and in general accordance with project specifications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Mike Gentile of Charter Environmental Inc. was notified of test results of the cove sediment area prior to departure.</td>
</tr>
</tbody>
</table>

---

**Observed By:** Imtiaz Ahmed  
Field Engineer  
  
**Reviewed By:** Matthew Colman, EIT  
Staff Engineer  

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Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Earthwork Field Density Report B

Project: Textron Providence
Project Address: 333 Adelaide, Providence, RI 02903
TEI Project No.: CTS 74-15-0087
Date of Service: 11/13/2015

Density Gauge Information

Make: Troxler
Model No.: 3440
Serial No.: 16826
Date of Calibration: 1/6/2015
Source of Calibration: QC Resources
Standard Counts: D: 975 M 650
Duration of Test: 15 Seconds
Moisture Offset (%): N/A

Material Information

Description: Dark Brown Silty Sand with Gravel (SM)
Source: On-Site Cove Sediment with 6% KLD Blend
Location: Main Body Area
Datum: Bottom of Cap
TEI Laboratory Sample Number: 15-S-1110
Corrected Max Dry Unit Wt. (pcf): 92.6
Corrected Opt Water Content (%): 22.9
Req. Minimum Compaction (%): 93.0

Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cap Slope (See field sketch)</td>
<td>2</td>
<td>8</td>
<td>30.6</td>
<td>87.3</td>
<td>94.3%</td>
</tr>
<tr>
<td>2</td>
<td>Cap Slope (See field sketch)</td>
<td>2</td>
<td>8</td>
<td>31.6</td>
<td>87.2</td>
<td>94.2%</td>
</tr>
<tr>
<td>3</td>
<td>Cap Slope (See field sketch)</td>
<td>2</td>
<td>8</td>
<td>26.3</td>
<td>87.7</td>
<td>94.7%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✓

Results Outside Specification Limits: 

Comments: 6% KLD Blend - 15-SC-1110 92.6pcf @ 22.9% moisture.

Tested By: Imtiaz Ahmed
Reviewed By: Matthew Colman, EIT
Title: Field Engineer
Date: 11/13/2015

Title: Staff Engineer
Date: 11/17/2015
Approximate common borrow compaction testing area.

Approximate Cove Sediment Blend compaction testing area.
# EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>November 14th, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Jin Tian Zhu</td>
</tr>
</tbody>
</table>

**Report ID:** 11-14-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

**Reference Drawings:** Proposed site plan sheet 3 of 3 C-104.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** On-site KLD processed blend.

**Material Classification:** Dark brown silty sand with gravel (SM).

**Material Type:** Cove sediment with 6% KLD blend.

**Earthwork Location:** Main interior and 20 feet buffer around perimeter slope.

**Subgrade Review:** Material was placed prior to TEI’s arrival.

**Groundwater:** No groundwater was encountered during today’s earthwork inspection time.

**Lift Thickness:** Material was placed in approximate 12-inch compacted lift (3rd lift).

**Method of Compaction:** Material was compacted using an Ingersoll Rand (Pro-Pac series 70) vibratory sheepfoot roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-S-1110.

---

Note: ThielSch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
### EARTHWORK FIELD REPORT Cont.

<table>
<thead>
<tr>
<th>Test Results:</th>
<th>Five (5) compaction tests were performed. Test results were above 93% of the proctor value and in general accordance with project specifications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Mike Gentile of Charter Environmental Inc. was notified of test results of the cove sediment area prior to departure.</td>
</tr>
</tbody>
</table>

--

Observed By: Jin Tian Zhu  
Field Engineer  
Reviewed By: Matthew Colman, EIT  
Staff Engineer

---

Note: Thielisch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
# Earthwork Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 11/14/2015

**Density Gauge Information**

<table>
<thead>
<tr>
<th>Make</th>
<th>Troxler</th>
<th>Date of Calibration:</th>
<th>1/6/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.:</td>
<td>3440</td>
<td>Source of Calibration:</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Serial No.:</td>
<td>18207</td>
<td>Standard Counts:</td>
<td>D: 2251 M 601</td>
</tr>
<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Material Information**

| Description: | Dark Brown Silty Sand with Gravel (SM) | TEI Laboratory Sample Number: | 15-S-1110 |
| Source:      | On-Site Cove Sediment with 6% KLD Blend | Corrected Max Dry Unit Wt. (pcf): | 92.6 |
| Location:    | Main Interior Field and Buffer Area | Corrected Opt Water Content (%): | 22.9 |
| Datum:       | Bottom of Cap | Req. Minimum Compaction (%): | 93.0 |

**Density and Moisture of In-Place Soil via Nuclear Method (D6938)**

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See field sketch</td>
<td>3rd</td>
<td>10</td>
<td>23.1</td>
<td>89.5</td>
<td>96.7%</td>
</tr>
<tr>
<td>2</td>
<td>See field sketch</td>
<td>3rd</td>
<td>10</td>
<td>25.5</td>
<td>90.2</td>
<td>97.4%</td>
</tr>
<tr>
<td>3</td>
<td>See field sketch</td>
<td>3rd</td>
<td>10</td>
<td>28.0</td>
<td>88.4</td>
<td>95.5%</td>
</tr>
<tr>
<td>4</td>
<td>See field sketch</td>
<td>3rd</td>
<td>10</td>
<td>22.2</td>
<td>89.0</td>
<td>96.1%</td>
</tr>
<tr>
<td>5</td>
<td>See field sketch</td>
<td>3rd</td>
<td>10</td>
<td>25.5</td>
<td>87.1</td>
<td>94.1%</td>
</tr>
</tbody>
</table>

**Results Within Specification Limits:** ✔  
**Results Outside Specification Limits:** ☐

**Comments:** 6% KLD Blend - 15-SC-1110 92.6pcf @ 22.9% moisture.

**Tested By:** Jin Tian Zhu  
**Reviewed By:** Matthew Colman, EIT  
**Title:** Field Engineer  
**Date:** 11/13/2015  
**Title:** Staff Engineer  
**Date:** 11/17/2015
### Site Plan: Proposed site plan C-104

**Location:** Cranston, Rhode Island 02910

**Project No.:** CTS 74-15-0087

**Phone:** 401-467-6454

**Fax:** 401-467-2398

**Email:** pleofanti@charter.us

**Date:** November 14, 2015

---

**Approximate earthwork activity locations:**

1. **Approximate earthwork activity location 1**
2. **Approximate earthwork activity location 2**
3. **Approximate earthwork activity location 3**
4. **Approximate earthwork activity location 4**
5. **Approximate earthwork activity location 5**

---

**195 Frances Avenue**

**Client Information**

**Charter Environmental, Inc.**

**500 Harrison Ave Suite 4R**

**Boston, MA 02118**

**Report No.:** 11-14-15 FS

**Technician:** Jin Tian Zhu

**Date:** November 14th, 2015
EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
</tr>
<tr>
<td>Report ID:</td>
<td>11-16-15 Earthwork Daily Report</td>
</tr>
<tr>
<td>Services Requested By:</td>
<td>Charter Environmental Inc.</td>
</tr>
<tr>
<td>Site Contact:</td>
<td>Mike Gentile – Charter Environmental Inc.</td>
</tr>
<tr>
<td>Site Contractor:</td>
<td>Charter Environmental Inc.</td>
</tr>
<tr>
<td>Location:</td>
<td>333 Adelaide, Providence, RI 02903</td>
</tr>
<tr>
<td>Scope of Work:</td>
<td>Perform earthwork observations, lift thickness observation and density testing.</td>
</tr>
</tbody>
</table>

Reference Drawings: Proposed site plan sheet 3 of 3 C-104.

Earthwork Contractor: Charter Environmental Inc.

Material Source: On-site KLD processed blend.

Material Classification: Dark brown silty sand with gravel (SM).

Material Type: Cove sediment with 6% KLD blend.

Earthwork Location: Main interior and 20 feet buffer around perimeter slope.

Subgrade Review: Material was placed prior to TEI’s arrival.

Groundwater: No groundwater was encountered during today’s earthwork observations.

Lift Thickness: Material was placed in approximate 12-inch compacted lifts (4th lift).

Method of Compaction: Material was compacted using an Ingersoll Rand (Pro-Pac series 70) vibratory sheepsfoot roller.

Method of Density Testing: In-place test method using nuclear gauge. (ASTM D6938)

Proctor Method: Standard Proctor. (ASTM D698)

Laboratory Sample No.: T.E.I. 15-S-1110.

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Test Results: Five (5) compaction tests were performed. Test results were above 93% of the proctor value and in general accordance with project specifications.

Comments: Mike Gentile of Charter Environmental Inc. was notified of test results of the cove sediment area prior to departure.


Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
# Earthwork Field Density Report

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 11/16/2015

## Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Troxler</th>
<th>Date of Calibration:</th>
<th>1/6/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.:</td>
<td>3440</td>
<td>Source of Calibration:</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Serial No.:</td>
<td>18207</td>
<td>Standard Counts:</td>
<td>D: 2255</td>
</tr>
<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Material Information

| Description: | Dark Brown Silty Sand with Gravel (SM) | TEI Laboratory Sample Number: | 15-S-1110 |
| Source:      | On-Site Cove Sediment with 6% KLD Blend | Corrected Max Dry Unit Wt. (pcf): | 92.6 |
| Location:    | Main Interior Field and Buffer Area | Corrected Opt Water Content (%): | 22.9 |
| Datum:       | Bottom of Cap | Req. Minimum Compaction (%): | 93.0 |

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See field sketch</td>
<td>4th</td>
<td>10</td>
<td>22.7</td>
<td>87.3</td>
<td>94.3%</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>4th</td>
<td>10</td>
<td>24.5</td>
<td>86.6</td>
<td>93.5%</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>4th</td>
<td>10</td>
<td>20.2</td>
<td>89.0</td>
<td>96.1%</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>4th</td>
<td>10</td>
<td>21.8</td>
<td>89.0</td>
<td>96.1%</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>4th</td>
<td>10</td>
<td>23.3</td>
<td>87.0</td>
<td>94.0%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔️ Results Outside Specification Limits: ☐

Comments: **6% KLD Blend** - 15-SC-1110 92.6pcf @ 22.9% moisture.

**Tested By:** Jin Tian Zhu  
**Reviewed By:** Matthew Colman, EIT

**Title:** Field Engineer  
**Date:** 11/16/2015  
**Title:** Staff Engineer  
**Date:** 11/17/2015
<table>
<thead>
<tr>
<th>195 Frances Avenue</th>
<th>Cranston, Rhode Island 02910</th>
<th>Client Information</th>
<th>Site Plan: Proposed site plan C-104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone: 401-467-6454</td>
<td>Charter Environmental, Inc.</td>
<td>Project No.: CTS 74-15-0087</td>
<td></td>
</tr>
<tr>
<td>Fax: 401-467-2398</td>
<td>500 Harrison Ave Suite 4R</td>
<td>Report No. 11-16-15 FS</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:pleofanti@charter.us">pleofanti@charter.us</a></td>
<td></td>
<td>Date: November 16th, 2015</td>
<td></td>
</tr>
</tbody>
</table>
**EARTHWORK FIELD REPORT**

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
</tr>
<tr>
<td>Service Date:</td>
<td>November 17th, 2015</td>
</tr>
<tr>
<td>Technician:</td>
<td>Kyle Hogan</td>
</tr>
</tbody>
</table>

| Report ID: | 11-17-15 Earthwork Daily Report |
| Services Requested By: | Charter Environmental Inc. |
| Site Contact: | Mike Gentile – Charter Environmental Inc. |
| Site Contractor: | Charter Environmental Inc. |
| Location: | 333 Adelaide, Providence, RI 02903 |
| Scope of Work: | Perform earthwork observations, lift thickness observation and density testing. |

**Reference Drawings:** Proposed site plan sheet 3 of 3 C-104.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** On-site 6% KLD processed blend and Material S&S import.

**Material Classification:** Dark brown silty sand with gravel (SM) and Light brown Poorly-graded Sand with Silt (SP-SM).

**Material Type:** Cove sediment with 6% KLD blend and Sandy Fill (Common Borrow).

**Earthwork Location:** Main interior field/buffer area and proposed Parcel C area.

**Subgrade Review:** Material was placed prior to TEI’s arrival.

**Groundwater:** No groundwater was encountered during today’s earthwork observations.

**Lift Thickness:** Material was placed in approximate 12-inch/6-inch compacted lifts (5th lift for cap area).

**Method of Compaction:** Material was compacted using an Ingersoll Rand (Pro-Pac series 70) vibratory sheepsfoot roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-S-1110 and 15-S-668.

---

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
| Test Results: | Nine (9) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications. |
| Comments: | Mike Gentile of Charter Environmental Inc. was notified of test results of the cove sediment and Parcel C areas prior to departure. |

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Earthwork Field Density Report A

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>TEI Project No.:</th>
<th>CTS 74-15-0087</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Address:</td>
<td>333 Adelaide, Providence, RI 02903</td>
<td>Date of Service:</td>
<td>11/17/2015</td>
</tr>
</tbody>
</table>

### Density Gauge Information

<table>
<thead>
<tr>
<th>Make:</th>
<th>Troxler</th>
<th>Date of Calibration:</th>
<th>1/6/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.:</td>
<td>3440</td>
<td>Source of Calibration:</td>
<td>QC Resources</td>
</tr>
<tr>
<td>Serial No.:</td>
<td>18207</td>
<td>Standard Counts:</td>
<td>D: 2255 M 598</td>
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<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
<td>Moisture Offset (%):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Material Information

<table>
<thead>
<tr>
<th>Description:</th>
<th>Dark Brown Silty Sand with Gravel (SM)</th>
<th>TEI Laboratory Sample Number:</th>
<th>15-S-1110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>On-Site Cove Sediment with 6% KLD Blend</td>
<td>Corrected Max Dry Unit Wt. (pcf):</td>
<td>92.6</td>
</tr>
<tr>
<td>Location:</td>
<td>Main Interior Field and Buffer Area</td>
<td>Corrected Opt Water Content (%):</td>
<td>22.9</td>
</tr>
<tr>
<td>Datum:</td>
<td>Bottom of Cap</td>
<td>Req. Minimum Compaction (%):</td>
<td>90.0</td>
</tr>
</tbody>
</table>

### Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See field sketch (92.6 proctor)</td>
<td>5th</td>
<td>10</td>
<td>14.8</td>
<td>90.7</td>
<td>97.9%</td>
</tr>
<tr>
<td>2</td>
<td>See field sketch (92.6 proctor)</td>
<td>5th</td>
<td>10</td>
<td>16.8</td>
<td>92.0</td>
<td>99.4%</td>
</tr>
<tr>
<td>3</td>
<td>See field sketch (92.6 proctor)</td>
<td>5th</td>
<td>10</td>
<td>17.1</td>
<td>90.4</td>
<td>97.6%</td>
</tr>
<tr>
<td>4</td>
<td>See field sketch (92.6 proctor)</td>
<td>5th</td>
<td>10</td>
<td>13.4</td>
<td>89.7</td>
<td>96.9%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔  Results Outside Specification Limits: ☐

Comments: **6% KLD Blend** - 15-SC-1110 92.6pcf @ 22.9% moisture.

Tested By: Kyle Hogan  Reviewed By: Matthew Colman, EIT

Title: Field Engineer  Date: 11/17/2015  Title: Staff Engineer  Date: 11/23/2015
# Earthwork Field Density Report B

**Project:** Textron Providence  
**Project Address:** 333 Adelaide, Providence, RI 02903  
**TEI Project No.:** CTS 74-15-0087  
**Date of Service:** 11/17/2015

## Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Model No.</th>
<th>Serial No.</th>
<th>Date of Calibration</th>
<th>Source of Calibration</th>
<th>Standard Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troxler</td>
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<td>18207</td>
<td>1/16/2015</td>
<td>QC Resources</td>
<td>D: 2247 M 593</td>
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</tbody>
</table>

## Material Information

<table>
<thead>
<tr>
<th>Description</th>
<th>TEI Laboratory Sample Number</th>
<th>Corrected Max Dry Unit Wt. (pcf)</th>
<th>Corrected Opt Water Content (%)</th>
<th>Req. Minimum Compaction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Brown Poorly-graded Sand with Silt (SP-SM)</td>
<td>15-MC-668</td>
<td>102.3</td>
<td>13.1</td>
<td>90.0</td>
</tr>
</tbody>
</table>

## Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch (102.3 Proctor)</td>
<td>FG</td>
<td>4</td>
<td>9.4</td>
<td>100.5</td>
<td>98.2%</td>
</tr>
<tr>
<td>2</td>
<td>See Field Sketch (102.3 Proctor)</td>
<td>FG</td>
<td>4</td>
<td>7.2</td>
<td>101.8</td>
<td>99.5%</td>
</tr>
<tr>
<td>3</td>
<td>See Field Sketch (102.3 Proctor)</td>
<td>FG</td>
<td>4</td>
<td>9.9</td>
<td>99.9</td>
<td>97.7%</td>
</tr>
<tr>
<td>4</td>
<td>See Field Sketch (102.3 Proctor)</td>
<td>FG</td>
<td>4</td>
<td>7.7</td>
<td>99.5</td>
<td>97.3%</td>
</tr>
<tr>
<td>5</td>
<td>See Field Sketch (102.3 Proctor)</td>
<td>FG</td>
<td>4</td>
<td>7.8</td>
<td>99.7</td>
<td>97.5%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔ Results Outside Specification Limits: ☐

**Comments:**

**Tested By:** Kyle Hogan  
**Reviewed By:** Matthew Colman, EIT

**Title:** Field Engineer  
**Date:** 11/17/2015  
**Title:** Staff Engineer  
**Date:** 11/23/2015

---

Client Information:  
Charter Environmental Inc.  
500 Harrison Ave Suite 4R  
Boston, MA 02118  
pEOFANTI@charter.us
Area where compaction tests were performed using the 102.3 proctor value.

Area where compaction tests were performed using 92.6 for a proctor value.
# EARTHWORK FIELD REPORT

**Project:** Textron Providence  
**Service Date:** November 18th, 2015

**Project No.** CTS 74-15-0087  
**Technician:** Imtiaz Ahmed

**Report ID:** 11-18-15 Earthwork Daily Report

**Services Requested By:** Charter Environmental Inc.

**Site Contact:** Mike Gentile – Charter Environmental Inc.

**Site Contractor:** Charter Environmental Inc.

**Location:** 333 Adelaide, Providence, RI 02903

**Scope of Work:** Perform earthwork observations, lift thickness observation and density testing.

---

**Reference Drawings:** Proposed site plan sheet 3 of 3.

**Earthwork Contractor:** Charter Environmental Inc.

**Material Source:** Material S&S.

**Material Classification:** Light brown poorly graded sand with silt (SP-SM)

**Material Type:** Common borrow.

**Earthwork Location:** Proposed Parcel C Area (See field sketch).

**Subgrade Review:** Material was placed prior to TEI’s arrival.

**Groundwater:** No groundwater was encountered during today’s observed earthwork.

**Lift Thickness:** Material was placed in approximate 12-inch compacted lifts.

**Method of Compaction:** Material was compacted using an HYPAC C-840D 11-ton vibratory roller.

**Method of Density Testing:** In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:** Standard Proctor. (ASTM D698)

**Laboratory Sample No.:** T.E.I. 15-S-668.

---

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
### EARTHWORK FIELD REPORT Cont.

<table>
<thead>
<tr>
<th>Test Results:</th>
<th>Five (5) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Mike Gentile of Charter Environmental Inc. was notified of results prior to departure</td>
</tr>
</tbody>
</table>

Observed By: [Signature]

Imtiaz Ahmed
Field Engineer

Reviewed By: [Signature]
Matthew Colman, EIT
Staff Engineer

---

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Earthwork Field Density Report

Project: Textron Providence  
Project Address: 333 Adelaide, Providence, RI 02903  
TEI Project No.: CTS 74-15-0087  
Date of Service: 11/18/2015

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Field Sketch</td>
<td>59</td>
<td>8</td>
<td>6.5</td>
<td>103.5</td>
<td>101.2%</td>
</tr>
<tr>
<td>2</td>
<td>See Field Sketch</td>
<td>59</td>
<td>8</td>
<td>8.0</td>
<td>103.6</td>
<td>101.3%</td>
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<tr>
<td>3</td>
<td>See Field Sketch</td>
<td>64</td>
<td>8</td>
<td>10.2</td>
<td>98.9</td>
<td>96.7%</td>
</tr>
<tr>
<td>4</td>
<td>See Field Sketch</td>
<td>64</td>
<td>8</td>
<td>7.8</td>
<td>96.8</td>
<td>94.6%</td>
</tr>
<tr>
<td>5</td>
<td>See Field Sketch</td>
<td>59</td>
<td>8</td>
<td>8.2</td>
<td>97.5</td>
<td>95.3%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ✔  
Results Outside Specification Limits:  

Comments:  

Tests By: Imtiaz Ahmed  
Reviewed By: Matthew Colman, EIT  
Title: Field Engineer  
Date: 11/18/2015  
Title: Staff Engineer  
Date: 11/23/2015
Approximate common borrow compaction testing area.

195 Frances Avenue
Cranston, Rhode Island 02910
Phone: 401-467-6454
Fax: 401-467-2398
http://www.Thielsch.com

Charter Environmental, Inc.
500 Harrison Ave Suite 4R
Boston, MA 02118
pleofanti@charter.us

Site Plan: Proposed Site Plan C-104
Project No.: CTS 74-15-0087
Report No. 11-18-15 FS
Technician: Imtiaz Ahmed
Date: November 18th, 2015
# EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>November 19th, 2015</th>
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<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Jin Tian Zhu</td>
</tr>
<tr>
<td>Services Requested By:</td>
<td>Charter Environmental Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Contact:</td>
<td>Mike Gentile – Charter Environmental Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Contractor:</td>
<td>Charter Environmental Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td>333 Adelaide, Providence, RI 02903</td>
<td></td>
<td></td>
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<tr>
<td>Scope of Work:</td>
<td>Perform earthwork observations, lift thickness observation and density testing.</td>
<td></td>
<td></td>
</tr>
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</table>

**Reference Drawings:**
Proposed Site Plan C-104, 6/24/2015.

**Earthwork Contractor:**
Charter Environmental Inc.

**Material Source:**
Material S & S.

**Material Classification:**
Light brown poorly-graded Sand with Silt (SP-SM).

**Material Type:**
Sandy Fill (Common Borrow).

**Earthwork Location:**
Backfill proposed Parcel C1 area (Phase III) with Sandy fill material.

**Subgrade Review:**
Subgrade consisted of in-situ material overlain with geo-fabric.

**Groundwater:**
No groundwater was encountered during today’s earthwork activities.

**Lift Thickness:**
Material was placed in approximate 6-inch compacted lifts.

**Method of Compaction:**
Material was compacted using a BOMAG 10-ton vibratory roller.

**Method of Density Testing:**
In-place test method using nuclear gauge. (ASTM D6938)

**Proctor Method:**
Standard Proctor. (ASTM D698)

**Laboratory Sample No.:**

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Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Test Results: Five (5) compaction tests were performed. Test results were above 90% of the proctor value, and in general accordance with project specifications.

Comments: Lift thickness for topsoil and common borrow material was observed to be 6-inches compacted prior to testing of each lift. Mike Gentile of Charter Environmental Inc. was notified of test results prior to departure.


Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Earthwork Field Density Report

Project: Textron Providence
Project Address: 333 Adelaide, Providence, RI 02903

Date of Service: 11/19/2015

Make: Troxler
Model No.: 3440
Serial No.: 18207
Date of Calibration: 1/16/2015
Source of Calibration: QC Resources
Standard Counts: D: 2240 M 599

Material Information
Description: Light brown Poorl-graded Sand with Silt (SP-SM)
Source: Material S & S
Location: Proposed Parcel C1 (Phase III) area
Datum: Top soil subgrade

Dry Density (pcf)

<table>
<thead>
<tr>
<th>Test</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FG</td>
<td>4</td>
<td>7.7</td>
<td>97.1</td>
<td>94.9%</td>
</tr>
<tr>
<td>2</td>
<td>FG</td>
<td>4</td>
<td>8.7</td>
<td>96.3</td>
<td>94.1%</td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
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<td>7.9</td>
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<td>4</td>
<td>7.7</td>
<td>101.2</td>
<td>98.9%</td>
</tr>
<tr>
<td>5</td>
<td>FG</td>
<td>4</td>
<td>10.0</td>
<td>97.4</td>
<td>95.2%</td>
</tr>
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</table>

Results Within Specification Limits: ✔
Results Outside Specification Limits: □

Comments:

Tested By: Jin Tian Zhu
Reviewed By: Matthew Colman, EIT

Title: Field Engineer Date: 11/19/2015 Title: Staff Engineer Date: 11/19/2015
# EARTHWORK FIELD REPORT

<table>
<thead>
<tr>
<th>Project:</th>
<th>Textron Providence</th>
<th>Service Date:</th>
<th>December 1st, 2015</th>
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<tbody>
<tr>
<td>Project No.</td>
<td>CTS 74-15-0087</td>
<td>Technician:</td>
<td>Imtiaz Ahmed</td>
</tr>
<tr>
<td>Report ID:</td>
<td>12-01-15 Earthwork Daily Report</td>
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<tr>
<td>Services Requested By:</td>
<td>Charter Environmental Inc.</td>
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<td></td>
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<tr>
<td>Scope of Work:</td>
<td>Perform earthwork observations, lift thickness observation and density testing.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Reference Drawings:
Proposed site plan C-104, 6/24/2015.

## Earthwork Contractor:
Charter Environmental Inc.

## Material Source:
Material S & S.

## Material Classification:
Light brown poorly graded sand with silt (SP-SM)

## Material Type:
Sandy Fill (Common borrow).

## Earthwork Location:
Interior field of the proposed cap area (See field sketch).

## Subgrade Review:
Material was placed prior to TEI’s arrival.

## Groundwater:
No groundwater was encountered during today’s observed earthwork.

## Lift Thickness:
Material was placed in an approximate 12-inch compacted lift.

## Method of Compaction:
Material was compacted using an HYPAC C-840D 11-ton vibratory roller.

## Method of Density Testing:
In-place test method using nuclear gauge. (ASTM D6938)

## Proctor Method:
Standard Proctor. (ASTM D698)

## Laboratory Sample No.:
T.E.I. 15-S-668.

---

Note: Thielisch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.
Test Results: Five (5) compaction tests were performed. Test results were above 90% of the proctor value and in general accordance with project specifications.

Comments: Mike Gentile of Charter Environmental Inc. was notified of results prior to departure.


Earthwork Field Density Report

Project: Textron Providence  
Project Address: 33 Adelaide, Providence, RI 02903  
TEI Project No.: CTS 74-15-0087  
Date of Service: 12/1/2015

Density Gauge Information

<table>
<thead>
<tr>
<th>Make</th>
<th>Date of Calibration:</th>
<th>Source of Calibration:</th>
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<tbody>
<tr>
<td>HUMBOLDT</td>
<td>4/1/2015</td>
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<td>Model No.:</td>
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<td>HS5001EZ</td>
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<tr>
<td>Serial No.:</td>
<td>4295</td>
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<tr>
<td>Duration of Test:</td>
<td>15 Seconds</td>
<td>Moisture Offset (%): N/A</td>
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</tbody>
</table>

Material Information

| Description: Brown Silty Sand with Gravel (SM) | TEI Laboratory Sample Number: 15-S-668 |
| Source: Material S&S                          | Corrected Max Dry Unit Wt. (pcf): 102.3 |
| Location: Interior Field of the Proposed Cap Area | Corrected Opt Water Content (%): 13.1 |
| Datum: Cap finished grade.                    | Req. Minimum Compaction (%): 90.0     |

Density and Moisture of In-Place Soil via Nuclear Method (D6938)

<table>
<thead>
<tr>
<th>Test #</th>
<th>Test Location</th>
<th>Lift/Elevation</th>
<th>Probe Depth (in)</th>
<th>Water Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Dry Density (% comp)</th>
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<tr>
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<td>See Field Sketch</td>
<td>64</td>
<td>8</td>
<td>7.0</td>
<td>105.8</td>
<td>103.4%</td>
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<tr>
<td>2</td>
<td></td>
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<td>7.0</td>
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<tr>
<td>3</td>
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<td>6.6</td>
<td>102.4</td>
<td>100.1%</td>
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<td>4</td>
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<td>9.2</td>
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<td>101.2%</td>
</tr>
</tbody>
</table>

Results Within Specification Limits: ☑  
Results Outside Specification Limits: ☐

Comments:

Tested By: Imtiaz Ahmed  
Reviewed By: Matthew Colman, EIT

Title: Field Engineer  
Date: 12/1/2015  
Title: Staff Engineer  
Date: 12/9/2015
Approximate locations of compaction testing.