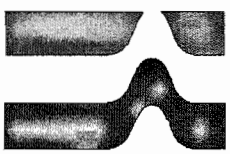
ATTACHMENT D

Revised Ardaman & Associates Report - Volume I

Construction Quality Assurance Report
for CCSWDC, Phase II
Sarasota County, Florida

VOLUME I



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(revised April 6, 2010)
February 10, 2010
Ardaman File No. 08-7709

Sarasota County Government
Environmental Services – Program Management
1001 Sarasota Center Boulevard
Sarasota, Florida 34240

Attention: Mr. Jack Gibson

Subject: **Construction Quality Assurance Report**
CCSWDC, Phase II
Sarasota County, Florida

Dear Mr. Gibson:

As requested and authorized by **Sarasota County Government**, Ardaman & Associates, Inc. (Ardaman) has performed Construction Quality Assurance (CQA) reviews, inspections and testing for the Central County Solid Waste Disposal Complex (CCSWDC) Class I Landfill Expansion in Sarasota County, Florida. This report presents the summaries of our field inspections and testing programs for the Phase II expansion, which included construction of earthworks, a liner system and ancillary facilities.

The bottom liner system construction consisted of an approximately 55-acre double geomembrane liner comprised of two 60-mil, high density polyethylene (HDPE) geomembrane liners, a leak detection system between the two HDPE liners, a leachate collection system above the primary or upper HDPE liner, and a geosynthetic clay liner (GCL) as a low permeability subgrade below the secondary or lower HDPE liner. The leak detection system consisted of a double-sided geocomposite and gravel-wrapped pipes. The leachate collection system above the primary HDPE liner consisted of a 2-foot thick layer of drainage sand/protective soil cover, a double sided geocomposite and gravel-wrapped leachate collection pipes. The project also included installation of leachate detection and collection manholes outside the lined disposal area, an 8-inch diameter HDPE leachate conveyance pipeline from the leachate pump station to the existing leachate storage tank, and a paved assess road along the south side of the Phase II expansion area.

Ardaman assisted the project's Engineer of Record (HDR Engineering, Inc.) in the review of Contractor's and Manufacturer's submissions. Ardaman provided full-time on-site observations during construction of earthwork, the bottom liner system and ancillary facilities, and performed laboratory testing on samples of soil and geosynthetic products used in construction to verify compliance with the design and project specifications developed by HDR.

Based on results documented from the CQA program, it is our professional opinion that the earthwork and bottom liner system and associated facilities documented herein were constructed in substantial conformance with the specification requirements. Please contact us if you have any questions or need additional information.

Ardaman appreciates this opportunity to be of service to you and looks forward to maintaining our professional relationship as the project concludes. If you have any questions regarding the contents of this report, please do not hesitate to contact our office.

Very truly yours,
Ardaman & Associates, Inc.
Certificate of Authorization No. 5950

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CGO/JHK:jk

Note: Revisions to the original report are indicated by strikethrough text (~~strikethrough~~) for deletions and underline text (underline) for additions.

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1.0 INTRODUCTION

The Sarasota County Environmental Services is constructing a Class I landfill expansion. This expansion is Phase II of the permitted landfill and is being constructed adjacent to the west of the existing Phase I portion of the landfill.

The Phase II expansion consisted of four (4) cells and included a composite liner system, leak detection, and leachate collection and handling facilities. Cell 1, the easternmost cell adjacent to the existing Phase I, was completed first with the intent to be permitted to accept waste prior to completion of the remaining cells. The construction progressed rapidly and excess capacity remained in Phase I, however, so this report covers the entire Phase II including Cells 1 through 4.

Ardaman & Associates, Inc. (AAI) provided CQA services to Sarasota County Government for the project. The CQA services are required by the permit and the required services are documented in the CQA Plan and the project plans and specifications prepared by the Design Engineer, HDR Engineering, Inc.

Briefly, these services included reviewing certain submittals and compliance documentation submitted by the contractor, materials suppliers and the contractor's Construction Quality Control (CQC) laboratory, providing full-time inspection and documentation of the construction activities, performing and monitoring various testing both in the field and in the laboratory, and documenting and reporting all of the above.

1.1 Site Location

The Phase II of the landfill is adjacent to the east side of the existing Phase I landfill area. Cell 1 of Phase II is the easternmost cell and ties into Phase I. Almost all of Phase I and all of Phase II is within Section 3, Township 38 South, Range 19 East, Sarasota County, Florida. The mailing address of the landfill office is 4000 Knights Trail Road, Nokomis, Florida.

1.2 Project Description and Components of Landfill Liner System

The work covered by this project included construction of an approximately 55-acre double-lined landfill adjacent to the west side of the existing Phase I landfill area. This project required filling of the Phase II area and construction of an earthen perimeter dike. The fill consisted of sandy soils obtained from borrow areas located to the north to northwest of the CCSWDC site. After filling, the liner subgrade was prepared for liner placement.

The bottom liner, leachate collection and leak detection systems for the disposal area on top of the prepared subgrade consisted of, in ascending order, the following components:

- A geosynthetic clay liner (GCL) that serves as a low permeability liner system subgrade.
- A 60-mil thick lower textured HDPE geomembrane liner that serves as the secondary leakage barrier.
- A double-sided geocomposite that serves as the leak detection layer.

- A 60-mil thick upper textured HDPE geomembrane liner that serves as the primary leakage barrier.
- A double-sided geocomposite that serves as a part of the leachate collection system.
- A 2-foot thick drainage sand layer that serves as a part of the leachate collection and removal system and as a protective layer for the upper HDPE liner.

There is HDPE leachate collection and leak detection piping to collect leachate from the geocomposites and convey it to HDPE leachate collection manholes or leachate detection manholes. The leachate collection and leachate detection piping are installed in gravel-filled trenches wrapped with geotextile. Cleanouts were provided at both ends of the leachate collection and leak detection pipes to provide access for cleaning.

Both the leak detection geocomposite and the leachate collection geocomposite are double-sided geocomposites, consisting of an HDPE geonet with a non-woven geotextile heat bonded to both sides (top and bottom).

An earthen divider dike was constructed on top of the drainage sand layer to divide the Phase II landfill into the four cells, designated as Cells 1 to 4, from east to west.

The project also included:

- Seeding or sodding the perimeter dikes.
- Installation of a packaged metering manhole, leachate collection manhole and a leachate detection manhole outside the lined disposal area, one set for each cell (except Cell 2, which uses the pump station directly for leachate collection), and an 8-inch diameter HDPE force main to convey leachate from the pump station to the existing leachate storage tank, which is to the southeast of the Phase II area. The various leachate manholes included valves, instrumentation and control panels.
- Construction of a new paved access road along the south side of the Phase II area.
- Construction of a stormwater drainage system.
- Installation of a rain cover over the protective cover sand.
- Site restoration upon completion of construction.

1.3 Construction Quality Assurance Program

The Contractor selected by Sarasota County for Bid #08457CS, CCSWDC Phase II Construction, was Glover Construction Company, Inc. (Glover). Glover's subcontractor for liner installation was Geo-Synthetics, Inc. (GSI). There were a number of other subcontractors on the project that performed tasks such as surveying, sedimentation and erosion control, directional drilling, electrical installation, the tie-in to the existing leachate tank, concrete forming and placement, pump station equipment installation, sod and hydroseeding installation, pipe cleanout and TV inspection, and asphalt paving.

The project's design engineer was HDR Engineering, Inc. (HDR), who was retained by Sarasota County to serve as Engineer of Record and provide engineering coordination, review and consultation services during construction. Ardaman & Associates, Inc. (Ardaman) was retained by Sarasota County to provide Construction Quality Assurance (CQA) services as described below.

HDR and Ardaman reviewed Contractor's and Manufacturer's submissions. Manufacturer's submissions related to geosynthetics and earthwork were reviewed by Ardaman, who then reported their conclusions to HDR and Sarasota County. All other submissions, such as those related to piping, sump electrical equipment, were reviewed by HDR.

Ardaman performed laboratory conformance testing, and provided field observations and testing services during earthwork construction, liner system placement, leachate collection and leak detection system installations. All field observations and laboratory testing services were performed in accordance with the requirements stipulated in the technical specifications and CQA Plan prepared by HDR.

The pre-construction meeting was held at the project site on February 17, 2009. Construction began on February 17, 2009. A geosynthetics pre-installation meeting was held at the project site on April 6, 2009. Cell 1 was substantially completed by August, 2009, and the entire project was substantially completed by October 26, 2009.

Laboratory conformance testing services provided by Ardaman included testing of samples of proposed borrow soils (including fill and protective cover), GCL, HDPE geomembrane liners, geocomposites, geotextiles, HDPE liner seams, gravel and roadway pavement materials. Laboratory tests performed on samples of soil included moisture content, organic content, carbonate content, sieve analyses, permeability tests, Proctor compaction tests, Atterberg tests and Limerock Bearing Ratio tests. Laboratory conformance tests were performed on samples of the GCL, HDPE geomembrane liner, geocomposites, geotextiles, and the protective cover soil.

Ardaman performed full-time inspection services every day that the Contractor was performing construction activities. Field observations were conducted by from one to six Ardaman field representatives, with the number varying depending on construction activities that day. Our field representatives also took photographs of construction activities, performed in-place field density tests and collected samples for laboratory testing, as required by the project specifications. A Project Engineer visited the site on a near daily basis. Copies of the Daily Construction Report Summaries, technician Daily Field Notes and photographs were transmitted to Sarasota County at regular intervals during the construction period.

2.0 CONTRACTOR'S AND MANUFACTURER'S SUBMITTALS

Geosynthetic materials other than pipe were supplied by GSE Lining Technology, Inc. (GSE). In accordance with the project specifications, Glover, GSI and GSE provided shop drawings, proposed liner panel layouts, product data sheets, certifications for material properties, and results of manufacturer's quality control testing. The requirements for testing of geosynthetic materials by the manufacturer, including the minimum test frequencies, are summarized in **Table 1**.

The number of rolls, the roll size (by area), and the total area for each geosynthetic product provided by GSE are listed in **Table 2.** The areas of the products provided are larger than the area of the liner system footprint to allow for anchorage, overlap, and waste.

Ardaman reviewed Contractor's and Manufacturer's submissions, performed additional Construction Quality Assurance (CQA) testing, and then advised HDR and Sarasota County on the materials provided that conformed to the specifications. Below is a summary of the Manufactures Quality Control (MQC) submissions. Ardaman's CQA testing will be discussed in **Section 3.0** of this report.

Acceptance of rolls for installation, considering all MQC, CQC and CQA, will also be discussed in **Section 3.0** of this report.

2.1 Manufacturer's Test Data for Geosynthetic Clay Liner

The Manufacturer is required by the specifications to perform testing of bentonite content, grab tensile strength, peel strength, tensile strength, hydraulic conductivity, free swell, fluid loss and shear strength for the GCL. **Appendix 1** contains the MQC certificates with the specific lot and roll numbers provided and the results from GSE's MQC laboratory testing. Also included in **Appendix 1** are additional construction quality control (CQC) test results performed for the Contractor (by TRI Environmental, Inc.).

The frequency of GCL rolls tested and all of the GCL rolls tested met the specification requirements, except that some of the hydraulic conductivity tests were performed at an effective confining stress of 10 psi, rather than 5 psi. After discussion of this with HDR, it was decided that this is acceptable, if Ardaman's CQA hydraulic conductivity testing at the correct confining stress of 5 psi verified compliance. As will be discussed in **Section 3.2**, Ardaman's CQA testing did verify compliance of the hydraulic conductivity.

2.2 Manufacturer's Test Data for HDPE Resins

Manufacturer's test data for density and melt flow index for the HDPE resins used to manufacture the geomembrane and geonet for this project are included in **Appendix 2.** The results for the Marlex K306 resin are for the HDPE membrane and the results for the Marlex HHM 5502BN resin are for the geonet core of the geocomposite. The MQC testing frequency and test results met the specification requirements. GSE has certified that the resin lots used for manufacturing the geomembrane liner and the geonet core meet the specified properties.

2.3 Manufacturer's Test Data for HDPE Geomembrane Liner

The Manufacturer is required to provide test data for core thickness, asperity height, carbon black content, carbon black dispersion, tensile properties (i.e., strength and elongation at yield, and strength and elongation at break), tear resistance, puncture resistance, environmental stress crack resistance, oxidative-induction time and water vapor transmission for the textured HDPE geomembrane liner. The test data provided by GSE for these properties are provided in **Appendix 3.** The MQC testing frequency and test results met the specification requirements.

The Manufacturer is also required to provide test data for carbon black content, specific gravity and melt flow index for the HDPE welding rod used for extrusion welding of the geomembrane

liner. The test data provided by GSE for these properties are provided in **Appendix 4.** The MQC testing frequency and test results met the specification requirements.

2.4 Manufacturer's Test Data for Geocomposite

The project specifications require Manufacturer' test results for the geonet and the geotextile components of the geocomposite, and for the finished geocomposite (geonet core with the geotextile on both sides) to be used for this project. The geonet component of the geocomposite was tested for mass per unit area, thickness, density, carbon black content, tensile strength and transmissivity. The geotextile component was tested for mass per unit area, grab tensile strength, puncture strength, apparent opening size, permittivity, flow rate and ultraviolet degradation. The geocomposite was tested for ply adhesion and transmissivity.

GSE's transmissivity test results for the geonet core and for the composite are included in **Appendix 5**. The test results for the geotextile are included in **Appendix 6** and the remaining manufacturer's test results for the geonet and geocomposite are included in **Appendix 7**. The MQC testing frequencies and test results met the specification requirements.

2.5 Manufacturer's Test Data for Geotextiles

The project specifications define three separate geotextiles, referred to as a non-woven cushion geotextile, a non-woven drainage geotextile and a woven separator geotextile. The drainage geotextile was used in the geocomposite and the manufacturer's test results for it were presented in **Section 2.4** and **Appendix 6** of this report.

SKAPS GE200 was used as the non-woven cushion geotextile. This geotextile was tested for mass per unit area, grab tensile strength, grab elongation, puncture strength, trapezoidal tear strength and ultraviolet degradation.

SKAPS M706 was used as the woven separator geotextile. This geotextile was tested for grab tensile strength, grab elongation, puncture strength, trapezoidal tear strength, apparent opening size, permittivity, water flow rate and ultraviolet degradation.

The project also required an 8 ounce per square yard (oz/sq.yd.) geotextile cover over the divider berms between the landfill cells. SKAPS GT180 geotextile was provided for this use. This geotextile was tested for mass per unit area, grab tensile strength, grab elongation, puncture strength, trapezoidal tear strength, apparent opening size, permittivity, water flow rate, permittivity and ultraviolet degradation.

The manufacturer's test results for the SKAPS GE200, M706 and GT180 are included in **Appendix 8.** The MQC testing frequency and test results met the specification requirements, with one exception as described below.

The test results indicated that the mass per unit area of the 8 oz./sq.yd. geotextile (SKAPS GT180) ranged from 7.59 to 8.38 oz./sq.yd. These were reported as typical values, however, rather than as minimum average roll values (MARV). The average of the twelve test results was 7.96 oz./sq.yd. and the average of all 55 rolls was 7.99 oz./sq.yd., both of which are equivalent to 8.0 oz./sq.yd. if rounded to the nearest 0.1 oz./sq.yd. This was considered acceptable, as long a subsequent CQA testing indicated acceptable results.

2.6 Other Contractor's Submittals

In addition to the product data and test results submitted, GSE provided proposed panel layout plans for the primary and secondary HDPE geomembrane liners. Glover also provided submittals related to earthwork, manholes, piping, controls and structures. As Engineer of Record, HDR reviewed all submittals, with assistance from Ardaman on an as-requested basis for liner-related submittals.

The contractor (Glover) was responsible for construction quality control (CQC) testing of pipe trench backfill, concrete compressive strength, and for testing of the protective cover sand and the granite stone used around the leachate collection/detection piping. Most of the in situ soil density tests for pipe trench backfill were performed by Geotechnics, Inc., under the observation of Ardaman's CQA inspector. Glover also submitted the results of these tests, which will be discussed in **Section 3.0** of this report. The remaining pipe trench backfill tests were performed by Ardaman and will be discussed in **Section 4.8.2** of this report.

3.0 LABORATORY CQA CONFORMANCE TESTING

The laboratory conformance tests performed by Ardaman and the corresponding ASTM test methods and project specification requirements for the components of the liner system are summarized in **Table 3**. Results of conformance testing are presented in the following sections.

3.1 Interface Friction between Geosynthetic Components of Liner System

The project specifications required all components of the liner system to have a minimum peak interface friction angle of 23°, as determined in accordance with ASTM D5321 or ASTM D6243 (for GCL interfaces). Prior to the start of liner system construction, Ardaman obtained samples of the proposed geosynthetic products from GSE. The three (3) geosynthetic samples were obtained and shipped to our office by GSE and received by us on March 3, 2009. The protective cover sample was obtained and mixed by Glover Construction, then delivered to our on-site representative on March 3, 2009.

Direct shear tests were performed for the following material interfaces: between the 60-mil textured HDPE and the GCL, between the 60-mil textured HDPE and the geocomposite, and between the geocomposite and the protective cover sand. These tests were performed in accordance with the "Central County Solid Waste Disposal Complex, Class 1 Landfill Expansion, Construction Quality Assurance Plan" and Section 02776 of the project specifications, except that the test specimens were hydrated and saturated with water, rather than leachate.

Prior to interface friction testing, we performed a Standard Proctor test (ASTM D698) on the protective cover sand. This test indicated a maximum dry density of 109.2 pounds per cubic foot (pcf) and an optimum moisture content of 13.8 percent (%). The interface friction test between the drainage composite and the protective cover sand was performed with the sand compacted to a dry density of 103.7 pcf (95% of the Standard Proctor maximum density).

The interface friction tests were performed by Precision Geosynthetic Laboratories. The test results are summarized in **Table 4** and indicate that the samples tested meet the project specification for an interface friction angle of at least 23 degrees.

The interface friction test between the protective cover sand and the geocomposite was performed using a protective cover sand consisting of a 50:50 mix of "asphalt sand" from Venice Minerals and sand fill from Florida Dirt. This mix was prepared and supplied to us by Glover, and was the proposed protective cover at that time. Prior to the beginning of placement of the protective cover, however, Glover proposed to use only the sand from Florida Dirt, rather than the 50:50 mix. Due to the similarity of the Florida Dirt to the mix, and considering that the mix and geocomposite had an interface friction angle of 29 degrees, well in excess of the minimum 23 degrees required, a new interface friction test was not performed. In addition, our experience indicates that the interface friction angle between similar sandy soils and similar geocomposites (geonet covered with non-woven geotextile) is equal to or slightly less than the internal friction angle of the sandy soil, which is generally in the range of 28 to 34 degrees, depending primarily upon the soil density. Based upon the test results and our experience, it is our opinion that the interface angle between the Florida Dirt protective cover sand and the geocomposite is approximately equal to that of the 50:50 mix and the geocomposite, and meets the project specification of at least 23 degrees.

3.2 Geosynthetic Clay Liner

The bottom component of the liner system is a GCL, which is a geosynthetic product consisting of a thin layer of bentonite encapsulated between two layers of geotextile. A reinforced, needle-punched GCL product was specified. GSI selected the GSE BentoLiner NWL-45 product as the GCL component of the liner system. BentoLiner NWL-45 is a reinforced, needle-punched GCL that has a bentonite layer encapsulated between a scrim-reinforced nonwoven geotextile and a nonwoven geotextile.

The required sampling and CQA testing frequencies for the GCL are summarized in **Table 3** and vary for different tests. For sampling purposes, it is most convenient to express these frequencies as a number of rolls per test (one test per number of rolls) basis. These frequencies, the minimum number of tests required and the total number of tests performed are summarized in **Table 5**. The minimum number of tests required is based upon the total number of rolls allocated by GSE for the project, which is a total of 1,141 rolls of GCL.

The results of the conformance testing are included in **Appendix 9**. All samples tested met the requirements stipulated in the project specifications, with the following exception:

- The initial tests for roll 502123114 (tested on 4/16/09) indicated a bentonite mass less than the minimum specified. This roll was resampled and the sample retested on 6/4/09, which indicated the bentonite mass to meet the project specifications. This roll was then accepted for construction.

3.3 HDPE Geomembrane Liner

The 60-mil textured HDPE geomembrane used on this project was manufactured by GSE. To verify conformance of the textured HDPE geomembrane with the material property requirements stipulated in the project specifications, laboratory CQA tests were performed by Ardaman on samples of the HDPE geomembrane obtained by Ardaman at the site.

The required sampling and CQA testing frequencies for the geomembrane liner are summarized in **Table 3**. For sampling purposes, it is most convenient to express these frequencies as a number of rolls per test (one test per number of rolls) basis. This frequency, the minimum

number of tests required and the total number of tests performed are summarized in **Table 5.** The minimum number of tests required is based upon the total number of rolls allocated by GSE for the project, which is a total of 472 rolls of textured HDPE geomembrane liner.

The results of the conformance testing are included in **Appendix 10.** All samples tested met the requirements for tensile properties stipulated in the project specifications, with the following exceptions:

- The initial tests for rolls 108133235, 108133340 and 108133221 each indicated an elongation at break less than the minimum specified. The adjacent six rolls (108133234, 108133236, 108133339, 108133341, 108133220 and 108133222) were then sampled to determine if this was an anomaly. The test results on these six rolls indicated the tensile properties met the project specifications. The initial three rolls (108133235, 108133340 and 108133221) were then resampled and these samples retested, which indicated the tensile properties met the project specifications. These three rolls were then accepted for construction.

3.4 Destructive Testing of Geomembrane Seam Samples

Destructive seam tests were performed by Ardaman on samples of HDPE geomembrane field seams cut by GSE at locations selected by our field representatives. The project specifications required laboratory determinations of peel adhesion and bonded shear strength on samples of HDPE liner seams at a frequency of 1 per 500 lineal feet of seam. For the approximately 249,000 feet of seams (121,000 for secondary liner and 128,000 for primary liner) this translated to a minimum of approximately 242 seam samples for the secondary and 256 seam samples for the primary HDPE liners. A total of 246 HDPE liner seam samples were obtained from the secondary liner and 286 samples were obtained from the primary liner, for laboratory destructive testing. The sampling locations are identified on the geomembrane liner record drawings prepared by GSI and included as **Figures RD-5 and RD-6** of this report.

Results of laboratory destructive tests on HDPE liner seam samples obtained from the secondary and primary liners are ~~presented~~ summarized in **Tables 6 and 7**, respectively. The complete test reports from the laboratory are included in Appendix 25. The project specifications relative to seam strength are summarized below:

Seam Type	Description	Minimum Value* (lb/in)
Fusion	Shear Strength	120
	Peel Strength	91
Extrusion	Shear Strength	120
	Peel Strength	78
* Four out of the five test specimens must meet the specified seam strength and fail as film tear bond (FTB), and the fifth sample must have at least 80 percent of the specified strength.		

A non-FTB failure was defined per GRI GM19 using the break codes defined by ASTM D6392. The break code for each specimen is listed in **Tables 6 and 7**. Note that at the end of the tables, there is a summary of the break code descriptions. For fusion welds, break codes AD and AD-BRK>25% are considered non-FTB failures. AD-BRK>25% indicates an AD-BRK break

mode with more than 25 percent peel. For extrusion welds, break codes AD1, AD2 and AD-WLD are considered non-FTB failures.

As shown in **Table 6**, all seam samples from the secondary liner met the specification requirements, with the following exception:

- For DT-S73, only one out of the five bottom peel specimens failed as FTB, although all five met the minimum strength. DT-S73A and DT-S73B were used to isolate the portion of the seam that failed the criteria and needed to be repaired. The seam was repaired with an extrusion welded patch.

As shown in **Table 7**, all seam samples from the primary liner met the specification requirements.

3.5 Leachate Collection and Leak Detection Systems

3.5.1 Geocomposite

The leak detection system between the primary and secondary HDPE liners and the geosynthetic drainage layer above the primary HDPE liner consist of a double-sided geocomposite. The geocomposite is comprised of a geonet core with geotextile (the specified drainage geotextile) bonded to both sides.

CQA testing is required on the assembled geocomposite, as well as on the geonet and geotextile components. The required sampling and testing frequencies for these are summarize in **Table 3** and vary for the different tests. For sampling purposes, it is most convenient to express these frequencies as a number of rolls per test (one test per number of rolls) basis. These frequencies, the minimum number of tests required and the total number of tests performed are summarized in **Table 5**. The minimum number of tests required is based upon the total number of rolls allocated by GSE for the project, which is a total of 2,453 rolls of geocomposite.

The results of the conformance testing on the geonet component and the assembled geocomposite are presented included in **Appendices 11 and 12. Appendix 11** includes those tests performed by Ardaman. **Appendix 12** includes those tests subcontracted, by Ardaman, to Precision Geosynthetics Laboratory. All samples tested met the requirements stipulated in the project specifications, with the following exceptions:

- The initial tests for rolls 131303722, 131303867, 131304487, 131304281, 131304324 and 131302117 each indicated a ply adhesion less than the minimum specified. These six rolls were resampled and the samples retested, which indicated the ply adhesion to meet the project specifications. These six rolls were then accepted for construction.

- Similar to the above, the initial tests for roll 131304649 indicated a ply adhesion less than the minimum specified. This roll was resampled and the sample retested, but the resample also indicated a ply adhesion less than the minimum specified. The two adjacent rolls (131304648 and 131304650) were then sampled to isolate the number of rolls having low ply adehesion. The test results for roll 131304648 met the ply adhesion requirement, but the test results for roll 131304650 did not. In the sequence of rolls

allocated by GSE for the project, this meant that there were two rolls with failing ply adhesion test results, between rolls 131304648 (which passed) and 131304671 (which passed). Therefore, rolls 131304649 to 131304670 (a total of 20 rolls) were not accepted for construction and were not shipped to the project site by GSE.

Therefore, of the total of 2,453 rolls allocated by GSE for the project, a total of 2,433 rolls were accepted for construction and were shipped to the site. This proved to be a sufficient amount of geocomposite to complete the project.

3.5.2 Piping

No laboratory conformance testing of the HDPE pipe was required by the specifications.

3.5.3 Gravel

A gravel envelope was specified around the 6-inch diameter perforated HDPE leak detection and the 8-inch diameter HDPE leachate collection system piping. The project specifications indicated that the stone was to have a gradation test performed at a frequency of one test per 1,500 cubic yards and a permeability test of one test per 3,000 cubic yards. The Contractor's Construction Quality Control laboratory, Geotechnics, performed the compliance testing. The test results are presented in **Appendix 13**, including the results for four gradation tests and two permeability tests.

In addition, Ardaman performed one conformance gradation test on this material. The test results are presented on **Table 8.**

The CQC testing frequency and results, plus the conformance testing, indicated that the material complied with project specifications.

3.6 Other Geotextiles

Other geotextiles, other than the drainage geotextile on the geocomposite, included a 20 oz/sq.yd. nonwoven "cushion geotextile," a woven "separator geotextile" and an 8 oz/SY nonwoven geotextile used in the separator berm construction. CQA testing was required on each of these, at the sampling and testing frequencies summarized in **Table 3.** For sampling purposes, it is most convenient to express these frequencies as a number of rolls per test (one test per number of rolls) basis. These frequencies, the minimum number of tests required and the total number of tests performed are summarized in **Table 5**. The minimum number of tests required is based upon the total number of rolls allocated by GSE for the project, which is listed in **Table 2.**

A total of three rolls of each of the three geotextiles were sampled for conformance testing. The conformance tests were performed by Precision Geosynthetics Laboratory and their reports are included in **Appendix 14.** All samples tested met the requirements stipulated in the project specifications.

3.7 Protective Cover Sand

As stipulated in the project specifications, the 24-inch thick layer of protective cover sand on top of the leachate collection geocomposite was required to have a saturated hydraulic conductivity

of no less than $1.0x10^{-3}$ centimeters per second (cm/sec), as determined in accordance with ASTM D5084, and have a fines content equal to or less than 10 percent, as determined in accordance with ASTM D1140 (as well as 100 percent passing the ¼-inch sieve). The project specifications indicated that the sand was to have a gradation test performed at a frequency of one test per 1,500 cubic yards and a permeability test of one test per 3,000 cubic yards. The Contractor's Construction Quality Control laboratory, Geotechnics, performed the compliance testing.

The Geotechnics test results are presented in **Appendix 15**. Geotechnics performed a total of 201 grain size distribution analyses and 104 permeability tests. There permeability test results indicated hydraulic conductivities ranging from $1.34x10^{-3}$ to $3.41x10^{-2}$ cm/sec.

In addition, Ardaman performed periodic CQA conformance gradation and permeability tests on this material, as well as a limited number of carbonate tests. Samples were collected from stockpiles or in-place after the material had been spread, for gradation, Proctor and permeability testing. The permeability samples were remolded in our laboratory and compacted to a density of 95 percent of the standard Proctor maximum dry density, as required by the specifications.

The Ardaman test results are presented in **Appendix 15**. Ardaman performed a total of 22 grain size distribution analyses, three permeability tests and three carbonate content tests. These permeability test results indicated hydraulic conductivities ranging from $2.6x10^{-3}$ to $8.4x10^{-3}$ cm/sec.

The CQC and CQA testing indicated that the material used in construction complied with project specifications. There was one (1) sample of sand that was collected at the supplier's pit by Geotechnics (sample No. 104) that failed both the gradation and permeability tests. This material was not shipped to the project.

3.8 Concrete

Concrete was placed in a number of areas associated with the project. The concrete placement was observed and monitored by Ardaman inspectors. Concrete was placed in the leachate manholes to form the inverts as well as in the pump station utility vault, as a base for the metering manholes, as anti-flotation collars for the manholes, box culvert wingwall foundations and the wingwalls, the pump station lid foundation, the pump station electrical equipment slab, the concrete pedestal pipe support for the force main, and the leachate collection and leak detection pipe cleanout slabs. In addition, concrete was placed in the Fabriform associated with the stormwater facilities.

Concrete cylinders for compressive strength testing were molded by Professional Service Industries, Inc. (PSI) under the direction of the Contractor's CQC laboratory (Geotechnics) and under the observation of Ardaman inspectors. The laboratory reports for the concrete cylinder tests are included as **Appendix 16**. All of the tests met project specifications.

4.0 FIELD OBSERVATIONS AND TESTING

Ardaman provided full time observation of construction throughout the duration of the project. Field observations were conducted initially by one full-time Ardaman field representative. In addition, an Ardaman Project Engineer visited the site on a near daily basis to monitor the work in progress, collect paperwork, take photographs, direct and assist our inspector(s) and perform

the more complex inspections. Another field representative was added as the liner materials began being shipped to the site and multiple other inspectors were added as needed to monitor the liner construction. As many as six (6) inspectors were on the site on a full-time basis during the most active periods of construction.

Specific construction activities that were monitored by our field representatives during construction of the landfill system included: (i) site preparation, filling and grading; (ii) construction of the perimeter and divider dikes; (iii) preparation and compaction of the bottom liner system subgrade; (iv) placement of the GCL; (v) deployment and seaming of the HDPE geomembrane liners; (vi) construction of the leachate collection and leak detection systems; (vii) installation of the leachate manholes and leachate discharge pipeline, (viii) construction of the stormwater facilities, (ix) installation of the rain cover, (x) installation of the gas vents, and (xi) construction of the access roadway. Our field representatives also performed in-place field density tests and collected samples for laboratory testing, as required by the project specifications.

Ardaman's field representative prepared daily field reports for the period from February 17 through October 30, 2009. The daily field report summaries are included in **Appendix 17.** Ardaman field representatives took photographs of the construction activities throughout the duration of the project. Copies of selected photographs showing typical operations are provided in **Appendix 18.** Throughout the project duration, project construction meetings were held on site, generally on a weekly basis. Typically, representatives of Ardaman, Glover Construction, Sarasota County, GSI, Geotechnics and, as needed, Veolia (the operator of the Phase I landfill), attended the meetings.

4.1 Construction of Perimeter Dike and Preparation of Liner Subgrade

The new fill below the bottom liner system for the landfill was placed on top of existing fill that had been placed during the construction of the Phase I portion of the landfill. There was approximately 3 or 4 feet of existing fill over the original natural ground elevation. The existing fill was sand that had been excavated from nearby borrow areas and had been placed and compacted over stripped natural sand. The existing grade at the start of construction was approximately elevation 23.0 feet. The liner subgrade elevation varied from around elevation 22 to 33 feet with the high end on the south side and sloping down to the north. The south perimeter berm was at approximately elevation 41 feet, the north perimeter berm was approximately elevation 33 feet, and the west perimeter berm varied at the south end but was mostly at approximately elevation 33 feet.

Fill material for the new construction was excavated from on-site borrow areas designated as Phase II, Phase III and Phase IV. After stripping, approximately a 4 feet depth of material was removed from the designated borrow areas. Soil excavated from the borrow areas that was in excess of the needs for the construction of Phase II was placed in a stockpile to the south of the Phase II construction for use as future daily cover soil.

Ardaman had previously performed chemical analysis of soil samples from the borrow areas. This was documented by our report dated December 29, 2008 (Ardaman file No. 08-8722), which is included in Appendix 24 of this report, for reference. This included testing Synthetic Precipitation Leaching Procedure (SPLP) testing for arsenic, as well as testing for total arsenic, iron and selected herbicides and pesticides.

Ardaman approved the physical properties of the borrow soil for use in the construction and monitored the physical properties of the material at the borrow area and as it was placed. In general, the soils in the Phase II borrow area were clean SP-SM sands. There were some isolated wetlands within that area that contained mucky sands. The project specifications stated that deleterious soils could not be used as fill, however, they did not state a specific maximum organic content. Consultation between HDR and Ardaman determined that a maximum organic content of five percent as determined by ASTM D-2974 was allowable as use as fill under the liner system and in the perimeter dikes. The Contractor typically excavated around the isolated wetlands in the Phase II borrow area and left those soils in place. Any mucky soils that were inadvertently hauled to the project area were either removed with the site strippings (at the start of the project), placed in the future daily cover stockpile or, in isolated instances, blended with clean soils to dilute the overall organic content to below 5 percent.

The Phase III borrow area contained extensive areas of wetland soils with a surficial layer of mucky sand of varying thickness in some areas. The contractor excavated a number of test pits throughout this area to assess the suitability of the soils. Soil samples were collected by Ardaman for organic content testing, percent passing the No. 200 sieve (percent fines) and moisture-density tests (Proctors). In areas with the thickest and highest organic content soils, the material was not used for fill material but was subsequently excavated and placed in the daily cover stockpile. In areas where the layer with higher organic content was thin in relation to the full depth of the cut, the material was excavated and used for fill. By the time the material had been excavated, dumped, spread and compacted, it was highly mixed with clean material such that the overall organic content was well below the maximum of five percent.

Mucky soils were not present in the Phase IV borrow area. No rock or shell material was excavated in any of the borrow pits.

The placement of the fill was continuously monitored by both Ardaman and Geotechnics to ensure that deleterious soil was not used in the construction. The Geotechnics CQC inspector worked in close communication, often site-by-side, with the Ardaman CQA inspector throughout the project. Typically, the CQC inspector would perform compaction tests on the soil prior to Ardaman performing the CQA tests. If the soil needed additional work to pass compaction, CQC would advise the Contractor to perform additional work as needed. Once the CQC testing revealed that the soil was properly compacted, Ardaman would perform the CQA compaction testing. This why there are very few failing compaction tests in our test results. Should one of our tests fail to meet the specifications, the area would be re-worked and a retest would be performed.

The Proctor test moisture-density results performed during the project are presented on **Table 10**. Gradations and other laboratory testing related to the Proctor samples are shown on **Table 11**. The compaction test results are on **Table 12**. The compaction test locations are presented on **Figures 1 to 23**.

As stated above, the starting grade of the project was previously filled with compacted sand. The area was covered with grass. The contractor stripped the grass and then proof rolled the existing subgrade. The proof rolling was observed by both Ardaman and Geotechnics. Because the existing fill and the new fill were both clean sands, there was no concern about compaction planes (i.e lack of bonding between compacted layers). Rather than loosen the existing fill by scarifying after it had just been rolled, both HDR and Ardaman determined that scarifying prior to the placement of the new fill was not necessary or desirable.

Compaction tests of the existing subgrade are designated "SG" on **Table 12.** The test locations are presented on **Figure 1.** The project specifications required the subgrade, liner subgrade and each lift of fill to be compacted to a dry density equal to or greater than 95 percent of the standard Proctor maximum dry density, as determined in accordance with ASTM D698. The testing frequency for subgrade soils is one test per 10,000 square feet. Fill material is to be placed in 12-inch (loose) lifts and tested at a frequency of one density test per 1,500 cubic yards. In order to ensure that the testing frequency was satisfied, a 100 by 100 foot grid was laid out on **Figure 1** (the existing subgrade) and **Figure 19** (the liner subgrade) test locations. For the fill tests, a 215 by 220 foot grid was laid out on **Figures 2 through 18**, representing a little less than 1,500 cubic yards for an estimate typical compacted thickness of 10 inches. It should be noted that these grids are arbitrary and are only a visualization tool. If a grid does not show a test location, it does not mean that the test frequency specification was not satisfied.

As previously discussed, the placement of the fill was monitored by Geotechnics (CQC) and Ardaman (CQA). The material was placed in 12-inch thick loose lifts and compacted. If the material was too dry, it was watered and if it was too wet (more often the case) it was disked and air-dried until it was at the proper moisture content to compact properly. After CQC had determined that the lift was ready for testing, Ardaman performed the record CQA compaction tests. The test locations were determined utilizing a handheld GPS and were subsequently transferred onto the figures. The majority of the compaction tests were performed using the nuclear density method (ASTM D2922). At periodic intervals, a jar sample was obtained of the fill at the test location and an oven moisture content test (ASTM D2216) was performed to ensure that the nuclear gauge was presenting valid moisture content test results. The correlation between the nuclear and the oven moisture tests was good. Also at periodic intervals, a drive cylinder test (ASTM D2937) was performed in lieu of the nuclear test. Again the correlation between nuclear and drive cylinder test results was good.

The fill material was often placed on a gentle slope (i.e. the lifts were often not level) with more lifts required as the filling progressed to the south. The lift number designated for the compaction test is approximate, since lifts often irregularly overlapped underlying lifts. The technicians were on the site full time and all fill placed was placed in 12-inch lifts, thoroughly compacted and tested.

Once a cell was at finished liner subgrade elevation, it was surveyed. The contractor performed fine grading and rolling until the survey showed that the subgrade was within the acceptable grade tolerances, as determined by HDR. Compaction testing was performed at this elevation at the specified frequency. This included doubling the test frequency for the first five acres of liner subgrade prepared, which was the south end of Cell 1. These compaction tests are designated "LSG" on **Table 12** and the test locations are presented on **Figure 19.** After testing had been accepted, the liner subgrade was inspected by Ardaman, HDR and Sarasota County and was approved for placement of the liner. Certificates of subgrade surface acceptance for each cell are provided in **Appendix 19.** As liner construction progressed, the subgrade was re-worked as necessary to repair any areas that had been disturbed by construction traffic or rains. A final visual inspection of the subgrade was performed by Ardaman personnel in all areas just prior to placement of the first layer of liner (the GCL).

After the completion of the liner system and filling of the anchor trench, the top of the perimeter berms was graded to finished grade and a set of compaction tests was performed on the top of the berm. Those test locations are shown on **Figure 18.**

As shown, a total of 340 field density tests were performed on the fill subgrade, a total of 859 field density tests were performed on the fill beneath the liner and the fill for the perimeter dikes and a total of 322 field density tests were performed on the liner subgrade to demonstrate compliance of field compaction with the dry density requirements stipulated in the project specifications.

4.2 Placement of GCL

The GCL panels were placed and were covered with a geomembrane on the same day that they were installed. In cases where the 60-mil textured geomembrane could not be placed prior to rain or on the same day, a temporary geomembrane cover was placed over the GCL and the 60-mil geomembrane was then placed on the following day.

Some of the GCL rolls delivered to the site were wet and hydrated on one end. Ardaman's field representative noted and inspected these. Some rolls were removed from the site and others that had a small hydrated area were used in construction, after removing the hydrated portions.

4.3 Geomembrane Liner Installation

Routine seaming between adjacent HDPE liner panels was performed by GSI using the double wedge fusion technique. Extrusion welding was used for liner repairs and in areas where the fusion welding machine could not be used, such as around a tight space. All liner seams were tested non-destructively (i.e., air channel test for double wedge fusion welds; vacuum box or spark test for extrusion welds) in the field by GSI under the observation of the Ardaman field representatives, and destructively (i.e., peel and shear tests) in the field by GSI and at the Ardaman laboratory to verify compliance with the project specifications. After installation, the HDPE liners were secured in anchor trenches on top of the perimeter dike.

The Ardaman field representatives observed placement and seaming of the HDPE liner panels to verify compliance with the project specifications. After placement and seaming of the HDPE liner panels, our field representatives observed the liner seams, performed length measurements, and selected the locations of seam samples for use in laboratory destructive testing. In addition, our field representatives observed daily qualifying test welds performed by GSI and reviewed the test weld results. After installation, our field representatives observed the liner surface for punctures, tears, or any other defects until the liners were covered.

The liner panel placement logs for the primary and secondary HDPE liners, as recorded by Ardaman's field representatives, are included in **Appendix 21**. The record drawings prepared by GSI for the secondary and primary liners are included as **Figures RD-5 and RD-6**.

4.4 Geocomposite Installation

The geocomposites were installed by laying the panels in place and joining adjacent panels together with an overlap of at least 6 inches. Plastic fasteners were used to join adjacent panels, then sewing the upper geotextile of the panels together. After installation, the geocomposites were secured in anchor trenches on top of the perimeter dike.

All aspects of geocomposite installations, including geocomposite handling and panel deployment, joining and seaming of adjacent geocomposite panels, and anchorage of

geocomposites on top of the perimeter berms, were monitored by the Ardaman field representatives to document compliance with the specification requirements.

4.5 Piping

Ardaman's field representative observed the welding of the perforated pipe sections and the placement of the welded piping. Our field representative also observed the construction of the cleanouts and the associated welding of the prefabricated boots to the geomembrane liners at the penetrations for the cleanouts and the discharge pipes to the leachate manholes.

4.6 Gravel and Geotextile

A gravel envelope was specified around the 6-inch diameter perforated HDPE leak detection system piping and around the 8-inch diameter perforated HDPE leachate collection system piping. In accordance with the construction drawings, a non-woven cushion geotextile was placed where the stone would be in contact with the liner. A woven separator geotextile was placed to separate the gravel from the protective cover sand.

4.7 Protective Cover Sand

Placement of the protective cover sand layer was conducted under the observation of the Ardaman field representative to ascertain that the drainage layer was free of deleterious materials and that the construction procedures did not cause any damages to the installed bottom liner system. As previously discussed, occasional compliance samples of the material were collected by Ardaman and tested in the laboratory to confirm the CQC test results.

The proper thickness of the sand cover material was determined by topographic survey. The survey data was reviewed by HDR.

4.8 Leachate Collection Manholes and Discharge Piping

4.8.1 Manholes and Pump Station

No conformance testing of the HDPE pipe was required by the specifications. Cells 1, 2, 3 and 4 each had a four-foot diameter fiberglass metering manhole, an HDPE leak detection manhole and an HDPE leachate collection manhole. Cell 2 had the HDPE pump station in lieu of the leachate collection manhole. When the manholes arrived on the site, they were inspected by Ardaman prior to placement.

The subgrade preparation for each manhole base was observed with gravel placed under the HDPE manholes and a concrete slab poured in place under the metering manholes. When the manholes were set, the representative confirmed that the bases were level. Ardaman observed the pouring of the anti-flotation collars and the placement of grout or concrete inside the manholes to form the inverts.

The manholes were placed within the area of the north perimeter berm. They were set prior to the berm being constructed. The area of the manholes was excavated to the elevation of the deepest manhole at each cell. After the deepest manhole was set, the area was backfilled until reaching the elevation of the next deepest manhole whereupon that manhole was set. Pipe

connections were made as required prior to backfilling. The shallowest manhole was the metering manhole which was set on a concrete slab.

The backfill was placed in 8-inch thick lifts and was compacted with a remotely controlled small roller. Each lift of backfill was tested by Ardaman (with pre-testing performed by Geotechnics). The test locations are shown on **Figure 23** and the test results are in **Table 12**. On the table, the tests are designated as "BF" (backfill) with the location listed as "MH" (manhole). Once the backfilling had progressed to the original grade, the operation was actually filling rather than backfilling. However, this material could not be placed and compacted with heavy equipment as was the rest of the perimeter berm. The material continued to be placed in 8-inch lifts and was compacted with the small roller. All of the filling around the manholes was also designated as "BF" on the table.

It was noted that the leachate collection manhole for Cell 1 was shipped without a vent, although a vent was as specified on the project plans. Subsequently, a vent was installed in the manhole lid and welded in place by the manhole manufacturer. In addition, when the pump station was being set in place, a lifting strap slipped and a portion of the weld holding the lid to the body broke. Subsequently, the inside and outside of the broken weld was re-welded by a factory representative.

Ardaman observed the installation of the equipment in the manholes and the related control panels. However, HDR performed the final inspection and acceptance of this equipment. The valves associated with the manholes and piping were observed to operate correctly.

The manholes were filled with water and leak tested for a period of 24 hours. The leak testing was monitored and approved by Ardaman and Sarasota County personnel. The leak test commenced on June 9, 2009 and was completed on June 10, 2009 with no leakage reported.

4.8.2 Gravity and Force Main Piping

The manholes at each cell were interconnected with 8-inch HDPE piping and approved couplings to the factory installed stub-outs. An HDPE gravity main connected the leachate collection manholes at each cell to the pump station at Cell 2. Ardaman observed the welding and placement of the gravity pipe. Backfilling of the gravity main was observed by Ardaman and the compaction of the backfill was tested. The test locations are shown on **Figure 23** and the test results are in **Table 12**. On the table, the tests are designated as "BF" with the location listed as "GM" (gravity main). Once the backfilling had progressed to the original grade, the filling of the berms was tested as described in **Section 4.1**. The backfilling and filling in the vicinity of the manholes was discussed in the previous section.

The collected leachate is pumped via a force main starting at the pumping station. It passes through a pre-cast concrete valve box, then continues to the existing leachate storage tank located approximately 5,000 feet to the south-by-southeast of the pumping station.

Ardaman observed the welding and placing of the force main pipe. The force main includes a number of cleanouts and air release valves. The installation of the pre-cast concrete air release valve manholes and the cleanout covers was also observed. Where the force main crossed a road, directional drilling was used to install the pipe. Ardaman observed the directional drills. Where the force main crosses in front of previously installed culverts in the drainage ditch

between the road and the adjacent grassy fields, it was encased in ductile iron pipe as shown on the project plans.

Ardaman observed the backfilling of the pipe to ensure that the placement and backfilling was performed as required by the plans and specifications. The majority of the backfill compaction testing was performed by the Contractor's CQC laboratory, Geotechnics. The pipe installation began near the existing leachate collection tank, south of the Phase II landfill. Ardaman performed the pipe backfill compaction testing for the first several days of backfilling. Once it was discovered that this was a CQC responsibility, Geotechnics took over. From then onward, Ardaman performed occasional compliance compaction testing for the remainder of the force main backfill. Geotechnics used the Proctor data that Ardaman had already obtained on the pipe backfill soil.

There was no reason to re-test the area that Ardaman had already passed, so the force main compaction testing results are in two areas of this report. The Ardaman test locations are shown on **Figures 21, 22 and 23** and the test results are in **Table 12**. On the table, the tests are designated as "BF" with the location listed as "FM" (force main). The initial Ardaman test locations are on **Figure 21** and the few compliance tests are on **Figures 22 and 23**. The Geotechnics compaction test results are included as **Appendix 20**. Geotechnics did not supply a figure, but included a description of the test locations. The force main piping is in grassed areas (with the exception of the directional drills under the roads). The compaction specifications are 95 percent of maximum density of Standard Proctor to 6 inches over the pipe and 85 percent (in grassy areas) above that.

The Contractor performed pressure testing of the pipe under the observation of Ardaman and Sarasota County. The gravity main was air pressure tested and the force main was water pressure tested. The paperwork associated with the testing is included in **Appendix 22**.

4.9 Divider Berms

The construction drawings called for an earthen divider berm between the individual cells. The berms have a 60-mil HDPE flap welded to the primary liner and passing vertically through the berms' center. The Contractor constructed the divider berm by compacting sandy fill from the borrow area in 1-foot thick lifts on top of the protective cover sand. The berm was subsequently covered with geotextile. Ardaman's field representative observed placement and compaction of the fill for the divider berm.

4.10 Rain Cover

A geosynthetic rain cover was installed over the protective cover sand in all of the cells and divider berms. The seams were sewn in the field and the cover was ballasted with sand bags. On the slopes, the sand bags were fastened to rope to prevent them from sliding down the slope. Ardaman observed the placement, seaming and ballasting.

4.11 Concrete Structures, Pads, and Fabriform Channels

Concrete was placed in a number of areas associated with the project. The concrete placement was observed and monitored by Ardaman inspectors. Concrete (or grout) was placed in the leachate manholes to form the inverts as well as in the pump station utility vault, as a base for the metering manholes, as anti-flotation collars for the manholes, box culvert wingwall

foundations and the wingwalls, the pump station lid foundation, the pump station electrical equipment slab, the concrete pedestal pipe support for the force main, and the leachate collection and leak detection pipe cleanout slabs. In addition, concrete was placed in the Fabriform associated with the stormwater facilities.

For concrete pours where reinforcing steel was required, such as the box culvert wingwalls, the pump station lid foundation, the pump station electrical equipment slab and the force main pipe support near the leachate collection tank, the reinforcing steel and formwork were inspected by an Ardaman Project Engineer prior to concrete placement. Some minor deviations from the project reinforcing steel plans were verbally approved by HDR. The deviations were minor and, in both HDR's and Ardaman's opinion, did not significantly affect the integrity of the structure.

There were a number of precast concrete structures associated with the project. These included two (2) box culverts (constructed of multiple segments), a utility vault associated with the pump station, the pump station lid, stormwater boxes and several force main air-release valve boxes. These structures were inspected by Ardaman personnel prior to placement and the subgrade preparations and placement was monitored to ensure that structures and placement complied with the project plans and specifications.

Compaction testing was performed related to backfilling (or filling) around the structures. The test results are presented in **Table 12.** Tests around the valve vault in Cell 2 were designated as "BF" on the table. In addition, tests performed on the backfill around the storm structures and the concrete storm pipe are also designated "BF". The test locations are presented on **Figure 23**.

Testing of the fill around the box culverts under the roadways was designated as "RSG" (road subgrade) on **Table 12**. These test locations are presented on **Figure 20.**

4.12 Roadway

The new Phase 2 access roadway enters from the existing west perimeter road, crosses over box culvert No. 1 and runs along the Phase II south berm until it connects with the existing south perimeter road for Phase I. There is a secondary unpaved access drive that runs from the existing north perimeter road across box culvert No. 2 and up the north berm to the area of the lift station.

Fill was placed beside and above the box culverts as discussed in the previous section. The berm fill was graded to the road subgrade elevation and compacted. The compaction tests are on **Table 12** designated as "RSG" and the test locations are on **Figure 20.**

The plans called for a stabilized sub-base with a minimum LBR of 40 that was to be 12 inches thick. The contractor elected to use limerock base for this component in lieu of stabilized sub-base. This substitution increases the strength of the roadway and was approved by Ardaman and HDR. The sub-base (actually base material) was placed, compacted and tested in two 8-inch lifts. The upper 4 inches of the "sub-base" is actually part of the base course. The test results are presented on **Table 12** with the tests designated as "RSB". The test locations are presented on **Figure 20.**

The road base was limerock and was specified to be 8 inches thick. Prior to placement, Ardaman performed laboratory testing on this material. The test results are presented on **Table**

13. The testing showed that the material met the project specifications. After the sub-base courses were approved, the final 4 inches of base was placed and compacted. The compaction tests were taken to a depth of 8 inches, the required thickness of the base layer. The compaction tests are presented in **Table 12** with the tests designated "RB". The test locations are on **Figure 20.**

The access road was primed and paved by Ajax Paving Industries. Ardaman monitored the paving operation. The asphalt was placed and compacted in two lifts. In addition to paving the access road, selected areas of the existing north perimeter road edges were saw-cut, removed and re-paved to repair damage to the edges that had occurred during the construction.

Subsequently, Ardaman used a diamond core drill and obtained five (5) 6-inch diameter cores of the asphalt section for thickness and density testing. The coring results are included in **Appendix 23**, and indicate the asphalt thickness and density to meet the project specifications.

4.13 Gas Bubbles and Gas Vents

When the liner was installed over the west face of the Phase I slope, but before the cover sand was placed, a number of minor gas bubbles formed under the liner. As the cover sand was placed, the gas bubbles were worked out to the edge of the liner and dispersed. The gas bubbles did not re-form in this area.

As the liner neared completion, a number of gas bubbles formed on the western portion, center, of Cell 2 and the eastern portion, center, of Cell 3. At the location of several of these bubbles, the liner was cut open down to the GCL, the gas was allowed to escape, and all layers of the liner were patched and repaired. The repairs were monitored by Ardaman. The gas was above the lower explosive limit based on a meter used by the contractor. Due to distance from the Phase I landfill, it was thought that the gas had not migrated from the active landfill, but was naturally occurring soil gas. The flammable gas, likely methane, was due to the decomposition of organic material such as root fibers in the underlying soil. It was thought that the rising water table during the rainy season had displaced the soil gas which became trapped beneath the liner.

After a number of bubbles had been vented and repaired, gas continued to collect beneath the liner system in this same area. It was decided by HDR to install temporary gas vents through the liner to relieve gas pressure until the cell began to be used for waste disposal. HDR designed the vents and they were installed by GSI. Ardaman monitored the vent installation. Their approximate locations are shown on **Figures RD-5 and RD-6.**

4.14 Monitor Wells

Under a separate contract, Ardaman installed three monitor wells in the south berm, three monitor wells in the west berm and a gas probe well to the west of the Phase II landfill, west of the west perimeter road. The installation and associated sampling reports for these wells were previously reported to Sarasota County in Ardaman's report "Installation of Groundwater Monitoring Wells, Gas Probe and Staff Gauges for Central County Solid Waste Disposal Complex, Phase II, Knights Trail Road, Sarasota County, Florida," File No. 09-8647, dated August 13, 2009.

5.0 FINAL INSPECTION

The punch list/walk through meeting took place on October 26, 2009. In attendance were:

- Jerry Kuehn for Ardaman
- Richard Siemering for HDR
- Jack Gibson for Sarasota County
- Jerry Walski for Glover Construction

HDR documented the inspection and, therefore, it will not be discussed further herein.

6.0 CONCLUSIONS

This report documents the CQA testing, data review and inspections performed by Ardaman as part of the overall CQA program. Based upon the results documented, it is our professional opinion that the earthwork, landfill bottom liner system and associated facilities documented herein for the CCSWDC, Phase II, Class I Landfill were constructed in substantial conformance with the specification requirements. This excludes items specifically inspected or reviewed by the Design Engineer/Engineer of Record, HDR.

TABLES

Table 1

Manufacturer's Testing Requirements and Project Specifications for Geosynthetic Liner System

Property		ASTM Test Method	Required Value	Min. Test Frequency (1 test per)	
Geosynthetic Clay Liner (GCL)					
Bentonite content		D5993	>0.75 lb/ft2	40,000	ft2
Grab tensile strength		D4632	>150 lb	40,000	ft2
Peel strength, MD		D6496	>5.3 lb	40,000	ft2
Tensile strength, MD		D6768	>45 ppi	40,000	ft2
Hydraulic conductivity (CP=5psi, H=2psi)		D5887	<5x10E-11 m/s	100,000	ft2
Free swell		D5890	>24 mL	100,000	lb
Fluid loss		D5891	<18 mL	100,000	lb
Typical shear strength (hydrated)		D6243	>500 lb/ft2	(1 per project)	
HDPE Geomembrane Liner					
Resin -	density	D1505 or D792	>0.94 g/cc	200,000	lb
	melt flow index	D1238	<1.00	200,000	lb
Sheets -	core thickness	D5994	60-mil (nominal)	1	roll
	min. average		nominal - 5%		
	lowest individual 8 of 10		nominal - 10%		
	lowest individual 10 of 10		nominal - 15%		
	tensile properties (MD & TD)	D638-IV or D6693		20,000	lb
	yield stress		126 ppi		
	break stress		90 ppi		
	elongation at yield		12%		
	elangation at break		100%		
	carbon black	D1603 or D4218	2.0-3.0%	20,000	lb
	carbon black dispersion	D5596		20,000	lb
	min. 8 of 10		1 or 2		
	10 of 10		1,2 or 3		
	asperity height (MARV)	GRI GM12	>15 mil	20,000	lb
	tear resistance	D1004, die C	>42 lb	45,000	lb
	puncture resistance (MARV)	D4833	>90 lb	45,000	lb
	environmental stress crack			200,000	lb
	oxidative-Induction time	D3895	100 min.	200,000	lb
		or D5885	400 min.		
	water vaper transmission	E96	<0.24 g/m2/day	200,000	lb
Welding rod -	carbon black	D1603 or D4218	2.0-3.0%	1	batch
	specific gravity	D1505 or D792	>0.94 g/cc	1	batch
	melt flow index	D1238	<1.00	1	batch

(continued)

Table 1 (continued)

Manufacturer's Testing Requirements
and Project Specifications for Geosynthetic Liner System

Property		ASTM Test Method	Required Value	Min. Test Frequency (1 test per)	
Geocomposite					
Geonet Core -	Mass per unit area	D5261	not specified	50,000	ft2
	Carbon black content	D1603	>2%	50,000	ft2
	Tensile strength (MD)	D5035	>100 ppi	50,000	ft2
	thickness	D5199	>300 mil	50,000	ft2
	Transmissivity at 500 psf	D4716	>5x10E-3 m2/s	50,000	ft2
	Specific gravity/density	D1505	>0.94 g/cc	100,000	ft2
Geocomposite -	ply adhesion (MARV)	D7005	>1 lb/in	50,000	ft2
	Transmissivity at 20,000 psf	D4716	>1.8x10E-3 m2/s	540,000	ft2
Geotextile -	mass per unit area (MARV)	D5261	6 oz/yd2	90,000	ft2
	grab tensile strength (MARV)	D4632	>170 lb	90,000	ft2
	puncture strength (MARV)	D4833	>90 lb	90,000	ft2
	AOS (MARV)	D4751	No. 70 sieve	540,000	ft2
	permittivity (MARV)	D4491	>1.5/sec	540,000	ft2
	flow rate (MARV)	D4491	>110 gpm/ft2	540,000	ft2
	UV degradation	D4355	>70%	1	frml
Geotextiles					
Cushion geotex:	mass per unit area (MARV)	D5261	>20 oz/yd	90,000	ft2
(non-woven)	grab tensile strength (MARV)	D4632	>380 lb	90,000	ft2
	grab elongation (MARV)	D4632	<50%	90,000	ft2
	puncture resistance (MARV)	D4833	>200 lb	90,000	ft2
	trapezoidal tear strength (MARV)	D4533	>125 lb	90,000	ft2
	UV degradation	D4355	>70%	1/formulation	
Seperator geotex:	grab tensile strength	D4632	370x250 lb	90,000	ft2
(woven)	grab elongation (MARV)	D4632	<16x15%	90,000	ft2
	puncture strength	D4833	>130 lb	90,000	ft2
	trapezoidal tear strength (MARV)	D4533	>100x60 lb	90,000	ft2
	AOS	D4751	No. 70 sieve	540,000	ft2
	permittivity	D4491	>0.28/sec	540,000	ft2
	water flow rate	D4491	>18 gpm/ft2	540,000	ft2
	UV degradation	D4355	>90%	1/formulation	

Table 2

Summary of Geosynthetic Products Provided for Construction

Material	Number * of Rolls	Roll Area ($feet^2$)	Total Area (acres)
GSE 60-mil Textured HDPE Geomembrane	472	11,700	126.8
GSE Bentoliner NWL-45 Geosynthetic Clay Liner	1,141	2,325	60.9
GSE PermaNet Geocomposite (double-sided)	2,433	2,250	125.7
SKAPS GT180 (8-oz. nonwoven geotextile)	55	4,500	5.7
SKAPS GE200 (20-oz. nonwoven cushion geotextile)	96	2,250	5.0
SKAPS M706 (woven seperator geotextile)	61	3,600	5.0
HDPE Welding Rod	479 boxes	---	---

* number of rolls (or boxes) ultimately accepted for use in construction

Table 3

Construction Quality Assurance Testing Requirements and Project Specifications for Geosynthetic Liner System

Description		ASTM	Required Value	Frequency (1 test per)	
Interface Direct Shear for Geosynthetics					
drainage composite under protective cover		D5321	23 degrees	1 set of 3 tests	
60-mil tex. HDPE under drainage composite		D5321	23 degrees	1 set of 3 tests	
geosynthetic clay liner under 60-mil tex. HDPE		D6243	23 degrees	1 set of 3 tests	
Geosynthetic Clay Liner (GCL)					
Bentonite mass (0% moisture)		D5993	>0.75 lb/ft2	40,000	ft2
Grab tensile strength		D4632	>150 lb	40,000	ft2
Peel strength, MD		D6496	>5.3 lb	40,000	ft2
Tensile strength, MD		D6768	>45 ppi	40,000	ft2
Hydraulic conductivity (CP=5psi, H=2psi)		D5887	<5x10E-11 m/s	100,000	ft2
Free swell		D5890	>24 mL	100,000	lb
Fluid loss		D5891	<18 mL	100,000	lb
Typical shear strength		D6243	>500 lb/ft2	(1 per project)	
Geomembrane Liner					
Tensile properties -	yield stress	D638-IV or D6693	>126 ppi	20,000	lb
	elongation at yield	D638-IV or D6693	<12%	20,000	lb
	break stress	D638-IV or D6693	>90 ppi	20,000	lb
	elongation at break	D638-IV or D6693	<100%	20,000	lb
Field seams -	5 tensile & 5 peel specimens	D4437	see specs	500	l.ft.
Geocomposite (leak detection layer and leachate collection layer)					
Geocomposite -	ply adhesion (MARV)	D7005	>1 lb/in	50,000	ft2
	thickness (geonet core)	D5199	>300 mil	50,000	ft2
	transmissivity at 20,000 psf	D4716	>1.8x10E-3 m2/s	540,000	ft2
Geotextile -	puncture resistance (MARV)	D4833	>90 lb	90,000	ft2
	trapezoidal tear (MARV)	D4533	(not specified)	90,000	ft2
	mass per unit area (MARV)	D5261	6 oz/yd2	90,000	ft2
	water flow rate	D4491	>110 gpm/ft2	540,000	ft2
	AOS	D4751	<No. 70 sieve	540,000	ft2
Geotextile					
Cushion geotex:	puncture resistance (MARV)	D4833	>200 lb	90,000	ft2
(non-woven)	trapezoidal tear strength (MARV)	D4533	>125 lb	90,000	ft2
	mass per unit area (MARV)	D5261	>20 oz/yd2	90,000	ft2
	water flow rate (MARV)	D4491	(not specified) *	540,000	ft2
	AOS	D4751	<No. 100 sieve **	540,000	ft2
Seperator geotex:	puncture resistance (MARV)	D4833	>130 lb	90,000	ft2
(woven)	trapezoidal tear strength (MARV)	D4533	>100x60 lb	90,000	ft2
	mass per unit area (MARV)	D5261	>5.6 oz/yd2	90,000	ft2
	water flow rate (MARV)	D4491	>18 gpm/ft2	90,000	ft2
	AOS	D4751	<No. 70 sieve	540,000	ft2

* No required value included in specs or CQA Plan. No value included in Contractor's submittal.

** No required value incluided in specs or CQA Plan. Value shown is from Contractor's submittal.

Table 4

Direct Shear Test Results for Geosynthetic Material Interfaces

Interface	Normal Stress (psf)	Peak Shear Stress (psf)	Secant Angle (°)
GSE 60-mil textured HDPE geomembrane GSE Bentoliner NWL-45 GCL	5,000	2,370	25
	10,000	4,189	23
	20,000	10,101	27
	Friction Angle (°):		**27.8***
GSE PermaNet geocomposite GSE 60-mil textured HDPE geomembrane	5,000	2,565	27
	10,000	4,666	25
	20,000	9,064	24
	Friction Angle (°):		**23.5***
Protective cover sand GSE PermaNet geocomposite	5,000	3,206	33
	10,000	5,389	28
	20,000	11,419	30
	Friction Angle (°):		**29.1***

*Friction angle computed from mathematically determined best fit line.

Note: Tests performed by Precision Geosynthetic Laboratories

Table 5

Construction Quality Assurance Testing Frequencies and Number of Tests for Geosynthetic Liner Materials

Description		Min. Test Frequency (1 test per)		Allocated Volume	No. of Rolls Per Test	Min. No. of Tests	Actual No. of Tests
Geosynthetic Clay Liner (GCL)							
Roll Area (ft2) =	2,325						
Roll Weight (lb) =	2,360						
Allocated Rolls =	1,141						
Bentonite mass		40,000	ft2	2,652,825	17.2	67	70
Grab tensile strength		40,000	ft2	2,652,825	17.2	67	70
Peel strength, MD		40,000	ft2	2,652,825	17.2	67	70
Tensile strength, MD		40,000	ft2	2,652,825	17.2	67	70
Hydraulic conductivity		100,000	ft2	2,652,825	43.0	27	34
Free swell		100,000	lb	1,989,619	57.3	20	34
Fluid loss		100,000	lb	1,989,619	57.3	20	34
Typical shear strength		(1 per project)				1	1
Geomembrane Liner							
Roll Weight (lb) =	4,215						
Allocated Rolls =	472						
Tensile properties -	yield stress	20,000	lb	1,989,480	4.7	100	121
	elongation at yield	20,000	lb	1,989,480	4.7	100	121
	break stress	20,000	lb	1,989,480	4.7	100	121
	elongation at break	20,000	lb	1,989,480	4.7	100	121
Geocomposite (leak detection layer and leachate collection layer)							
Roll Area (ft2) =	2,250						
Allocated Rolls =	2,453						
Geocomposite -	ply adhesion	50,000	ft2	5,519,250	22.2	111	124
	thickness (geonet core)	50,000	ft2	5,519,250	22.2	111	124
	transmissivity	540,000	ft2	5,519,250	240.0	11	12
Geotextile -	puncture resistance	90,000	ft2	11,038,500	40.0	123	124 *
	trapezoidal tear	90,000	ft2	11,038,500	40.0	123	124 *
	mass per unit area	90,000	ft2	11,038,500	40.0	123	124 *
	water flow rate	540,000	ft2	11,038,500	240.0	21	24 *
	AOS	540,000	ft2	11,038,500	240.0	21	24 *
Geotextile							
Roll Area (ft2) =	2,250						
Allocated Rolls =	96						
Cushion geotex:	puncture resistance	90,000	ft2	216,000	40.0	3	3
(non-woven)	trapezoidal tear strength	90,000	ft2	216,000	40.0	3	3
	mass per unit area	90,000	ft2	216,000	40.0	3	3
	water flow rate	540,000	ft2	216,000	240.0	1	1
	AOS	540,000	ft2	216,000	240.0	1	1
Roll Area (ft2) =	3,600						
Allocated Rolls =	61						
Seperator geotex:	puncture resistance	90,000	ft2	219,600	25.0	3	3
(woven)	trapezoidal tear strength	90,000	ft2	219,600	25.0	3	3
	mass per unit area	90,000	ft2	219,600	25.0	3	3
	water flow rate	90,000	ft2	219,600	25.0	3	3
	AOS	540,000	ft2	219,600	150.0	1	1
Roll Area (ft2) =	4,500						
Allocated Rolls =	55						
GT180 geotex.	puncture resistance	90,000	ft2	247,500	20.0	3	3
(non-woven)	trapezoidal tear strength	90,000	ft2	247,500	20.0	3	3
	mass per unit area	90,000	ft2	247,500	20.0	3	3
	water flow rate	540,000	ft2	247,500	120.0	1	1
	AOS	540,000	ft2	247,500	120.0	1	1

* Sampled geotextile from both sides. Number if samples is, therefore, twice the number of rolls sampled.

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S1	04/29/09	F	T	Load (ppi)	143	141	137	127	130	136	193	191	191	191	190	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	147	142	145	145	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S2	04/29/09	F	T	Load (ppi)	135	155	153	152	153	150	195	193	193	192	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	133	135	137	133	133	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S3	04/29/09	F	T	Load (ppi)	137	137	135	137	138	137	194	195	196	195	194	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	164	166	166	154	168	164							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S4	04/29/09	F	T	Load (ppi)	131	148	132	134	138	137	190	192	190	189	186	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	148	137	136	136	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S5	04/30/09	F	T	Load (ppi)	123	123	129	127	130	126	176	175	174	174	171	174	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	126	131	133	140	131	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S6	04/30/09	F	T	Load (ppi)	151	149	148	148	148	149	192	193	192	193	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	157	157	161	158	151	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S7	04/30/09	F	T	Load (ppi)	153	152	156	144	142	149	192	189	186	189	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	142	135	139	148	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S8	04/30/09	F	T	Load (ppi)	149	142	158	154	146	150	191	191	190	191	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	136	138	139	145	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S9	04/30/09	F	T	Load (ppi)	142	144	143	141	141	142	193	190	191	192	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	142	141	138	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S10	04/30/09	F	T	Load (ppi)	152	149	149	151	149	150	190	193	193	195	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	137	134	142	139	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S11	04/30/09	F	T	Load (ppi)	138	137	132	131	135	135	193	193	192	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	142	139	150	149	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S12	05/01/09	F	T	Load (ppi)	147	135	141	144	135	140	198	196	196	197	199	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	136	136	123	125	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S13	05/01/09	F	T	Load (ppi)	141	141	142	138	138	140	198	197	197	198	198	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	157	133	155	159	157	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S14	05/01/09	F	T	Load (ppi)	142	144	139	149	166	148	198	198	198	198	198	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	142	138	147	142	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S15	05/01/09	F	T	Load (ppi)	152	165	149	148	150	153	195	194	194	193	190	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	148	148	148	152	154	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S16	05/01/09	F	T	Load (ppi)	145	145	147	138	148	145	194	195	196	191	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---						---	
			B	Load (ppi)	154	156	160	151	145	153							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S17	05/01/09	F	T	Load (ppi)	154	153	146	148	144	149	194	194	195	193	193	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	140	139	143	138	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S18	05/01/09	F	T	Load (ppi)	149	130	142	147	146	143	192	193	193	190	188	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	150	141	112	125	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S19	05/01/09	F	T	Load (ppi)	151	163	157	151	155	155	194	192	194	192	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	151	149	151	152	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S20	05/04/09	F	T	Load (ppi)	155	147	150	152	134	148	193	194	193	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	139	130	135	138	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S21	05/04/09	F	T	Load (ppi)	132	136	159	127	133	137	195	194	190	192	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	141	138	135	134	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S22	05/04/09	E	T	Load (ppi)	151	138	133	117	142	136	173	168	170	168	169	170	P
				Mode	SE3	SE3	SE3	SE1	SE3	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)													
				Mode													
DT-S23	05/04/09	F	T	Load (ppi)	126	138	136	130	134	133	173	174	174	173	172	173	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	137	131	126	119	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S24	05/04/09	F	T	Load (ppi)	148	150	148	143	147	147	190	191	188	185	181	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	153	155	153	150	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S25	05/04/09	F	T	Load (ppi)	141	142	143	146	146	144	196	196	195	195	195	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	143	145	142	142	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S26	05/04/09	F	T	Load (ppi)	160	172	131	133	149	149	194	194	195	194	193	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	152	145	147	147	147	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S27	05/04/09	F	T	Load (ppi)	150	153	148	140	120	142	192	192	193	191	190	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	141	104	130	163	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S28A	05/04/09	F	T	Load (ppi)	142	139	143	143	141	142	190	189	190	188	188	189	P
				Mode	SE1	SE1	SE1	SE1		---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	141	140	141	134	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S28B	05/05/09	F	T	Load (ppi)	128	136	128	139	138	134	189	191	189	190	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	150	149	153	147	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S29	05/04/09	F	T	Load (ppi)	163	161	162	162	160	162	188	187	187	189	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	153	152	152	150	150	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S30	05/04/09	F	T	Load (ppi)	139	141	139	141	142	140	191	193	193	192	193	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	146	153	150	150	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S31	05/04/09	F	T	Load (ppi)	130	131	129	126	129	129	186	187	191	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	138	139	142	132	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S32	05/04/09	F	T	Load (ppi)	169	164	165	159	169	165	194	193	192	193	192	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	136	134	135	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S33	05/04/09	F	T	Load (ppi)	144	143	145	146	145	145	189	188	185	187	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	147	145	142	138	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S34	05/04/09	F	T	Load (ppi)	146	150	148	149	140	147	187	193	193	193	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	157	161	159	149	121	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S35	05/04/09	F	T	Load (ppi)	159	150	156	141	158	153	197	197	197	198	196	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	149	146	154	137	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S36	05/04/09	F	T	Load (ppi)	149	149	148	143	149	148	195	195	193	194	196	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	155	155	147	153	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S37	05/04/09	F	T	Load (ppi)	139	138	136	137	157	141	190	190	191	190	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	153	156	153	154	134	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S38	05/04/09	F	T	Load (ppi)	146	143	139	137	133	140	191	192	192	191	188	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	155	134	136	141	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S39	05/04/09	F	T	Load (ppi)	136	136	134	144	137	137	192	193	192	192	189	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	161	159	157	160	155							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S40	05/05/09	F	T	Load (ppi)	136	147	148	142	144	143	194	194	193	193	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	145	152	150	147	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S41	05/05/09	F	T	Load (ppi)	135	132	133	131	142	135	195	195	196	195	195	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	139	138	140	157	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S42	05/05/09	F	T	Load (ppi)	145	148	147	142	149	148	198	197	197	198	196	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	144	145	142	140	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S43	05/05/09	F	T	Load (ppi)	145	144	144	144	145	144	196	197	197	196	194	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	149	147	151	156	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S44	05/05/09	F	T	Load (ppi)	144	134	147	147	145	143	191	191	192	191	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	144	152	145	146	146	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S45	0/05/09	F	T	Load (ppi)	145	145	146	145	147	146	192	193	193	190	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	146	143	141	139	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S46	05/05/09	F	T	Load (ppi)	145	158	144	150	156	151	194	193	194	194	195	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	152	147	139	144	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S47	05/05/09	F	T	Load (ppi)	145	144	143	141	143	143	191	193	192	193	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	160	151	145	151	146	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S48	05/05/09	F	T	Load (ppi)	138	140	142	144	145	142	194	194	191	193	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	143	142	146	146	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S49	05/05/09	F	T	Load (ppi)	136	140	136	136	144	138	189	190	190	186	188	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	148	158	141	147	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S50	05/05/09	F	T	Load (ppi)	149	148	147	147	148	147	188	190	193	188	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	153	161	143	150	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S51	05/05/09	F	T	Load (ppi)	141	138	137	134	137	137	182	182	182	183	184	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	133	161	157	151	158	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S52	05/05/09	F	T	Load (ppi)	145	144	144	145	144	144	189	191	191	190	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	141	138	142	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S53	05/05/09	F	T	Load (ppi)	146	143	139	145	142	143	192	193	194	195	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	143	143	137	138	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S54	05/06/09	F	T	Load (ppi)	143	143	141	142	143	142	191	191	190	191	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	143	147	141	141	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S55	05/06/09	F	T	Load (ppi)	135	136	139	139	133	136	192	192	192	191	189	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	170	144	140	139	144	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S56	05/06/09	F	T	Load (ppi)	141	140	140	139	139	140	188	187	187	189	190	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	158	155	152	154	152	154							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S57	05/06/09	F	T	Load (ppi)	145	146	141	135	136	141	197	197	198	198	198	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	153	152	150	136	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S58	05/06/09	F	T	Load (ppi)	149	145	159	137	152	146	192	192	191	191	190	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	145	133	146	150	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S59	05/06/09	F	T	Load (ppi)	136	130	139	139	141	137	193	194	193	191	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	152	143	139	165	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S60	05/06/09	F	T	Load (ppi)	133	136	127	129	138	132	199	197	198	198	198	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	141	139	138	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S61	05/06/09	F	T	Load (ppi)	138	138	137	142	141	139	194	193	193	194	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	137	141	142	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S62	05/06/09	F	T	Load (ppi)	147	144	144	141	141	143	194	195	196	196	196	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	144	144	144	143	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S63	05/08/09	F	T	Load (ppi)	122	125	126	121	113	121	169	166	166	166	166	167	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	143	145	149	146	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S64	05/08/09	F	T	Load (ppi)	143	144	141	145	144	143	197	197	197	198	197	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	143	143	146	141	139	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S65	05/08/09	F	T	Load (ppi)	145	143	141	138	141	142	188	184	193	190	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	156	141	146	142	139	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S66	05/08/09	F	T	Load (ppi)	136	136	129	134	132	133	191	191	194	190	186	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	149	138	133	129	138	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S67	05/08/09	F	T	Load (ppi)	135	135	154	155	143	144	195	194	195	194	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	138	141	141	143	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S68	05/08/09	F	T	Load (ppi)	141	146	140	139	139	141	196	195	195	195	196	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	157	151	150	143	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S69	05/08/09	F	T	Load (ppi)	133	133	134	132	129	132	196	198	195	198	196	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	145	151	146	145	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S70	05/11/09	F	T	Load (ppi)	142	144	144	144	148	144	201	201	199	200	200	200	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	140	140	142	139	137	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S71	05/11/09	F	T	Load (ppi)	135	140	144	145	144	142	199	200	199	198	197	199	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	148	148	147	139	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S72	05/11/09	F	T	Load (ppi)	144	135	136	144	133	138	196	196	198	195	192	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	149	139	143	121	130	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S73	05/11/09	F	T	Load (ppi)	110	131	139	134	138	130	184	187	190	186	182	186	Fa
				Mode	AD-BRK	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
				Peel (%)	35	---	---	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)	122	107	118	112	158	123							
				Mode	AD	AD	AD	AD-BRK	SE1	---							
				Peel (%)	---	---	---	20	---	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S73A	05/18/09	F	T	Load (ppi)	146	149	150	149	147	148	191	189	188	190	188	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	152	159	148	145	143	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S73B	05/18/09	F	T	Load (ppi)	142	142	152	146	149	146	190	190	190	184	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	147	155	136	144	136	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S74	05/11/09	F	T	Load (ppi)	139	142	150	140	147	144	191	184	187	186	183	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	139	145	136	160	137	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S75	05/11/09	F	T	Load (ppi)	133	138	134	137	140	136	183	186	181	185	187	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	159	164	153	154	153	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S76	05/15/09	F	T	Load (ppi)	148	149	147	148	145	147	192	192	192	192	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	135	134	135	133	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S77	05/18/09	F	T	Load (ppi)	145	140	141	145	140	142	191	191	192	192	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	141	136	142	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S78	05/18/09	F	T	Load (ppi)	136	134	134	129	138	134	190	190	190	190	169	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	144	137	136	136	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S79	05/18/09	F	T	Load (ppi)	130	137	132	139	143	136	191	191	192	189	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	138	140	141	134	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S80	05/18/09	F	T	Load (ppi)	143	145	147	150	147	146	189	191	191	190	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	130	133	135	139	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S81	05/18/09	F	T	Load (ppi)	140	138	143	137	144	140	192	194	193	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	137	133	134	137	135	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S82	05/18/09	F	T	Load (ppi)	147	140	140	146	147	144	194	196	195	196	197	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	144	149	143	143	141	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S83	05/18/09	F	T	Load (ppi)	146	144	145	142	142	144	199	200	201	200	201	200	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	BRK	---	
			B	Load (ppi)	152	144	149	149	148	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S84	05/18/09	F	T	Load (ppi)	135	137	140	141	135	138	197	197	198	197	197	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	144	141	140	142	145	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S85	05/28/09	F	T	Load (ppi)	142	141	133	132	131	136	194	193	191	192	190	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	134	133	130	141	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S86	05/28/09	F	T	Load (ppi)	152	155	156	154	155	154	193	193	193	191	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	151	142	134	150	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S87	05/28/09	F	T	Load (ppi)	149	151	143	138	141	144	192	193	192	192	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	158	148	142	134	139	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S88	05/28/09	F	T	Load (ppi)	145	145	141	138	135	141	196	196	196	196	197	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	142	140	141	146	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S89	05/28/09	F	T	Load (ppi)	157	160	156	142	156	154	193	192	190	191	190	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	140	141	145	158	142	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S90	05/28/09	F	T	Load (ppi)	151	149	145	143	145	147	193	191	191	190	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	132	130	136	142	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S91	05/28/09	F	T	Load (ppi)	137	139	150	150	139	143	195	195	194	195	195	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	143	141	134	142	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S92	05/28/09	F	T	Load (ppi)	143	147	145	142	143	144	192	193	192	192	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	140	140	141	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S93	05/28/09	F	T	Load (ppi)	150	147	149	150	151	149	192	192	194	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	143	135	136	138	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S94	05/28/09	F	T	Load (ppi)	144	141	150	140	153	148	169	189	189	190	188	169	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	143	140	149	143	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S95	05/28/09	F	T	Load (ppi)	149	153	150	145	152	150	188	193	188	187	193	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	132	134	139	136	138	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S96	05/28/09	F	T	Load (ppi)	164	152	154	150	154	155	193	193	193	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	134	136	141	172	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S97	05/28/09	F	T	Load (ppi)	150	148	150	150	146	149	195	193	194	195	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	148	138	150	153	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S98	05/29/09	F	T	Load (ppi)	144	141	152	143	154	147	186	186	185	186	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	142	140	137	142	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S99	05/29/09	F	T	Load (ppi)	151	148	148	150	148	149	192	193	185	192	193	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	149	153	151	157	156	153							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S100	05/29/09	F	T	Load (ppi)	146	136	136	139	141	140	189	190	190	191	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	138	141	134	134	143	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S101	05/29/09	F	T	Load (ppi)	141	142	140	140	139	140	185	186	188	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	153	150	147	147	146	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S102	05/29/09	F	T	Load (ppi)	140	138	142	144	140	141	190	192	193	192	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	135	134	139	135	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S103	05/29/09	F	T	Load (ppi)	155	152	148	147	149	150	182	182	182	178	180	180	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	161	160	154	161	160	159							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S104	05/29/09	F	T	Load (ppi)	141	142	142	142	139	141	184	188	188	188	188	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	136	135	136	132	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S105	05/29/09	E	T	Load (ppi)	123	103	159	156	133	135	167	168	168	166	174	169	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK1	BRK1	BRK1	BRK1	BRK1	---	
			B	Load (ppi)													
				Mode													
DT-S106	05/29/09	E	T	Load (ppi)	122	123	130	128	133	127	176	173	175	171	169	173	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK1	BRK1	SE2	SE2	---	
			B	Load (ppi)													
				Mode													
DT-S107	05/29/09	F	T	Load (ppi)	151	149	157	154	153	153	186	186	185	187	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	143	142	144	144	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S108	05/29/09	F	T	Load (ppi)	138	139	144	141	144	141	184	184	184	185	185	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	141	140	140	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S109	05/29/09	F	T	Load (ppi)	142	131	134	142	129	136	184	185	184	184	184	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	133	135	135	133	134	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S110	05/29/09	F	T	Load (ppi)	150	146	143	144	143	145	184	185	185	184	183	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	150	150	149	132	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S111	05/29/09	F	T	Load (ppi)	145	142	144	143	145	144	182	184	184	185	183	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	132	134	130	135	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S112	05/29/09	F	T	Load (ppi)	148	162	154	144	141	150	183	183	184	184	184	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	142	142	144	144	144	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S113	05/29/09	F	T	Load (ppi)	139	140	143	144	138	141	189	190	189	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	130	129	132	145	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S114	05/29/09	F	T	Load (ppi)	146	143	146	154	151	148	187	187	182	187	187	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	124	125	133	127	128	127							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S115	05/29/09	F	T	Load (ppi)	139	141	142	142	140	141	186	187	187	182	188	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	134	127	125	125	123	127							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S116	05/29/09	F	T	Load (ppi)	135	137	139	138	138	137	190	190	190	188	188	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	132	129	128	129	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S117	05/29/09	F	T	Load (ppi)	134	133	130	133	134	133	186	185	186	186	187	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	135	135	139	140	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S118	05/29/09	F	T	Load (ppi)	140	132	132	129	136	134	190	191	190	190	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	153	131	131	131	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S119	05/29/09	F	T	Load (ppi)	141	158	139	144	138	144	191	193	193	193	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	142	142	145	145	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S120	05/29/09	F	T	Load (ppi)	137	137	135	141	139	138	186	187	187	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	133	133	146	130	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S121	05/29/09	F	T	Load (ppi)	137	139	142	138	135	138	190	190	191	190	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	138	137	138	133	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S122	05/29/09	F	T	Load (ppi)	139	137	139	137	135	137	192	192	191	190	189	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	145	146	144	146	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S123	05/29/09	F	T	Load (ppi)	135	134	135	132	134	134	191	191	193	193	194	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	131	131	129	130	130	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S124	06/01/09	F	T	Load (ppi)	138	140	140	140	138	139	184	181	182	180	182	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	140	136	140	137	140	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S125	06/01/09	F	T	Load (ppi)	143	143	145	146	146	145	184	182	186	186	184	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	137	137	138	134	136	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S126	06/01/09	F	T	Load (ppi)	140	140	144	154	163	148	190	189	190	190	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	141	141	141	142	139	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S127	06/01/09	F	T	Load (ppi)	146	139	138	146	148	143	186	185	186	185	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	142	138	137	143	143	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S128	06/01/09	F	T	Load (ppi)	141	142	143	143	144	143	188	184	186	186	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	138	138	140	135	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S129	06/01/09	F	T	Load (ppi)	146	144	139	146	144	144	187	188	188	187	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	140	151	144	150	136	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S130	06/01/09	F	T	Load (ppi)	142	139	139	132	132	137	189	188	188	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	150	139	140	140	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S131	06/01/09	F	T	Load (ppi)	133	141	143	153	149	144	190	191	191	191	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	164	147	145	148	144	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S132	06/01/09	F	T	Load (ppi)	136	139	138	143	146	140	191	191	191	191	186	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	157	143	143	139	137	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S133	06/01/09	F	T	Load (ppi)	136	139	135	137	138	137	189	190	190	190	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	133	138	134	136	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S134	06/01/09	F	T	Load (ppi)	144	143	147	147	147	146	194	194	192	193	192	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	142	136	144	141	153	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S135	06/03/09	F	T	Load (ppi)	145	146	146	145	148	146	186	186	187	186	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	130	129	132	132	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S136	06/03/09	F	T	Load (ppi)	157	153	151	154	146	153	190	189	190	186	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	140	137	135	140	133	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S137	06/03/09	F	T	Load (ppi)	133	135	134	135	133	134	188	187	188	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	148	136	133	131	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S138	06/03/09	F	T	Load (ppi)	124	126	137	134	136	131	186	188	189	189	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	135	132	134	133	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S139	06/03/09	F	T	Load (ppi)	121	128	132	139	120	128	186	188	187	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	127	136	144	139	142	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S140	06/03/09	F	T	Load (ppi)	141	142	142	139	145	142	187	187	186	186	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	134	133	132	133	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S141	06/03/09	F	T	Load (ppi)	140	143	139	137	137	139	188	188	187	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	143	143	143	141	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S142	06/03/09	F	T	Load (ppi)	146	139	147	145	148	145	190	190	191	191	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	145	146	144	142	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S143	06/03/09	F	T	Load (ppi)	127	124	125	124	162	132	189	191	192	191	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	133	133	128	132	136	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S144	06/03/09	F	T	Load (ppi)	129	131	132	133	128	131	187	187	186	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	147	151	152	148	152	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S145	06/03/09	F	T	Load (ppi)	132	130	122	89	140	123	186	187	186	186	185	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	149	146	146	140	138	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S146	06/03/09	F	T	Load (ppi)	140	140	137	140	143	140	186	187	186	186	187	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	132	137	137	141	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S147	06/03/09	F	T	Load (ppi)	140	133	141	140	139	139	186	186	189	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	132	136	134	134	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S148	06/03/09	F	T	Load (ppi)	148	151	145	141	148	147	185	185	188	188	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	139	134	134	134	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S149	06/03/09	F	T	Load (ppi)	142	143	142	143	141	142	184	185	185	185	184	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	134	131	132	127	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S151	06/05/09	F	T	Load (ppi)	147	147	141	142	145	144	191	190	192	192	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	135	133	137	135	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S150A	06/09/09	F	T	Load (ppi)	138	138	135	134	132	135	192	187	188	195	197	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	132	132	130	132	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S150B	06/09/09	F	T	Load (ppi)	130	127	129	136	130	130	196	192	188	192	195	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	129	129	127	131	126	128							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S152	06/05/09	F	T	Load (ppi)	138	139	134	134	136	136	188	190	190	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	141	136	135	143	140	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S153	06/05/09	F	T	Load (ppi)	146	145	146	146	146	146	192	191	190	191	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	141	142	141	143	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S154	06/09/09	F	T	Load (ppi)	139	136	139	138	134	138	182	183	180	189	189	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	131	130	134	123	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S155	06/09/09	F	T	Load (ppi)	138	147	142	136	135	140	176	180	176	184	184	180	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	141	138	137	140	128	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S156	06/09/09	F	T	Load (ppi)	131	137	136	130	121	131	186	183	184	186	189	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	137	137	135	138	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S157	06/09/09	F	T	Load (ppi)	139	140	140	139	137	139	184	184	185	184	187	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	152	147	130	141	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S158	06/09/09	F	T	Load (ppi)	133	134	135	133	130	133	184	187	187	192	192	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	135	140	145	133	130	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S159	06/09/09	F	T	Load (ppi)	133	136	134	133	133	134	176	182	182	187	187	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	124	129	130	127	127	127							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S160	06/09/09	F	T	Load (ppi)	146	143	146	133	134	140	177	180	182	183	183	181	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	131	131	129	130	130	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S161	06/09/09	F	T	Load (ppi)	135	134	137	135	130	134	180	181	182	187	186	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	141	140	129	143	130	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S162	06/09/09	E	T	Load (ppi)	90	134	124	124	125	119	174	171	171	177	173	173	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK2	SE2	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-S163	08/15/09	F	T	Load (ppi)	138	141	143	138	135	139	188	193	193	193	194	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	137	132	143	135	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S164	06/15/09	F	T	Load (ppi)	136	139	137	139	140	138	190	195	195	195	195	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	151	148	147	145	145	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S165	06/15/09	F	T	Load (ppi)	136	136	146	139	145	140	187	194	193	188	185	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	131	134	136	134	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S166	06/15/09	F	T	Load (ppi)	147	140	143	127	139	139	189	190	188	187	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	132	129	138	144	148	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S167	06/15/09	F	T	Load (ppi)	141	141	143	143	138	141	189	188	192	192	194	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	143	145	146	144	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S168	06/15/09	F	T	Load (ppi)	142	137	134	137	142	138	183	182	184	185	186	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	134	129	127	134	138	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S169	06/15/09	F	T	Load (ppi)	150	150	145	145	145	147	180	182	182	181	186	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	136	134	135	141	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S170	06/15/09	F	T	Load (ppi)	148	147	144	145	140	145	184	185	187	185	187	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	139	134	132	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S171	06/15/09	E	T	Load (ppi)	101	127	88	117	137	114	178	178	179	181	176	178	P
				Mode	SE3	SE3	AD1	SE3	SE3	---	BRK2	BRK2	BRK2	SE1	BRK2	---	
				Peel (%)	---	---	100	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)													
				Mode													
DT-S172	06/15/09	F	T	Load (ppi)	136	138	137	138	138	137	183	183	180	182	184	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	133	138	137	144	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S173	06/15/09	F	T	Load (ppi)	141	139	137	152	135	141	180	186	187	186	183	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	139	134	138	138	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S174	06/15/09	F	T	Load (ppi)	144	140	139	138	138	140	185	189	189	188	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	152	137	150	142	150	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S175	06/15/09	F	T	Load (ppi)	152	141	148	148	142	148	184	182	183	182	183	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	146	139	144	137	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S176A	06/15/09	F	T	Load (ppi)	157	154	148	153	154	153	177	190	187	188	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	168	153	157	153	156	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S176B	06/15/09	F	T	Load (ppi)	152	150	151	149	134	147	181	185	192	193	180	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	140	151	143	154	143	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S177	06/15/09	F	T	Load (ppi)	144	142	146	140	141	143	185	188	188	184	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	133	133	131	134	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S178	06/15/09	F	T	Load (ppi)	148	152	147	154	151	150	189	194	190	192	187	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	159	144	156	161	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S179	06/15/09	F	T	Load (ppi)	144	145	147	150	148	147	190	197	196	195	190	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	140	137	143	139	143	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S180	06/16/09	F	T	Load (ppi)	131	147	127	126	136	133	177	187	188	188	183	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	132	144	128	139	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S181	06/15/09	F	T	Load (ppi)	153	156	146	161	1`41	154	187	182	187	185	192	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRL	BRK	SE1	---	
			B	Load (ppi)	142	148	154	147	145	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S182	06/16/09	F	T	Load (ppi)	145	142	144	147	145	145	186	192	193	194	195	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	149	147	142	140	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S183	06/15/09	F	T	Load (ppi)	143	138	140	146	144	142	190	192	196	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	136	130	132	140	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S184	06/15/09	F	T	Load (ppi)	153	152	153	148	144	150	191	196	196	195	192	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	142	144	150	140	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S185	06/16/09	F	T	Load (ppi)	132	129	140	136	109	129	185	181	182	183	185	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	141	145	142	141	140	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S186	06/15/09	F	T	Load (ppi)	147	149	140	146	146	146	188	196	194	194	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	163	150	149	150	151	153							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S187	06/15/09	F	T	Load (ppi)	146	142	154	153	142	147	190	194	193	191	189	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	148	146	144	141	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S188	06/16/09	F	T	Load (ppi)	139	140	138	139	143	140	184	184	184	181	186	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	140	142	138	136	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S189	06/15/09	F	T	Load (ppi)	146	151	145	150	149	148	182	187	188	185	184	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	154	148	155	145	143	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S190	06/16/09	F	T	Load (ppi)	139	127	130	95	127	124	180	176	176	184	175	179	P
				Mode	SE1	SE1	SE1	AD-BRK	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
				Peel (%)	---	---	---	50	---	---	---	---	---	---	---	---	
			B	Load (ppi)	141	138	136	141	150	141							
				Mode	SE1	SS	SE1	SE1	SE1	---							
DT-S191	06/26/09	F	T	Load (ppi)	139	137	138	140	142	139	184	183	185	188	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	131	136	131	130	130	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S192	06/26/09	F	T	Load (ppi)	132	140	138	138	138	137	186	189	194	192	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	134	130	134	134	135	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S193A	07/07/09	F	T	Load (ppi)	139	145	151	135	140	142	192	197	192	188	196	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	137	131	138	140	134	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S193B	07/07/09	F	T	Load (ppi)	133	139	136	138	130	135	193	194	194	197	196	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	134	137	143	133	139	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S194	07/07/09	F	T	Load (ppi)	149	149	151	147	140	147	194	195	191	193	195	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	158	165	162	133	159	155							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S195	07/07/09	F	T	Load (ppi)	141	143	141	147	141	143	190	187	183	183	189	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	144	141	144	150	145	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S196	07/07/09	F	T	Load (ppi)	144	139	140	137	131	138	189	193	193	193	189	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	137	136	139	137	136	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S197	07/07/09	F	T	Load (ppi)	156	143	143	153	150	149	193	194	189	192	193	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	151	139	134	138	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S198	07/07/09	F	T	Load (ppi)	145	140	143	142	138	142	191	195	195	194	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	133	143	141	136	134	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S199	07/07/09	F	T	Load (ppi)	141	153	153	150	136	147	191	191	186	190	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	141	136	134	139	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S200	07/08/09	F	T	Load (ppi)	151	148	145	144	145	147	191	191	185	185	191	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	156	147	150	153	148	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S201	07/08/09	F	T	Load (ppi)	152	153	126	138	141	142	186	189	181	190	189	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	BRK	BRK	---	
			B	Load (ppi)	134	132	137	130	152	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S202	07/08/09	F	T	Load (ppi)	137	145	148	151	139	144	191	191	184	186	190	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	146	150	142	149	137	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S203	07/08/09	F	T	Load (ppi)	142	141	131	138	137	138	190	190	186	189	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	135	148	137	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S204	07/08/09	F	T	Load (ppi)	146	148	146	145	143	146	190	186	190	190	192	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	157	150	146	144	139	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S205	07/08/09	F	T	Load (ppi)	146	142	141	138	143	142	193	195	188	191	194	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	145	128	139	135	151	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S206	07/09/09	F	T	Load (ppi)	151	147	149	146	149	149	188	193	194	189	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	144	141	140	141	143	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S207	07/09/09	F	T	Load (ppi)	143	143	144	141	137	142	183	189	191	186	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	136	141	137	137	138	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S208	07/09/09	F	T	Load (ppi)	145	141	143	144	144	143	186	191	192	187	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	144	143	147	162	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S209	07/09/09	F	T	Load (ppi)	141	146	147	145	140	144	185	185	185	186	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	132	133	133	135	134	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S210	07/09/09	F	T	Load (ppi)	141	147	143	136	149	143	183	183	182	181	181	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	133	135	152	129	138	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S211	07/10/09	F	T	Load (ppi)	147	156	149	153	150	151	190	192	196	194	190	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	139	135	139	136	139	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S212	07/10/09	F	T	Load (ppi)	136	141	147	148	145	143	183	185	188	189	190	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	136	136	140	142	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S213	07/10/09	F	T	Load (ppi)	143	144	147	153	139	145	188	194	191	194	193	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	136	135	135	144	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S214	07/10/09	F	T	Load (ppi)	143	141	146	138	143	142	187	186	189	193	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	134	134	140	139	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S215	07/10/09	F	T	Load (ppi)	143	148	147	146	142	145	183	190	185	189	185	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	140	141	144	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S216	07/10/09	F	T	Load (ppi)	142	141	141	152	138	143	185	185	190	190	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	132	144	146	142	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S217	07/10/09	E	T	Load (ppi)	157	142	160	138	161	152	182	188	184	179	183	183	P
				Mode	BRK2	SE3	SE3	SE3	SE3	---	BRK2	BRK2	BRK2	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-S218	07/10/09	F	T	Load (ppi)	148	164	154	155	144	153	181	181	187	186	188	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	143	161	157	145	144	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S219	07/13/09	F	T	Load (ppi)	141	143	148	140	142	143	187	189	183	190	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	137	138	137	137	135	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S220	07/13/09	E	T	Load (ppi)	145	109	123	147	132	131	190	177	189	191	183	186	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK1	BRK1	BRK2	BRK2	SE2	---	
			B	Load (ppi)													
				Mode													
DT-S221	07/13/09	F	T	Load (ppi)	140	136	135	137	141	138	190	187	191	184	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	139	133	145	138	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S222	07/13/09	F	T	Load (ppi)	141	141	140	140	138	140	176	178	175	180	179	178	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	146	140	145	139	147	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S223	07/14/09	F	T	Load (ppi)	137	141	136	137	137	138	183	189	190	183	189	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	132	133	134	141	131	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S224	07/17/09	F	T	Load (ppi)	146	149	138	145	143	144	189	191	185	189	191	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	152	144	132	155	140	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S225	07/17/09	F	T	Load (ppi)	151	156	145	152	145	150	190	190	186	190	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	134	134	142	141	145	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S226	07/17/09	F	T	Load (ppi)	149	148	149	147	142	147	185	187	183	186	188	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	139	135	137	137	132	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S227	07/17/09	F	T	Load (ppi)	137	142	141	139	135	139	188	190	185	188	190	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	127	149	146	148	144	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S228	07/17/09	F	T	Load (ppi)	141	142	147	143	137	142	191	192	187	192	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	137	137	137	144	133	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S229	07/17/09	E	T	Load (ppi)	145	160	145	149	144	149	170	178	175	179	182	177	P
				Mode	SE3	SE3	SE3	AD1	SE3	---	BRK1	BRK2	BRK2	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-S230	07/17/09	F	T	Load (ppi)	137	140	139	135	135	137	189	189	185	189	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	147	151	151	139	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S231	07/17/09	F	T	Load (ppi)	144	143	146	143	144	144	192	193	187	192	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	BRK	---	
			B	Load (ppi)	138	142	141	139	134	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S232	07/17/09	F	T	Load (ppi)	148	148	148	148	141	146	194	194	188	194	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	145	148	141	143	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S233	07/17/09	F	T	Load (ppi)	140	136	137	138	134	137	185	186	181	187	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	138	145	142	138	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 6
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
SECONDARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-S234	07/17/09	F	T	Load (ppi)	141	141	144	139	135	140	185	187	178	188	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	134	146	148	143	142	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S235	07/17/09	F	T	Load (ppi)	140	145	146	141	140	142	189	190	185	190	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	134	138	142	131	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S236	07/17/09	F	T	Load (ppi)	152	153	143	153	149	150	180	181	179	184	185	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	141	143	144	137	142	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S237	07/17/09	F	T	Load (ppi)	166	149	141	146	166	154	201	202	198	202	202	201	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	149	143	158	151	144	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S238	07/17/09	F	T	Load (ppi)	148	146	150	146	139	146	199	198	193	198	194	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	160	146	135	162	143	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S239	07/17/09	F	T	Load (ppi)	135	151	144	144	144	144	186	185	185	187	184	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	145	140	143	139	143	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-S240	07/17/09	F	T	Load (ppi)	135	131	151	151	138	141	178	180	183	180	176	179	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	134	130	134	152	153	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Notes: F - denotes fusion weld
T - denotes top weld peel
P - passing result
E - denotes extrusion weld
B - denotes bottom weld peel
Fa - failing result
Non-FTB modes include AD, AD-BRK (>25% peel), AD1, AD2, AD-WLD
(DNF) - Did not fail. Specimen elongated to the range of the equipment without failing.
(DNT) - Did not test. The overlap on the bottom seam was too short to grip for testing.

Break Mode Codes (ASTM D6392):

For fusion welds:

AD - Adhesion failure
BRK - Break in sheeting. Break can be in either top or bottom sheet.
SE1 - Break in outer edge of seam. Break can be in either top or bottom sheet.
SE2 - Break at inner edge of seam through both sheets.
AD-BRK - Break in first seam after some adhesion failure. Break can be in either top or bottom sheet.
SIP - Separation in the plane of the sheet. Break can be in either top or bottom sheet.

For extrusion welds:

AD1 - Failure in adhesion to bottom sheet.
AD2 - Failure in adhesion to top sheet.
AD-WLD - Break through the fillet.
SE1 - Break at seam edge in the bottom sheet (applicable to shear only).
SE2 - Break at seam edge in the top sheet (applicable to shear only).
SE3 - Break at seam edge in the bottom sheet (applicable to peel only).
BRK1 - Break in the bottom sheeting. A "B" in parenthesis following the code means the specimen broke in the buffed area.
BRK2 - Break in the top sheeting. A "B" in parenthesis following the code means the specimen broke in the buffed area.
AD-BRK - Break in the bottom sheeting after some adhesion failure between the fillet and the bottom sheet.
HT - Break in the edge of the hot tack for specimens which could not be delaminated in the hot tack.
SIP - Separation in the plane of the sheet.

revised April 2, 2010

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P1	05/14/09	F	T	Load (ppi)	143	145	142	139	140	142	191	190	191	192	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	141	134	133	135	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P2	05/14/09	F	T	Load (ppi)	144	142	138	142	141	141	189	188	189	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	140	142	145	144	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P3	05/14/09	F	T	Load (ppi)	144	147	148	149	147	147	187	189	188	191	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	143	147	157	138	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P4	05/14/09	F	T	Load (ppi)	145	142	148	158	138	146	195	195	196	196	195	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	152	151	161	154	152	154							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P5	05/14/09	F	T	Load (ppi)	154	156	154	153	151	154	189	188	188	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	139	137	132	135	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P6	05/14/09	F	T	Load (ppi)	131	127	130	129	130	129	192	194	195	194	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	136	143	146	142	141	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P7	05/14/09	F	T	Load (ppi)	147	139	134	129	133	136	187	188	188	189	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	142	149	150	146	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P8	05/14/09	F	T	Load (ppi)	148	154	145	146	159	150	186	188	190	189	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	148	161	157	154	159	156							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P9	05/14/09	F	T	Load (ppi)	153	133	163	136	130	143	192	193	192	190	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	143	143	139	143	145	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P10	05/14/09	F	T	Load (ppi)	141	139	145	145	136	141	190	191	191	190	188	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	143	142	145	138	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P11	05/14/09	F	T	Load (ppi)	141	143	141	142	138	141	188	188	190	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	136	135	136	137	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P12	05/14/09	F	T	Load (ppi)	141	135	141	141	141	140	189	189	188	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	132	133	132	132	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P13	05/14/09	F	T	Load (ppi)	139	134	135	138	127	135	191	191	190	191	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	141	148	145	140	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P14	05/14/09	F	T	Load (ppi)	146	148	150	148	142	147	196	195	195	195	194	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	145	137	157	152	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P15	05/14/09	F	T	Load (ppi)	139	120	145	143	143	138	193	197	197	196	195	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	142	159	143	150	149	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P16	05/14/09	F	T	Load (ppi)	146	135	136	146	137	140	193	193	193	193	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	130	133	165	134	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P17	05/14/09	F	T	Load (ppi)	149	150	143	148	149	148	195	194	195	191	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	155	152	150	145	151	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P18	05/14/09	F	T	Load (ppi)	145	144	143	142	138	142	194	196	195	194	193	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	144	161	160	161	153							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P19	05/15/09	F	T	Load (ppi)	150	150	150	147	150	149	189	189	189	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	140	141	139	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P20	05/15/09	F	T	Load (ppi)	148	148	149	149	150	149	191	192	194	193	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	150	148	151	151	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P21	05/15/09	F	T	Load (ppi)	159	152	142	147	147	149	178	179	177	177	177	178	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	149	153	158	156	159	155							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P22	05/18/09	F	T	Load (ppi)	152	156	149	166	158	156	186	186	191	194	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	151	149	154	149	152	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P23	05/18/09	F	T	Load (ppi)	147	150	149	152	144	148	174	177	178	187	183	180	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	157	146	149	150	144	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P24	05/26/09	F	T	Load (ppi)	137	142	144	143	141	141	187	187	187	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	127	138	138	132	129	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P25	05/26/09	F	T	Load (ppi)	140	140	159	150	137	145	187	191	188	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	146	145	144	143	145	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P26	05/26/09	F	T	Load (ppi)	142	140	137	132	153	141	191	192	192	193	193	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	143	144	142	141	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P27	05/26/09	F	T	Load (ppi)	135	135	138	136	131	135	187	189	190	191	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	136	142	141	141	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P28	05/26/09	F	T	Load (ppi)	128	137	145	135	135	138	188	189	189	190	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	148	146	152	140	147	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P29	05/26/09	F	T	Load (ppi)	141	144	143	143	144	143	195	196	195	195	195	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	152	151	148	149	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P30	05/226/09	F	T	Load (ppi)	135	113	102	134	136	124	195	197	196	195	195	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	152	153	153	155	156	154							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P31	05/26/09	F	T	Load (ppi)	148	141	148	148	140	145	192	193	193	192	190	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	135	137	137	135	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P32	05/26/09	F	T	Load (ppi)	158	154	146	151	142	150	191	191	192	189	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	132	132	130	130	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P33	05/26/09	F	T	Load (ppi)	147	147	142	144	143	145	187	188	188	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	136	132	135	140	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P34	05/26/09	F	T	Load (ppi)	140	140	138	141	140	140	186	187	187	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	(DNF)	SE1	SE1	SE1	---	
			B	Load (ppi)	139	141	143	137	136	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P35	05/26/09	F	T	Load (ppi)	141	138	141	140	147	141	187	185	188	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	133	135	136	133	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P36	05/26/09	F	T	Load (ppi)	142	141	145	144	146	144	189	189	189	188	188	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	128	129	132	130	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P37	05/26/09	F	T	Load (ppi)	133	132	133	131	131	132	188	189	189	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	135	143	141	144	146	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P38	05/26/09	F	T	Load (ppi)	139	141	134	135	132	136	194	194	193	192	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	131	134	148	133	136	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P39	05/26/09	F	T	Load (ppi)	134	129	131	150	133	135	198	197	196	197	197	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	147	145	136	134	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P40	05/26/09	F	T	Load (ppi)	137	152	133	159	155	147	190	191	190	190	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	128	129	130	131	133	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P41	05/26/09	F	T	Load (ppi)	134	136	132	134	131	133	193	193	193	191	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	150	139	137	144	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P42	05/26/09	F	T	Load (ppi)	130	130	129	133	132	131	193	195	194	194	193	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	139	137	141	136	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P43	05/26/09	F	T	Load (ppi)	134	140	137	133	130	135	192	195	196	194	193	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	142	144	146	148	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P44	05/26/09	F	T	Load (ppi)	130	133	135	149	129	135	192	192	192	191	190	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	136	138	137	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P45	05/26/09	F	T	Load (ppi)	128	131	132	134	131	131	189	188	188	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	131	130	131	129	128	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P46	05/26/09	F	T	Load (ppi)	133	128	129	133	132	131	190	191	191	192	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	139	137	139	141	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P47	05/26/09	F	T	Load (ppi)	137	135	137	136	136	136	188	189	190	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	131	130	134	135	136	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P48	05/26/09	F	T	Load (ppi)	141	148	139	145	142	143	189	193	193	193	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	135	132	136	132	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P49	05/26/09	F	T	Load (ppi)	147	148	150	145	143	147	194	196	195	194	194	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	137	134	135	135	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P50	05/26/09	F	T	Load (ppi)	146	141	143	139	134	141	194	195	196	196	194	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	152	146	163	161	153	155							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P51	05/26/09	F	T	Load (ppi)	140	142	140	147	146	143	191	191	191	189	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	137	137	154	146	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P52	05/26/09	F	T	Load (ppi)	138	140	141	141	140	140	193	192	192	192	194	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	134	142	141	140	138	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P53	05/26/09	F	T	Load (ppi)	137	139	133	137	133	136	199	199	200	201	201	200	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	142	148	138	142	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P54	05/26/09	F	T	Load (ppi)	137	133	133	135	131	134	203	201	201	200	199	201	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	147	148	138	141	139	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P55	05/26/09	F	T	Load (ppi)	155	153	152	149	167	155	198	199	200	199	197	199	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	150	147	146	157	147	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P56	05/26/09	F	T	Load (ppi)	139	137	135	136	135	136	193	194	190	195	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	138	138	139	(DNT)	136							
				Mode	SE1	SE1	SE1	SE1	---	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P57	05/26/09	F	T	Load (ppi)	141	141	130	132	122	133	190	187	190	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	143	140	141	135	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P58	05/26/09	F	T	Load (ppi)	145	140	142	136	134	139	184	189	184	187	185	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	144	145	147	142	144	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P59	05/26/09	F	T	Load (ppi)	181	158	149	144	150	152	183	187	185	182	181	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	149	145	143	145	152	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P60	05/26/09	F	T	Load (ppi)	154	150	154	149	145	150	186	183	187	185	183	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	148	154	155	154	155	153							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P61	05/26/09	F	T	Load (ppi)	141	140	146	138	146	142	196	196	197	197	198	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	143	140	136	140	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P62	05/26/09	F	T	Load (ppi)	145	147	149	150	147	148	192	193	194	194	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	145	147	147	144	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P63	05/26/09	F	T	Load (ppi)	157	156	153	154	154	155	195	196	196	196	198	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	148	154	149	146	142	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P64	05/26/09	F	T	Load (ppi)	155	152	156	156	158	155	196	196	197	197	197	197	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	146	151	150	147	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P65	05/26/09	F	T	Load (ppi)	152	155	159	147	140	151	180	181	179	180	177	179	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	153	153	156	151	155	154							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P66	05/26/09	F	T	Load (ppi)	146	150	157	153	152	152	179	182	182	181	176	180	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	146	138	143	154	153	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P67	06/04/09	F	T	Load (ppi)	141	142	141	142	139	141	191	189	190	189	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	142	148	148	135	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P68	06/04/09	F	T	Load (ppi)	152	154	153	152	151	152	194	195	195	195	195	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	156	156	136	157	152							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P69	06/04/09	F	T	Load (ppi)	157	143	138	144	139	144	196	196	196	196	196	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	129	133	133	130	136	132							
				Mode	SE1	SS	SE1	SE1	SE1	---							
DT-P70	06/04/09	F	T	Load (ppi)	142	142	135	136	140	139	193	194	192	192	194	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	133	138	137	136	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P71	06/04/09	F	T	Load (ppi)	141	145	148	142	141	143	187	186	184	188	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	133	136	140	139	141	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P72	06/04/09	F	T	Load (ppi)	138	139	141	137	141	139	192	191	192	193	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	157	146	160	158	158	156							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P73	06/04/09	F	T	Load (ppi)	140	136	133	141	139	138	191	191	191	190	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	140	141	147	145	146	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P74	06/04/09	F	T	Load (ppi)	149	140	138	139	151	143	188	190	190	190	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	150	137	131	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P75	06/04/09	F	T	Load (ppi)	140	139	134	138	136	137	189	188	189	186	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	142	138	143	142	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P76	06/04/09	F	T	Load (ppi)	129	148	140	138	134	137	188	187	187	188	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	141	139	141	141	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P77	06/04/09	F	T	Load (ppi)	144	145	142	144	141	143	189	188	190	188	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	141	152	152	159	151	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P78A	06/15/09	F	T	Load (ppi)	131	136	135	130	137	134	195	193	196	197	198	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	140	139	149	139	139	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P78B	06/15/09	F	T	Load (ppi)	139	141	140	138	141	140	190	196	192	192	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	145	149	148	146	149	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P79	06/05/09	F	T	Load (ppi)	141	141	142	142	144	142	189	187	193	193	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	154	158	144	148	152	151							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P80	06/05/09	F	T	Load (ppi)	136	135	133	132	133	134	187	188	192	193	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	145	143	137	142	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P81	06/05/09	F	T	Load (ppi)	139	141	141	144	143	142	193	192	196	198	198	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	133	149	133	139	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P82	06/05/09	F	T	Load (ppi)	138	142	132	139	142	139	196	193	195	197	193	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	141	141	142	143	146	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P83	06/05/09	F	T	Load (ppi)	135	144	135	135	144	139	191	190	188	187	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	159	137	133	132	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P84	06/05/09	F	T	Load (ppi)	130	144	150	136	150	142	188	186	185	186	187	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	133	135	125	127	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P85	06/05/09	F	T	Load (ppi)	138	142	140	148	130	139	186	186	185	188	190	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	156	143	147	139	141	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P86	06/05/09	F	T	Load (ppi)	137	136	138	135	135	136	190	190	190	191	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	144	143	144	143	140	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P87	06/05/09	F	T	Load (ppi)	139	140	132	134	148	139	189	190	188	189	189	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	144	133	127	133	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P88	06/05/09	F	T	Load (ppi)	154	152	153	160	154	155	185	175	178	177	175	176	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	150	143	162	152	141	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P89	06/05/09	F	T	Load (ppi)	141	148	142	135	143	142	192	190	191	192	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	146	147	144	141	140	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P90	06/05/09	F	T	Load (ppi)	161	135	143	136	133	142	195	194	194	194	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	144	136	142	136	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P91	06/05/09	F	T	Load (ppi)	135	131	132	129	132	132	184	184	186	186	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	135	136	130	133	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P92	06/05/09	F	T	Load (ppi)	129	127	127	131	123	127	186	188	185	186	184	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	144	142	132	134	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P93	06/05/09	F	T	Load (ppi)	131	131	129	127	131	130	185	185	183	182	189	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	140	139	141	140	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P94	06/05/09	F	T	Load (ppi)	124	125	126	133	127	127	188	189	189	189	195	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	161	130	130	131	131	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P95	06/05/09	F	T	Load (ppi)	121	123	125	122	129	124	180	175	184	184	187	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	126	127	130	126	128	127							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P96	06/05/09	F	T	Load (ppi)	132	134	131	132	131	132	183	185	185	185	188	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	137	136	130	134	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P97	06/05/09	F	T	Load (ppi)	155	141	156	147	146	149	183	175	170	178	172	176	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	155	146	147	149	144	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P98	06/11/09	F	T	Load (ppi)	129	131	134	136	135	133	193	186	191	185	186	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	130	134	134	128	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P99	06/11/09	F	T	Load (ppi)	134	128	129	138	126	131	183	186	183	185	187	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	131	129	129	131	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P100	06/11/09	F	T	Load (ppi)	142	130	130	136	131	134	188	187	183	181	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	126	142	136	137	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P101	08/11/09	F	T	Load (ppi)	135	136	128	121	130	130	184	183	186	176	187	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	147	134	133	118	127	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P102	06/11/09	F	T	Load (ppi)	141	135	127	142	143	138	182	181	183	181	179	181	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	127	134	139	139	135	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P103	08/11/09	F	T	Load (ppi)	140	134	150	132	137	139	183	185	186	188	189	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	142	137	142	138	141	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P104	06/11/09	F	T	Load (ppi)	145	137	135	142	141	140	183	188	184	186	184	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	129	129	132	133	130	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P105	06/11/09	F	T	Load (ppi)	137	145	132	141	143	140	184	191	189	189	185	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	127	131	128	127	129							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P106	06/11/09	F	T	Load (ppi)	130	127	129	134	139	132	185	191	188	184	186	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	141	130	148	143	141	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P107	06/11/09	F	T	Load (ppi)	136	150	133	155	128	140	181	185	182	184	185	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	129	131	139	134	133	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P108	06/11/09	F	T	Load (ppi)	136	126	131	126	128	129	184	189	191	185	188	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	145	137	145	134	137	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P109	08/11/09	F	T	Load (ppi)	135	140	144	155	141	143	189	193	191	186	187	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	136	135	131	140	140	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P110	06/11/09	F	T	Load (ppi)	150	130	130	133	128	134	187	184	187	189	181	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	143	132	145	142	135	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P111	06/11/09	F	T	Load (ppi)	137	134	136	137	132	135	188	189	189	189	182	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	128	136	134	133	133	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P112	06/11/09	F	T	Load (ppi)	128	123	131	132	127	128	185	186	187	181	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	142	138	146	140	136	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P113	06/11/09	F	T	Load (ppi)	144	132	135	127	132	134	179	184	183	182	184	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	142	143	141	147	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P114	06/11/09	F	T	Load (ppi)	154	146	141	140	136	143	185	190	192	184	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	141	144	151	143	142	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P115	06/11/09	F	T	Load (ppi)	144	139	160	139	141	145	185	187	188	186	189	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	133	134	128	131	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P116	06/11/09	F	T	Load (ppi)	121	126	135	136	130	130	187	190	191	187	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	129	137	148	134	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P117	06/15/09	F	T	Load (ppi)	143	145	137	134	133	138	186	187	187	183	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	143	146	147	142	144	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P118	06/17/09	F	T	Load (ppi)	142	134	142	137	133	138	188	184	184	185	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	134	137	153	154	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P119	06/17/09	F	T	Load (ppi)	133	136	135	134	129	133	185	191	190	191	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	132	143	132	142	132	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P120	06/17/09	F	T	Load (ppi)	139	138	135	141	137	138	183	186	185	187	190	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	140	137	140	137	137	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P121	06/17/09	F	T	Load (ppi)	152	146	155	139	155	149	183	183	182	182	181	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	127	128	131	130	125	128							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P122	06/17/09	F	T	Load (ppi)	138	147	138	131	131	137	188	188	188	187	191	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	136	136	137	137	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P123B	06/23/09	E	T	Load (ppi)	114	116	128	148	123	126	184	180	175	172	183	179	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	SE1	SE1	BRK1	BRK1	SE1	---	
			B	Load (ppi)													
				Mode													
DT-P124A	06/15/09	E	T	Load (ppi)	138	143	130	130	128	134	185	191	188	186	177	185	P
				Mode	SE3	SE3	AD-BRK	SE3	SE3	---	BRK1	BRK1	SE1	BRK2	SE1	---	
				Peel (%)	---	---	10	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)													
				Mode													
DT-P124B	06/15/09	E	T	Load (ppi)	159	148	149	128	129	143	188	189	191	190	185	189	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK1	BRK2	BRK1	BRK2	---	
			B	Load (ppi)													
				Mode													

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P125	08/15/09	F	T	Load (ppi)	134	127	127	131	134	131	188	177	191	187	180	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	BRK	---	
			B	Load (ppi)	124	127	128	128	128	127							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P128	06/15/09	F	T	Load (ppi)	145	142	138	132	127	136	188	185	183	187	193	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	128	134	130	131	136	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P127	08/15/09	F	T	Load (ppi)	133	139	138	142	136	138	184	183	189	185	191	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	129	131	131	132	128	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P128	06/17/09	F	T	Load (ppi)	136	137	136	139	134	136	185	184	184	184	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	135	135	137	138	141	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P129	06/15/09	F	T	Load (ppi)	134	137	132	139	137	136	187	195	195	195	192	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	137	135	134	140	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P130	06/15/09	F	T	Load (ppi)	141	143	139	139	151	143	184	198	201	200	189	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	136	130	144	143	128	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P131	06/15/09	F	T	Load (ppi)	133	132	131	129	128	131	193	201	203	203	199	200	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	128	130	126	131	126	128							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P132	06/15/09	F	T	Load (ppi)	129	129	130	133	131	130	194	196	201	196	195	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	130	129	130	132	132	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P133	06/15/09	F	T	Load (ppi)	145	140	137	142	138	140	194	196	198	197	197	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	133	139	142	131	131	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P134	06/16/09	F	T	Load (ppi)	126	135	126	124	124	127	185	186	186	185	187	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	144	147	134	145	143	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P135	06/16/09	F	T	Load (ppi)	135	131	138	134	132	134	181	182	182	181	182	182	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	131	128	131	126	131	129							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P136	06/16/09	F	T	Load (ppi)	131	132	134	134	127	132	181	183	182	184	185	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	137	134	129	129	137	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P137	06/16/09	F	T	Load (ppi)	141	135	141	142	138	139	175	175	181	182	183	179	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	145	155	151	143	133	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P138	06/16/09	F	T	Load (ppi)	142	139	135	138	139	138	179	190	188	183	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	140	132	136	136	135	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P139A	06/17/09	F	T	Load (ppi)	136	140	135	134	138	137	184	185	185	183	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	148	148	146	147	145	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P139B	06/16/09	F	T	Load (ppi)	131	131	133	134	130	132	184	186	185	184	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	148	142	144	140	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P140	06/16/09	F	T	Load (ppi)	144	142	145	143	144	144	183	183	183	185	185	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	137	135	140	139	135	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P141	06/16/09	F	T	Load (ppi)	142	143	139	139	141	141	180	186	186	186	179	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	132	139	137	137	132	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P142	06/16/09	F	T	Load (ppi)	133	131	139	133	134	134	182	185	182	187	179	179	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	129	130	132	128	129	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P143	06/17/09	F	T	Load (ppi)	142	148	147	148	146	146	179	182	171	183	176	178	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	146	145	141	141	141	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P144	06/16/09	F	T	Load (ppi)	130	133	90	138	148	127	180	185	179	178	175	179	P
				Mode	SE1	SE1	AD-BRK	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
				Peel (%)	---	---	50	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)	143	137	130	144	140	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-145	06/17/09	F	T	Load (ppi)	150	141	150	147	142	148	186	183	184	183	186	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	141	146	151	141	146	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P146	06/17/09	F	T	Load (ppi)	142	136	137	137	142	139	185	185	182	180	184	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	144	139	146	138	141	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P147	06/17/09	F	T	Load (ppi)	135	138	136	135	136	136	185	193	187	188	185	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	136	149	141	142	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P148	06/16/09	F	T	Load (ppi)	143	135	132	132	130	134	178	186	186	186	186	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	138	138	133	136	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P149	06/16/09	F	T	Load (ppi)	147	145	145	148	142	145	186	184	186	186	190	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	142	147	149	140	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P150	06/18/09	F	T	Load (ppi)	163	159	161	165	162	162	179	180	169	176	176	176	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	150	146	146	150	148	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P151	06/22/09	F	T	Load (ppi)	139	142	139	139	138	139	184	182	186	161	181	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	132	145	128	135	129	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P152	06/22/09	F	T	Load (ppi)	142	145	143	141	143	143	188	189	188	185	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	133	136	128	131	148	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P153	06/22/09	F	T	Load (ppi)	134	140	141	142	142	140	183	183	186	184	187	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	126	132	134	134	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P154	06/22/09	F	T	Load (ppi)	138	139	142	143	139	140	190	185	190	184	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	143	148	144	141	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P155	06/22/09	F	T	Load (ppi)	143	133	148	118	144	137	188	184	183	188	182	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	148	145	147	134	144	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P156	06/22/09	F	T	Load (ppi)	131	140	135	136	134	135	191	186	190	184	184	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	131	138	135	130	139	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P157	06/22/09	F	T	Load (ppi)	138	142	134	133	139	137	192	190	191	184	185	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	129	131	129	133	130	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P158	06/22/09	F	T	Load (ppi)	136	141	139	133	133	136	186	185	186	181	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	125	142	137	135	133	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P159	06/22/09	F	T	Load (ppi)	144	140	140	140	138	140	189	188	188	184	181	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	154	148	150	134	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P160	06/22/09	F	T	Load (ppi)	140	127	142	131	132	134	191	185	188	186	189	188	P
				Mode	SE1	AD-BRK	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
				Peel (%)	---	10	---	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)	136	136	141	135	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P161	06/22/09	F	T	Load (ppi)	150	150	133	140	136	142	185	181	188	181	181	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	138	137	155	143	145							
				Mode	SE1	SE1	AD-BRK	SE1	SE1	---							
				Peel (%)	---	---	40	---	---	---							
DT-P162	06/22/09	F	T	Load (ppi)	148	147	150	155	142	148	186	185	187	182	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	144	133	136	129	141	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P163	06/22/09	F	T	Load (ppi)	144	143	142	143	141	143	191	190	186	190	184	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	134	138	133	133	136	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P164	06/22/09	F	T	Load (ppi)	138	148	140	140	136	140	196	196	190	190	193	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	139	140	140	140	138	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P165	06/22/09	F	T	Load (ppi)	136	141	136	131	137	136	192	189	189	193	187	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	144	142	145	144	146	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P166	06/22/09	F	T	Load (ppi)	146	145	147	143	142	145	190	185	185	189	191	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	139	137	139	129	137	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P167	06/22/09	F	T	Load (ppi)	151	154	153	153	150	152	190	189	188	192	193	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	143	148	136	155	137	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P168	06/22/09	F	T	Load (ppi)	144	151	153	146	148	148	190	186	182	193	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	149	151	151	157	138	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P169	06/22/09	F	T	Load (ppi)	149	154	149	154	145	150	186	188	181	182	188	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	148	145	137	152	143	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P170	06/22/09	F	T	Load (ppi)	162	149	146	153	145	151	193	183	190	196	191	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	BRK	---	
			B	Load (ppi)	153	159	147	152	156	153							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P171	06/22/09	F	T	Load (ppi)	134	147	133	133	129	135	192	193	192	193	189	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	136	148	143	132	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P172	06/22/09	F	T	Load (ppi)	140	143	141	149	147	144	185	185	185	185	186	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	127	131	126	136	137	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P173	06/22/09	F	T	Load (ppi)	143	141	138	141	138	140	190	191	191	194	195	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	156	148	141	135	140	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P174	06/22/09	F	T	Load (ppi)	137	139	137	137	149	140	195	197	196	188	194	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	132	121	117	132	129							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P175	06/22/09	F	T	Load (ppi)	127	124	125	130	129	127	187	186	185	190	191	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	145	148	143	144	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P176	06/22/09	F	T	Load (ppi)	144	141	143	139	142	142	190	191	190	190	191	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	149	152	149	152	146	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P177	06/22/09	F	T	Load (ppi)	142	143	140	135	134	139	189	188	188	189	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	133	133	134	133	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P178	06/22/09	F	T	Load (ppi)	150	171	149	157	159	157	179	178	181	180	175	179	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	162	141	143	146	143	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P179	06/22/09	F	T	Load (ppi)	126	122	122	155	147	134	177	176	176	173	173	175	P
				Mode	AD-BRK	AD-BRK	AD-BRK	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
				Peel (%)	20	70	15	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)	134	108	142	129	141	131							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P180	06/22/09	F	T	Load (ppi)	140	149	151	149	146	147	191	186	188	188	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	135	135	157	156	134	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P181	06/22/09	F	T	Load (ppi)	135	137	137	149	137	139	187	186	186	186	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	137	135	137	136	133	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P182	06/22/09	F	T	Load (ppi)	146	144	148	145	131	143	192	192	192	190	190	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	141	141	160	154	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P183	06/22/09	F	T	Load (ppi)	138	138	141	138	136	138	187	186	187	186	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	139	139	148	148	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P184	06/22/09	F	T	Load (ppi)	140	141	142	142	148	143	187	188	188	188	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	148	151	134	136	135	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P185	06/22/09	F	T	Load (ppi)	140	142	135	137	135	138	188	187	188	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	135	132	126	130	124	129							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P186A	06/24/09	E	T	Load (ppi)	156	150	146	162	158	154	180	180	180	177	172	178	P
				Mode	BRK2	SE3	SE3	BRK1	BRK1	---	BRK2	SE1	BRK1	BRK1	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P188B	06/23/09	E	T	Load (ppi)	142	144	147	127	148	142	168	174	173	172	189	171	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK2	BRK1	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P187	06/24/09	E	T	Load (ppi)	147	113	131	143	136	134	191	185	193	193	190	190	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK1	BRK2	BRK1	BRK2	SE2	---	
			B	Load (ppi)													
				Mode													
DT-P188	08/24/09	E	T	Load (ppi)	163	158	154	156	150	156	180	172	174	173	181	176	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK1	BRK2	SE2	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P189	06/24/09	E	T	Load (ppi)	159	152	144	142	144	148	187	192	190	189	165	189	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK2	SE1	BRK1	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P190	06/25/09	F	T	Load (ppi)	154	150	143	139	149	147	184	184	182	183	181	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	135	148	144	147	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P191	06/25/09	F	T	Load (ppi)	141	139	130	140	137	137	182	182	182	180	187	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	152	138	140	138	146	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P192	06/25/09	F	T	Load (ppi)	138	140	136	137	138	138	183	184	182	181	187	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	130	134	130	129	139	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P193	06/25/09	F	T	Load (ppi)	146	149	141	145	146	145	183	183	183	184	187	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	148	146	141	144	154	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P194	06/25/09	F	T	Load (ppi)	141	136	139	137	142	139	186	186	185	185	186	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	157	145	138	144	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P195	06/25/09	F	T	Load (ppi)	139	145	137	145	135	140	182	184	182	182	183	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	120	134	124	142	106	125							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P196	06/25/09	F	T	Load (ppi)	139	141	137	137	139	139	183	183	182	180	186	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	140	143	146	138	144	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P197	06/26/09	F	T	Load (ppi)	135	132	133	134	134	134	187	188	189	187	185	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	137	137	139	134	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P198	06/26/09	F	T	Load (ppi)	142	139	142	142	145	142	186	184	183	185	184	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	136	138	138	140	137	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P199	06/26/09	F	T	Load (ppi)	153	150	150	151	152	151	190	190	190	191	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	150	146	143	145	147	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P200	06/26/09	F	T	Load (ppi)	151	150	150	143	150	149	184	183	184	184	184	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	143	143	151	145	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P201	06/26/09	F	T	Load (ppi)	142	144	148	145	147	145	190	182	184	186	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	136	133	139	145	130	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P202	06/26/09	F	T	Load (ppi)	156	144	154	150	152	151	188	188	188	186	188	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	134	137	140	152	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P203	06/26/09	F	T	Load (ppi)	136	138	133	135	138	136	184	186	187	187	189	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	141	136	138	138	130	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P204	06/26/09	F	T	Load (ppi)	144	147	143	146	148	146	187	186	188	187	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	140	141	145	145	135	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P205	06/26/09	F	T	Load (ppi)	144	145	148	143	136	144	177	177	171	175	172	174	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	141	139	132	136	137	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P206	06/26/09	E	T	Load (ppi)	135	134	149	153	142	143	176	181	173	180	176	177	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	SE1	BRK1	BRK1	BRK1	SE1	---	
			B	Load (ppi)													
				Mode													

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P207	06/26/09	E	T	Load (ppi)	123	120	138	119	135	127	172	177	171	175	178	175	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK1	SE1	BRK2	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P208	06/29/09	F	T	Load (ppi)	134	134	149	147	136	140	190	195	195	192	195	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	143	133	136	141	139	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P209	06/29/09	F	T	Load (ppi)	150	152	143	151	141	147	195	195	189	193	196	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	BRK	---	
			B	Load (ppi)	138	145	140	140	132	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P210	06/29/09	F	T	Load (ppi)	147	150	148	152	147	149	196	191	190	195	194	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	152	137	141	135	144	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P211	06/29/09	F	T	Load (ppi)	132	139	144	134	131	136	187	193	193	189	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	133	131	135	138	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P212	07/07/09	F	T	Load (ppi)	143	142	145	143	139	142	194	195	191	194	195	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	139	140	139	137	135	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P213	07/14/09	F	T	Load (ppi)	152	147	140	145	146	146	185	188	194	186	186	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	133	135	135	136	138	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P214	07/14/09	F	T	Load (ppi)	146	152	152	154	146	150	187	189	188	191	184	188	P
				Mode	SE1	SE1	AD-BRK	SE1	SE1	---	SE1	BRK	BRK	SE1	SE1	---	
				Peel (%)	---	---	10	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)	138	135	143	144	148	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P215A	07/14/09	F	T	Load (ppi)	149	150	150	144	146	148	187	191	192	194	194	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	149	153	155	148	148	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P215B	07/14/09	F	T	Load (ppi)	140	147	142	146	139	143	193	193	196	192	193	193	P
				Mode	SE11	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	145	150	143	142	136	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P216	07/14/09	F	T	Load (ppi)	145	140	143	134	139	140	188	190	190	187	183	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	126	148	133	138	128	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P217	07/14/09	F	T	Load (ppi)	145	147	144	145	142	145	187	189	194	191	193	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	136	133	144	138	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P218	07/14/09	F	T	Load (ppi)	139	144	141	139	140	141	185	190	187	192	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	139	145	139	147	135	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P219	07/14/09	F	T	Load (ppi)	139	137	134	133	138	136	188	185	186	186	185	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	129	146	144	130	127	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P220	07/14/09	F	T	Load (ppi)	149	143	146	149	145	146	187	188	195	194	190	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	146	144	150	154	146	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P221	07/14/09	F	T	Load (ppi)	124	145	120	122	158	133	188	192	187	191	186	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	154	144	153	146	154	150							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P222	07/14/09	F	T	Load (ppi)	157	157	158	156	161	157	186	187	192	191	187	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	151	146	146	148	151	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P223	07/14/09	F	T	Load (ppi)	139	139	138	140	135	138	187	187	192	193	188	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	BRK	---	
			B	Load (ppi)	134	135	135	138	134	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P224	07/14/09	F	T	Load (ppi)	150	147	145	147	148	147	188	190	196	194	190	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	151	139	138	157	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P225	07/14/09	F	T	Load (ppi)	143	142	142	143	141	142	187	188	193	191	188	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	138	134	140	138	138	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P226	07/14/09	F	T	Load (ppi)	143	144	150	137	148	144	189	190	196	195	191	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	134	144	143	132	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P227	07/14/09	F	T	Load (ppi)	157	162	160	161	150	158	186	189	192	195	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	143	137	155	145	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P228	07/14/09	F	T	Load (ppi)	147	148	147	143	149	147	187	189	193	194	189	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	158	158	158	153	159	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P229	07/15/09	F	T	Load (ppi)	142	148	147	144	141	144	190	184	189	188	181	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	152	160	158	158	158	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P230	07/15/09	F	T	Load (ppi)	134	129	135	135	126	132	189	190	186	191	190	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	BRK	SE1	---	
			B	Load (ppi)	149	147	146	145	137	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P231	07/15/09	F	T	Load (ppi)	139	148	143	138	138	141	191	191	187	188	192	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	149	140	134	134	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P232	07/15/09	F	T	Load (ppi)	150	152	150	147	148	149	188	188	187	188	187	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	138	134	147	133	144	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P233	07/15/09	F	T	Load (ppi)	131	139	142	132	133	135	193	192	187	191	193	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	142	136	148	139	142							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P234	07/15/09	F	T	Load (ppi)	146	139	146	144	142	143	191	191	187	188	192	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	148	143	139	140	136	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P235	07/15/09	F	T	Load (ppi)	144	149	150	144	141	146	185	188	185	186	185	185	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	147	145	145	147	148	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P236	07/15/09	F	T	Load (ppi)	141	147	137	153	146	145	192	192	187	191	192	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	146	150	155	143	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P237	07/15/09	F	T	Load (ppi)	140	135	131	137	148	138	184	183	182	184	182	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	149	146	143	138	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P238	07/15/09	F	T	Load (ppi)	140	138	135	133	138	136	188	188	187	186	187	187	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	147	145	151	147	144	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P239	07/15/09	F	T	Load (ppi)	146	141	140	139	138	141	185	185	184	184	183	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	144	143	151	141	140	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P240A	07/24/09	F	T	Load (ppi)	150	145	116	138	135	137	187	185	189	188	187	187	P
				Mode	SE1	SE1	AD-BRK	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
				Peel (%)	---	---	20	---	---	---	---	---	---	---	---	---	
			B	Load (ppi)	147	141	146	143	136	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P240B	07/24/09	E	T	Load (ppi)	146	138	138	125	133	136	175	179	180	177	173	177	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK2	BRK2	SE2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P241	07/24/09	F	T	Load (ppi)	135	132	135	132	135	134	189	191	193	189	193	191	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	159	144	131	129	158	144							
				Mode	SE1	SE1	SE1	SE11	SE1	---							
DT-P242	07/24/09	F	T	Load (ppi)	137	144	142	143	143	142	198	200	200	198	199	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	151	154	145	142	147	148							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P243	07/24/09	F	T	Load (ppi)	147	140	152	145	137	144	188	186	189	189	189	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	139	129	126	135	133	132							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P244	07/24/09	F	T	Load (ppi)	130	134	140	143	137	137	188	186	185	186	185	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	137	140	143	141	142	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P245	07/24/09	F	T	Load (ppi)	141	146	152	150	145	147	190	191	189	187	187	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	SE1	---	
			B	Load (ppi)	143	142	143	157	141	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P246	07/24/09	F	T	Load (ppi)	138	141	141	140	137	139	193	193	192	192	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	BRK	SE1	SE1	SE1	---	
			B	Load (ppi)	158	155	163	153	158	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P247	07/24/09	F	T	Load (ppi)	143	133	135	133	132	135	187	187	187	187	184	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	SE1	SE1	---	
			B	Load (ppi)	144	144	137	136	135	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P248	07/24/09	F	T	Load (ppi)	148	148	146	148	147	147	186	185	185	184	182	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	134	132	136	142	137	136							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P249	07/28/09	F	T	Load (ppi)	137	148	145	148	145	145	195	189	200	196	198	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	139	134	144	131	127	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P250	07/24/09	F	T	Load (ppi)	133	131	130	125	131	130	197	195	195	194	192	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	131	132	131	129	128	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P251	07/24/09	E	T	Load (ppi)	124	120	137	125	120	125	173	173	174	165	168	171	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK1	BRK1	BRK1	BRK1	BRK1	---	
			B	Load (ppi)													
				Mode													
DT-P252	07/24/09	F	T	Load (ppi)	138	147	150	142	151	146	192	193	192	192	192	192	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	133	131	137	135	135	134							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P253	07/24/09	F	T	Load (ppi)	148	144	148	147	148	147	187	186	186	185	184	186	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	137	139	142	143	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P254	07/28/09	F	T	Load (ppi)	153	160	147	152	150	152	203	206	203	200	202	203	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	160	162	163	162	155	160							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P255	07/30/09	F	T	Load (ppi)	144	148	144	141	143	144	189	191	190	189	186	189	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	142	142	142	139	141	141							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P256	07/30/09	F	T	Load (ppi)	144	143	140	131	130	138	182	176	186	182	177	181	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	BRK	BRK	---	
			B	Load (ppi)	155	143	138	145	141	144							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P257A	07/30/09	E	T	Load (ppi)	137	125	130	134	132	132	179	177	178	174	172	176	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	SE1	BRK1	BRK1	BRK1	BRK1	---	
			B	Load (ppi)													
				Mode													
DT-P257B	07/30/09	E	T	Load (ppi)	146	136	140	135	127	137	175	173	173	176	173	174	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)													
				Mode													
DT-P258	07/30/09	E	T	Load (ppi)	126	118	131	134	124	127	181	179	182	186	180	182	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK2	BRK2	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P259	06/18/09	F	T	Load (ppi)	146	144	148	147	155	148	186	190	190	191	192	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	150	149	147	145	134	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P260	08/18/09	F	T	Load (ppi)	145	154	146	146	147	148	190	192	194	195	197	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	134	134	138	135	135							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P261	08/18/09	F	T	Load (ppi)	146	153	138	145	133	143	183	180	183	179	181	181	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	126	138	138	145	141	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P262	08/18/09	F	T	Load (ppi)	149	147	144	148	146	147	175	182	190	187	183	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	BRK	---	
			B	Load (ppi)	150	145	155	141	140	146							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P263	08/18/09	F	T	Load (ppi)	148	157	106	141	131	137	185	181	182	186	182	183	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	SE1	---	
			B	Load (ppi)	144	147	135	143	156	145							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P264	08/18/09	F	T	Load (ppi)	148	141	136	148	143	143	190	196	195	196	195	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	135	153	133	135	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P265	08/18/09	F	T	Load (ppi)	154	147	143	147	133	145	189	196	195	195	198	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	135	135	132	133	132	133							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P266	08/18/09	F	T	Load (ppi)	145	145	143	141	141	143	196	195	186	194	195	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	142	140	139	140	140	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P267	08/18/09	F	T	Load (ppi)	149	147	141	144	145	145	188	192	191	191	190	190	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	132	133	130	128	129	130							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P268	08/18/09	F	T	Load (ppi)	131	137	148	152	122	138	177	182	177	174	173	177	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	153	147	141	147	148	147							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P289	08/18/09	F	T	Load (ppi)	140	143	147	138	126	139	179	185	188	187	180	184	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	154	142	144	137	137	143							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P270A	08/18/09	E	T	Load (ppi)	128	115	108	123	112	117	173	172	172	179	175	174	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	SE1	SE1	BRK2	BRK2	---	
			B	Load (ppi)													
				Mode													
DT-P270B	08/18/09	E	T	Load (ppi)	124	114	100	108	113	112	178	179	172	178	176	176	P
				Mode	SE3	SE3	SE3	SE3	SE3	---	BRK2	BRK2	BRK2	SE2	SE2	---	
			B	Load (ppi)													
				Mode													
DT-P271	08/25/09	F	T	Load (ppi)	154	152	156	146	149	151	194	194	194	193	192	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	BRK	BRK	---	
			B	Load (ppi)	141	140	141	136	138	139							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P272	08/25/09	F	T	Load (ppi)	145	143	141	140	142	142	193	195	195	193	192	194	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	140	145	137	137	133	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Table 7
GEOMEMBRANE FIELD SEAM DESTRUCTIVE TEST SUMMARY
(ASTM D6392)
PRIMARY LINER

Project: Sarasota CCSWDC, Phase 2 File No.: 08-7709

Sample	Date Received	Weld Type	Weld	Item	Peel Test 1	2	3	4	5	Avg.	Shear Test 1	2	3	4	5	Avg.	Pass/ Fail
DT-P273	08/25/09	F	T	Load (ppi)	149	147	150	152	140	148	197	200	196	194	190	195	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	BRK	BRK	BRK	---	
			B	Load (ppi)	140	139	137	143	139	140							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P274	08/25/09	F	T	Load (ppi)	146	143	144	137	144	143	197	197	197	196	195	196	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	141	137	137	134	138	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P275	08/25/09	F	T	Load (ppi)	143	149	150	146	146	147	200	200	198	197	196	198	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	SE1	BRK	SE1	SE1	---	
			B	Load (ppi)	142	139	135	138	134	138							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P276	08/25/09	F	T	Load (ppi)	129	127	146	143	131	135	195	194	194	192	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	SE1	SE1	SE1	SE1	SE1	---	
			B	Load (ppi)	145	141	134	131	135	137							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P277	08/25/09	F	T	Load (ppi)	154	159	163	158	157	158	191	188	184	189	186	188	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	BRK	SE1	---	
			B	Load (ppi)	159	160	158	163	147	157							
				Mode	SE1	SE1	SE1	SE1	SE1	---							
DT-P278	08/25/09	F	T	Load (ppi)	116	125	135	130	141	129	195	194	192	194	191	193	P
				Mode	SE1	SE1	SE1	SE1	SE1	---	BRK	BRK	SE1	SE1	BRK	---	
			B	Load (ppi)	157	154	154	147	134	149							
				Mode	SE1	SE1	SE1	SE1	SE1	---							

Notes: F - denotes fusion weld
E - denotes extrusion weld
T - denotes top weld peel
B - denotes bottom weld peel
P - passing result
Fa - failing result
Non-FTB modes include AD, AD-BRK (>25% peel), AD1, AD2, AD-WLD
(DNF) - Did not fail. Specimen elongated to the range of the equipment without failing.
(DNT) - Did not test. The overlap on the bottom seam was too short to grip for testing.

Break Mode Codes (ASTM D6392):

For fusion welds:

AD - Adhesion failure
BRK - Break in sheeting. Break can be in either top or bottom sheet.
SE1 - Break in outer edge of seam. Break can be in either top or bottom sheet.
SE2 - Break at inner edge of seam through both sheets.
AD-BRK - Break in first seam after some adhesion failure. Break can be in either top or bottom sheet.
SIP - Separation in the plane of the sheet. Break can be in either top or bottom sheet.

For extrusion welds:

AD1 - Failure in adhesion to bottom sheet.
AD2 - Failure in adhesion to top sheet.
AD-WLD - Break through the fillet.
SE1 - Break at seam edge in the bottom sheet (applicable to shear only).
SE2 - Break at seam edge in the top sheet (applicable to shear only).
SE3 - Break at seam edge in the bottom sheet (applicable to peel only).
BRK1 - Break in the bottom sheeting. A "B" in parenthesis following the code means the specimen broke in the buffed area.
BRK2 - Break in the top sheeting. A "B" in parenthesis following the code means the specimen broke in the buffed area.
AD-BRK - Break in the bottom sheeting after some adhesion failure between the fillet and the bottom sheet.
HT - Break in the edge of the hot tack for specimens which could not be delaminated in the hot tack.
SIP - Separation in the plane of the sheet.

revised April 2, 2010

Table 8

Gradation Test Results on Leachate Collection Stone

Test	Percent Passing Sieve Size (%)										USCS Class.
	3-1/2	2	1-1/2	1	3/4	1/2	3/8	#4	#40	#200	
Granite Stone	100	100	100	75	14.3	0.4	0.3	0.3	0.3	0.0	GP

Table 9

Protective Cover Sand Laboratory Test Results - Ardaman Lab

Test No.	Date	Sample Loc.	Percent Passing Sieve Size (%)									Carbonate Content (%)	Remarks
			3/4	3/8	#4	#10	#20	#40	#60	#100	#200		
PC-1	03/10/09	by Glover	100.0	100.0	98.5	92.0	84.2	66.4	35.5	14.0	3.8	8.9	50/50 FL Dirt & Venice Minerals - not used
1	04/02/09	Fl dirt pit	100.0	100.0	100.0	99.8	98.5	82.5	47.6	21.4	2.1		50/50 blend - not used (Proctor)
2	04/21/09	stockpile	100.0	100.0	100.0	99.8	98.5	82.9	47.1	19.8	3.1		FL Dirt Source (Proctor, permeability)
C-2	04/21/09	stockpile	---	---	---	---	---	---	---	---	---	0.0	FL Dirt
3	04/21/09	stockpile	100.0	100.0	100.0	99.9	98.5	83.6	48.7	22.9	3.2		
4	04/21/09	stockpile	100.0	100.0	100.0	99.7	97.6	74.7	39.8	16.7	2.6		
5	04/21/09	stockpile	100.0	100.0	99.7	99.7	97.9	80.6	45.0	20.8	3.8		
6	04/21/09	stockpile	100.0	100.0	99.8	99.8	98.0	78.3	45.1	19.9	3.5		
7	04/21/09	stockpile	100.0	100.0	99.9	99.8	97.8	75.9	34.2	12.8	1.7		
8	04/21/09	stockpile	100.0	100.0	100.0	100.0	99.5	85.5	49.6	21.3	2.8		
9	04/21/09	stockpile	100.0	100.0	100.0	99.7	99.2	88.7	56.8	24.3	4.5		
10	04/21/09	stockpile	100.0	100.0	100.0	99.9	99.0	83.8	54.6	19.1	3.2		
11	04/21/09	stockpile	100.0	100.0	100.0	100.0	98.9	84.9	48.4	20.3	3.0		
12	04/21/09	stockpile	100.0	100.0	100.0	99.9	98.8	82.5	47.6	19.2	3.3		
13	04/21/09	stockpile	100.0	100.0	100.0	99.8	98.8	84.8	50.8	21.8	2.5		
14	04/21/09	stockpile	100.0	100.0	100.0	100.0	98.8	81.7	46.9	16.5	2.0		
15	06/09/09	HWY 17 pit	100.0	100.0	100.0	99.7	97.7	88.9	63.0	27.2	3.8		FL Dirt Hwy 17 (Proctor, permeability)
16	06/19/09	Ph 1 slope	100.0	100.0	100.0	99.8	99.1	91.7	69.4	41.2	5.6		
17	06/19/09	Ph 1 slope	100.0	100.0	100.0	99.8	99.4	93.9	65.3	32.2	5.1		
18	06/22/09	Ph 1 slope	100.0	100.0	100.0	100.0	99.6	93.7	70.0	42.6	8.2		brown sand (Proctor, permeability)
19	06/22/09	Ph 1 slope	100.0	100.0	100.0	99.9	99.2	92.7	60.8	29.1	4.3		
20	06/22/09	Ph 1 slope	100.0	100.0	100.0	99.9	99.7	96.6	56.5	14.6	4.3		
21	06/26/09	Cell 1	100.0	100.0	100.0	100.0	99.5	92.6	70.3	44.3	5.3		
22	06/26/09	Cell 1	100.0	100.0	100.0	100.0	99.7	95.2	58.7	16.7	3.7		
23	07/01/09	Cell 1	100.0	100.0	100.0	99.9	99.3	95.5	49.5	9.4	3.8		
C-3	09/03/09	Cell 3	---	---	---	---	---	---	---	---	---	0.2	FL Dirt Hwy 17

Proctor and Permeability Tests (Test Nos. reference gradation numbers)

Test No. 1
Material Description: 50/50 mix, gray and tan sand (not used)
Proctor: 109.5 pcf @ 13.2% moisture
Permeability test not performed

Test No. 2
Material Description: Fl Dirt Source pit, tan fine sand
Proctor: 109.8 pcf @ 13.8% moisture
Permeability: 7.80E-03 cm/sec

Test No. 15
Material Description: HWY 17 pit, gray fine sand
Proctor: 102.6 pcf @ 15.5% moisture
Permeability: 8.40E-3 cm/sec

Test No. 18
Material Description: Phase 1 slope, brown fine sand
Proctor: 111.4 pcf @ 12.5% moisture
Permeability: 2.60E-3 cm/sec

Table 10

Proctor Test Results

Proctor No. 1
Date Sampled: 2/18/09 Sampled By: Cliff S. Date Tested: 2/19/09
Source: Phase II Borrow Area Sample Location: In place, Cell 1
Description: mixed pale brown and yellow-brown fine sand w/silt and trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 108.8 Optimum Moisture (%): 13.8 P-200 (%): NA O.C. (%): NA

Proctor No. 2
Date Sampled: 2/18/09 Sampled By: Cliff S. Date Tested: 2/19/09
Source: Phase II Borrow Area Sample Location: In place, Cell 1
Description: mixed gray and dark gray fine sand with silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 103.3 Optimum Moisture (%): 14.2 P-200 (%): NA O.C. (%): NA

Proctor No. 3
Date Sampled: 2/18/09 Sampled By: Cliff S. Date Tested: 2/19/09
Source: Phase II Borrow Area Sample Location: In place, Cell 1
Description: mixed black and brown fine sand w/silt, trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 104.6 Optimum Moisture (%): 16.7 P-200 (%): NA O.C. (%): NA

Proctor No. 4
Date Sampled: 2/18/09 Sampled By: Cliff S. Date Tested: 2/19/09
Source: Phase II Borrow Area Sample Location: In place, Cell 1
Description: mixed pale brown and gray fine sand w/silt, trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 104.8 Optimum Moisture (%): 15.0 P-200 (%): NA O.C. (%): NA

Proctor No. 5
Date Sampled: 2/21/09 Sampled By: Walt D.. Date Tested: 2/24/09
Source: **Existing Subgrade** Sample Location: Cell 1
Description: mixed gray-brown silty fine sand, trace clay, limerock and shell
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 116.3 Optimum Moisture (%): 11.7 P-200 (%): 13.3 O.C. (%): NA

Proctor No. 6
Date Sampled: 2/21/09 Sampled By: Walt D.. Date Tested: 2/24/09
Source: Stockpile Sample Location: on-site stockpile
Description: very dark gray fine sand w/silt, trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 108.5 Optimum Moisture (%): 14.5 P-200 (%): 9.3 O.C. (%): NA

Proctor No. 7
Date Sampled: 2/23/09 Sampled By: Cliff S. Date Tested: 2/24/09
Source: **Existing Subgrade** Sample Location: Cell 1
Description: gray-brown fine sand w/silt, trace limerock, shell & organics
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 113.3 Optimum Moisture (%): 12.3 P-200 (%): 10.3 O.C. (%): NA

Table 10

Proctor Test Results

Proctor No. 8
Date Sampled: 2/24/09 Sampled By: Cliff S. Date Tested: 2/25/09
Source: Phase III Borrow **Area D** Sample Location: In Place – test pit
Description: black fine sand and clayey sand
Test Method: ASTM D698 USCS: SM-SC
Max. Dry Density (pcf): 104.9 Optimum Moisture (%): 18.6 P-200 (%): **21.0** O.C. (%): 4.9

Proctor No. 9
Date Sampled: 2/24/09 Sampled By: Cliff S. Date Tested: 2/25/09
Source: Phase III Borrow **Area D** Sample Location: In Place – test pit
Description: black fine sand w/clayey sand, trace organics
Test Method: ASTM D698 USCS: SM-SC
Max. Dry Density (pcf): 109.0 Optimum Moisture (%): 16.0 P-200 (%): 16.1 O.C. (%): 4.1

Proctor No. 10
Date Sampled: 2/26/09 Sampled By: Bob W. Date Tested: 2/27/09
Source: Phase III Borrow **Area B** Sample Location: In Place – Test Pit 2, 0 – 6'
Description: very pale brown fine sand w/silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 109.7 Optimum Moisture (%): 14.0 P-200 (%): 10.5 O.C. (%): NA

Proctor No. 11
Date Sampled: 2/26/09 Sampled By: Bob W. Date Tested: 2/27/09
Source: Phase III Borrow **Area B** Sample Location: In Place – Test Pit 6, 1 – 4'
Description: black and brown fine sand w/silt, trace organics
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 106.1 Optimum Moisture (%): 16.2 P-200 (%): 8.4 O.C. (%): 4.1

Proctor No. 12 - Not used, material exceeded O.C., mixed down, sampled from Ph III, Area B

Proctor No. 13
Date Sampled: 2/26/09 Sampled By: Bob W. Date Tested: 2/27/09
Source: Phase III Borrow **Area D** Sample Location: In Place – Test Pit 7&8, 0 – 7'
Description: gray-brown fine sand w/silt, trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 113.9 Optimum Moisture(%): 13.6 P-200 (%): 14.0 O.C. (%): 1.2

Proctor No. 14 - Not used, material exceeded O.C., mixed down, sampled from Ph III, Area D

Proctor No. 15
Date Sampled: 2/26/09 Sampled By: Bob W. Date Tested: 2/28/09
Source: Phase III Borrow **Area C** Sample Location: In Place – Test Pit 3, 3 – 6'
Description: very dark gray and pale brown fine sand w/silt, trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 102.5 Optimum Moisture (%): 19.2 P-200 (%): 11.6 **O.C. (%): 5.0**

Table 10

Proctor Test Results

Proctor No. 16
Date Sampled: 2/27/09 Sampled By: Bob W. Date Tested: 3/2/09
Source: Phase III Borrow **Area A** Sample Location: In Place – Test Pit 3, 2 – 7'
Description: very dark gray and light gray fine sand w/silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 105.7 Optimum Moisture (%): 15.2 P-200 (%): 7.7 O.C. (%): 1.6

Proctor No. 17
Date Sampled: 2/27/09 Sampled By: Bob W. Date Tested: 3/2/09
Source: Phase III Borrow **Area A** Sample Location: In Place – Test Pit 5, 0 – 7'
Description: dark gray & pale brown sand w/silt
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 108.9 Optimum Moisture (%): 15.8 P-200 (%): 12.1 O.C. (%): 2.5

Proctor No. 18
Date Sampled: 2/27/09 Sampled By: Walt D. Date Tested: 3/2/09
Source: Phase II Borrow Area? Sample Location: Cell 1, 6th lift, ctr N
Description: pale brown fine sand w/silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 106.4 Optimum Moisture (%): 15.2 P-200 (%): 10.5 O.C. (%): 1.4

Proctor No. 19
Date Sampled: 3/3/09 Sampled By: Cliff S. Date Tested: 3/4/09
Source: In place **subgrade** Sample Location: Cell 2, S half, W side
Description: tan sand w/silt, tr clay, limerock & shell
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 113.3 Optimum Moisture (%): 13.5 P-200 (%): 12.3 O.C. (%): NA

Proctor No. 20
Date Sampled: 3/3/09 Sampled By: Cliff S. Date Tested: 3/4/09
Source: In Place **subgrade** Sample Location: Cell 2, S half, W side
Description: gray/brown fine sand w/silt, tr shell & limerock
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 112.3 Optimum Moisture (%): 13.0 P-200 (%): 9.1 O.C. (%): NA

Proctor No. 21
Date Sampled: 3/4/09 Sampled By: Cliff S. Date Tested: 3/5/09
Source: In Place **subgrade** Sample Location: Cell 2 N half
Description: pale brown fine sand w/silt, trace clay, limerock & shell
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 111.8 Optimum Moisture (%): 12.3 P-200 (%): 9.4 O.C. (%): NA

Proctor No. 22
Date Sampled: 3/4/09 Sampled By: Cliff S. Date Tested: 3/5/09
Source: In Place **subgrade** Sample Location: Cell 2 N half
Description: gray-brown fine sand w/silt, trace clay, limerock &shell fragments
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 109.4 Optimum Moisture (%): 13.2 P-200 (%): 7.5 O.C. (%): NA

Table 10

Proctor Test Results

Proctor No. 23
Date Sampled: 3/13/09 Sampled By: Walt D. Date Tested: 3/16/09
Source: **pipe trench backfill** Sample Location: storage tank road
Description: mixed gray and brown sand w/silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 110.7 Optimum Moisture (%): 12.9 P-200 (%): NA O.C. (%): NA

Proctor Nos. 24 & 25 – not used – slightly exceeded fines (material mixed down and re-sampled)

Proctor No. 26
Date Sampled: 3/27/09 Sampled By: Walt D. Date Tested: 3/30/09
Source: Phase IV Borrow Area Sample Location: Cell 4, S half, 6th lift
Description: mixed gray and brown silty sand, tr clay
Test Method: ASTM D698 USCS:SM
Max. Dry Density (pcf): 115.3 Optimum Moisture (%): 12.5 P-200 (%): 17.2 O.C. (%): NA

Proctor No. 27
Date Sampled: 3/31/09 Sampled By: Cliff S. Date Tested: 4/2/09
Source: Phase IV Borrow Area Sample Location: Cell 2, S half
Description: mixed brown silty sand, trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 113.4 Optimum Moisture (%): 13.3 P-200 (%): 16.0 O.C. (%): NA

Proctor No. 28
Date Sampled: 3/31/09 Sampled By: Cliff S. Date Tested: 4/2/09
Source: Phase IV Borrow Area Sample Location: Cell 2, S half
Description: mixed brown and black silty-clayey sand
Test Method: ASTM D698 USCS: SM-SC
Max. Dry Density (pcf): 114.0 Optimum Moisture (%): 13.5 P-200 (%): 16.2 O.C. (%): 3.4

Proctor No. 29
Date Sampled: 4/11/09 Sampled By: Cliff S. Date Tested: 4/13/09
Source: Phase IV Borrow Area Sample Location: Cell 3, 3rd lift
Description: mixed pale brown and gray silty fine sand, trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 111.7 Optimum Mo isture (%): 14.1 P-200 (%): 12.9 O.C. (%): NA

Proctor No. 30
Date Sampled: 4/11/09 Sampled By: Cliff S. Date Tested: 4/13/09
Source: Phase IV Borrow Area Sample Location: Cell 4, 6th lift
Description: mixed dark gray and brown silty sand, trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 110.8 Optimum Moisture (%): 13.8 P-200 (%): 13.0 O.C. (%): NA

Proctor No. 31
Date Sampled: 4/13/09 Sampled By: Cliff S. Date Tested: 4/14/09
Source: **pipe trench backfill** Sample Location: Cell 1, N end – gravity sewer
Description: mixed brown and gray fine sand with silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 110.6 Optimum Moisture (%): 13.4 P-200 (%): 10.7 O.C. (%): NA

Table 10

Proctor Test Results

Proctor No. 32
Date Sampled: 4/16/09 Sampled By: Walt D. Date Tested: 4/19/09
Source: Phase IIIA Borrow Area Sample Location: Cell 3, 3rd lift
Description: mixed pale and dark brown silty sand, trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 110.1 Optimum Moisture (%): 14.6 P-200 (%): 9.9 O.C. (%): NA

Proctor No. 33
Date Sampled: 4/16/09 Sampled By: Walt D. Date Tested: 4/19/09
Source: Phase IV Borrow Area Sample Location: Cell 1, N berm
Description: mixed dark brown silty sand, trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 110.8 Optimum Moisture (%): 13.5 P-200 (%): 9.7 O.C. (%): NA

Proctor No. 34
Date Sampled: 4/18/09 Sampled By: Walt D. Date Tested: 4/19/09
Source: Phase IV Borrow Area Sample Location: Cell 1, N berm
Description: mixed dark gray and pale brown silty sand, trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 112.6 Optimum Moisture (%): 14.3 P-200 (%): 12.1 O.C. (%): NA

Proctor No. 35
Date Sampled: 4/20/09 Sampled By: Cliff S. Date Tested: 4/21/09
Source: Phase IV Borrow Area Sample Location: Cell 3, N half, W side
Description: mixed dark gray-brown silty fine sand with trace clay
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 112.7 Optimum Moisture (%): 13.0 P-200 (%): 14.4 O.C. (%): NA

Proctor No. 36
Date Sampled: 4/20/09 Sampled By: Cliff S. Date Tested: 4/21/09
Source: Phase IV Borrow Area Sample Location: Cell 3, N half, E side
Description: mixed light gray-brown silty fine sand with trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 111.6 Optimum Moisture (%): 13.7 P-200 (%): 13.7 O.C. (%): NA

Proctor No. 37
Date Sampled: 4/28/09 Sampled By: Cliff S. Date Tested: 4/29/09
Source: Phase IV Borrow Area Sample Location: Cell 3, N berm area
Description: mixed gray fine sand with silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 109.6 Optimum Moisture (%): 14.3 P-200 (%): 9.5 O.C. (%): NA

Proctor No. 38
Date Sampled: 4/28/09 Sampled By: Cliff S. Date Tested: 4/29/09
Source: Phase IV Borrow Area Sample Location: Cell 1, N berm area
Description: mixed brown silty fine sand with trace clay
Test Method: ASTM D698 USCS: SM
Max. Dry Density (pcf): 115.6 Optimum Moisture (%): 12.8 P-200 (%): 15.9 O.C. (%): NA

Table 10

Proctor Test Results

Proctor No. 39
Date Sampled: 4/29/09 Sampled By: Cliff S. Date Tested: 5/1/09
Source: Phase IV Borrow Area Sample Location: Cell 1, N berm area, Cell 4
Description: mixed pale yellow-brown fine sand with silt
Test Method: ASTM D698 USCS: SP-SM
Max. Dry Density (pcf): 106.7 Optimum Moisture (%): 14.6 P-200 (%): 6.1 O.C. (%): NA

Proctor No. 40
Date Sampled: 5/13/09 Sampled By: Walt D. Date Tested: 5/20/09
Source: Collier Co. Pit Sample Location: Limerock stockpile on site
Description: light gray crushed limerock base
Test Method: ASTM D1557 USCS: GP
Max. Dry Density (pcf): 125.0 Optimum Moisture (%): 10.0 P-200 (%): 10.1 O.C. (%): NA
LBR Value: 201.5%

Table 11

Proctor Gradations & Organic Content Laboratory Test Results

Test	Organic Content (%)	Percent Passing Sieve Size (%)									USCS Class.	Remarks
		3/4	3/8	#4	#10	#20	#40	#60	#100	#200		
Proctor No. 1	-	-	-	-	-	-	-	-	-	-	SP-SM	existing subgrade
Proctor No. 2	-	-	-	-	-	-	-	-	-	-	SP-SM	existing subgrade
Proctor No. 3	-	-	-	-	-	-	-	-	-	-	SP-SM	existing subgrade
Proctor No. 4	-	-	-	-	-	-	-	-	-	-	SP-SM	existing subgrade
Proctor No. 5	-	96.6	94.4	92.3	89.1	86.5	82.7	69.8	43.9	13.3	SM	existing subgrade
Proctor No. 6	-	100.0	100.0	100.0	99.9	99.6	97.6	86.3	56.7	9.3	SP-SM	fill - on-site stockpile
Proctor No.7	-	100.0	99.6	99.2	98.1	96.4	91.4	75.9	47.3	10.3	SP-SM	existing subgrade
Proctor No. 8	4.9	100.0	100.0	100.0	100.0	99.6	96.5	86.2	64.9	21.0	SM-SC	test pit IIID - material diluted
Proctor No. 9	4.1	100.0	100.0	100.0	100.0	99.7	97.0	86.6	64.2	16.1	SM-SC	test pit IIID
Proctor No. 10	-	100.0	100.0	100.0	99.8	99.3	95.1	83.3	61.7	10.5	SP-SM	test pit IIIB
Proctor No. 11	4.1	100.0	100.0	100.0	100.0	99.6	97.4	87.4	62.6	8.4	SP-SM	test pit IIIB
Proctor No. 12	6.8	100.0	100.0	100.0	99.7	98.4	94.8	81.1	51.3	5.1	SP-SM	test pit IIIB - material diluted
Proctor No. 13	1.2	100.0	100.0	100.0	100.0	99.5	94.5	80.7	57.4	14.0	SM	test pit IIID
Proctor No. 14	7.3	100.0	100.0	100.0	98.7	96.3	90.5	77.8	53.9	11.2	SP-SM	test pit IIID - material diluted
Proctor No. 15	5.0	100.0	100.0	100.0	98.5	96.1	91.6	81.5	60.1	11.6	SP-SM	test pit IIIC
Proctor No. 16	1.6	100.0	100.0	100.0	100.0	99.9	97.2	85.9	58.2	7.7	SP-SM	test pit IIIA
Proctor No. 17	2.5	100.0	100.0	100.0	100.0	99.9	97.2	86.4	60.9	12.1	SM	test pit IIIA
Proctor No. 18	1.4	100.0	100.0	100.0	100.0	99.7	96.9	87.9	65.8	10.5	SP-SM	in place, Cell 1
Proctor No. 19	-	100.0	97.8	97.8	96.7	95.4	91.2	77.0	51.3	12.3	SM	existing subgrade
Proctor No. 20	-	91.0	87.7	86.7	84.9	83.2	79.3	67.2	43.8	9.1	SP-SM	existing subgrade
Proctor No. 21	-	100.0	98.3	97.9	97.5	96.8	93.0	79.3	52.6	9.4	SP-SM	existing subgrade
Proctor No. 22	-	100.0	97.0	96.6	95.4	94.3	89.9	75.5	48.6	7.5	SP-SM	existing subgrade
Proctor No. 24	5.4	100.0	100.0	100.0	100.0	99.8	97.4	87.4	66.5	20.3	SM	in place, Cell 2, material diluted
Proctor No. 25	4.3	100.0	100.0	100.0	100.0	99.8	97.4	87.7	67.5	21.8	SM	in place, Cell 2, material diluted
Proctor No. 26	-	100.0	100.0	100.0	100.0	99.5	96.3	86.0	67.3	17.2	SM	in place, Cell 4
Proctor No. 27	-	100.0	100.0	100.0	99.8	99.6	97.8	90.3	71.5	16.0	SM	in place, Cell 2
Proctor No. 28	-	100.0	100.0	100.0	99.9	99.7	97.6	88.2	67.8	16.2	SM	in place, Cell 2
Proctor No. 29	-	100.0	100.0	100.0	100.0	99.8	97.8	88.0	64.0	12.9	SM	in place, Cell 3
Proctor No. 30	-	100.0	99.0	98.7	98.6	98.3	96.5	88.9	69.3	13.0	SM	In place, Cell 4
Proctor No. 31	-	96.1	96.1	95.9	95.3	94.3	91.9	81.2	57.3	10.7	SP-SM	pipe trench, Cell 1

Table 11

Proctor Gradations & Organic Content Laboratory Test Results

Test	Organic Content (%)	Percent Passing Sieve Size (%)									USCS Class.	Remarks
		3/4	3/8	#4	#10	#20	#40	#60	#100	#200		
Proctor No. 32	-	100.0	100.0	100.0	100.0	99.6	96.9	85.8	61.1	9.9	SP-SM	in place, Cell 3
Proctor No. 33	-	100.0	100.0	100.0	99.7	99.5	97.6	89.6	67.4	9.7	SP-SM	N berm, Cell 1
Proctor No. 34	-	100.0	100.0	99.6	99.4	98.9	96.5	87.6	65.6	12.1	SM	N berm, Cell 1
Proctor No. 35	-	100.0	100.0	100.0	100.0	99.8	97.5	88.5	67.2	14.4	SM	in place, Cell 3
Proctor No. 36	-	100.0	100.0	100.0	100.0	99.8	97.6	89.7	66.1	13.7	SM	in place, Cell 3
Proctor No. 37	-	100.0	100.0	100.0	100.0	99.8	97.3	86.9	59.6	9.5	SP-SM	in place, Cell 1
Proctor No. 38	-	100.0	100.0	100.0	99.7	98.3	91.7	76.3	51.5	15.9	SM	in place, Cell 1
Proctor No. 39	-	100.0	98.4	98.4	98.4	98.2	95.6	82.7	55.8	6.1	SP-SM	in place, Cell 4
Proctor No. 40	-	69.2	55.7	46.2	36.6	-	23.8	20.2	15.7	10.1	GP	limerock base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
Week of 2/18/09 - 2/21/09														
Drive cylinder equipment not on site on 2/18/09														
Technicians observed stripping and proof rolling of subgrade soils, but did not initially realize compaction tests were need on this material also.														
1	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	106.5	7.0	108.8	97.9%				
2	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	103.3	7.8	104.8	98.6%				
3	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	102.5	5.8	104.8	97.8%				
4	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	103.5	9.6	108.8	95.1%				
5	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	99.0	5.3	108.8	91.0%				Fail - Density
6	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	102.4	6.8	104.8	97.7%				
7	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	103.8	7.1	108.8	95.4%				
8	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	99.7	7.1	108.8	91.6%				Fail - Density
9	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	106.0	5.6	108.8	97.4%				Retest - No. 5
10	18-Feb-09	Fill	Cell 2	S 1/2, E	1	N	103.6	5.8	108.8	95.2%				Retest - No. 8
11	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	99.5	8.4	103.3	96.3%				
12	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	103.7	8.1	104.6	99.1%				
13	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	103.0	10.3	104.6	98.5%				
14	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	105.8	9.6	108.8	97.2%				
15	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	103.3	6.9	108.8	94.945%	not retested, assumed OK after next lift			
16	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	104.1	8.3	108.8	95.7%				
17	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	103.6	13.3	108.8	95.2%				
18	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	102.4	11.0	104.8	97.7%				
19	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	104.9	8.2	108.8	96.4%				
20	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	102.0	10.4	104.6	97.5%				
21	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	101.9	11.7	104.6	97.4%				
22	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	101.7	9.0	104.6	97.2%				
23	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	101.8	7.3	104.6	97.3%				
24	18-Feb-09	Fill	Cell 1	S 1/2, W	1	N	105.7	12.8	108.8	97.2%				
25	18-Feb-09	Fill	Cell 1	S 1/2, C	1	N	102.9	6.4	104.8	98.2%				
26	18-Feb-09	Fill	Cell 1	S 1/2, C	1	N	103.9	9.6	104.8	99.1%				
27	18-Feb-09	Fill	Cell 1	S 1/2, C	1	N	103.7	8.7	104.8	99.0%				
Drive cylinder equipment on site, technician performed one drive cylinder test about every 10th test, but did not denote which tests were drive cylinders														
28	19-Feb-09	Fill	Cell 1	S 1/2, C	1	N	106.5	11.4	108.8	97.9%				
29	19-Feb-09	Fill	Cell 1	S 1/2, C	1	N	101.7	9.6	104.8	97.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
30	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	101.9	10.9	104.8	97.2%				
31	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	102.2	8.3	104.8	97.5%				
32	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	103.0	8.7	104.8	98.3%				
33	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	102.9	11.0	104.8	98.2%				
34	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	101.8	11.4	104.8	97.1%				
35	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	104.1	13.1	108.8	95.7%				
36	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	104.0	11.1	108.8	95.6%				
37	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	101.6	8.7	104.6	97.1%				
38	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	102.0	11.5	104.6	97.5%				
39	19-Feb-09	Fill	Cell 1	S 1/2, E	1	N	103.8	9.5	108.8	95.4%				
40	19-Feb-09	Fill	Cell 1	N 1/2, E	1	N	103.5	9.8	108.8	95.1%				
41	19-Feb-09	Fill	Cell 1	N 1/2, E	1	N	104.0	13.5	108.8	95.6%				
42	19-Feb-09	Fill	Cell 1	N 1/2, C	1	N	105.3	11.1	108.8	96.8%				
43	19-Feb-09	Fill	Cell 1	N 1/2, W	1	N	105.4	11.6	108.8	96.9%				
44	19-Feb-09	Fill	Cell 1	N 1/2, W	1	N	102.8	10.6	104.8	98.1%				
45	19-Feb-09	Fill	Cell 2	N 1/2, E	1	N	103.5	10.0	108.8	95.1%				
46	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	101.6	11.2	104.6	97.1%				
47	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	102.4	9.9	104.6	97.9%				
48	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	101.8	11.3	104.6	97.3%				
49	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	103.6	13.4	104.6	99.0%				
50	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	101.7	13.0	104.6	97.2%				
51	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	101.9	13.7	104.6	97.4%	14.9	100.8	96.4%	oven moisture
52	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	102.2	12.7	104.6	97.7%				
53	19-Feb-09	Fill	Cell 2	S 1/2, E	2	N	101.7	11.7	104.8	97.0%				
54	19-Feb-09	Fill	Cell 2	N 1/2, E	2	N	102.4	11.0	104.8	97.7%				
55	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	102.3	13.3	104.8	97.6%				
56	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	102.7	9.2	104.8	98.0%				
57	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	100.2	11.0	104.8	95.6%				
58	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	103.7	9.7	104.8	98.9%				
59	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	103.5	7.1	104.8	98.7%				
60	19-Feb-09	Fill	Cell 1	N 1/2, W	2	N	101.3	10.9	104.8	96.6%				
61	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	100.7	8.0	104.8	96.1%				
62	19-Feb-09	Fill	Cell 1	N 1/2, W	2	N	100.0	10.4	104.8	95.4%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
63	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	101.4	11.2	104.8	96.8%				
64	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	100.5	9.3	104.8	95.9%				
65	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	102.0	9.9	104.8	97.3%				
66	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	99.7	10.9	104.8	95.1%				
67	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	101.8	11.1	104.8	97.1%				
68	19-Feb-09	Fill	Cell 1	S 1/2, W	2	N	102.5	10.7	104.8	97.8%				
69	19-Feb-09	Fill	Cell 1	S 1/2, C	2	N	100.6	10.7	103.3	97.4%				
70	19-Feb-09	Fill	Cell 1	S 1/2, C	2	N	100.1	9.9	103.3	96.9%				
71	19-Feb-09	Fill	Cell 1	S 1/2, C	2	N	99.5	10.3	103.3	96.3%				
72	19-Feb-09	Fill	Cell 1	S 1/2, C	2	N	102.4	11.2	103.3	99.1%				
73	19-Feb-09	Fill	Cell 1	N 1/2, C	2	N	102.0	10.1	103.3	98.7%				
74	19-Feb-09	Fill	Cell 1	N 1/2, E	2	N	100.8	11.5	103.3	97.6%				
75	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	101.3	10.9	103.3	98.1%				
76	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	99.2	12.1	103.3	96.0%				
77	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	98.9	11.6	103.3	95.7%				
78	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	100.4	11.0	103.3	97.2%				
79	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	101.2	10.8	103.3	98.0%				
80	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	100.7	11.3	103.3	97.5%				
81	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	99.5	10.6	103.3	96.3%				
82	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	99.9	10.2	103.3	96.7%				
83	19-Feb-09	Fill	Cell 1	S 1/2, E	2	N	98.4	9.9	103.3	95.3%				
84	20-Feb-09	Fill	Cell 1	N 1/2, C	1	N	104.2	9.7	104.6	99.6%				
85	20-Feb-09	Fill	Cell 1	N 1/2, C	1	N	101.7	11.4	104.6	97.2%				
86	20-Feb-09	Fill	Cell 1	N 1/2, E	1	N	100.6	16.1	104.6	96.2%				
87	20-Feb-09	Fill	Cell 1	N 1/2, E	1	N	104.1	9.6	104.6	99.5%				
88	20-Feb-09	Fill	Cell 1	N 1/2, E	1	N	100.4	10.6	104.6	96.0%				
89	20-Feb-09	Fill	Cell 1	N 1/2, E	1	N	103.7	14.2	104.6	99.1%				
90	20-Feb-09	Fill	Cell 1	N 1/2, E	1	N	102.6	6.5	104.6	98.1%				
91	20-Feb-09	Fill	Cell 1	N 1/2, E	1	N	100.4	9.7	104.6	96.0%				
92	20-Feb-09	Fill	Cell 1	N 1/2, C	1	N	103.0	13.2	104.6	98.5%				
93	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	100.7	14.4	104.6	96.3%				
94	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	100.1	14.8	104.6	95.7%				
95	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	100.8	18.2	104.6	96.4%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
96	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	101.2	16.5	104.6	96.7%				
97	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	101.8	14.2	104.6	97.3%				
98	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	103.6	16.1	104.6	99.0%				
99	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	100.3	11.0	104.6	95.9%				
100	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	102.0	14.0	104.6	97.5%	11.9	103.9	99.3%	oven moisture
101	20-Feb-09	Fill	Cell 1	N 1/2, W	1	N	105.4	11.6	104.6	100.8%				
102	20-Feb-09	Fill	Cell 2	N 1/2, E	1	N	100.8	13.3	104.6	96.4%				
103	20-Feb-09	Fill	Cell 2	N 1/2, E	1	N	99.7	20.0	104.6	95.3%				
104	20-Feb-09	Fill	Cell 2	N 1/2, E	1	N	99.7	18.5	104.6	95.3%				
105	20-Feb-09	Fill	Cell 2	S 1/2, E	3	N	99.6	15.7	104.6	95.2%				
106	20-Feb-09	Fill	Cell 2	S 1/2, E	3	N	102.2	17.9	104.6	97.7%				
107	20-Feb-09	Fill	Cell 2	S 1/2, E	3	N	103.5	15.6	104.6	98.9%				
108	20-Feb-09	Fill	Cell 1	S 1/2, W	3	N	99.8	14.0	104.6	95.4%				
109	20-Feb-09	Fill	Cell 1	S 1/2, W	3	N	100.0	14.2	104.6	95.6%				
110	20-Feb-09	Fill	Cell 1	S 1/2, W	3	N	99.6	15.3	104.6	95.2%				
111	20-Feb-09	Fill	Cell 1	S 1/2, W	3	N	99.4	15.0	104.6	95.0%				
112	20-Feb-09	Fill	Cell 1	S 1/2, W	3	N	101.7	12.7	104.6	97.2%				
113	20-Feb-09	Fill	Cell 1	S 1/2, W	3	N	100.2	13.6	104.6	95.8%				
114	20-Feb-09	Fill	Cell 1	S 1/2, C	3	N	100.4	16.1	104.6	96.0%				
115	20-Feb-09	Fill	Cell 1	S 1/2, C	3	N	100.2	19.0	104.6	95.8%				
116	20-Feb-09	Fill	Cell 1	S 1/2, E	3	N	100.5	17.1	104.6	96.1%				
117	20-Feb-09	Fill	Cell 1	S 1/2, E	3	N	99.5	19.0	104.6	95.1%				
118	20-Feb-09	Fill	Cell 1	S 1/2, E	3	N	102.4	16.6	104.6	97.9%				
119	20-Feb-09	Fill	Cell 1	S 1/2, E	3	N	99.7	17.7	104.6	95.3%				
120	20-Feb-09	Fill	Cell 1	S 1/2, E	3	N	99.6	18.6	104.6	95.2%				
121	20-Feb-09	Fill	Cell 1	S 1/2, E	3	N	99.9	18.2	104.6	95.5%				
122	21-Feb-09	Fill	Cell 2	S 1/2, E	3	N	102.8	16.0	103.3	99.5%				
123	21-Feb-09	Fill	Cell 2	S 1/2, E	3	N	101.0	18.1	103.3	97.8%				
124	21-Feb-09	Fill	Cell 2	S 1/2, E	3	N	104.4	12.5	104.6	99.8%				
125	21-Feb-09	Fill	Cell 2	S 1/2, E	3	N	105.5	10.4	104.6	100.9%				
126	21-Feb-09	Fill	Cell 2	N 1/2, E	3	N	102.0	9.1	104.6	97.5%				
127	21-Feb-09	Fill	Cell 2	S 1/2, E	3	N	103.1	9.2	104.6	98.6%				
128	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	101.4	13.9	104.6	96.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
129	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	102.4	12.4	104.6	97.9%				
130	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	100.3	13.9	104.8	95.7%				
131	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	101.3	14.5	104.8	96.7%				
132	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	107.9	12.7	108.8	99.2%				
133	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	100.8	15.2	104.8	96.2%				
134	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	100.4	9.7	104.8	95.8%				
135	21-Feb-09	Fill	Cell 1	S 1/2, W	3	N	101.9	16.5	104.8	97.2%				
136	21-Feb-09	Fill	Cell 1	S 1/2, C	3	N	100.1	13.4	104.8	95.5%				
137	21-Feb-09	Fill	Cell 1	S 1/2, E	3	N	102.7	13.3	104.8	98.0%				
138	21-Feb-09	Fill	Cell 1	S 1/2, C	3	N	101.0	10.4	104.8	96.4%				
139	21-Feb-09	Fill	Cell 1	S 1/2, E	3	N	103.0	13.5	104.8	98.3%				
140	21-Feb-09	Fill	Cell 1	S 1/2, C	3	N	100.0	9.0	104.8	95.4%				
141	21-Feb-09	Fill	Cell 1	S 1/2, E	3	N	101.6	6.7	104.8	96.9%				
142	21-Feb-09	Fill	Cell 1	S 1/2, E	3	N	100.4	13.1	104.8	95.8%				
143	21-Feb-09	Fill	Cell 1	S 1/2, C	3	N	103.6	11.1	104.8	98.9%				
144	21-Feb-09	Fill	Cell 1	S 1/2, E	3	N	100.7	15.4	104.8	96.1%				
145	21-Feb-09	Fill	Cell 1	S 1/2, E	3	N	100.0	14.8	104.8	95.4%				
146	21-Feb-09	Fill	Cell 1	N 1/2, W	3	N	101.8	14.8	104.8	97.1%				
147	21-Feb-09	Fill	Cell 1	N 1/2, E	3	N	103.3	13.8	104.8	98.6%				
Week of 2/23/09 - 2/27/09														
Commenced subgrade testing either on newly stripped and rolled areas or by performing post hole through fill and performing drive cylinder test.														
148	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.6	6.6	116.3	95.1%				
149	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	111.2	5.6	116.3	95.6%				
150	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	112.6	7.3	116.3	96.8%				
151	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.9	8.2	116.3	95.4%				
152	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	111.8	9.0	116.3	96.1%				
153	23-Feb-09	SG	Cell 1	N 1/2, C	-	N	110.9	6.7	116.3	95.4%				
154	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	111.4	6.9	116.3	95.8%				
155	23-Feb-09	Fill	Cell 1	N 1/2, E	1	N	110.7	9.3	116.3	95.2%				
156	23-Feb-09	SG	Cell 1	N 1/2, W	-	N	112.3	7.9	113.3	99.1%				
157	23-Feb-09	SG	Cell 1	N 1/2, W	-	N	110.7	8.6	113.3	97.7%				
158	23-Feb-09	SG	Cell 1	N 1/2, W	-	N	111.3	8.3	113.3	98.2%				
159	23-Feb-09	SG	Cell 2	N 1/2, E	-	N	110.5	7.6	113.3	97.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
160	23-Feb-09	SG	Cell 2	N 1/2, E	-	N	112.0	9.2	113.3	98.9%				
161	23-Feb-09	SG	Cell 2	N 1/2, E	-	N	109.9	9.0	113.3	97.0%				
162	23-Feb-09	SG	Cell 2	N 1/2, E	-	N	111.0	8.4	113.3	98.0%				
163	23-Feb-09	SG	Cell 2	N 1/2, E	-	N	110.1	7.7	113.3	97.2%				
164	23-Feb-09	SG	Cell 1	N 1/2, C	-	N	111.0	7.9	113.3	98.0%				
165	23-Feb-09	SG	Cell 1	N 1/2, C	-	N	110.4	8.3	113.3	97.4%				
166	23-Feb-09	Fill	Cell 1	N 1/2, E	1	N	98.8	11.5	103.3	95.6%	7.9	102.1	98.8%	oven moisture
167	23-Feb-09	Fill	Cell 1	N 1/2, E	1	N	102.0	13.2	104.8	97.3%				
168	23-Feb-09	Fill	Cell 2	S 1/2, E	4	N	101.5	11.0	104.8	96.9%				
169	23-Feb-09	SG	Cell 1	S 1/2, E	-	N	109.7	10.1	113.3	96.8%				
170	23-Feb-09	SG	Cell 1	S 1/2, E	-	N	108.6	9.3	113.3	95.9%				
171	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.1	11.2	113.3	97.2%				
172	23-Feb-09	SG	Cell 1	N 1/2, E	-	N	109.3	9.7	113.3	96.5%				
173	24-Feb-09	Fill	Cell 2	S 1/2, E	4	N	101.3	12.9	104.8	96.7%				
174	24-Feb-09	Fill	Cell 2	S 1/2, E	4	N	101.0	14.0	104.8	96.4%				
175	24-Feb-09	Fill	Cell 1	S 1/2, C	4	N	101.2	13.2	104.8	96.6%				
176	24-Feb-09	Fill	Cell 1	S 1/2, E	4	N	102.3	12.7	104.8	97.6%				
177	24-Feb-09	Fill	Cell 1	N 1/2, C	1	N	100.2	12.7	104.8	95.6%				
178	24-Feb-09	Fill	Cell 2	N 1/2, E	1	N	101.0	13.1	104.8	96.4%				
179A	24-Feb-09	Fill	Cell 2	N 1/2, E	4	N	101.6	15.2	104.8	96.9%				
179B	24-Feb-09	Fill	Cell 2	N 1/2, E	4	DC	101.5	13.6	104.8	96.9%				Confirm Test No. 179A
180	24-Feb-09	Fill	Cell 2	N 1/2, E	4	N	100.8	14.7	104.8	96.2%				
181	24-Feb-09	Fill	Cell 1	S 1/2, W	4	N	104.5	14.6	104.8	99.7%				
182	24-Feb-09	Fill	Cell 1	S 1/2, W	4	N	99.9	14.5	104.8	95.3%				
183	24-Feb-09	Fill	Cell 1	S 1/2, W	4	N	101.7	15.3	104.8	97.0%				
184	24-Feb-09	Fill	Cell 1	S 1/2, W	4	N	100.8	12.9	104.8	96.2%				
185	24-Feb-09	Fill	Cell 1	S 1/2, E	4	N	104.8	14.0	104.8	100.0%				
186	24-Feb-09	Fill	Cell 1	S 1/2, E	4	N	103.0	16.0	104.8	98.3%				
187	24-Feb-09	Fill	Cell 1	S 1/2, E	4	N	100.9	17.8	104.8	96.3%				
188	24-Feb-09	Fill	Cell 1	N 1/2, E	4	N	105.2	10.9	104.8	100.4%				
189	24-Feb-09	Fill	Cell 1	N 1/2, W	4	N	104.8	12.7	104.8	100.0%	14.3	103.3	98.6%	oven moisture
190	24-Feb-09	Fill	Cell 1	N 1/2, W	4	N	102.3	12.0	104.8	97.6%				
191	24-Feb-09	Fill	Cell 1	N 1/2, E	4	N	100.1	18.2	104.8	95.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
192	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	111.0	10.3	116.3	95.4%				
193	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	111.6	11.6	116.3	96.0%				
194	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	112.5	9.9	116.3	96.7%				
195	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	110.7	10.7	116.3	95.2%				
196	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	112.0	11.3	116.3	96.3%				
197	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	113.3	11.0	116.3	97.4%				
198	24-Feb-09	SG	Cell 1	S 1/2, E	-	N	112.7	10.4	116.3	96.9%				
199	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	110.9	11.1	116.3	95.4%				
200	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	111.5	12.6	116.3	95.9%				
201	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	111.8	10.6	116.3	96.1%				
202	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	110.6	10.1	116.3	95.1%				
203	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	112.4	11.7	116.3	96.6%				
204	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	111.0	12.3	116.3	95.4%				
205	24-Feb-09	SG	Cell 1	S 1/2, C	-	N	110.7	13.1	116.3	95.2%				
206	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	108.0	9.7	113.3	95.3%				
207	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	109.2	10.1	113.3	96.4%				
208	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	108.6	8.9	113.3	95.9%				
209	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	108.2	10.6	113.3	95.5%				
210	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	109.6	11.3	113.3	96.7%				
211	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	109.9	9.8	113.3	97.0%				
212	24-Feb-09	SG	Cell 2	S 1/2, E	-	N	110.3	11.0	113.3	97.4%				
213	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	107.9	11.7	113.3	95.2%				
214	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	109.0	12.3	113.3	96.2%				
215	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	108.5	11.0	113.3	95.8%				
216	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	108.9	9.3	113.3	96.1%				
217	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	109.7	9.9	113.3	96.8%				
218	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	110.2	10.2	113.3	97.3%				
219	24-Feb-09	SG	Cell 1	S 1/2, W	-	N	108.0	10.5	113.3	95.3%				
220	25-Feb-09	Fill	Cell 1	N 1/2, E	2	N	105.2	9.1	108.8	96.7%				
221	25-Feb-09	Fill	Cell 1	N 1/2, C	2	N	105.7	13.1	108.8	97.2%	14.5	104.4	96.0%	oven moisture
222	25-Feb-09	Fill	Cell 1	N 1/2, W	2	N	103.7	15.4	108.8	95.3%				
223	25-Feb-09	Fill	Cell 2	S 1/2, E	5	N	100.8	17.6	104.8	96.2%				
224	25-Feb-09	Fill	Cell 1	S 1/2, W	5	N	100.2	13.6	104.8	95.6%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
225	25-Feb-09	Fill	Cell 2	S 1/2, E	5	N	101.1	15.7	104.8	96.5%				
226	25-Feb-09	Fill	Cell 2	S 1/2, E	5	N	100.5	12.8	104.8	95.9%				
227	25-Feb-09	Fill	Cell 2	N 1/2, E	5	N	100.5	17.2	104.8	95.9%				
228	25-Feb-09	SG	Cell 2	S 1/2, E	-	N	109.0	11.3	113.3	96.2%				
229	25-Feb-09	SG	Cell 2	S 1/2, E	-	N	107.7	10.7	113.3	95.1%				
230	25-Feb-09	SG	Cell 2	S 1/2, E	-	N	109.7	9.9	113.3	96.8%				
231	25-Feb-09	SG	Cell 2	N 1/2, E	-	N	108.0	10.3	113.3	95.3%				
232	25-Feb-09	SG	Cell 2	N 1/2, E	-	N	110.1	11.0	113.3	97.2%				
233	25-Feb-09	SG	Cell 2	N 1/2, E	-	N	108.5	10.0	113.3	95.8%				
234	25-Feb-09	SG	Cell 2	N 1/2, E	-	N	108.8	9.5	113.3	96.0%				
235	25-Feb-09	SG	Cell 1	N 1/2, W	-	N	107.9	11.2	113.3	95.2%				
236	25-Feb-09	SG	Cell 1	N 1/2, C	-	N	108.9	12.3	113.3	96.1%				
237	25-Feb-09	SG	Cell 1	N 1/2, W	-	N	109.2	10.9	113.3	96.4%				
238	25-Feb-09	SG	Cell 1	N 1/2, W	-	N	109.7	11.6	113.3	96.8%				
239	25-Feb-09	SG	Cell 1	N 1/2, W	-	N	110.2	12.0	113.3	97.3%				
240	25-Feb-09	SG	Cell 1	N 1/2, W	-	N	108.4	12.7	113.3	95.7%				
241	25-Feb-09	SG	Cell 1	N 1/2, W	-	N	109.5	10.6	113.3	96.6%				
242	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	110.5	9.8	113.3	97.5%				
243	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	109.5	11.2	113.3	96.6%				
244	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	109.2	11.7	113.3	96.4%				
245	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	110.8	12.4	113.3	97.8%				
246	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	111.3	10.9	113.3	98.2%				
247	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	108.4	11.5	113.3	95.7%				
248	25-Feb-09	SG	Cell 1	S 1/2, W	-	N	108.8	11.0	113.3	96.0%				
249	25-Feb-09	Fill	Cell 1	S 1/2, E	5	N	99.6	17.2	104.8	95.0%				
250	25-Feb-09	Fill	Cell 1	S 1/2, E	5	N	100.0	12.7	104.8	95.4%	14.5	98.4	93.9%	oven moisture
251	25-Feb-09	Fill	Cell 1	S 1/2, E	5	N	104.2	14.6	104.8	99.4%				
252	25-Feb-09	Fill	Cell 1	S 1/2, E	5	N	100.7	17.4	104.8	96.1%				
253	25-Feb-09	Fill	Cell 1	N 1/2, C	5	N	100.2	11.7	104.8	95.6%				
254	25-Feb-09	Fill	Cell 1	N 1/2, W	5	N	100.6	14.8	104.8	96.0%				
255	25-Feb-09	Fill	Cell 1	S 1/2, W	5	N	101.9	15.6	104.8	97.2%				
256	25-Feb-09	Fill	Cell 1	S 1/2, W	5	N	101.9	16.4	104.8	97.2%				
257	25-Feb-09	Fill	Cell 1	S 1/2, W	5	N	100.7	18.0	104.8	96.1%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
258	26-Feb-09	Fill	Cell 1	N 1/2, E	5	N	101.2	16.8	104.8	96.6%				
259	26-Feb-09	Fill	Cell 1	N 1/2, E	5	N	101.7	13.6	104.8	97.0%				
260	26-Feb-09	Fill	Cell 1	N 1/2, E	5	N	100.8	15.0	104.8	96.2%				
261	26-Feb-09	Fill	Cell 1	N 1/2, C	5	N	100.5	14.6	104.8	95.9%				
262	26-Feb-09	Fill	Cell 1	N 1/2, E	3	N	99.8	17.2	104.8	95.2%				
263	26-Feb-09	Fill	Cell 1	N 1/2, E	3	N	99.9	17.5	104.8	95.3%				
264	26-Feb-09	Fill	Cell 1	N 1/2, C	3	N	99.6	17.7	104.8	95.0%	15.6	101.4	96.8%	oven moisture
265	26-Feb-09	Fill	Cell 1	N 1/2, W	3	N	101.3	17.7	104.8	96.7%				
266	26-Feb-09	SG	Cell 1	N 1/2, E	-	N	113.2	10.7	116.3	97.3%				
267	26-Feb-09	SG	Cell 1	S 1/2, E	-	N	113.4	11.0	116.3	97.5%				
268	26-Feb-09	SG	Cell 1	S 1/2, E	-	N	112.6	11.4	116.3	96.8%				
269	26-Feb-09	SG	Cell 1	N 1/2, E	-	N	112.2	10.5	116.3	96.5%				
270	26-Feb-09	Fill	Cell 2	N 1/2, E	5	N	104.1	15.8	104.8	99.3%				
271	26-Feb-09	Fill	Cell 1	N 1/2, W	5	N	100.7	13.2	104.8	96.1%				
272	26-Feb-09	Fill	Cell 2	N 1/2, E	5	N	99.9	17.2	104.8	95.3%				
273	26-Feb-09	Fill	Cell 2	N 1/2, E	5	DC	100.4	12.7	104.8	95.8%				Confirm Test No. 271
274	26-Feb-09	Fill	Cell 2	S 1/2, E	6	N	100.4	10.8	104.8	95.8%				
275	26-Feb-09	Fill	Cell 2	S 1/2, E	6	N	100.8	11.9	104.8	96.2%				
276	26-Feb-09	Fill	Cell 2	S 1/2, E	6	N	100.7	15.0	104.8	96.1%	13.3	102.2	97.5%	oven moisture
277	26-Feb-09	SG	Cell 1	N 1/2, E	-	N	113.7	9.9	116.3	97.8%				
278	26-Feb-09	SG	Cell 1	N 1/2, E	-	N	114.3	10.2	116.3	98.3%				
279	26-Feb-09	SG	Cell 1	N 1/2, E	-	N	112.7	9.8	116.3	96.9%				
280	26-Feb-09	SG	Cell 1	N 1/2, E	-	N	113.4	10.0	116.3	97.5%				
281	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	99.8	16.2	104.8	95.2%				
282	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	100.6	11.0	104.8	96.0%				
283	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	99.5	12.1	103.3	96.3%				
284	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	101.8	13.7	104.8	97.1%				
285	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	102.3	10.9	104.8	97.6%				
286	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	100.4	10.2	104.8	95.8%				
287	26-Feb-09	Fill	Cell 1	S 1/2, C	6	DC	100.6	10.5	104.8	96.0%				Confirm Test No. 286
288	26-Feb-09	Fill	Cell 2	S 1/2, E	6	N	99.9	15.1	104.8	95.3%				
289	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	100.6	17.9	104.8	96.0%				
290	26-Feb-09	Fill	Cell 1	S 1/2, E	6	N	100.8	17.5	104.8	96.2%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
291	27-Feb-09	Fill	Cell 2	N 1/2, E	6	N	101.0	9.0	104.8	96.4%				
292	27-Feb-09	Fill	Cell 2	N 1/2, E	4	N	99.8	16.5	104.8	95.2%				
293	27-Feb-09	Fill	Cell 1	N 1/2, E	6	N	100.9	15.7	104.8	96.3%				
294	27-Feb-09	Fill	Cell 1	N 1/2, E	4	N	100.2	16.0	104.8	95.6%				
295	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.7	10.3	113.3	97.7%				
296	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	109.8	10.9	113.3	96.9%				
297	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.1	10.1	113.3	97.2%				
298	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	111.0	9.9	113.3	98.0%				
299	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.2	11.5	113.3	97.3%				
300	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	108.7	13.4	113.3	95.9%				
301	27-Feb-09	SG	Cell 1	N 1/2, C	-	N	109.4	10.3	113.3	96.6%				
302	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	110.7	10.0	113.3	97.7%				
303	27-Feb-09	SG	Cell 1	N 1/2, E	-	N	109.2	12.3	113.3	96.4%				
304	27-Feb-09	SG	Cell 1	N 1/2, E	-	DC	109.3	11.9	113.3	96.5%				Confirm Test No. 303
Week of 3/3/09 - 3/7/09														
305	3-Mar-09	Fill	Cell 1	S 1/2, W	6	N	103.9	12.5	104.8	99.1%	13.6	102.9	98.2%	oven moisture
306	3-Mar-09	Fill	Cell 1	S 1/2, C	6	N	100.8	16.3	104.8	96.2%				
307	3-Mar-09	Fill	Cell 1	S 1/2, W	6	N	102.2	14.8	104.8	97.5%				
308	3-Mar-09	Fill	Cell 1	S 1/2, E	7	N	101.3	9.1	104.8	96.7%				
309	3-Mar-09	Fill	Cell 1	S 1/2, E	7	N	102.6	10.7	104.8	97.9%				
310	3-Mar-09	Fill	Cell 1	S 1/2, E	7	N	101.2	11.8	104.8	96.6%				
311	3-Mar-09	Fill	Cell 1	S 1/2, E	7	N	104.8	9.1	104.8	100.0%				
312	3-Mar-09	Fill	Cell 1	N 1/2, E	7	N	102.2	6.3	106.1	96.3%				
313	3-Mar-09	Fill	Cell 1	S 1/2, W	6	N	103.5	9.1	104.8	98.8%				
314	3-Mar-09	Fill	Cell 1	S 1/2, W	6	N	99.1	15.2	102.5	96.7%				
315	3-Mar-09	Fill	Cell 1	N 1/2, W	6	N	99.7	16.7	102.5	97.3%				
316	4-Mar-09	Fill	Cell 2	S 1/2, E	7	N	101.1	15.7	102.5	98.6%				
317	4-Mar-09	Fill	Cell 2	S 1/2, E	7	N	101.6	18.2	102.5	99.1%				
318	4-Mar-09	Fill	Cell 2	S 1/2, E	7	N	97.8	12.2	102.5	95.4%				
319	4-Mar-09	Fill	Cell 2	S 1/2, E	7	N	100.2	13.2	102.5	97.8%				
320	4-Mar-09	Fill	Cell 2	S 1/2, E	7	N	98.5	12.0	102.5	96.1%				
321	4-Mar-09	Fill	Cell 1	N 1/2, E	5	N	99.6	13.6	102.5	97.2%				
322	4-Mar-09	Fill	Cell 1	N 1/2, C	5	N	98.5	13.3	102.5	96.1%	7.6	103.7	101.2%	oven moisture

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
323	4-Mar-09	Fill	Cell 1	N 1/2, W	6	N	103.8	8.2	102.5	101.3%				
324	4-Mar-09	Fill	Cell 1	N 1/2, W	7	N	99.0	12.9	102.5	96.6%				
325	4-Mar-09	SG	Cell 2	N 1/2, E	-	N	112.3	5.0	113.3	99.1%				
326	4-Mar-09	SG	Cell 2	N 1/2, W	-	N	112.7	5.2	113.3	99.5%				
327	4-Mar-09	SG	Cell 2	N 1/2, W	-	N	113.5	4.9	113.3	100.2%				
328	4-Mar-09	SG	Cell 2	N 1/2, W	-	N	112.5	7.3	113.3	99.3%				
329	4-Mar-09	SG	Cell 2	N 1/2, W	-	N	111.9	6.5	111.8	100.1%				
330	4-Mar-09	SG	Cell 3	N 1/2, C	-	N	110.0	7.0	111.8	98.4%				
331	4-Mar-09	SG	Cell 2	N 1/2, W	-	N	113.5	3.0	113.3	100.2%				
332	4-Mar-09	SG	Cell 3	N 1/2, E	-	N	113.1	3.8	113.3	99.8%				
333	4-Mar-09	SG	Cell 3	N 1/2, E	-	N	113.4	3.8	113.3	100.1%				
334	4-Mar-09	SG	Cell 3	N 1/2, E	-	N	109.4	3.8	111.8	97.9%				
335	4-Mar-09	SG	Cell 3	N 1/2, E	-	N	112.8	3.9	113.3	99.6%				
336	4-Mar-09	SG	Cell 3	N 1/2, W	-	N	115.0	5.0	113.3	101.5%				
337	4-Mar-09	SG	Cell 3	N 1/2, W	-	N	111.2	6.1	111.8	99.5%				
338	4-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.2	4.2	111.8	96.8%				
339	4-Mar-09	Fill	Cell 1	S 1/2, W	7	N	101.5	10.5	102.5	99.0%				
340	4-Mar-09	Fill	Cell 1	S 1/2, C	7	N	99.2	17.2	102.5	96.8%				
341	4-Mar-09	Fill	Cell 1	S 1/2, W	7	N	102.3	15.8	102.5	99.8%				
342	5-Mar-09	Fill	Cell 1	S 1/2, W	7	N	98.1	20.2	102.5	95.7%				
343	5-Mar-09	Fill	Cell 1	N 1/2, W	7	N	102.2	18.7	102.5	99.7%				
344	5-Mar-09	Fill	Cell 1	N 1/2, W	7	N	98.1	16.5	102.5	95.7%				
345	5-Mar-09	Fill	Cell 1	N 1/2, E	7	N	101.9	15.8	102.5	99.4%				
346	5-Mar-09	Fill	Cell 1	N 1/2, C	7	N	99.9	16.8	104.8	95.3%				
347	5-Mar-09	Fill	Cell 2	N 1/2, E	7	N	102.7	16.4	104.8	98.0%				
348	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	108.0	9.5	112.3	96.2%				
349	5-Mar-09	SG	Cell 2	S 1/2, E	-	N	110.1	6.1	112.3	98.0%				
350	5-Mar-09	SG	Cell 3	S 1/2, E	-	N	109.6	8.2	112.3	97.6%				
351	5-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.4	9.0	112.3	96.5%				
352	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	108.9	7.9	112.3	97.0%				
353	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	110.5	7.3	112.3	98.4%				
354	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	111.2	9.3	112.3	99.0%				
355	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	107.7	9.3	112.3	95.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
356	5-Mar-09	SG	Cell 3	S 1/2, E	-	N	109.0	8.3	112.3	97.1%				
357	5-Mar-09	SG	Cell 3	S 1/2, E	-	N	110.3	7.9	112.3	98.2%				
358	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	110.8	8.8	112.3	98.7%				
359	5-Mar-09	SG	Cell 2	S 1/2, W	-	N	109.9	9.0	112.3	97.9%				
360	5-Mar-09	Fill	Cell 1	S 1/2, E	8	N	97.7	21.0	102.5	95.3%				
361	5-Mar-09	Fill	Cell 1	S 1/2, E	8	N	99.4	19.1	102.5	97.0%				
362	5-Mar-09	Fill	Cell 1	S 1/2, E	8	N	99.8	20.5	102.5	97.4%				
363	5-Mar-09	Fill	Cell 1	S 1/2, E	8	N	98.4	19.3	102.5	96.0%				
364	5-Mar-09	Fill	Cell 1	S 1/2, E	8	N	98.7	18.9	102.5	96.3%				
365	5-Mar-09	Fill	Cell 2	N 1/2, E	5	DC	102.0	12.7	104.8	97.3%				Retest No. 250
366	5-Mar-09	Fill	Cell 1	S 1/2, E	8	DC	99.1	20.4	102.5	96.7%				
367	6-Mar-09	Fill	Cell 1	S 1/2, C	8	N	100.2	16.3	102.5	97.8%	13.8	102.4	99.9%	oven moisture
368	6-Mar-09	Fill	Cell 1	S 1/2, C	8	N	99.4	12.9	102.5	97.0%				
369	6-Mar-09	Fill	Cell 1	N 1/2, E	8	N	101.5	10.8	102.5	99.0%				
370	6-Mar-09	Fill	Cell 1	N 1/2, E	8	DC	98.1	15.6	102.5	95.7%				
371	7-Mar-09	Fill	Cell 1	S 1/2, W	8	N	101.6	13.2	102.5	99.1%				
372	7-Mar-09	Fill	Cell 2	S 1/2, E	8	N	106.9	10.5	108.9	98.2%				
373	7-Mar-09	Fill	Cell 1	N 1/2, W	8	N	98.0	15.1	102.5	95.6%				
374	7-Mar-09	Fill	Cell 2	N 1/2, C	8	N	98.0	16.2	102.5	95.6%				
375	7-Mar-09	Fill	Cell 2	N 1/2, C	8	N	97.6	17.6	102.5	95.2%				
376	7-Mar-09	Fill	Cell 2	N 1/2, E	8	N	98.5	16.9	102.5	96.1%				
377	7-Mar-09	Fill	Cell 1	S 1/2, E	8	N	101.8	9.6	103.3	98.5%				
378	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	108.8	9.1	111.8	97.3%				
379	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	108.2	9.0	111.8	96.8%				
380	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	109.9	9.5	111.8	98.3%				
381	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	110.8	9.9	111.8	99.1%				
382	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	109.7	10.3	111.8	98.1%				
383	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	109.3	12.5	111.8	97.8%				
384	7-Mar-09	SG	Cell 2	N 1/2, W	-	N	110.2	9.2	111.8	98.6%				
385	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	111.2	11.3	111.8	99.5%				
386	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	110.5	8.7	111.8	98.8%				
387	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	107.7	13.3	111.8	96.3%				
388	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	110.1	7.5	111.8	98.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
389	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	110.7	10.0	111.8	99.0%				
390	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	111.5	9.5	111.8	99.7%				
391	7-Mar-09	SG	Cell 2	N 1/2, C	-	N	110.4	12.3	112.3	98.3%				
392	7-Mar-09	SG	Cell 2	S 1/2, C	-	N	111.6	12.6	112.3	99.4%				
393	7-Mar-09	SG	Cell 2	S 1/2, C	-	N	112.2	8.5	112.3	99.9%				
394	7-Mar-09	SG	Cell 2	S 1/2, C	-	N	109.9	5.4	112.3	97.9%				
395	7-Mar-09	SG	Cell 2	S 1/2, W	-	N	110.8	7.3	112.3	98.7%				
396	7-Mar-09	SG	Cell 2	S 1/2, W	-	N	111.5	8.5	112.3	99.3%				
397	7-Mar-09	SG	Cell 2	S 1/2, W	-	N	111.3	6.9	112.3	99.1%				
398	7-Mar-09	SG	Cell 2	S 1/2, W	-	N	110.4	7.5	112.3	98.3%				
Week of	**3/9/09 - 3/13/09**													
399	9-Mar-09	Fill	Cell 1	S 1/2, E	9	N	101.7	14.7	104.8	97.0%				
400	9-Mar-09	Fill	Cell 1	S 1/2, W	9	N	98.6	13.8	102.5	96.2%				
401	9-Mar-09	Fill	Cell 1	S 1/2, E	9	N	102.4	9.5	102.5	99.9%				
402	9-Mar-09	Fill	Cell 1	S 1/2, W	9	N	97.4	18.7	102.5	95.0%				
403	9-Mar-09	Fill	Cell 1	S 1/2, E	9	N	100.7	12.8	102.5	98.2%				
404	9-Mar-09	Fill	Cell 1	S 1/2, W	9	N	99.2	19.4	102.5	96.8%				
405	9-Mar-09	Fill	Cell 1	N 1/2, E	9	N	105.0	16.2	106.1	99.0%				
406	10-Mar-09	Fill	Cell 2	S 1/2, E	9	N	101.1	8.8	102.5	98.6%				
407	10-Mar-09	Fill	Cell 1	S 1/2, W	10	N	97.8	11.3	102.5	95.4%				
408	10-Mar-09	Fill	Cell 1	S 1/2, E	10	N	99.4	12.7	102.5	97.0%				
409	10-Mar-09	Fill	Cell 1	S 1/2, E	10	N	97.8	14.4	102.5	95.4%	7.7	103.9	101.4%	oven moisture
410	10-Mar-09	Fill	Cell 1	S 1/2, C	10	N	98.3	15.0	102.5	95.9%				
411	10-Mar-09	Fill	Cell 2	S 1/2, E	9	N	106.6	8.6	106.1	100.5%				
412	10-Mar-09	Fill	Cell 2	S 1/2, E	9	N	103.8	12.6	106.1	97.8%				
413	10-Mar-09	Fill	Cell 1	S 1/2, W	10	DC	99.3	14.8	102.5	96.9%				
414	10-Mar-09	Fill	Cell 1	S 1/2, C	10	N	100.0	17.5	102.5	97.6%				
415	10-Mar-09	Fill	Cell 1	S 1/2, E	10	N	101.2	15.4	102.5	98.7%				
416	10-Mar-09	Fill	Cell 2	S 1/2, E	10	N	99.3	17.3	102.5	96.9%				
417	10-Mar-09	Fill	Cell 2	S 1/2, E	10	N	102.3	13.6	102.5	99.8%				
418	10-Mar-09	Fill	Cell 1	S 1/2, E	11	N	102.4	13.0	102.5	99.9%				
419	10-Mar-09	Fill	Cell 1	S 1/2, E	11	N	101.0	10.2	102.5	98.5%				
420	10-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.5	11.7	112.3	96.6%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

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Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
421	10-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.2	12.1	112.3	97.2%				
422	10-Mar-09	SG	Cell 3	S 1/2, C	-	N	108.0	10.6	112.3	96.2%				
423	10-Mar-09	SG	Cell 3	S 1/2, E	-	N	109.9	10.3	112.3	97.9%				
424	10-Mar-09	SG	Cell 3	S 1/2, E	-	N	110.7	11.2	112.3	98.6%				
425	10-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.8	11.6	112.3	96.9%				
426	11-Mar-09	Fill	Cell 1	S 1/2, E	11	N	100.2	10.7	102.5	97.8%				
427	11-Mar-09	Fill	Cell 2	S 1/2, E	10	N	104.0	9.7	104.8	99.2%				
428	11-Mar-09	Fill	Cell 1	S 1/2, W	11	N	101.1	13.4	102.5	98.6%				
429	11-Mar-09	Fill	Cell 1	S 1/2, W	11	N	100.7	14.2	102.5	98.2%				
430	11-Mar-09	Fill	Cell 1	S 1/2, E	11	N	101.7	10.4	102.5	99.2%				
431	11-Mar-09	Fill	Cell 2	N 1/2, E	10	N	106.8	9.9	106.1	100.7%				
432	11-Mar-09	Fill	Cell 1	N 1/2, W	10	DC	104.8	10.7	106.1	98.8%				
433	11-Mar-09	Fill	Cell 1	N 1/2, W	11	N	98.6	20.2	102.5	96.2%				
434	11-Mar-09	Fill	Cell 1	N 1/2, E	11	N	101.4	16.3	102.5	98.9%				
435	12-Mar-09	Fill	Cell 1	S 1/2, E	12	N	99.2	18.4	102.5	96.8%				
436	12-Mar-09	Fill	Cell 1	S 1/2, E	12	N	99.3	17.7	102.5	96.9%				
437	12-Mar-09	Fill	Cell 1	S 1/2, E	12	N	99.6	18.2	102.5	97.2%				
438	12-Mar-09	Fill	Cell 1	S 1/2, E	12	N	99.4	16.3	102.5	97.0%				
439	12-Mar-09	Fill	Cell 1	S 1/2, E	12	N	99.4	17.1	102.5	97.0%				
440	12-Mar-09	Fill	Cell 1	N 1/2, E	12	N	98.8	18.9	102.5	96.4%				
441	12-Mar-09	Fill	Cell 1	S 1/2, E	12	N	99.1	14.9	102.5	96.7%				
442	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	112.0	6.3	112.3	99.7%				
443	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.3	7.0	112.3	99.1%				
444	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	110.8	6.5	112.3	98.7%				
445	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.7	7.2	112.3	99.5%				
446	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.2	8.5	112.3	99.0%				
447	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.3	6.9	112.3	99.1%				
448	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.1	8.1	112.3	98.9%				
449	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	110.8	9.3	112.3	98.7%				
450	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.5	11.2	112.3	99.3%				
451	12-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.7	12.5	112.3	99.5%				
452	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	108.1	13.3	112.3	96.3%				
453	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	109.5	12.5	111.8	97.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

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Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
454	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	110.1	13.0	111.8	98.5%				
455	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	110.7	10.7	111.8	99.0%				
456	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	111.1	7.0	111.8	99.4%				
457	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	111.5	7.3	111.8	99.7%				
458	12-Mar-09	SG	Cell 3	N 1/2, E	-	N	110.9	6.7	111.8	99.2%				
459	13-Mar-09	SG	Cell 3	S 1/2, C	-	N	112.5	7.1	113.3	99.3%				
460	13-Mar-09	SG	Cell 3	S 1/2, C	-	N	113.2	6.8	113.3	99.9%				
461	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.8	9.3	113.3	98.7%				
462	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	110.9	9.0	113.3	97.9%				
463	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	112.2	8.1	113.3	99.0%				
464	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.6	8.5	113.3	98.5%				
465	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	109.8	7.4	113.3	96.9%				
466	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	110.1	6.9	113.3	97.2%				
467	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	111.6	10.3	113.3	98.5%				
468	13-Mar-09	SG	Cell 3	S 1/2, E	-	N	108.7	11.3	113.3	95.9%				
469	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	107.0	12.0	109.4	97.8%				
470	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	109.3	11.5	109.4	99.9%				
471	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	108.7	9.1	109.4	99.4%				
472	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	107.3	7.5	109.4	98.1%				
473	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	106.9	6.7	109.4	97.7%				
474	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	107.1	7.0	109.4	97.9%				
475	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	107.5	8.1	109.4	98.3%				
476	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	108.4	6.3	109.4	99.1%				
477	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	107.6	5.8	109.4	98.4%				
478	13-Mar-09	SG	Cell 3	N 1/2, E	-	N	106.2	6.1	109.4	97.1%				
479	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	109.2	6.3	109.4	99.8%				
480	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.7	5.8	109.4	99.4%				
481	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	107.0	6.9	109.4	97.8%				
482	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	107.8	7.0	109.4	98.5%				
483	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	106.8	7.7	109.4	97.6%				
484	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	105.9	7.3	109.4	96.8%				
485	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.4	9.3	109.4	99.1%				
486	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	109.1	10.3	109.4	99.7%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
487	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.2	12.7	109.4	98.9%				
488	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	107.6	13.2	109.4	98.4%				
489	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	112.5	12.9	113.3	99.3%				
490	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	113.0	13.4	113.3	99.7%				
491	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.9	11.7	113.3	98.8%				
492	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.7	10.9	113.3	96.8%				
493	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.7	9.3	113.3	95.9%				
494	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.0	10.0	113.3	95.3%				
495	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.1	7.3	113.3	98.1%				
496	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.9	6.1	113.3	97.0%				
497	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.3	5.8	113.3	96.5%				
498	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.8	7.0	113.3	98.7%				
499	13-Mar-09	SG	Cell 4	S 1/2, E	-	N	109.3	5.1	112.3	97.3%				
500	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.6	5.4	112.3	96.7%				
501	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	110.5	6.7	112.3	98.4%				
502	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.5	7.3	112.3	99.3%				
503	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.6	5.9	112.3	99.4%				
504	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	110.1	8.6	112.3	98.0%				
505	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.6	9.0	112.3	97.6%				
506	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.4	8.7	112.3	96.5%				
507	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	108.7	6.6	112.3	96.8%				
508	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.3	10.3	112.3	97.3%				
509	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.2	12.0	112.3	99.0%				
510	13-Mar-09	SG	Cell 3	S 1/2, W	-	N	112.0	11.7	112.3	99.7%				
511	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	111.4	13.3	112.3	99.2%				
512	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	111.7	12.9	111.8	99.9%				
513	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	110.3	13.1	111.8	98.7%				
514	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.1	10.3	111.8	96.7%				
515	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	107.4	7.3	111.8	96.1%				
516	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.8	8.1	111.8	97.3%				
517	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	109.6	5.9	111.8	98.0%				
518	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	110.3	6.4	111.8	98.7%				
519	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	107.2	7.1	111.8	95.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
520	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	107.7	6.0	111.8	96.3%				
521	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	108.6	5.5	111.8	97.1%				
522	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	111.1	6.3	111.8	99.4%				
523	13-Mar-09	SG	Cell 3	N 1/2, W	-	N	109.8	7.3	111.8	98.2%				
524	13-Mar-09	Fill	Cell 2	S 1/2, W	1	N	100.7	15.2	104.6	96.3%				
525	13-Mar-09	Fill	Cell 2	S 1/2, W	1	N	99.8	15.9	104.6	95.4%				
526	13-Mar-09	Fill	Cell 3	S 1/2, E	1	N	101.1	14.2	104.6	96.7%				
527	13-Mar-09	Fill	Cell 3	S 1/2, C	1	N	101.5	13.5	104.6	97.0%				
528	13-Mar-09	Fill	Cell 3	S 1/2, W	1	N	100.2	15.7	104.6	95.8%				
529	13-Mar-09	Fill	Cell 1	S 1/2, E	13	N	102.1	13.2	104.6	97.6%				
530	13-Mar-09	Fill	Cell 1	S 1/2, W	12	N	100.6	13.7	104.6	96.2%				
531	13-Mar-09	Fill	Cell 1	S 1/2, W	12	N	100.2	12.5	104.6	95.8%				
532	13-Mar-09	Fill	Cell 2	S 1/2, W	11	N	101.9	18.5	104.6	97.4%				
533	13-Mar-09	Fill	Cell 2	S 1/2, W	11	N	104.5	12.5	104.6	99.9%				
534	13-Mar-09	Fill	Cell 2	S 1/2, W	11	N	100.0	13.7	104.6	95.6%				
Week of 3/17/09 - 3/21/09														
535	17-Mar-09	SG	Cell 3	S 1/2, E	-	N	108.0	7.8	112.3	96.2%				
536	17-Mar-09	SG	Cell 3	S 1/2, E	-	N	109.9	10.3	112.3	97.9%				
537	17-Mar-09	SG	Cell 3	S 1/2, W	-	N	107.3	9.9	112.3	95.5%				
538	17-Mar-09	SG	Cell 3	S 1/2, W	-	N	109.5	10.5	112.3	97.5%				
539	17-Mar-09	SG	Cell 3	S 1/2, W	-	N	110.6	11.3	112.3	98.5%				
540	17-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.3	10.7	112.3	99.1%				
541	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	110.0	9.6	112.3	98.0%				
542	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	109.5	9.8	112.3	97.5%				
543	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	108.7	10.3	112.3	96.8%				
544	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	109.3	11.2	112.3	97.3%				
545	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	107.6	9.3	112.3	95.8%				
546	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	107.9	8.8	112.3	96.1%				
547	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	109.4	10.0	112.3	97.4%				
548	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	110.2	9.5	112.3	98.1%				
549	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	109.6	9.3	112.3	97.6%				
550	17-Mar-09	SG	Cell 4	S 1/2, E	-	N	112.2	9.9	113.3	99.0%				
551	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.3	9.1	113.3	97.4%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
552	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.8	7.6	113.3	96.0%				
553	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.1	8.8	113.3	95.4%				
554	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	107.8	9.1	113.3	95.1%				
555	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.0	10.0	113.3	96.2%				
556	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.6	9.2	113.3	95.9%				
557	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	107.9	10.3	113.3	95.2%				
558	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.7	11.2	113.3	96.8%				
559	17-Mar-09	SG	Cell 4	S 1/2, C	-	N	110.5	7.6	113.3	97.5%				
560	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.1	9.0	113.3	98.1%				
561	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.3	10.1	113.3	97.4%				
562	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.9	8.7	113.3	97.0%				
563	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.4	9.9	113.3	96.6%				
564	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.5	10.3	113.3	95.8%				
565	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.0	8.3	113.3	95.3%				
566	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.9	7.7	113.3	96.1%				
567	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.8	9.2	113.3	96.9%				
568	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.4	8.9	113.3	97.4%				
569	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.3	8.5	113.3	96.5%				
570	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.6	9.9	113.3	97.6%				
571	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.3	10.3	113.3	98.2%				
572	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.7	9.5	113.3	98.6%				
573	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	112.0	8.6	113.3	98.9%				
574	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.1	9.0	113.3	97.2%				
575	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	109.4	8.3	113.3	96.6%				
576	17-Mar-09	SG	Cell 4	S 1/2, W	-	N	108.9	7.9	113.3	96.1%				
577	17-Mar-09	BF	FM	N Leach	-2.7	N	110.0	9.3	110.7	99.4%				
578	17-Mar-09	Fill	Cell 2	S 1/2, W	2	N	102.5	13.8	106.1	96.6%				
579	17-Mar-09	Fill	Cell 2	S 1/2, W	2	N	104.0	13.6	106.1	98.0%				
580	17-Mar-09	Fill	Cell 3	S 1/2, E	2	N	102.8	17.0	106.1	96.9%				
581	17-Mar-09	Fill	Cell 3	S 1/2, E	2	N	101.9	15.2	106.1	96.0%				
582	18-Mar-09	BF	FM	N Leach	-2.2	N	106.6	9.7	110.7	96.3%				
583	18-Mar-09	BF	FM	N Leach	-2.7	N	107.9	10.2	110.7	97.5%				
584	18-Mar-09	BF	FM	N Leach	-2.7	N	107.3	10.5	110.7	96.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
585	18-Mar-09	Fill	Cell 1	S 1/2, E	13	N	106.0	9.6	108.5	97.7%				
586	18-Mar-09	Fill	Cell 1	S 1/2, E	13	N	105.4	10.3	108.5	97.1%				
587	18-Mar-09	BF	FM	N Leach	-2.2	N	108.1	9.3	110.7	97.7%				
588	18-Mar-09	BF	FM	N Leach	-2.2	N	107.0	10.1	110.7	96.7%				
589	18-Mar-09	Fill	Cell 1	N 1/2, W	4	N	103.7	13.4	103.3	100.4%				
590	18-Mar-09	Fill	Cell 2	N 1/2, E	4	N	103.3	14.2	103.3	100.0%				
591	18-Mar-09	Fill	Cell 2	N 1/2, C	3	N	102.1	10.0	103.3	98.8%				
592	18-Mar-09	Fill	Cell 2	N 1/2, C	2	N	101.7	9.7	103.3	98.5%				
593	18-Mar-09	Fill	Cell 2	N 1/2, C	1	N	102.6	11.3	103.3	99.3%				
594	18-Mar-09	Fill	Cell 2	N 1/2, C	2	N	102.8	8.9	103.3	99.5%				
595	18-Mar-09	Fill	Cell 2	N 1/2, C	3	N	101.4	9.9	103.3	98.2%				
596	18-Mar-09	Fill	Cell 2	N 1/2, E	7	N	102.8	10.3	103.3	99.5%				
597	18-Mar-09	Fill	Cell 2	N 1/2, E	8	N	99.2	12.6	103.3	96.0%				
598	18-Mar-09	Fill	Cell 2	N 1/2, E	8	N	102.0	10.9	103.3	98.7%				
599	18-Mar-09	Fill	Cell 2	S 1/2, C	1	N	99.0	12.1	103.3	95.8%				
600	18-Mar-09	Fill	Cell 2	S 1/2, C	8	N	103.0	10.7	103.3	99.7%				
601	18-Mar-09	Fill	Cell 2	S 1/2, C	8	N	100.5	11.2	103.3	97.3%				
602	18-Mar-09	Fill	Cell 2	S 1/2, C	5	N	100.9	12.1	103.3	97.7%				
603	18-Mar-09	Fill	Cell 1	N 1/2, E	6	N	101.1	11.2	103.3	97.9%				
604	18-Mar-09	Fill	Cell 1	N 1/2, E	3	N	100.6	10.6	103.3	97.4%				
605	18-Mar-09	Fill	Cell 1	N 1/2, E	2	N	100.2	12.3	103.3	97.0%				
606	18-Mar-09	Fill	Cell 1	N 1/2, W	2	DC	113.6	15.2	113.9	99.7%				
607	18-Mar-09	Fill	Cell 1	N 1/2, W	3	DC	110.0	17.1	113.9	96.6%				
608	18-Mar-09	Fill	Cell 1	N 1/2, C	6	DC	114.5	9.9	113.9	100.5%				
609	18-Mar-09	Fill	Cell 1	S 1/2, W	8	DC	102.4	19.0	103.3	99.1%				
610	18-Mar-09	Fill	Cell 1	S 1/2, W	8	DC	111.1	16.0	113.9	97.5%				
611	18-Mar-09	BF	FM	N Leach	-1.7	N	108.7	9.4	110.7	98.2%				
612	18-Mar-09	BF	FM	N Leach	-1	N	109.2	10.7	110.7	98.6%				
613	18-Mar-09	BF	FM	N Leach	-1.7	N	108.5	11.3	110.7	98.0%				
614	18-Mar-09	BF	FM	N Leach	-1.7	N	108.0	11.0	110.7	97.6%				
615	18-Mar-09	BF	FM	N Leach	0	N	107.1	10.3	110.7	96.7%				
616	18-Mar-09	BF	FM	N Leach	-1	N	105.2	9.7	110.7	95.0%				
617	18-Mar-09	BF	FM	N Leach	0	N	106.6	9.0	110.7	96.3%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
618	18-Mar-09	BF	FM	N Leach	-1	N	107.4	10.6	110.7	97.0%				
619	19-Mar-09	Fill	Cell 2	S 1/2, E	12	N	98.9	15.2	103.3	95.7%				
620	19-Mar-09	Fill	Cell 2	S 1/2, E	12	N	98.2	16.7	103.3	95.1%				
621	19-Mar-09	Fill	Cell 3	S 1/2, E	1	N	99.5	13.9	103.3	96.3%				
622	19-Mar-09	Fill	Cell 4	S 1/2, E	1	N	98.3	18.4	103.3	95.2%				
623	19-Mar-09	Fill	Cell 2	S 1/2, W	2	N	102.8	11.4	103.3	99.5%				
624	19-Mar-09	Fill	Cell 2	S 1/2, W	2	N	102.0	16.4	103.3	98.7%	15.5	102.8	99.5%	oven moisture
625	19-Mar-09	Fill	Cell 3	S 1/2, W	2	N	98.9	17.3	103.3	95.7%				
626	19-Mar-09	Fill	Cell 3	S 1/2, E	2	N	101.1	11.0	104.6	96.7%				
627	19-Mar-09	Fill	Cell 3	S 1/2, W	2	N	99.6	14.0	104.6	95.2%				
628	19-Mar-09	BF	FM	N Leach	0	N	103.4	10.4	110.7	93.4%				Spec - 85%
629	19-Mar-09	BF	FM	N Leach	-2.7	N	106.2	10.5	110.7	95.9%				
630	19-Mar-09	Fill	Cell 1	S 1/2, E	14	N	100.4	18.6	104.6	96.0%				
631	19-Mar-09	Fill	Cell 1	S 1/2, E	14	N	99.7	19.1	104.6	95.3%				
632	19-Mar-09	Fill	Cell 1	S 1/2, E	13	N	99.9	19.2	104.6	95.5%				
633	19-Mar-09	Fill	Cell 1	S 1/2, E	13	N	102.7	16.2	104.6	98.2%				
634	19-Mar-09	BF	FM	N Leach	-2.2	N	107.4	9.7	110.7	97.0%				
635	19-Mar-09	BF	FM	N Leach	-1.7	N	107.2	10.2	110.7	96.8%				
636	20-Mar-09	Fill	Cell 1	S 1/2, W	13	N	99.3	18.0	103.3	96.1%				
637	20-Mar-09	Fill	Cell 1	S 1/2, W	13	N	101.6	16.4	103.3	98.4%				
638	21-Mar-09	Fill	Cell 3	S 1/2, E	2	N	102.0	16.0	104.6	97.5%				
639	21-Mar-09	Fill	Cell 3	S 1/2, W	2	N	100.8	18.1	104.6	96.4%				
640	21-Mar-09	Fill	Cell 4	S 1/2, E	2	N	101.6	20.5	104.6	97.1%				
641	21-Mar-09	Fill	Cell 4	S 1/2, E	1	N	101.1	11.7	104.6	96.7%				
642	21-Mar-09	Fill	Cell 4	S 1/2, W	1	N	99.6	20.9	104.6	95.2%				
643	21-Mar-09	Fill	Cell 4	S 1/2, C	1	N	99.7	20.5	104.6	95.3%				
644	21-Mar-09	Fill	Cell 4	S 1/2, W	1	N	99.9	21.1	104.6	95.5%	21.0	100.0	95.6%	oven moisture
645	21-Mar-09	SG	Cell 3	N 1/2, E	-	N	111.7	7.4	111.8	99.9%				
646	21-Mar-09	SG	Cell 2	N 1/2, E	-	N	111.2	7.2	111.8	99.5%				
647	21-Mar-09	SG	Cell 2	N 1/2, E	-	N	111.4	7.9	111.8	99.6%				
648	21-Mar-09	SG	Cell 2	N 1/2, E	-	N	110.6	6.8	111.8	98.9%				
649	21-Mar-09	SG	Cell 2	N 1/2, E	-	N	110.9	8.1	111.8	99.2%				
650	21-Mar-09	SG	Cell 2	S 1/2, E	-	N	111.6	7.1	111.8	99.8%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
651	21-Mar-09	SG	Cell 2	S 1/2, E	-	N	110.7	6.3	111.8	99.0%				
652	21-Mar-09	SG	Cell 2	N 1/2, E	-	N	110.8	6.3	111.8	99.1%				
653	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	109.9	5.9	111.8	98.3%				
654	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	110.3	6.2	111.8	98.7%				
655	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.4	10.0	111.8	99.6%				
656	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.0	10.2	111.8	99.3%				
657	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	109.3	9.8	111.8	97.8%				
658	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	110.5	10.4	111.8	98.8%				
659	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.4	9.9	111.8	99.6%				
660	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	110.7	10.3	111.8	99.0%				
661	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	111.0	7.9	111.8	99.3%				
662	21-Mar-09	SG	Cell 4	N 1/2, C	-	N	111.5	8.4	111.8	99.7%				
663	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	110.8	9.0	111.8	99.1%				
664	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.1	8.2	111.8	99.4%				
665	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	110.8	7.9	111.8	99.1%				
666	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.6	9.1	111.8	99.8%				
667	21-Mar-09	SG	Cell 4	N 1/2, C	-	N	109.5	6.1	111.8	97.9%				
668	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	110.3	7.3	111.8	98.7%				
669	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	110.9	8.0	111.8	99.2%				
670	21-Mar-09	SG	Cell 4	N 1/2, C	-	N	111.6	8.3	111.8	99.8%				
671	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.2	7.8	111.8	99.5%				
672	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.0	8.7	111.8	99.3%				
673	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.4	8.3	111.8	99.6%				
674	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.7	7.7	111.8	99.9%				
675	21-Mar-09	SG	Cell 4	N 1/2, C	-	N	110.5	6.3	111.8	98.8%				
676	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	110.9	6.8	111.8	99.2%				
677	21-Mar-09	SG	Cell 4	N 1/2, E	-	N	110.7	7.3	111.8	99.0%				
678	21-Mar-09	SG	Cell 4	N 1/2, C	-	N	110.9	7.0	111.8	99.2%				
679	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	110.2	5.3	111.8	98.6%				
680	21-Mar-09	SG	Cell 4	N 1/2, W	-	N	111.5	7.8	111.8	99.7%				
681	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	113.2	7.3	113.3	99.9%				
682	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.5	5.3	113.3	98.4%				
683	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	112.2	8.7	113.3	99.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
684	21-Mar-09	SG	Cell 4	S 1/2, E	-	N	112.5	7.9	113.3	99.3%				
685	21-Mar-09	SG	Cell 4	S 1/2, E	-	N	113.0	8.0	113.3	99.7%				
686	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	112.4	7.3	113.3	99.2%				
687	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.1	6.0	113.3	98.1%				
688	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	112.3	7.1	113.3	99.1%				
689	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.8	6.8	113.3	98.7%				
690	21-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.0	8.3	113.3	98.0%				
691	21-Mar-09	SG	Cell 4	S 1/2, C	-	N	112.5	9.2	113.3	99.3%				
692	21-Mar-09	SG	Cell 4	S 1/2, E	-	N	112.7	8.5	113.3	99.5%				
693	21-Mar-09	SG	Cell 4	S 1/2, E	-	N	113.2	7.3	113.3	99.9%				
694	21-Mar-09	SG	Cell 4	S 1/2, C	-	N	112.3	9.0	113.3	99.1%				
Week of 3/23/09 - 3/28/09														
695	23-Mar-09	Fill	Cell 1	S 1/2, E	16	N	106.7	10.6	109.0	97.9%				
696	23-Mar-09	Fill	Cell 1	S 1/2, W	16	N	106.0	12.7	109.0	97.2%				
697	23-Mar-09	Fill	Cell 2	S 1/2, E	16	N	105.7	11.6	109.0	97.0%	10.3	106.9	98.1%	oven moisture
698	23-Mar-09	Fill	Cell 2	S 1/2, E	13	N	100.1	14.3	102.5	97.7%				
699	23-Mar-09	Fill	Cell 2	S 1/2, E	13	N	99.5	13.2	102.5	97.1%				
700	23-Mar-09	Fill	Cell 3	S 1/2, W	3	N	109.3	14.0	111.0	98.5%				
701	23-Mar-09	Fill	Cell 3	S 1/2, W	3	N	102.1	18.8	104.9	97.3%				
702	23-Mar-09	Fill	Cell 3	S 1/2, E	3	N	101.3	15.5	104.9	96.6%				
703	23-Mar-09	Fill	Cell 1	S 1/2, W	14	N	102.4	16.6	104.9	97.6%				
704	23-Mar-09	Fill	Cell 1	S 1/2, W	14	N	104.9	14.6	104.9	100.0%				
705	23-Mar-09	Fill	Cell 4	S 1/2, E	3	N	101.5	16.2	103.3	98.3%				
706	23-Mar-09	Fill	Cell 4	S 1/2, W	2	N	102.4	17.7	103.3	99.1%				
707	23-Mar-09	Fill	Cell 4	S 1/2, W	3	N	98.7	18.0	103.3	95.5%				
708	23-Mar-09	Fill	Cell 4	S 1/2, C	2	N	100.8	15.3	103.3	97.6%				
709	24-Mar-09	Fill	Cell 4	S 1/2, W	2	N	100.7	12.1	103.3	97.5%				
710	24-Mar-09	Fill	Cell 4	S 1/2, W	3	N	101.3	11.6	103.3	98.1%				
711	24-Mar-09	Fill	Cell 4	S 1/2, W	3	N	100.2	12.7	103.3	97.0%				
712	24-Mar-09	Fill	Cell 2	S 1/2, E	14	N	104.7	13.3	104.9	99.8%				
713	24-Mar-09	Fill	Cell 2	S 1/2, E	14	N	103.8	15.2	104.9	99.0%				
714	24-Mar-09	Fill	Cell 2	S 1/2, E	13	N	102.3	13.3	104.9	97.5%				
715	24-Mar-09	Fill	Cell 2	S 1/2, E	13	N	101.7	12.4	104.9	96.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
716	24-Mar-09	Fill	Cell 1	S 1/2, E	13	N	100.3	12.0	104.9	95.6%				
717	24-Mar-09	Fill	Cell 3	S 1/2, W	2	N	103.2	10.7	106.4	97.0%	9.7	104.1	97.9%	oven moisture
718	24-Mar-09	Fill	Cell 3	S 1/2, E	2	N	102.7	11.5	106.4	96.5%				
719	24-Mar-09	Fill	Cell 3	S 1/2, C	4	N	101.4	17.0	104.9	96.7%				
720	24-Mar-09	Fill	Cell 4	S 1/2, E	4	N	100.6	17.4	104.9	95.9%				
721	24-Mar-09	Fill	Cell 4	S 1/2, W	4	N	105.9	14.2	104.9	101.0%				
722	24-Mar-09	Fill	Cell 4	S 1/2, C	4	N	103.4	17.6	104.9	98.6%				
723	24-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.3	9.6	113.3	97.4%				
724	24-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.4	10.1	113.3	98.3%				
725	24-Mar-09	SG	Cell 4	S 1/2, W	-	N	111.0	11.3	113.3	98.0%				
726	24-Mar-09	SG	Cell 4	S 1/2, W	-	N	110.7	9.9	113.3	97.7%				
727	24-Mar-09	SG	Cell 3	S 1/2, E	-	N	109.8	11.7	113.3	96.9%				
728	24-Mar-09	SG	Cell 2	S 1/2, E	-	N	109.1	12.1	113.3	96.3%				
729	24-Mar-09	SG	Cell 2	S 1/2, E	-	N	108.6	9.5	113.3	95.9%				
730	24-Mar-09	SG	Cell 1	S 1/2, W	-	N	110.5	10.6	113.3	97.5%				
731	24-Mar-09	SG	Cell 2	S 1/2, E	-	N	109.3	11.5	113.3	96.5%				
732	24-Mar-09	SG	Cell 2	S 1/2, W	-	N	111.8	12.0	113.3	98.7%				
733	24-Mar-09	SG	Cell 2	S 1/2, W	-	N	112.4	10.9	113.3	99.2%				
734	24-Mar-09	Fill	Cell 4	S 1/2, W	4	N	102.7	12.7	104.9	97.9%				
735	24-Mar-09	Fill	Cell 4	S 1/2, W	4	N	102.0	13.3	104.9	97.2%				
736	25-Mar-09	SG	Cell 2	S 1/2, E	-	N	109.7	11.3	112.3	97.7%				
737	25-Mar-09	SG	Cell 2	S 1/2, E	-	N	108.6	10.7	112.3	96.7%				
738	25-Mar-09	SG	Cell 2	S 1/2, E	-	N	110.1	12.5	112.3	98.0%				
739	25-Mar-09	SG	Cell 2	S 1/2, E	-	N	109.3	12.9	112.3	97.3%				
740	25-Mar-09	SG	Cell 2	S 1/2, W	-	N	108.2	11.0	112.3	96.3%				
741	25-Mar-09	Fill	Cell 2	S 1/2, W	1	N	106.3	11.2	109.7	96.9%				
742	25-Mar-09	Fill	Cell 3	S 1/2, E	1	N	105.7	10.3	109.7	96.4%	11.4	104.7	95.4%	oven moisture
743	25-Mar-09	Fill	Cell 3	S 1/2, W	1	N	107.1	10.8	109.7	97.6%				
744	25-Mar-09	Fill	Cell 3	S 1/2, E	5	N	102.2	11.7	104.9	97.4%				
745	25-Mar-09	Fill	Cell 3	S 1/2, W	5	N	100.9	12.6	104.9	96.2%				
746	25-Mar-09	Fill	Cell 4	S 1/2, E	5	N	101.1	14.3	104.9	96.4%				
747	25-Mar-09	Fill	Cell 2	S 1/2, W	3	N	102.0	18.0	104.9	97.2%				
748	25-Mar-09	Fill	Cell 3	S 1/2, W	3	N	101.8	12.7	104.9	97.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
749	25-Mar-09	Fill	Cell 4	S 1/2, E	3	DC	108.7	12.3	109.7	99.1%				
750	25-Mar-09	Fill	Cell 4	S 1/2, E	3	N	102.8	15.2	104.9	98.0%				
751	25-Mar-09	Fill	Cell 3	S 1/2, E	3	N	100.6	14.0	104.9	95.9%				
752	25-Mar-09	Fill	Cell 2	S 1/2, W	3	N	100.0	13.4	104.9	95.3%				
753	25-Mar-09	Fill	Cell 2	S 1/2, W	1	N	103.3	11.6	104.9	98.5%				
754	25-Mar-09	Fill	Cell 3	S 1/2, E	1	N	102.1	10.5	104.9	97.3%				
755	25-Mar-09	Fill	Cell 3	S 1/2, W	2	N	107.6	11.2	109.0	98.7%				
756	25-Mar-09	Fill	Cell 3	S 1/2, W	2	N	106.8	11.8	109.0	98.0%				
757	25-Mar-09	Fill	Cell 4	S 1/2, E	2	N	105.2	10.6	109.0	96.5%				
758	25-Mar-09	Fill	Cell 4	S 1/2, E	1	N	104.7	9.6	109.0	96.1%				
759	25-Mar-09	Fill	Cell 1	S 1/2, berm	15	N	110.7	12.5	113.9	97.2%				
760	25-Mar-09	Fill	Cell 1	S 1/2, berm	15	N	111.3	11.7	113.9	97.7%				
761	25-Mar-09	Fill	Cell 2	S 1/2, berm	15	N	112.0	11.5	113.9	98.3%				
762	25-Mar-09	Fill	Cell 4	S 1/2, W	5	N	104.4	11.1	104.9	99.5%	15.0	100.9	96.1%	oven moisture
763	25-Mar-09	Fill	Cell 4	S 1/2, E	5	N	101.4	16.0	104.9	96.7%				
764	26-Mar-09	Fill	Cell 4	S 1/2, W	5	N	98.4	13.3	102.5	96.0%				
765	26-Mar-09	Fill	Cell 4	S 1/2, W	5	N	102.9	11.9	103.3	99.6%				
766	26-Mar-09	Fill	Cell 2	S 1/2, W	4	N	100.3	14.5	103.3	97.1%				
767	26-Mar-09	Fill	Cell 2	S 1/2, W	4	N	103.4	15.0	104.6	98.9%				
768	26-Mar-09	Fill	Cell 3	S 1/2, E	4	N	100.0	13.5	104.6	95.6%				
769	26-Mar-09	Fill	Cell 3	S 1/2, W	4	N	101.3	13.3	104.6	96.8%				
770	26-Mar-09	Fill	Cell 3	S 1/2, W	4	DC	100.9	14.0	104.6	96.5%				
771	27-Mar-09	Fill	Cell 2	S 1/2, W	6	N	103.4	14.1	104.6	98.9%				
772	27-Mar-09	Fill	Cell 3	S 1/2, E	6	N	102.3	16.7	104.6	97.8%				
773	27-Mar-09	Fill	Cell 3	S 1/2, W	6	N	106.1	14.0	109.0	97.3%				
774	27-Mar-09	Fill	Cell 4	S 1/2, E	6	N	100.1	12.3	104.6	95.7%				
775	27-Mar-09	Fill	Cell 4	S 1/2, E	6	N	99.5	17.9	104.6	95.1%				
776	27-Mar-09	Fill	Cell 3	S 1/2, W	6	N	101.7	15.7	104.6	97.2%				
777	27-Mar-09	Fill	Cell 1	S 1/2, E	9	DC	101.3	12.8	103.3	98.1%				
778	27-Mar-09	Fill	Cell 4	S 1/2, W	6	N	99.8	19.2	104.6	95.4%				
779	27-Mar-09	Fill	Cell 4	S 1/2, W	6	N	102.5	14.7	106.4	96.3%				
780	27-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.5	8.1	112.3	99.3%				
781	27-Mar-09	SG	Cell 3	S 1/2, W	-	N	112.0	6.7	112.3	99.7%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
782	27-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.1	10.1	112.3	98.9%				
783	27-Mar-09	SG	Cell 3	S 1/2, W	-	N	111.7	9.1	112.3	99.5%				
784	27-Mar-09	SG	Cell 3	S 1/2, W	-	N	112.1	7.3	112.3	99.8%				
785	27-Mar-09	SG	Cell 3	N 1/2, W	-	N	111.3	7.3	112.3	99.1%				
786	27-Mar-09	SG	Cell 3	N 1/2, W	-	N	112.1	8.0	112.3	99.8%				
787	27-Mar-09	SG	Cell 3	N 1/2, W	-	N	111.6	7.5	112.3	99.4%				
788	27-Mar-09	SG	Cell 3	N 1/2, E	-	N	111.5	8.1	112.3	99.3%				
789	27-Mar-09	Fill	Cell 3	S 1/2, E	1	N	100.7	13.6	104.6	96.3%				
790	27-Mar-09	Fill	Cell 3	S 1/2, W	1	N	99.6	17.8	104.6	95.2%				
791	27-Mar-09	Fill	Cell 4	S 1/2, E	1	N	100.4	10.7	104.6	96.0%				
792	28-Mar-09	Fill	Cell 1	S 1/2, W	8	DC	106.9	13.1	108.5	98.5%				
793	28-Mar-09	Fill	Cell 1	S 1/2, W	8	DC	106.2	12.7	108.5	97.9%				
794	28-Mar-09	Fill	Cell 1	S 1/2, W	9	DC	106.5	13.1	108.5	98.2%				
795	28-Mar-09	Fill	Cell 1	S 1/2, W	10	DC	104.9	14.0	108.5	96.7%				
796	28-Mar-09	Fill	Cell 1	S 1/2, W	11	DC	104.5	14.2	108.5	96.3%				
797	28-Mar-09	Fill	Cell 1	S 1/2, W	11	DC	107.4	12.7	108.5	99.0%				
798	28-Mar-09	Fill	Cell 1	S 1/2, W	12	DC	105.0	13.0	108.5	96.8%				
799	28-Mar-09	Fill	Cell 1	S 1/2, W	12	DC	105.4	12.3	108.5	97.1%				
800	28-Mar-09	Fill	Cell 2	S 1/2, W	7	N	111.4	11.6	113.9	97.8%	11.7	111.3	97.7%	oven moisture
801	28-Mar-09	Fill	Cell 3	S 1/2, E	7	N	101.7	14.9	104.6	97.2%				
802	28-Mar-09	Fill	Cell 3	S 1/2, W	7	N	99.9	16.0	104.6	95.5%				
803	28-Mar-09	Fill	Cell 2	S 1/2, W	1	N	107.0	10.0	108.8	98.3%				
804	28-Mar-09	Fill	Cell 2	S 1/2, W	2	N	105.3	11.7	108.8	96.8%				
805	28-Mar-09	Fill	Cell 4	S 1/2, E	7	N	103.0	15.4	106.1	97.1%				
806	28-Mar-09	Fill	Cell 4	S 1/2, W	7	N	101.1	16.4	106.1	95.3%				
807	28-Mar-09	Fill	Cell 4	S 1/2, W	7	N	100.9	17.4	106.1	95.1%				
808	28-Mar-09	Fill	Cell 4	S 1/2, E	7	N	101.9	16.0	106.1	96.0%				
Week of 3/30/09 - 4/4/09														
809	31-Mar-09	Fill	Cell 2	S 1/2, W	8	N	101.5	12.8	104.6	97.0%				
810	31-Mar-09	Fill	Cell 3	S 1/2, C	8	N	101.1	13.1	104.6	96.7%				
811	31-Mar-09	Fill	Cell 4	S 1/2, E	8	N	101.5	15.1	104.6	97.0%				
812	31-Mar-09	Fill	Cell 4	S 1/2, W	8	N	100.0	14.9	104.6	95.6%				
813	31-Mar-09	Fill	Cell 4	S 1/2, W	8	N	99.8	13.2	104.6	95.4%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
814	31-Mar-09	Fill	Cell 4	S 1/2, W	8	N	104.0	14.3	104.6	99.4%				
815	31-Mar-09	Fill	Cell 4	S 1/2, E	8	N	110.2	13.0	108.8	101.3%				
816	31-Mar-09	Fill	Cell 3	S 1/2, W	8	N	107.8	14.0	108.8	99.1%				
817	31-Mar-09	Fill	Cell 2	S 1/2, W	3	N	104.3	15.9	104.6	99.7%				
818	31-Mar-09	Fill	Cell 2	S 1/2, W	3	N	105.2	14.1	104.6	100.6%				
819	31-Mar-09	Fill	Cell 3	S 1/2, E	3	N	103.9	15.0	104.6	99.3%				
820	31-Mar-09	Fill	Cell 4	S 1/2, W	1	N	101.7	13.6	104.6	97.2%	12.4	102.8	98.3%	oven moisture
821	31-Mar-09	Fill	Cell 4	S 1/2, W	1	N	100.9	12.3	104.6	96.5%				
822	31-Mar-09	Fill	Cell 4	S 1/2, W	2	N	100.5	13.0	104.6	96.1%				
823	31-Mar-09	Fill	Cell 4	S 1/2, W	2	N	101.7	11.6	104.6	97.2%				
824	31-Mar-09	Fill	Cell 4	S 1/2, W	2	N	102.2	12.4	104.6	97.7%				
825	31-Mar-09	Fill	Cell 4	S 1/2, W	1	N	100.2	11.7	104.6	95.8%				
826	31-Mar-09	Fill	Cell 4	S 1/2, E	1	N	101.3	10.9	104.6	96.8%				
827	31-Mar-09	Fill	Cell 4	S 1/2, E	3	N	102.6	11.9	104.6	98.1%				
828	1-Apr-09	Fill	Cell 2	S 1/2, W	3	N	108.4	11.2	108.8	99.6%				
829	1-Apr-09	Fill	Cell 3	S 1/2, E	3	N	104.7	15.6	104.6	100.1%				
830	1-Apr-09	Fill	Cell 3	S 1/2, W	3	DC	100.1	11.6	104.6	95.7%				
831	1-Apr-09	Fill	Cell 3	S 1/2, E	9	N	107.8	12.4	108.8	99.1%				
832	1-Apr-09	Fill	Cell 3	S 1/2, E	9	N	108.2	11.3	108.8	99.4%				
833	1-Apr-09	Fill	Cell 3	S 1/2, E	5	N	104.1	17.6	108.8	95.7%				
834	1-Apr-09	Fill	Cell 3	S 1/2, E	6	N	104.9	16.1	108.8	96.4%				
835	1-Apr-09	Fill	Cell 3	S 1/2, W	5	N	100.9	11.6	104.6	96.5%				
836	1-Apr-09	Fill	Cell 2	S 1/2, W	5	N	101.5	12.1	104.6	97.0%				
837	1-Apr-09	Fill	Cell 2	S 1/2, W	6	N	100.4	10.7	104.6	96.0%				
838	2-Apr-09	Fill	Cell 3	S 1/2, W	9	N	101.0	12.5	104.8	96.4%				
839	2-Apr-09	Fill	Cell 4	S 1/2, E	9	N	99.8	12.4	104.8	95.2%				
840	2-Apr-09	Fill	Cell 4	S 1/2, W	9	N	108.6	16.7	114.0	95.3%				
841	2-Apr-09	Fill	Cell 2	S 1/2, W	10	N	109.9	11.1	114.0	96.4%	7.1	114.0	100.0%	oven moisture
842	2-Apr-09	Fill	Cell 3	S 1/2, E	10	N	109.2	12.3	114.0	95.8%				
843	3-Apr-09	Fill	Cell 3	S 1/2, E	4	N	109.4	8.9	114.0	96.0%				
844	3-Apr-09	Fill	Cell 3	S 1/2, W	4	N	109.1	15.0	114.0	95.7%				
845	3-Apr-09	Fill	Cell 4	S 1/2, E	4	N	109.8	14.5	114.0	96.3%				
846	3-Apr-09	Fill	Cell 3	S 1/2, W	10	N	98.6	17.3	102.5	96.2%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
847	3-Apr-09	Fill	Cell 1	S 1/2, W	14	N	101.4	14.5	104.9	96.7%				
848	3-Apr-09	Fill	Cell 4	S 1/2, C	10	N	106.1	15.5	109.7	96.7%				
849	3-Apr-09	Fill	Cell 4	S 1/2, W	10	N	104.4	17.3	109.7	95.2%				
850	3-Apr-09	Fill	Cell 4	S 1/2, W	4	DC	108.9	14.7	114.0	95.5%				
851	3-Apr-09	Fill	Cell 4	S 1/2, W	4	N	108.4	11.8	114.0	95.1%				
852	3-Apr-09	Fill	Cell 4	S 1/2, C	4	N	109.3	16.0	114.0	95.9%				
853	3-Apr-09	BF	FM	-	-2	N	94.5	4.9	110.7	85.4%				
854	4-Apr-09	Fill	Cell 4	S 1/2, W	3	N	110.1	14.0	113.4	97.1%				
855	4-Apr-09	Fill	Cell 4	S 1/2, W	3	N	109.4	15.1	113.4	96.5%				
856	4-Apr-09	Fill	Cell 4	S 1/2, C	3	N	110.3	14.1	113.4	97.3%				
857	4-Apr-09	Fill	Cell 3	S 1/2, W	5	N	102.4	13.3	106.4	96.2%				
858	4-Apr-09	Fill	Cell 4	S 1/2, E	5	N	101.2	17.1	106.4	95.1%				
859	4-Apr-09	Fill	Cell 2	S 1/2, W	11	N	108.9	15.7	113.4	96.0%				
860	4-Apr-09	Fill	Cell 3	S 1/2, E	11	N	109.8	12.6	113.4	96.8%	12.0	110.4	97.3%	oven moisture
861	4-Apr-09	Fill	Cell 3	S 1/2, W	11	N	109.3	13.9	113.4	96.4%				
862	4-Apr-09	Fill	Cell 4	S 1/2, E	11	N	108.0	15.9	113.4	95.2%				
Week of	**4/6/09 - 4/11/09**													
863	6-Apr-09	Fill	Cell 4	S 1/2, C	5	N	110.5	13.0	109.7	100.7%				
864	6-Apr-09	BF	FM	160+00	-1.5	N	109.7	9.6	110.7	99.1%				
865	7-Apr-09	Fill	Cell 4	S 1/2, W	5	N	104.1	11.0	109.4	95.2%				
866	7-Apr-09	Fill	Cell 2	S 1/2, W	6	N	103.3	9.1	104.8	98.6%				
867	7-Apr-09	Fill	Cell 2	S 1/2, W	7	N	102.5	9.1	104.8	97.8%				
868	7-Apr-09	Fill	Cell 2	S 1/2, W	6	N	100.5	7.2	104.8	95.9%				
869	7-Apr-09	Fill	Cell 2	S 1/2, W	7	N	101.5	6.7	104.8	96.9%				
870	7-Apr-09	Fill	Cell 2	S 1/2, W	6	DC	100.7	12.3	104.8	96.1%				
871	7-Apr-09	Fill	Cell 3	S 1/2, E	6	N	103.1	11.7	104.8	98.4%				
872	7-Apr-09	Fill	Cell 3	S 1/2, W	5	N	102.0	12.6	104.8	97.3%				
873	7-Apr-09	BF	FM	260+00	-1	N	108.3	9.6	110.7	97.8%				
874	7-Apr-09	Fill	Cell 2	S 1/2, W	5	N	106.3	11.6	109.4	97.2%				
875	7-Apr-09	Fill	Cell 2	S 1/2, W	5	N	105.6	11.3	109.4	96.5%				
876	8-Apr-09	Fill	Cell 2	N 1/2, W	1	N	102.5	14.0	104.8	97.8%				
877	8-Apr-09	Fill	Cell 2	N 1/2, W	1	N	102.2	15.2	104.8	97.5%				
878	8-Apr-09	Fill	Cell 2	N 1/2, W	2	N	101.6	13.6	104.8	96.9%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
879	8-Apr-09	Fill	Cell 2	N 1/2, W	2	N	101.0	13.0	104.8	96.4%				
880	8-Apr-09	Fill	Cell 3	S 1/2, W	4	N	105.7	12.3	108.9	97.1%	11.8	106.2	97.5%	oven moisture
881	8-Apr-09	Fill	Cell 3	S 1/2, C	4	N	104.5	13.3	108.9	96.0%				
882	8-Apr-09	Fill	Cell 2	S 1/2, W	4	N	106.1	11.9	108.9	97.4%				
883	8-Apr-09	Fill	Cell 2	S 1/2, W	4	N	105.2	12.6	108.9	96.6%				
884	8-Apr-09	Fill	Cell 3	S 1/2, W	5	N	106.4	13.2	108.9	97.7%				
885	8-Apr-09	Fill	Cell 3	S 1/2, W	5	N	105.4	12.4	108.9	96.8%				
886	8-Apr-09	Fill	Cell 3	S 1/2, E	5	N	104.8	13.6	108.9	96.2%				
887	8-Apr-09	Fill	Cell 2	S 1/2, W	5	N	106.0	12.0	108.9	97.3%				
888	8-Apr-09	Fill	Cell 2	S 1/2, W	3	N	108.8	14.2	113.9	95.5%				
889	8-Apr-09	Fill	Cell 2	N 1/2, W	3	N	104.8	17.3	108.8	96.3%				
890	9-Apr-09	RSG	Cell 1	S 1/2, E	-	N	107.4	7.7	108.5	99.0%				
891	9-Apr-09	RSG	Cell 1	S 1/2, E	-	N	106.8	8.1	108.5	98.4%				
892	9-Apr-09	RSG	Cell 1	S 1/2, E	-	N	107.6	6.5	108.5	99.2%				
893	9-Apr-09	RSG	Cell 1	S 1/2, E	-	N	107.1	7.2	108.5	98.7%				
894	9-Apr-09	RSG	Cell 1	S 1/2, C	-	N	106.5	8.2	108.5	98.2%				
895	9-Apr-09	RSG	Cell 1	S 1/2, C	-	N	107.2	10.3	108.5	98.8%				
896	9-Apr-09	RSG	Cell 1	S 1/2, W	-	N	106.9	10.5	108.5	98.5%				
897	9-Apr-09	RSG	Cell 1	S 1/2, W	-	N	107.5	10.0	108.5	99.1%				
898	9-Apr-09	RSG	Cell 1	S 1/2, W	-	N	107.2	9.7	108.5	98.8%				
899	9-Apr-09	RSG	Cell 2	S 1/2, E	-	N	106.7	12.0	108.5	98.3%				
900	9-Apr-09	LSG	Cell 2	S 1/2, E	-	N	103.4	11.1	108.5	95.3%				
901	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	103.9	11.5	108.5	95.8%				
902	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	104.9	9.9	108.5	96.7%				
903	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	105.5	9.3	108.5	97.2%				
904	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	105.6	11.4	108.5	97.3%				
905	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	103.9	10.8	108.5	95.8%				
906	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	104.7	8.7	108.5	96.5%				
907	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.0	9.3	108.5	96.8%				
908	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	103.9	10.0	108.5	95.8%				
909	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.7	10.3	108.5	97.4%				
910	9-Apr-09	Fill	Cell 2	N 1/2, W	1	DC	99.5	9.7	103.3	96.3%				
911	9-Apr-09	Fill	Cell 2	N 1/2, W	3	N	106.4	15.2	108.9	97.7%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
912	9-Apr-09	LSG	Cell 2	S 1/2, E	-	N	106.4	14.6	108.5	98.1%	14.9	106.1	97.8%	oven moisture
913	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	105.7	14.9	108.5	97.4%				
914	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	104.5	15.4	108.5	96.3%				
915	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	104.8	15.2	108.5	96.6%				
916	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	106.1	14.5	108.5	97.8%				
917	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.4	14.2	108.5	97.1%				
918	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	106.0	13.0	108.5	97.7%				
919	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	107.4	11.3	108.5	99.0%				
920	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.6	12.5	108.5	97.3%				
921	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	104.1	10.6	108.5	95.9%				
922	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	104.6	10.1	108.5	96.4%				
923	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	107.3	12.7	108.5	98.9%	12.9	107.1	98.7%	oven moisture
924	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.5	12.3	108.5	97.2%				
925	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	106.4	11.7	108.5	98.1%				
926	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.5	12.0	108.5	97.2%				
927	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	105.0	12.2	108.5	96.8%				
928	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	103.4	15.5	108.5	95.3%				
929	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	103.6	14.7	108.5	95.5%				
930	9-Apr-09	LSG	Cell 1	S 1/2, W	-	DC	104.3	14.9	108.5	96.1%				
931	9-Apr-09	LSG	Cell 2	S 1/2, E	-	N	104.8	13.6	108.5	96.6%				
932	9-Apr-09	LSG	Cell 2	S 1/2, E	-	N	100.7	15.3	104.6	96.3%				
933	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	101.5	14.7	104.6	97.0%				
934	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	99.8	16.3	104.6	95.4%				
935	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	100.4	16.0	104.6	96.0%				
936	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	101.8	13.9	104.6	97.3%				
937	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	99.6	15.4	104.6	95.2%				
938	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	101.1	15.1	104.6	96.7%				
939	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	102.3	15.7	104.6	97.8%				
940	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	101.7	15.4	104.6	97.2%	16.4	100.8	96.4%	oven moisture
941	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	100.0	13.1	104.6	95.6%				
942	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	99.6	12.7	104.6	95.2%				
943	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	101.3	14.1	104.6	96.8%				
944	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	102.0	14.2	104.6	97.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

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Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
945	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	101.5	15.0	104.6	97.0%				
946	9-Apr-09	LSG	Cell 1	S 1/2, E	-	N	102.6	13.6	104.6	98.1%				
947	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	101.8	12.9	104.6	97.3%				
948	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	100.8	13.1	104.6	96.4%				
949	9-Apr-09	LSG	Cell 1	S 1/2, W	-	N	102.0	12.7	104.6	97.5%				
950	9-Apr-09	LSG	Cell 1	S 1/2, W	-	DC	100.3	12.2	104.6	95.9%				
951	9-Apr-09	LSG	Cell 2	S 1/2, E	-	N	100.6	12.4	104.6	96.2%				
952	10-Apr-09	Fill	Cell 4	S 1/2, C	6	N	109.1	11.0	113.4	96.2%				
953	10-Apr-09	Fill	Cell 4	S 1/2, C	6	N	109.5	12.2	113.4	96.6%				
954	10-Apr-09	Fill	Cell 4	S 1/2, C	6	N	108.1	15.4	113.4	95.3%				
955	10-Apr-09	Fill	Cell 4	S 1/2, C	5	N	110.1	14.7	113.4	97.1%				
956	10-Apr-09	Fill	Cell 3	N 1/2, W	1	N	100.9	15.3	104.8	96.3%				
957	10-Apr-09	Fill	Cell 3	N 1/2, W	1	N	99.8	16.0	104.8	95.2%				
958	10-Apr-09	Fill	Cell 3	N 1/2, W	1	N	100.4	15.6	104.8	95.8%				
959	10-Apr-09	LSG	Cell 1	S 1/2, W	-	N	103.1	12.1	106.1	97.2%				
960	10-Apr-09	LSG	Cell 1	S 1/2, W	-	N	104.8	13.0	106.1	98.8%	11.9	105.8	99.7%	oven moisture
961	10-Apr-09	LSG	Cell 2	N 1/2, E	-	N	101.3	8.8	105.7	95.8%				
962	10-Apr-09	LSG	Cell 2	N 1/2, E	-	N	103.1	10.3	105.7	97.5%				
963	10-Apr-09	LSG	Cell 2	N 1/2, E	-	N	102.3	9.7	105.7	96.8%				
964	10-Apr-09	LSG	Cell 2	N 1/2, E	-	N	101.8	9.3	105.7	96.3%				
965	10-Apr-09	LSG	Cell 2	N 1/2, E	-	N	104.0	9.5	105.7	98.4%				
966	10-Apr-09	LSG	Cell 2	N 1/2, E	-	N	102.7	9.0	105.7	97.2%				
967	10-Apr-09	BF	FM	N of cells	-	N	105.5	9.3	110.7	95.3%				
968	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	111.6	10.2	113.3	98.5%				
969	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	106.7	9.4	108.8	98.1%				
970	11-Apr-09	LSG	Cell 1	N 1/2, W	-	DC	107.1	9.7	108.8	98.4%				
971	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	106.1	13.5	108.9	97.4%				
972	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	100.1	20.0	104.6	95.7%				
973	11-Apr-09	LSG	Cell 1	S 1/2, W	-	N	103.9	16.5	104.6	99.3%				
974	11-Apr-09	LSG	Cell 1	S 1/2, W	-	N	98.9	17.2	103.3	95.7%				
975	11-Apr-09	LSG	Cell 1	S 1/2, W	-	N	107.5	13.2	109.0	98.6%				
976	11-Apr-09	LSG	Cell 1	S 1/2, C	-	N	101.9	15.8	106.1	96.0%				
977	11-Apr-09	LSG	Cell 1	S 1/2, W	-	N	103.3	13.3	104.8	98.6%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
978	11-Apr-09	LSG	Cell 1	S 1/2, W	-	N	106.8	13.5	108.5	98.4%				
979	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	99.0	20.1	102.5	96.6%				
980	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	111.3	10.1	113.9	97.7%	9.3	112.1	98.4%	oven moisture
981	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	106.8	10.0	109.7	97.4%				
982	11-Apr-09	LSG	Cell 1	N 1/2, C	-	N	108.3	9.8	109.7	98.7%				
983	11-Apr-09	LSG	Cell 1	N 1/2, W	-	N	108.6	9.5	109.7	99.0%				
984	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	104.5	7.0	106.4	98.2%				
985	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	104.1	9.6	106.4	97.8%				
986	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	104.8	9.3	106.4	98.5%				
987	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	104.0	7.9	106.1	98.0%				
988	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	102.8	10.3	106.1	96.9%				
989	11-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.4	11.0	109.0	96.7%				
990	11-Apr-09	LSG	Cell 1	S 1/2, E	-	DC	112.0	10.5	113.9	98.3%				
991	11-Apr-09	LSG	Cell 1	S 1/2, E	-	N	106.1	10.3	108.5	97.8%				
992	11-Apr-09	LSG	Cell 1	S 1/2, E	-	N	103.7	13.0	108.5	95.6%				
993	11-Apr-09	LSG	Cell 1	S 1/2, E	-	N	105.8	18.6	109.0	97.1%				
994	11-Apr-09	LSG	Cell 1	S 1/2, E	-	N	103.2	16.0	106.1	97.3%				
995	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	107.5	12.3	108.9	98.7%				
996	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	99.8	9.7	103.3	96.6%				
997	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	101.7	10.4	104.8	97.0%				
998	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	105.8	11.2	108.8	97.2%				
999	11-Apr-09	LSG	Cell 1	N 1/2, E	-	N	104.0	12.3	106.1	98.0%				
Week of 4/13/09 - 4/17/09														
1000	13-Apr-09	BF	GM	MH1 - LS	+0.5	N	98.2	12.4	103.3	95.1%				
1001	13-Apr-09	BF	GM	MH1 - LS	+1.5	N	107.9	9.0	110.7	97.5%				
1002	13-Apr-09	BF	GM	MH1 - LS	+2.5	N	106.8	9.6	110.7	96.5%				
1003	13-Apr-09	LSG	Cell 1	N 1/2, E	-	N	101.3	11.6	104.6	96.8%				
1004	13-Apr-09	LSG	Cell 1	N 1/2, E	-	N	100.6	10.7	104.6	96.2%				
1005	13-Apr-09	LSG	Cell 1	N 1/2, C	-	N	101.0	12.2	103.3	97.8%				
1006	13-Apr-09	LSG	Cell 1	N 1/2, W	-	N	104.0	12.6	108.8	95.6%				
1007	13-Apr-09	LSG	Cell 1	N 1/2, W	-	N	105.5	11.4	108.8	97.0%				
1008	13-Apr-09	Fill	Cell 3	N 1/2, E	1	DC	102.1	11.6	104.6	97.6%				
1009	13-Apr-09	Fill	Cell 3	N 1/2, E	1	N	111.1	10.7	113.4	98.0%	6.9	115.0	101.5%	oven moisture

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

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Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1010	13-Apr-09	Fill	Cell 3	S 1/2, W	1	N	110.5	11.5	113.4	97.4%				
1011	14-Apr-09	Fill	Cell 3	S 1/2, W	7	N	109.1	8.7	108.5	100.6%				
1012	14-Apr-09	Fill	Cell 3	S 1/2, E	7	N	104.7	13.9	108.5	96.5%				
1013	14-Apr-09	BF	MH	Cell 1	+0.8	N	106.2	8.2	110.6	96.0%				
1014	14-Apr-09	BF	MH	Cell 1	+0.8	N	106.8	10.8	110.6	96.6%				
1015	14-Apr-09	BF	MH	Cell 1	+0.8	N	107.6	9.2	110.6	97.3%				
1016	14-Apr-09	BF	MH	Cell 1	+1.7	N	105.1	9.9	110.6	95.0%				
1017	14-Apr-09	BF	MH	Cell 1	+1.7	N	106.5	10.3	110.6	96.3%				
1018	14-Apr-09	BF	MH	Cell 1	+1.7	N	107.8	9.7	110.6	97.5%				
1019	14-Apr-09	Fill	Cell 3	S 1/2, E	7	N	106.3	10.6	108.5	98.0%				
1020	14-Apr-09	Fill	Cell 3	S 1/2, W	7	N	103.0	14.5	108.5	94.9%				
1021	14-Apr-09	Fill	Cell 4	S 1/2, E	7	N	108.3	11.8	108.5	99.8%				
1022	14-Apr-09	Fill	Cell 4	S 1/2, W	7	N	109.2	5.8	108.5	100.6%				
1023	14-Apr-09	Fill	Cell 4	S 1/2, W	7	N	109.1	8.9	108.5	100.6%				
1024	14-Apr-09	Fill	Cell 4	S 1/2, W	7	N	108.9	9.3	108.5	100.4%				
1025	14-Apr-09	Fill	Cell 3	S 1/2, E	7	N	105.3	12.6	108.5	97.1%				
1026	14-Apr-09	Fill	Cell 3	S 1/2, W	7	N	107.3	10.5	108.5	98.9%				
1027	14-Apr-09	Fill	Cell 3	N 1/2, C	4	N	108.5	10.4	108.5	100.0%				
1028	14-Apr-09	Fill	Cell 2	N 1/2, W	4	N	108.8	11.6	108.5	100.3%				
1029	14-Apr-09	Fill	Cell 2	N 1/2, W	4	N	106.7	8.9	108.5	98.3%				
1030	14-Apr-09	Fill	Cell 3	N 1/2, E	3	N	102.1	9.1	104.8	97.4%				
1031	14-Apr-09	Fill	Cell 3	N 1/2, E	2	N	107.6	7.5	108.5	99.2%				
1032	14-Apr-09	Fill	Cell 3	N 1/2, W	2	N	106.7	8.6	108.5	98.3%				
1033	14-Apr-09	Fill	Cell 3	N 1/2, C	3	N	105.8	9.9	108.5	97.5%				
1034	14-Apr-09	Fill	Cell 3	N 1/2, W	2	N	101.8	12.3	104.8	97.1%				
1035	14-Apr-09	Fill	Cell 3	N 1/2, W	2	N	101.5	14.8	104.8	96.9%				
1036	14-Apr-09	Fill	Cell 3	N 1/2, W	1	N	102.0	11.7	104.8	97.3%				
1037	14-Apr-09	Fill	Cell 3	N 1/2, W	1	N	100.8	13.3	104.8	96.2%				
1038	14-Apr-09	Fill	Cell 2	S 1/2, W	2	DC	111.7	11.4	111.7	100.0%				
1039	14-Apr-09	Fill	Cell 3	S 1/2, W	2	N	108.6	11.7	111.7	97.2%	19.9	101.2	90.6%	oven moisture
1040	14-Apr-09	Fill	Cell 4	S 1/2, E	2	N	107.4	12.6	111.7	96.2%				
1041	14-Apr-09	Fill	Cell 4	N 1/2, E	2	N	108.1	13.0	111.7	96.8%				
1042	16-Apr-09	Fill	Cell 1	N berm	1	N	102.0	16.6	105.7	96.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

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Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1043	16-Apr-09	Fill	Cell 1	N berm	2	N	102.5	15.2	105.7	97.0%				
1044	16-Apr-09	Fill	Cell 1	N berm	3	N	103.4	14.5	105.7	97.8%				
1045	16-Apr-09	Fill	Cell 1	N berm	4	N	101.3	15.7	105.7	95.8%				
1046	16-Apr-09	Fill	Cell 1	N berm	5	N	100.8	16.1	105.7	95.4%				
1047	16-Apr-09	Fill	Cell 1	N berm	6	N	102.3	15.6	105.7	96.8%				
1048	16-Apr-09	Fill	Cell 4	N 1/2, C	1	N	104.4	16.2	108.5	96.2%				
1049	16-Apr-09	Fill	Cell 4	N 1/2, C	1	N	103.2	17.0	108.5	95.1%				
1050	16-Apr-09	Fill	Cell 3	N 1/2, W	3	N	100.9	16.3	104.8	96.3%				
1051	16-Apr-09	Fill	Cell 3	N 1/2, C	3	N	101.9	15.6	104.8	97.2%				
1052	16-Apr-09	Fill	Cell 3	N 1/2, C	4	N	100.5	16.1	104.6	96.1%				
1053	16-Apr-09	BF	FM	N of road	+1.5	N	108.7	11.9	110.7	98.2%				
1054	16-Apr-09	Fill	Cell 4	N 1/2, W	6	N	105.6	25.7	110.8	95.3%				
1055	16-Apr-09	Fill	Cell 4	N 1/2, W	6	N	107.8	14.5	110.8	97.3%				
1056	16-Apr-09	Fill	Cell 4	N 1/2, W	6	N	106.7	14.9	110.8	96.3%				
1057	16-Apr-09	Fill	Cell 4	N 1/2, W	6	N	108.3	14.2	110.8	97.7%				
1058	16-Apr-09	Fill	Cell 4	S 1/2, E	6	DC	106.3	15.3	110.8	95.9%				
1059	16-Apr-09	Fill	Cell 4	S 1/2, W	6	N	106.3	17.4	108.9	97.6%	12.5	110.9	101.9%	oven moisture
1060	16-Apr-09	Fill	Cell 3	S 1/2, W	6	N	104.3	15.7	108.9	95.8%				
1061	16-Apr-09	Fill	Cell 3	S 1/2, E	6	N	104.7	16.4	108.9	96.1%				
1062	16-Apr-09	Fill	Cell 3	N 1/2, W	1	N	107.1	15.1	110.8	96.7%				
1063	16-Apr-09	Fill	Cell 4	N 1/2, E	1	N	108.4	14.2	110.8	97.8%				
1064	16-Apr-09	Fill	Cell 3	S 1/2, E	4	N	106.7	15.5	110.8	96.3%				
1065	16-Apr-09	Fill	Cell 3	N 1/2, E	4	N	105.9	16.1	110.8	95.6%				
1066	16-Apr-09	Fill	Cell 3	N 1/2, E	3	N	107.0	15.0	110.8	96.6%				
1067	17-Apr-09	Fill	Cell 3	N 1/2, E	5	N	103.0	15.7	106.1	97.1%				
1068	17-Apr-09	Fill	Cell 2	N 1/2, W	5	N	102.8	15.2	106.1	96.9%				
1069	17-Apr-09	Fill	Cell 2	S 1/2, W	5	N	101.7	16.3	106.1	95.9%				
1070	17-Apr-09	Fill	Cell 2	N 1/2, W	5	N	102.4	15.9	106.1	96.5%				
1071	17-Apr-09	Fill	Cell 3	N 1/2, E	5	N	101.2	17.6	106.1	95.4%				
1072	17-Apr-09	Fill	Cell 3	N 1/2, E	5	N	101.9	17.1	106.1	96.0%				
1073	17-Apr-09	Fill	Cell 4	N 1/2, W	2	N	106.2	13.5	108.9	97.5%				
1074	17-Apr-09	Fill	Cell 4	N 1/2, W	2	N	104.5	15.7	108.9	96.0%				
1075	17-Apr-09	Fill	Cell 4	N 1/2, W	2	N	105.7	15.0	108.9	97.1%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

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Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1076	17-Apr-09	Fill	Cell 3	N 1/2, W	3	N	104.2	17.6	108.9	95.7%				
1077	17-Apr-09	Fill	Cell 4	N 1/2, W	1	N	109.2	14.1	111.7	97.8%				
1078	17-Apr-09	Fill	Cell 4	N 1/2, W	1	DC	108.7	14.5	111.7	97.3%				
1079	17-Apr-09	Fill	Cell 1	N berm	1	N	109.2	15.2	111.7	97.8%				
1080	17-Apr-09	Fill	Cell 1	N berm	2	N	108.0	15.4	111.7	96.7%	12.5	110.8	99.2%	oven moisture
1081	17-Apr-09	Fill	Cell 1	N berm	3	N	107.1	16.1	111.7	95.9%				
1082	17-Apr-09	Fill	Cell 1	N berm	4	N	107.6	15.8	111.7	96.3%				
1083	17-Apr-09	Fill	Cell 1	N berm	5	N	106.7	16.0	111.7	95.5%				
1084	17-Apr-09	RSG	Cell 2	C	-	N	111.9	12.3	113.4	98.7%				
1085	17-Apr-09	RSG	Cell 2	W	-	N	111.1	12.2	113.4	98.0%				
1086	17-Apr-09	RSG	Cell 3	C	-	N	111.7	12.0	113.4	98.5%				
1087	17-Apr-09	RSG	Cell 3	W	-	N	112.4	12.7	113.4	99.1%				
1088	17-Apr-09	RSG	Cell 4	E	-	N	111.2	11.8	113.4	98.1%				
1089	17-Apr-09	RSG	Cell 4	C	-	N	112.1	16.0	114.0	98.3%				
1090	17-Apr-09	Fill	Cell 4	N berm	1	N	108.5	15.2	111.7	97.1%				
1091	17-Apr-09	Fill	Cell 4	N berm	2	N	107.8	16.0	111.7	96.5%				
1092	17-Apr-09	Fill	Cell 4	N berm	3	N	107.9	16.3	111.7	96.6%				
1093	17-Apr-09	Fill	Cell 4	N berm	4	N	106.6	15.5	111.7	95.4%				
1094	17-Apr-09	Fill	Cell 4	N berm	5	N	106.2	16.1	111.7	95.1%				
1095	17-Apr-09	Fill	Cell 3	N 1/2, W	4	N	105.5	16.9	108.9	96.9%				
1096	17-Apr-09	Fill	Cell 3	N 1/2, W	4	N	106.3	14.1	108.9	97.6%				
1097	17-Apr-09	Fill	Cell 4	N 1/2, E	4	N	103.9	17.3	108.9	95.4%				
1098	17-Apr-09	Fill	Cell 4	N 1/2, C	3	N	106.1	15.7	110.8	95.8%				
1099	17-Apr-09	Fill	Cell 4	N 1/2, C	3	N	105.6	16.0	110.8	95.3%				
1100	17-Apr-09	Fill	Cell 4	N 1/2, C	3	N	107.4	15.3	110.8	96.9%				
1101	17-Apr-09	Fill	Cell 4	S 1/2, W	1	N	107.7	15.0	110.8	97.2%				
1102	17-Apr-09	Fill	Cell 4	S 1/2, W	1	N	107.3	15.1	110.8	96.8%				
1103	17-Apr-09	Fill	Cell 4	S 1/2, W	1	N	106.3	15.6	110.8	95.9%				
1104	17-Apr-09	Fill	Cell 4	N 1/2, E	1	N	109.8	14.7	111.7	98.3%				
1105	17-Apr-09	Fill	Cell 4	N 1/2, W	1	N	109.4	15.0	111.7	97.9%				
1106	17-Apr-09	Fill	Cell 4	N 1/2, W	1	N	110.0	14.2	111.7	98.5%				
1107	17-Apr-09	Fill	Cell 4	N 1/2, W	2	N	98.7	19.5	102.5	96.3%				
1108	17-Apr-09	Fill	Cell 4	N 1/2, W	2	DC	99.7	18.7	102.5	97.3%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

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1109	17-Apr-09	Fill	Cell 4	N 1/2, W	2	N	99.4	18.9	102.5	97.0%	17.3	100.8	98.3%	oven moisture
1110	17-Apr-09	Fill	Cell 4	N 1/2, W	2	N	98.3	15.9	102.5	95.9%				
1111	17-Apr-09	Fill	Cell 3	S 1/2, W	7	N	108.8	11.3	112.3	96.9%				
1112	17-Apr-09	Fill	Cell 4	S 1/2, E	7	N	107.9	12.7	112.3	96.1%				
1113	17-Apr-09	Fill	Cell 4	N 1/2, W	3	N	100.7	18.0	105.7	95.3%				
1114	17-Apr-09	Fill	Cell 4	N 1/2, W	3	N	101.5	17.3	105.7	96.0%				
1115	17-Apr-09	Fill	Cell 4	N 1/2, W	3	N	101.9	17.0	105.7	96.4%				
1116	17-Apr-09	Fill	Cell 4	N 1/2, W	3	N	100.6	18.2	105.7	95.2%				
1117	17-Apr-09	Fill	Cell 2	S 1/2, W	6	N	105.7	12.2	108.9	97.1%				
1118	17-Apr-09	Fill	Cell 2	S 1/2, W	6	N	105.1	14.1	108.9	96.5%				
1119	17-Apr-09	Fill	Cell 2	N 1/2, W	6	N	106.3	11.4	108.9	97.6%				
1120	17-Apr-09	Fill	Cell 2	N 1/2, W	6	N	105.3	13.3	108.9	96.7%				
1121	17-Apr-09	Fill	Cell 3	N 1/2, E	6	N	104.1	15.5	108.9	95.6%				
1122	17-Apr-09	Fill	Cell 3	S 1/2, E	7	N	104.5	15.8	108.9	96.0%				
1123	17-Apr-09	Fill	Cell 4	S 1/2, W	2	N	104.5	16.3	108.9	96.0%				
1124	17-Apr-09	Fill	Cell 4	S 1/2, W	2	N	105.4	15.7	108.9	96.8%				
1125	17-Apr-09	Fill	Cell 4	S 1/2, W	2	N	104.4	16.0	108.9	95.9%				
1126	17-Apr-09	Fill	Cell 4	N 1/2, C	4	N	108.7	15.9	111.7	97.3%				
1127	17-Apr-09	Fill	Cell 4	S 1/2, W	9	N	110.8	10.9	113.9	97.3%				
1128	17-Apr-09	Fill	Cell 4	S 1/2, C	9	DC	111.7	12.1	113.9	98.1%				
1129	17-Apr-09	Fill	Cell 4	S 1/2, E	9	N	112.3	11.6	113.9	98.6%	8.8	115.2	101.1%	oven moisture
1130	17-Apr-09	Fill	Cell 3	S 1/2, W	9	N	111.6	10.7	113.9	98.0%				
1131	17-Apr-09	Fill	Cell 3	S 1/2, E	9	N	110.8	11.4	113.9	97.3%				
1132	17-Apr-09	Fill	Cell 2	S 1/2, W	9	N	110.0	11.5	113.9	96.6%				
1133	17-Apr-09	Fill	Cell 2	S 1/2, C	9	N	112.2	10.9	113.9	98.5%				
1134	17-Apr-09	Fill	Cell 2	S 1/2, E	9	N	110.6	12.1	113.9	97.1%				
1135	17-Apr-09	Fill	Cell 3	S 1/2, E	8	N	104.3	14.7	106.1	98.3%				
1136	17-Apr-09	Fill	Cell 3	S 1/2, E	8	N	103.0	15.4	106.1	97.1%				
1137	17-Apr-09	Fill	Cell 3	S 1/2, W	8	N	102.7	15.8	106.1	96.8%				
1138	17-Apr-09	Fill	Cell 3	S 1/2, W	8	N	103.9	14.0	106.1	97.9%				
1139	17-Apr-09	Fill	Cell 4	S 1/2, C	8	N	103.3	15.2	106.1	97.4%				
Week of 4/20/09 - 4/25/09														
1140	20-Apr-09	Fill	Cell 3	N 1/2, W	5	N	108.4	11.9	111.7	97.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1141	20-Apr-09	Fill	Cell 4	S 1/2, E	5	N	107.6	12.2	111.7	96.3%				
1142	20-Apr-09	Fill	Cell 4	N 1/2, E	5	N	109.1	12.6	111.7	97.7%				
1143	20-Apr-09	Fill	Cell 4	N 1/2, E	5	N	107.9	11.5	111.7	96.6%				
1144	20-Apr-09	Fill	Cell 4	N 1/2, E	5	N	108.8	11.3	111.7	97.4%				
1145	20-Apr-09	Fill	Cell 4	N 1/2, E	5	N	107.2	12.9	111.7	96.0%				
1146	20-Apr-09	Fill	Cell 4	S 1/2, W	3	N	108.0	13.3	111.7	96.7%				
1147	20-Apr-09	Fill	Cell 4	S 1/2, W	3	N	109.4	12.5	111.7	97.9%				
1148	20-Apr-09	Fill	Cell 2	S 1/2, W	2	N	110.0	12.3	111.7	98.5%				Retest No. 1039
1149	20-Apr-09	Fill	Cell 4	S 1/2, W	3	DC	106.2	12.1	110.8	95.8%	8.7	109.5	98.8%	oven moisture
1150	21-Apr-09	Fill	Cell 4	N 1/2, W	4	N	106.8	9.5	110.8	96.4%				
1151	21-Apr-09	Fill	Cell 4	N 1/2, W	4	N	108.1	11.7	110.8	97.6%				
1152	21-Apr-09	Fill	Cell 4	N 1/2, W	4	N	108.4	9.7	110.8	97.8%				
1153	21-Apr-09	Fill	Cell 4	N 1/2, W	4	N	107.7	10.6	110.8	97.2%				
1154	21-Apr-09	Fill	Cell 4	S 1/2, W	5	N	107.3	11.7	110.8	96.8%				
1155	21-Apr-09	Fill	Cell 4	N 1/2, W	5	N	108.1	12.3	110.8	97.6%				
1156	21-Apr-09	Fill	Cell 4	N 1/2, W	5	N	107.0	12.0	110.8	96.6%				
1157	21-Apr-09	Fill	Cell 4	N 1/2, W	5	N	106.6	13.1	110.8	96.2%				
1158	21-Apr-09	Fill	Cell 4	N 1/2, W	5	N	106.9	12.5	110.8	96.5%				
1159	21-Apr-09	Fill	W berm	S 1/2	6	N	110.7	13.4	115.3	96.0%				
1160	21-Apr-09	Fill	W berm	S 1/2	6	N	111.1	12.8	115.3	96.4%				
1161	21-Apr-09	Fill	W berm	N 1/2	6	N	110.2	13.6	115.3	95.6%				
1162	21-Apr-09	Fill	W berm	N 1/2	6	N	109.7	12.9	115.3	95.1%				
1163	21-Apr-09	Fill	W berm	N 1/2	6	N	111.1	10.3	115.3	96.4%				
1164	21-Apr-09	Fill	Cell 4	S 1/2, W	4	N	105.8	14.1	110.8	95.5%				
1165	21-Apr-09	Fill	Cell 4	S 1/2, W	4	N	105.6	9.6	110.8	95.3%				
1166	22-Apr-09	Fill	Cell 4	S 1/2, W	4	N	107.1	11.2	110.8	96.7%				
1167	22-Apr-09	Fill	W berm	S 1/2	7	N	106.6	14.3	110.8	96.2%				
1168	22-Apr-09	Fill	W berm	S 1/2	7	N	105.6	8.9	110.8	95.3%	10.1	104.4	94.3%	oven moisture
1170	22-Apr-09	Fill	W berm	N 1/2	7	N	106.7	9.8	110.8	96.3%				No test No. 1169
1171	22-Apr-09	Fill	W berm	N 1/2	7	DC	113.2	14.2	112.7	100.4%				
1172	22-Apr-09	BF	M MH	Cell 1	L1	N	111.7	11.6	112.6	99.2%				
1173	22-Apr-09	BF	M MH	Cell 1	L2	N	109.6	10.7	112.6	97.3%				
1174	22-Apr-09	BF	M MH	Cell 1	L3	N	110.3	12.3	112.6	98.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1175	22-Apr-09	BF	M MH	Cell 1	L4	N	112.0	12.0	112.6	99.5%				
1176	22-Apr-09	BF	M MH	Cell 1	L5	N	110.7	12.8	112.6	98.3%				
1177	22-Apr-09	BF	LD MH	Cell 1	L1	N	108.7	13.3	112.6	96.5%				
1178	22-Apr-09	BF	LD MH	Cell 1	L2	N	107.9	11.9	112.6	95.8%				
1179	22-Apr-09	BF	LD MH	Cell 1	L3	N	109.1	12.5	112.6	96.9%				
1180	22-Apr-09	BF	LD MH	Cell 1	L4	N	109.9	13.0	112.6	97.6%				
1181	22-Apr-09	BF	LD MH	Cell 1	L5	N	110.2	12.4	112.6	97.9%				
1182	22-Apr-09	BF	LC MH	Cell 1	L1	N	109.0	11.6	112.6	96.8%				
1183	22-Apr-09	BF	LC MH	Cell 1	L2	N	110.4	12.7	112.6	98.0%				
1184	22-Apr-09	BF	LC MH	Cell 1	L3	N	108.6	13.4	112.6	96.4%				
1185	22-Apr-09	BF	LC MH	Cell 1	L4	N	110.0	11.9	112.6	97.7%				
1186	22-Apr-09	BF	LC MH	Cell 1	L5	N	111.1	13.1	112.6	98.7%				
1187	22-Apr-09	BF	LC pipe	Cell 1	L1	N	110.1	11.9	112.6	97.8%				
1188	22-Apr-09	BF	LC pipe	Cell 1	L2	N	109.6	12.6	112.6	97.3%				
1189	22-Apr-09	Fill	Cell 4	S 1/2, W	5	N	107.6	11.6	110.8	97.1%	17.5	102.2	92.2%	oven moisture
1190	22-Apr-09	Fill	Cell 4	S 1/2, W	5	N	98.1	16.8	102.5	95.7%				
1191	22-Apr-09	Fill	Cell 4	S 1/2, W	5	N	100.0	11.0	102.5	97.6%				
1192	22-Apr-09	Fill	Cell 4	S 1/2, W	6	N	99.7	12.3	102.5	97.3%				
1193	22-Apr-09	Fill	Cell 4	S 1/2, W	6	N	98.4	11.7	102.5	96.0%				
1194	22-Apr-09	Fill	Cell 4	S 1/2, W	6	DC	101.4	11.7	102.5	98.9%				
1195	22-Apr-09	BF	Lift Sta	Cell 2	L1	N	101.2	16.3	102.5	98.7%				
1196	22-Apr-09	BF	Lift Sta	Cell 2	L2	N	101.5	15.6	102.5	99.0%				
1197	22-Apr-09	BF	Lift Sta	Cell 2	L3	N	103.2	19.0	108.5	95.1%				
1198	22-Apr-09	BF	Lift Sta	Cell 2	L4	N	103.1	16.0	108.5	95.0%				
1199	22-Apr-09	BF	Lift Sta	Cell 2	L5	N	103.5	10.2	108.5	95.4%				
1200	22-Apr-09	Fill	Cell 4	S 1/2, W	7	N	103.0	13.8	102.5	100.5%				
1201	22-Apr-09	Fill	Cell 4	S 1/2, W	7	N	100.3	16.2	102.5	97.9%				
1202	22-Apr-09	Fill	Cell 4	S 1/2, W	7	N	100.5	14.3	102.5	98.0%				
1203	22-Apr-09	Fill	Cell 4	S 1/2, W	8	N	99.7	13.6	102.5	97.3%				
1204	22-Apr-09	Fill	Cell 4	S 1/2, W	8	N	98.5	13.9	102.5	96.1%				
1205	22-Apr-09	Fill	Cell 4	S 1/2, W	8	N	97.7	14.6	102.5	95.3%				
1206	22-Apr-09	Fill	W berm	S 1/2	9	N	99.3	12.2	102.5	96.9%				
1207	22-Apr-09	Fill	W berm	S 1/2	9	N	98.5	13.0	102.5	96.1%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1208	22-Apr-09	Fill	W berm	S 1/2	9	DC	97.4	11.4	102.5	95.0%				
1209	22-Apr-09	Fill	W berm	S 1/2	10	N	100.0	13.7	102.5	97.6%	7.5	105.8	103.2%	oven moisture
1210	22-Apr-09	Fill	W berm	S 1/2	10	N	99.4	14.3	102.5	97.0%				
1211	22-Apr-09	Fill	W berm	S 1/2	10	N	98.6	12.9	102.5	96.2%				
1212	22-Apr-09	Fill	W berm	S 1/2	11	N	100.9	11.7	102.5	98.4%				
1213	22-Apr-09	Fill	W berm	S 1/2	11	N	100.4	12.5	102.5	98.0%				
1214	22-Apr-09	Fill	W berm	S 1/2	11	N	101.7	12.9	102.5	99.2%				
1215	23-Apr-09	Fill	W berm	S 1/2	7	N	106.7	13.5	110.8	96.3%				Retest No. 1168
1216	23-Apr-09	Fill	W berm	S 1/2, W	5	N	107.3	16.3	110.8	96.8%				Retest No. 1189
1217	23-Apr-09	Fill	W berm	S 1/2	12	N	107.1	15.7	110.1	97.3%				
1218	23-Apr-09	Fill	W berm	S 1/2	12	N	105.1	16.1	110.1	95.5%				
1219	23-Apr-09	Fill	W berm	S 1/2	12	N	105.8	15.5	110.1	96.1%				
1220	23-Apr-09	Fill	W berm	S 1/2	12	N	105.5	16.2	110.1	95.8%				
1221	23-Apr-09	Fill	W berm	S 1/2	12	N	106.8	15.0	110.1	97.0%				
1222	24-Apr-09	BF	GM	W of LS	+0.7	N	107.6	14.7	110.6	97.3%				
1223	24-Apr-09	BF	GM	W of LS	+1.3	N	106.4	15.3	110.6	96.2%				
1224	24-Apr-09	BF	GM	W of LS	+2.0	N	108.1	14.1	110.6	97.7%				
1225	24-Apr-09	BF	LD MH	Cell 2	bot	N	107.1	15.0	110.6	96.8%	6.5	115.6	104.6%	oven moisture
1226	24-Apr-09	BF	GM	W of LS	+2.7	N	107.1	14.3	110.6	96.8%				
1227	24-Apr-09	BF	GM	W of LS	+3.3	N	105.8	14.9	110.6	95.7%				
1228	24-Apr-09	BF	GM	W of LS	+4.0	DC	105.5	15.5	110.6	95.4%				
1229	24-Apr-09	LSG	Cell 1	N 1/2, E	-	N	110.0	9.9	113.3	97.1%				
1230	24-Apr-09	LSG	Cell 1	N 1/2, E	-	N	109.7	7.8	113.3	96.8%				
1231	24-Apr-09	LSG	Cell 1	N 1/2, C	-	N	110.5	8.4	113.3	97.5%				
1232	24-Apr-09	LSG	Cell 1	N 1/2, W	-	N	109.9	9.1	113.3	97.0%				
1233	24-Apr-09	LSG	Cell 2	N 1/2, E	-	N	108.7	8.2	113.3	95.9%				
1234	25-Apr-09	BF	LC LD MH	Cell 3	+0.7	N	105.3	16.1	110.6	95.2%				
1235	25-Apr-09	BF	LC LD MH	Cell 3	+1.3	N	107.3	14.7	110.6	97.0%	9.1	112.8	102.0%	oven moisture
1236	25-Apr-09	BF	LC LD MH	Cell 3	+2.0	N	106.7	15.2	110.6	96.5%				
1237	25-Apr-09	BF	LC LD MH	Cell 3	+2.7	N	107.2	14.9	110.6	96.9%				
1238	25-Apr-09	BF	LC LD MH	Cell 3	+3.3	N	105.6	15.4	110.6	95.5%				
1239	25-Apr-09	BF	LC LD MH	Cell 3	+4.0	N	107.1	14.3	110.6	96.8%				
1240	25-Apr-09	BF	GM	Cell 3-4	+0.7	N	106.2	16.5	110.6	96.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1241	25-Apr-09	BF	GM	Cell 3-4	+1.3	N	107.9	14.9	110.6	97.6%				
1242	25-Apr-09	BF	GM	Cell 3-4	+2.0	N	106.1	15.4	110.6	95.9%				
1243	25-Apr-09	BF	GM	Cell 3-4	+2.7	N	106.6	15.3	110.6	96.4%				
1244	25-Apr-09	BF	GM	Cell 3-4	+3.3	N	105.3	16.0	110.6	95.2%				
1245	25-Apr-09	BF	LS LD MH	Cell 2	+4.0	N	106.2	16.2	110.6	96.0%	4.5	118.1	106.8%	oven moisture
1246	25-Apr-09	BF	LS LD MH	Cell 2	+4.7	N	107.9	15.0	110.6	97.6%				
1247	25-Apr-09	BF	LS LD MH	Cell 2	+5.3	N	106.0	14.7	110.6	95.8%				
1248	25-Apr-09	BF	LS LD MH	Cell 2	+6.0	DC	107.3	15.0	110.6	97.0%				
1249	25-Apr-09	BF	LS LD MH	Cell 2	+6.7	N	106.7	15.6	110.6	96.5%				
1250	25-Apr-09	BF	LS LD MH	Cell 2	+7.3	N	107.8	15.2	110.6	97.5%				
1251	25-Apr-09	BF	LS LD MH	Cell 2	+8.0	N	106.0	16.3	110.6	95.8%				
1252	25-Apr-09	Fill	Cell 2	S 1/2, W	9	N	103.4	8.9	105.7	97.8%				
1253	25-Apr-09	Fill	Cell 2	S 1/2, W	9	N	104.5	11.4	105.7	98.9%				
1254	25-Apr-09	Fill	Cell 2	S 1/2, E	10	N	102.8	10.2	105.7	97.3%				
1255	25-Apr-09	Fill	Cell 2	S 1/2, E	11	N	108.5	11.7	111.7	97.1%				
1256	25-Apr-09	Fill	Cell 2	S 1/2, E	12	N	103.4	14.9	106.1	97.5%				
1257	25-Apr-09	Fill	Cell 2	S 1/2, W	12	N	102.7	10.7	106.1	96.8%				
1258	25-Apr-09	Fill	Cell 2	S 1/2, W	12	N	101.7	10.3	106.1	95.9%				
1259	25-Apr-09	Fill	Cell 3	S 1/2, E	12	N	106.5	12.1	108.9	97.8%				
1260	25-Apr-09	Fill	Cell 3	S 1/2, C	12	N	107.0	11.7	108.9	98.3%				
1261	25-Apr-09	Fill	Cell 3	S 1/2, W	12	N	105.5	11.3	108.9	96.9%				
1262	25-Apr-09	Fill	Cell 4	S 1/2, C	12	N	105.5	12.3	108.9	96.9%				
1263	25-Apr-09	Fill	Cell 3	S 1/2, W	13	N	106.0	10.3	108.9	97.3%				
1264	25-Apr-09	Fill	Cell 3	S 1/2, E	13	N	105.2	10.7	108.9	96.6%				
1265	25-Apr-09	Fill	Cell 2	S 1/2, W	12	N	106.5	12.2	108.9	97.8%	7.8	110.8	101.8%	oven moisture
1266	25-Apr-09	Fill	Cell 3	S 1/2, C	12	N	104.8	11.5	108.9	96.2%				
1267	25-Apr-09	Fill	Cell 3	S 1/2, W	12	N	105.6	10.0	108.9	97.0%				
1268	25-Apr-09	Fill	Cell 4	S 1/2, E	12	N	104.2	10.5	108.9	95.7%				
Week of 4/27/09 - 5/1/09														
1269	27-Apr-09	RSG	N Cell 2	N Side BC	+0.7	N	108.6	10.7	110.6	98.2%				
1270	27-Apr-09	RSG	N Cell 2	N Side BC	+1.3	N	108.4	9.6	110.6	98.0%				
1271	27-Apr-09	RSG	N Cell 2	N Side BC	+2.0	N	108.9	11.2	110.6	98.5%				
1272	27-Apr-09	RSG	N Cell 2	N Side BC	+2.7	N	109.6	10.3	110.6	99.1%				

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Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1273	27-Apr-09	RSG	N Cell 2	N Side BC	+3.3	N	109.0	9.9	110.6	98.6%				
1274	27-Apr-09	RSG	N Cell 2	N Side BC	+4.0	N	109.4	11.4	110.6	98.9%				
1275	27-Apr-09	RSG	N Cell 2	N Side BC	+4.7	N	109.9	10.5	110.6	99.4%				
1276	27-Apr-09	RSG	N Cell 2	N Side BC	+5.3	N	108.6	9.8	110.6	98.2%				
1277	27-Apr-09	RSG	N Cell 2	N Side BC	+6.0	N	109.8	9.5	110.6	99.3%				
1278	27-Apr-09	Fill	Cell 3	S 1/2, W	14	N	110.7	NR	113.4	97.6%				
1279	27-Apr-09	Fill	Cell 3	S 1/2, E	14	N	109.3	NR	113.4	96.4%				
1280	27-Apr-09	Fill	Cell 3	S 1/2, W	15	N	109.7	NR	113.4	96.7%	7.8			oven moisture
1281	27-Apr-09	Fill	Cell 3	S 1/2, E	15	N	110.3	NR	113.4	97.3%				
1282	27-Apr-09	Fill	Cell 2	S 1/2, W	16	N	108.6	NR	113.4	95.8%				
1283	27-Apr-09	Fill	Cell 3	S 1/2, E	16	N	111.1	NR	113.4	98.0%				
1284	27-Apr-09	Fill	Cell 3	S 1/2, W	16	N	108.2	NR	113.4	95.4%				
1285	27-Apr-09	RSG	W Access	W Side BC	+0.7	N	108.7	11.2	110.6	98.3%				
1286	27-Apr-09	RSG	W Access	W Side BC	+1.3	N	108.9	12.1	110.6	98.5%				
1287	27-Apr-09	RSG	W Access	W Side BC	+2.0	N	109.3	10.7	110.6	98.8%				
1288	27-Apr-09	RSG	W Access	W Side BC	+2.7	N	110.2	10.3	110.6	99.6%				
1289	27-Apr-09	RSG	W Access	W Side BC	+3.3	N	109.7	11.4	110.6	99.2%				
1290	27-Apr-09	RSG	W Access	W Side BC	+4.0	N	109.0	12.4	110.6	98.6%				
1291	27-Apr-09	RSG	W Access	W Side BC	+4.7	N	110.1	11.8	110.6	99.5%				
1292	27-Apr-09	RSG	W Access	W Side BC	+5.3	N	108.5	10.3	110.6	98.1%				
1293	27-Apr-09	RSG	W Access	E Side BC	+6.0	DC	108.6	10.9	110.6	98.2%				
1294	27-Apr-09	RSG	W Access	E Side BC	+0.7	N	108.9	10.6	110.6	98.5%				
1295	27-Apr-09	RSG	W Access	E Side BC	+1.3	N	109.3	11.4	110.6	98.8%				
1296	27-Apr-09	RSG	W Access	E Side BC	+2.0	N	108.9	11.7	110.6	98.5%				
1297	27-Apr-09	RSG	W Access	E Side BC	+2.7	N	109.2	12.3	110.6	98.7%				
1298	27-Apr-09	RSG	W Access	E Side BC	+3.3	N	108.8	12.9	110.6	98.4%				
1299	27-Apr-09	RSG	W Access	E Side BC	+4.0	N	110.4	10.9	110.6	99.8%				
1300	27-Apr-09	RSG	W Access	E Side BC	+4.7	N	110.0	11.6	110.6	99.5%	11.2	110.4	99.8%	oven moisture
1301	27-Apr-09	RSG	W Access	E Side BC	+5.3	N	109.4	12.0	110.6	98.9%				
1302	27-Apr-09	RSG	W Access	E Side BC	+6.0	N	109.6	13.3	110.6	99.1%				
1303	27-Apr-09	BF	MH	Cell 1	+4.0	N	106.4	11.3	110.6	96.2%				
1304	27-Apr-09	BF	MH	Cell 1	+4.7	N	107.8	10.6	110.6	97.5%				
1305	27-Apr-09	BF	MH	Cell 1	+5.3	N	108.1	12.1	110.6	97.7%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1306	27-Apr-09	BF	MH	Cell 1	+6.0	N	107.2	10.9	110.6	96.9%				
1307	27-Apr-09	BF	MH	Cell 1	+6.7	N	106.7	11.5	110.6	96.5%				
1308	27-Apr-09	BF	MH	Cell 1	+7.3	N	106.1	12.6	110.6	95.9%				
1309	27-Apr-09	BF	MH	Cell 1	+8.0	N	107.0	10.4	110.6	96.7%				
1310	27-Apr-09	BF	MH	Cell 1	+8.7	N	109.1	10.6	110.6	98.6%				
1311	28-Apr-09	BF	GM	Cell 3-4	+4.0	N	107.5	11.2	110.6	97.2%				
1312	28-Apr-09	BF	GM	Cell 3-4	+4.7	N	106.7	10.7	110.6	96.5%				
1313	28-Apr-09	BF	GM	Cell 3-4	+5.3	N	106.2	12.1	110.6	96.0%				
1314	28-Apr-09	BF	GM	Cell 3-4	+6.0	N	107.0	11.8	110.6	96.7%				
1315	28-Apr-09	BF	GM	Cell 3-4	+6.7	N	107.9	10.4	110.6	97.6%				
1316	28-Apr-09	BF	GM	Cell 3-4	+7.3	N	108.3	13.0	110.6	97.9%				
1317	28-Apr-09	Fill	Cell 3	S 1/2, W	6	N	106.1	11.3	110.1	96.4%				
1318	28-Apr-09	Fill	Cell 3	N 1/2, W	6	N	106.8	12.5	110.1	97.0%				
1319	28-Apr-09	Fill	Cell 3	N 1/2, W	6	DC	109.9	10.7	110.1	99.8%				
1320	28-Apr-09	Fill	Cell 3	N 1/2, W	7	N	106.9	12.0	110.1	97.1%	6.4	112.5	102.2%	oven moisture
1321	28-Apr-09	Fill	Cell 3	N 1/2, W	7	N	107.3	12.2	110.1	97.5%				
1322	28-Apr-09	Fill	Cell 4	S 1/2, E	8	N	108.2	10.3	110.1	98.3%				
1323	28-Apr-09	Fill	Cell 4	N 1/2, E	8	N	107.7	11.4	110.1	97.8%				
1324	28-Apr-09	Fill	Cell 4	S 1/2, E	9	N	106.9	13.0	110.1	97.1%				
1325	28-Apr-09	Fill	Cell 3	S 1/2, W	9	N	107.3	12.1	110.1	97.5%				
1326	28-Apr-09	Fill	Cell 4	S 1/2, E	9	N	105.8	12.6	110.1	96.1%				
1327	28-Apr-09	Fill	Cell 4	N 1/2, E	9	N	106.4	11.9	110.1	96.6%				
1328	28-Apr-09	Fill	Cell 4	S 1/2, E	10	N	105.7	13.3	110.1	96.0%				
1329	28-Apr-09	Fill	Cell 4	S 1/2, E	10	N	106.9	12.7	110.1	97.1%				
1330	28-Apr-09	Fill	Cell 4	S 1/2, E	10	N	105.3	12.0	110.1	95.6%				
1331	28-Apr-09	Fill	Cell 4	S 1/2, E	10	N	107.4	11.6	110.1	97.5%				
1332	28-Apr-09	Fill	Cell 4	S 1/2, E	11	N	107.3	11.6	110.1	97.5%				
1333	28-Apr-09	Fill	Cell 3	S 1/2, W	11	N	106.8	12.3	110.1	97.0%				
1334	28-Apr-09	Fill	Cell 3	S 1/2, W	11	N	106.6	11.1	110.1	96.8%				
1335	28-Apr-09	BF	LS	Cell 2	+2.7	N	106.3	11.3	110.7	96.0%				
1336	28-Apr-09	BF	LS	Cell 2	+3.3	N	106.9	10.8	110.7	96.6%				
1337	28-Apr-09	BF	LS	Cell 2	+4.0	N	105.8	11.5	110.7	95.6%				
1338	28-Apr-09	BF	LS	Cell 2	+4.7	DC	111.3	11.1	110.7	100.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

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Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1339	28-Apr-09	BF	M MH	Cell 2	-1	N	105.6	13.1	110.7	95.4%				
1340	28-Apr-09	BF	LS	Cell 2	+5.3	N	107.3	11.6	110.7	96.9%	12.2	106.7	96.4%	oven moisture
1341	28-Apr-09	BF	LS	Cell 2	+6.0	N	107.9	12.4	110.7	97.5%				
1342	28-Apr-09	BF	LS	Cell 2	+6.7	N	106.5	11.0	110.7	96.2%				
1343	28-Apr-09	BF	LS	Cell 2	+7.3	N	109.2	12.0	110.7	98.6%				
1344	28-Apr-09	BF	LS	Cell 2	+8.0	N	108.7	13.3	110.7	98.2%				
1345	28-Apr-09	BF	GM	Cell 2-3	+4.7	N	107.0	11.8	110.7	96.7%				
1346	28-Apr-09	BF	GM	Cell 2-3	+5.3	N	106.6	11.1	110.7	96.3%				
1347	28-Apr-09	BF	GM	Cell 2-3	+6.0	N	106.2	12.7	110.7	95.9%				
1348	28-Apr-09	BF	GM	Cell 2-3	+6.7	N	105.9	13.3	110.7	95.7%				
1349	28-Apr-09	BF	GM	Cell 2-3	+7.3	N	107.8	10.9	110.7	97.4%				
1350	29-Apr-09	BF	M MH	Cell 4	0	N	109.3	11.2	110.7	98.7%				
1351	29-Apr-09	Fill	N berm	Cell 3	1	N	109.4	12.3	112.6	97.2%				
1352	29-Apr-09	Fill	N berm	Cell 4	2	N	108.8	11.7	112.6	96.6%				
1353	29-Apr-09	Fill	N berm	Cell 2	1	N	109.7	13.5	112.6	97.4%				
1354	29-Apr-09	Fill	N berm	Cell 3	2	N	108.5	12.8	112.6	96.4%				
1355	29-Apr-09	Fill	N berm	Cell 3	3	N	109.1	12.2	112.6	96.9%				
1356	29-Apr-09	Fill	N berm	Cell 3	4	N	108.2	13.3	112.6	96.1%				
1357	29-Apr-09	BF	LC pipe	Cell 2	+1.3	DC	114.5	12.3	113.6	100.8%	7.0	120.2	105.8%	oven moisture
1358	29-Apr-09	BF	MH	Cell 1	+2.0	N	106.5	11.2	109.6	97.2%				
1359	29-Apr-09	BF	MH	Cell 1	+2.7	N	105.4	10.6	109.6	96.2%				
1360	29-Apr-09	BF	MH	Cell 1	+3.3	N	105.0	12.2	109.6	95.8%				
1361	29-Apr-09	BF	MH	Cell 1	+4.0	N	106.8	13.1	109.6	97.4%				
1362	29-Apr-09	BF	MH	Cell 1	+4.7	N	105.9	10.9	109.6	96.6%				
1363	29-Apr-09	BF	MH	Cell 1	+5.3	N	106.0	11.4	109.6	96.7%				
1364	29-Apr-09	BF	MH	Cell 1	+6.0	N	107.3	11.7	109.6	97.9%				
1365	30-Apr-09	Fill	N berm	Cell 2	3	N	101.6	17.9	106.1	95.8%				
1366	30-Apr-09	Fill	N berm	Cell 2	3	N	101.0	18.2	106.1	95.2%				
1367	30-Apr-09	Fill	N berm	Cell 3	3	N	102.2	17.6	106.1	96.3%				
1368	30-Apr-09	Fill	N berm	Cell 4	3	N	103.2	16.9	106.1	97.3%				
1369	30-Apr-09	Fill	N berm	Cell 4	3	N	102.7	17.1	106.1	96.8%				
1370	30-Apr-09	Fill	N berm	Cell 3	3	N	101.3	17.8	106.1	95.5%				
1371	30-Apr-09	Fill	N berm	Cell 3	4	N	102.4	17.3	106.1	96.5%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

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Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1372	30-Apr-09	Fill	N berm	Cell 3	4	N	101.2	18.1	106.1	95.4%				
1373	30-Apr-09	Fill	N berm	Cell 4	4	N	101.5	18.0	106.1	95.7%				
1374	30-Apr-09	Fill	N berm	Cell 3	5	N	101.9	18.2	106.1	96.0%				
1375	30-Apr-09	Fill	N berm	Cell 3	5	DC	102.7	17.9	106.1	96.8%				
1376	30-Apr-09	Fill	N berm	Cell 3	5	N	103.4	18.5	106.1	97.5%	20.8	101.4	95.6%	oven moisture
1377	30-Apr-09	BF	M MH	Cell 4	+1.3	N	108.2	12.7	110.6	97.8%				
1378	30-Apr-09	BF	LC pipe	Cell 4	+0.7	N	106.1	12.3	110.6	95.9%				
1379	30-Apr-09	BF	LC pipe	Cell 4	+1.3	N	106.8	12.9	110.6	96.6%				
1380	30-Apr-09	BF	MH	Cell 4	+2	N	108.2	11.8	110.6	97.8%				
1381	30-Apr-09	BF	MH	Cell 4	+2.7	N	108.5	12.5	110.6	98.1%				
1382	30-Apr-09	BF	MH	Cell 3	+4.7	N	99.5	19.5	102.5	97.1%				
1383	30-Apr-09	BF	MH	Cell 3	+5.3	N	98.7	20.0	102.5	96.3%				
1384	30-Apr-09	BF	MH	Cell 2	+8.7	N	110.9	14.7	115.6	95.9%				
1385	30-Apr-09	BF	MH	Cell 2	+9.3	N	111.9	14.0	115.6	96.8%				
1386	30-Apr-09	Fill	N berm	Cell 2	4	N	104.3	17.0	109.6	95.2%				
1387	30-Apr-09	Fill	N berm	Cell 3	4	N	105.2	16.7	109.6	96.0%				
1388	30-Apr-09	BF	MH	Cell 2	+10	N	104.1	16.3	106.1	98.1%				
1389	30-Apr-09	BF	MH	Cell 2	+10.7	N	103.6	17.0	106.1	97.6%				
1390	30-Apr-09	BF	MH	Cell 2	+11.3	N	102.7	16.0	106.1	96.8%				
1391	30-Apr-09	BF	MH	Cell 2	+12	N	103.0	15.7	106.1	97.1%				
1392	30-Apr-09	BF	MH	Cell 2	+12.7	N	101.1	16.3	106.1	95.3%				
1393	30-Apr-09	RSG	N Cell 2	S Side BC	+0.7	N	104.2	17.2	106.1	98.2%				
1394	30-Apr-09	RSG	N Cell 2	S Side BC	+1.3	N	104.9	17.0	106.1	98.9%				
1395	30-Apr-09	RSG	N Cell 2	S Side BC	+2	N	104.5	16.8	106.1	98.5%				
1396	1-May-09	BF	MH	Cell 2	+13.3	DC	104.1	16.5	106.1	98.1%				
1397	1-May-09	BF	MH	Cell 2	+14	N	103.2	17.0	106.1	97.3%	13.7	106.2	100.1%	oven moisture
1398	1-May-09	BF	MH	Cell 3	+6.0	N	98.9	19.3	102.5	96.5%				
1399	1-May-09	BF	MH	Cell 3	+6.7	N	97.7	19.7	102.5	95.3%				
1400	1-May-09	BF	MH	Cell 3	+7.3	N	99.5	18.3	102.5	97.1%				
1401	1-May-09	BF	MH	Cell 3	+8.0	N	98.0	19.6	102.5	95.6%				
1402	1-May-09	BF	MH	Cell 3	+8.7	N	99.1	18.5	102.5	96.7%				
1403	1-May-09	BF	MH	Cell 3	+9.3	N	106.9	16.3	111.7	95.7%				
1404	1-May-09	BF	MH	Cell 3	+10	N	106.3	16.7	111.7	95.2%				

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Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1405	1-May-09	BF	MH	Cell 3	+10.7	N	107.2	16.5	111.7	96.0%				
1406	1-May-09	BF	MH	Cell 3	+11.3	N	106.5	17.0	111.7	95.3%				
1407	1-May-09	BF	MH	Cell 3	+12	N	108.5	16.9	111.7	97.1%				
1408	1-May-09	BF	MH	Cell 3	+12.7	N	107.1	17.5	111.7	95.9%				
1409	1-May-09	BF	MH	Cell 3	+13.3	N	107.6	17.4	111.7	96.3%				
1410	1-May-09	BF	MH	Cell 3	+14	N	108.2	16.8	111.7	96.9%				
1411	1-May-09	BF	MH	Cell 3	+14.7	N	108.7	17.2	111.7	97.3%				
1412	1-May-09	BF	MH	Cell 3	+15.3	N	107.0	16.9	111.7	95.8%				
1413	1-May-09	BF	MH	Cell 3	+16	N	106.3	17.5	111.7	95.2%				
1414	1-May-09	BF	MH	Cell 3	+16.7	N	106.6	17.1	111.7	95.4%				
1415	1-May-09	BF	MH	Cell 4	+5.3	DC	102.4	17.4	106.1	96.5%				
1416	1-May-09	BF	MH	Cell 4	+6	N	103.8	17.0	106.1	97.8%	10.9	109.5	103.2%	oven moisture
1417	1-May-09	LSG	Cell 2	N 1/2, E	-	N	113.1	9.9	113.3	99.8%				
1418	1-May-09	LSG	Cell 2	N 1/2, E	-	N	106.2	11.5	108.5	97.9%				
1419	1-May-09	LSG	Cell 2	N 1/2, E	-	N	107.3	7.3	108.5	98.9%				
1420	1-May-09	LSG	Cell 2	N 1/2, E	-	N	107.4	7.8	108.5	99.0%				
1421	1-May-09	LSG	Cell 2	N 1/2, E	-	N	103.9	7.9	105.7	98.3%				
1422	1-May-09	LSG	Cell 2	N 1/2, E	-	N	101.5	7.4	105.7	96.0%				
1423	1-May-09	LSG	Cell 2	N 1/2, E	-	N	107.7	9.2	108.5	99.3%				
1424	1-May-09	LSG	Cell 2	S 1/2, E	-	N	100.7	7.6	103.3	97.5%				
1425	1-May-09	LSG	Cell 2	S 1/2, E	-	N	101.9	9.2	103.3	98.6%				
1426	1-May-09	LSG	Cell 2	S 1/2, E	-	N	107.3	6.6	108.9	98.5%				
1427	1-May-09	LSG	Cell 2	S 1/2, C	-	N	104.0	8.4	104.8	99.2%				
1428	1-May-09	LSG	Cell 2	S 1/2, C	-	N	102.5	7.5	104.8	97.8%				
1429	1-May-09	LSG	Cell 2	S 1/2, C	-	N	103.5	6.2	104.8	98.8%				
1430	1-May-09	LSG	Cell 2	S 1/2, C	-	N	101.0	7.7	103.3	97.8%				
1431	1-May-09	LSG	Cell 2	S 1/2, C	-	N	103.1	8.5	103.3	99.8%				
1432	1-May-09	LSG	Cell 2	S 1/2, C	-	N	107.2	9.5	108.8	98.5%				
1433	1-May-09	LSG	Cell 2	S 1/2, C	-	N	105.4	8.3	108.8	96.9%				
1434	1-May-09	LSG	Cell 2	S 1/2, C	-	N	103.1	9.3	104.8	98.4%				
1435	1-May-09	LSG	Cell 2	S 1/2, C	-	N	101.4	9.7	104.8	96.8%				
1436	1-May-09	LSG	Cell 2	S 1/2, C	-	N	108.7	9.9	108.9	99.8%				
1437	1-May-09	LSG	Cell 2	S 1/2, C	-	N	109.5	10.0	113.9	96.1%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

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Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1438	1-May-09	LSG	Cell 2	N 1/2, C	-	N	101.7	16.1	104.6	97.2%				
1439	1-May-09	LSG	Cell 2	N 1/2, C	-	N	102.4	13.7	104.6	97.9%				
1440	1-May-09	LSG	Cell 2	N 1/2, C	-	N	103.1	13.1	104.6	98.6%				
1441	1-May-09	LSG	Cell 2	N 1/2, C	-	N	103.9	8.2	104.8	99.1%				
1442	1-May-09	LSG	Cell 2	N 1/2, C	-	N	104.9	7.9	108.5	96.7%				
1443	1-May-09	LSG	Cell 2	N 1/2, C	-	N	104.2	9.7	108.5	96.0%				
1444	1-May-09	LSG	Cell 2	N 1/2, C	-	N	110.6	8.2	111.8	98.9%				
1445	1-May-09	LSG	Cell 2	N 1/2, W	-	N	111.1	9.7	111.8	99.4%				
1446	1-May-09	LSG	Cell 2	N 1/2, W	-	N	101.6	10.3	104.8	96.9%				
1447	1-May-09	LSG	Cell 2	N 1/2, W	-	N	102.2	10.4	104.8	97.5%				
1448	1-May-09	LSG	Cell 2	N 1/2, W	-	N	103.3	11.9	104.8	98.6%				
1449	1-May-09	LSG	Cell 2	N 1/2, W	-	N	101.2	9.5	104.8	96.6%				
1450	1-May-09	LSG	Cell 2	N 1/2, W	-	N	100.9	6.9	104.8	96.3%				
1451	1-May-09	LSG	Cell 2	N 1/2, W	-	N	101.7	7.1	104.8	97.0%				
1452	1-May-09	LSG	Cell 2	S 1/2, W	-	N	100.0	18.1	104.9	95.3%				
1453	1-May-09	LSG	Cell 2	S 1/2, W	-	N	101.4	5.5	106.1	95.6%				
1454	1-May-09	LSG	Cell 2	S 1/2, W	-	N	110.3	10.9	113.9	96.8%				
1455	1-May-09	LSG	Cell 2	S 1/2, W	-	N	109.2	9.4	113.9	95.9%				
1456	1-May-09	LSG	Cell 2	S 1/2, W	-	N	106.9	8.5	108.9	98.2%				
1457	1-May-09	LSG	Cell 2	S 1/2, W	-	N	105.4	10.3	108.9	96.8%				
1458	1-May-09	LSG	Cell 2	S 1/2, W	-	N	107.4	10.0	108.9	98.6%				
1459	1-May-09	LSG	Cell 2	S 1/2, W	-	N	108.2	6.7	109.7	98.6%				
1460	1-May-09	LSG	Cell 2	S 1/2, W	-	N	104.2	9.0	104.8	99.4%				
1461	1-May-09	LSG	Cell 2	S 1/2, W	-	N	99.9	7.3	103.3	96.7%				
1462	1-May-09	LSG	Cell 2	S 1/2, W	-	N	108.4	9.2	109.7	98.8%				
1463	1-May-09	BF	MH	Cell 4	+6.7	N	103.3	16.5	106.1	97.4%				
1464	1-May-09	BF	MH	Cell 4	+7.3	N	102.2	17.0	106.1	96.3%				
1465	1-May-09	BF	MH	Cell 4	+8.0	N	102.7	17.2	106.1	96.8%				
1466	1-May-09	BF	MH	Cell 4	+8.7	N	101.7	17.8	106.1	95.9%				
1467	1-May-09	BF	MH	Cell 4	+9.3	N	103.0	16.7	106.1	97.1%				
1468	1-May-09	BF	MH	Cell 4	+10	N	101.9	17.5	106.1	96.0%				
1469	1-May-09	BF	MH	Cell 4	+10.7	N	101.1	18.0	106.1	95.3%				
1470	1-May-09	BF	MH	Cell 4	+11.3	N	101.6	16.9	106.1	95.8%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1471	1-May-09	BF	MH	Cell 4	+12	N	102.7	17.5	106.1	96.8%				
1472	1-May-09	BF	MH	Cell 4	+12.7	N	101.3	17.2	106.1	95.5%				
1473	1-May-09	BF	MH	Cell 4	+13.3	N	101.9	15.8	106.1	96.0%				
1474	1-May-09	BF	MH	Cell 4	+14	N	102.2	16.3	106.1	96.3%				
1475	1-May-09	BF	MH	Cell 4	+14.7	N	103.0	16.7	106.1	97.1%				
1476	1-May-09	BF	MH	Cell 4	+15.3	N	101.0	17.4	106.1	95.2%				
Week of 5/4/09 - 5/9/09														
1477	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.9	10.4	108.9	98.2%				
1478	4-May-09	LSG	Cell 3	S 1/2, E	-	N	107.3	9.7	108.9	98.5%				
1479	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.5	10.9	108.9	96.9%				
1480	4-May-09	LSG	Cell 3	S 1/2, E	-	N	104.7	11.2	108.9	96.1%				
1481	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.2	10.6	108.9	97.5%				
1482	4-May-09	LSG	Cell 3	S 1/2, E	-	N	107.0	11.7	108.9	98.3%				
1483	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.9	10.5	108.9	97.2%				
1484	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.4	11.0	108.9	97.7%				
1485	4-May-09	LSG	Cell 3	S 1/2, E	-	N	107.5	10.1	108.9	98.7%				
1486	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.7	12.3	108.9	97.1%				
1487	4-May-09	LSG	Cell 3	N 1/2, E	-	N	106.0	10.7	108.9	97.3%				
1488	4-May-09	LSG	Cell 3	N 1/2, E	-	N	106.8	10.3	108.9	98.1%				
1489	4-May-09	LSG	Cell 3	N 1/2, E	-	N	107.6	11.1	108.9	98.8%				
1490	4-May-09	LSG	Cell 3	N 1/2, E	-	N	105.5	12.5	108.9	96.9%				
1491	4-May-09	LSG	Cell 3	N 1/2, E	-	N	106.1	10.0	108.9	97.4%				
1492	4-May-09	LSG	Cell 3	N 1/2, E	-	N	107.0	11.2	108.9	98.3%				
1493	4-May-09	LSG	Cell 3	N 1/2, E	-	N	107.5	9.9	108.9	98.7%				
1494	4-May-09	LSG	Cell 3	N 1/2, E	-	N	108.0	10.9	108.9	99.2%				
1495	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.8	11.5	108.9	97.2%				
1496	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.3	10.7	108.9	97.6%				
1497	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.9	10.3	108.9	97.2%				
1498	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.2	12.7	108.9	97.5%				
1499	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.1	13.3	108.9	96.5%				
1500	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.6	11.9	108.9	97.9%				
1501	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.4	12.4	108.9	96.8%				
1502	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.0	11.6	108.9	97.3%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1503	4-May-09	LSG	Cell 3	S 1/2, E	-	N	105.2	12.1	108.9	96.6%				
1504	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.5	10.9	108.9	97.8%				
1505	4-May-09	LSG	Cell 3	S 1/2, E	-	N	107.1	11.9	108.9	98.3%				
1506	4-May-09	LSG	Cell 3	S 1/2, E	-	N	106.3	12.6	108.9	97.6%				
1507	4-May-09	LSG	Cell 3	N 1/2, E	-	N	107.5	11.5	108.9	98.7%				
1508	4-May-09	LSG	Cell 3	N 1/2, E	-	N	108.0	9.8	108.9	99.2%				
1509	4-May-09	LSG	Cell 3	N 1/2, E	-	N	106.1	11.1	108.9	97.4%				
1510	4-May-09	LSG	Cell 3	N 1/2, E	-	N	106.7	12.9	108.9	98.0%				
1511	4-May-09	LSG	Cell 3	N 1/2, E	-	N	107.3	12.5	108.9	98.5%				
1512	4-May-09	LSG	Cell 3	N 1/2, E	-	N	107.0	11.6	108.9	98.3%				
1513	4-May-09	LSG	Cell 3	S 1/2, C	-	N	105.6	13.1	108.9	97.0%				
1514	4-May-09	LSG	Cell 3	S 1/2, C	-	N	106.2	12.8	108.9	97.5%				
1515	4-May-09	LSG	Cell 3	S 1/2, C	-	N	106.9	12.4	108.9	98.2%				
1516	4-May-09	LSG	Cell 3	S 1/2, C	-	N	105.8	12.0	108.9	97.2%				
1517	4-May-09	LSG	Cell 3	S 1/2, C	-	N	106.4	11.7	108.9	97.7%				
1518	4-May-09	LSG	Cell 3	S 1/2, C	-	N	105.5	11.4	108.9	96.9%				
1519	4-May-09	LSG	Cell 3	S 1/2, C	-	N	107.2	10.6	108.9	98.4%				
1520	4-May-09	LSG	Cell 3	S 1/2, C	-	N	106.6	9.9	108.9	97.9%				
1521	4-May-09	LSG	Cell 3	S 1/2, C	-	N	105.9	10.9	108.9	97.2%				
1522	4-May-09	LSG	Cell 3	S 1/2, C	-	N	106.1	11.2	108.9	97.4%				
1523	4-May-09	LSG	Cell 3	S 1/2, C	-	N	107.7	10.4	108.9	98.9%				
1524	4-May-09	LSG	Cell 3	N 1/2, C	-	N	105.8	11.9	108.9	97.2%				
1525	4-May-09	LSG	Cell 3	N 1/2, C	-	N	104.9	12.3	108.9	96.3%				
1526	4-May-09	LSG	Cell 3	N 1/2, W	-	N	107.0	11.7	108.9	98.3%				
1527	4-May-09	LSG	Cell 3	N 1/2, W	-	N	106.3	10.9	108.9	97.6%				
1528	4-May-09	LSG	Cell 3	N 1/2, W	-	N	105.1	10.3	108.9	96.5%				
1529	4-May-09	LSG	Cell 3	N 1/2, W	-	N	106.9	11.0	108.9	98.2%				
1530	4-May-09	LSG	Cell 3	N 1/2, W	-	N	107.9	9.7	108.9	99.1%				
1531	4-May-09	LSG	Cell 3	N 1/2, W	-	N	105.4	12.6	108.9	96.8%				
1532	4-May-09	LSG	Cell 3	S 1/2, W	-	N	106.6	12.0	108.9	97.9%				
1533	4-May-09	LSG	Cell 3	S 1/2, W	-	N	107.3	11.0	108.9	98.5%				
1534	4-May-09	LSG	Cell 3	S 1/2, W	-	N	105.2	12.6	108.9	96.6%				
1535	4-May-09	LSG	Cell 3	S 1/2, W	-	N	106.1	11.2	108.9	97.4%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1536	4-May-09	LSG	Cell 3	S 1/2, W	-	N	106.8	12.1	108.9	98.1%				
1537	4-May-09	LSG	Cell 3	S 1/2, W	-	N	107.6	9.6	108.9	98.8%				
1538	4-May-09	LSG	Cell 3	S 1/2, W	-	N	105.0	10.1	108.9	96.4%				
1539	4-May-09	LSG	Cell 3	S 1/2, W	-	N	106.9	11.3	108.9	98.2%				
1540	4-May-09	LSG	Cell 3	S 1/2, W	-	N	105.6	10.5	108.9	97.0%				
1541	4-May-09	LSG	Cell 3	N 1/2, W	-	N	106.9	9.9	108.9	98.2%				
1542	4-May-09	LSG	Cell 3	N 1/2, W	-	N	107.3	11.4	108.9	98.5%				
1543	4-May-09	LSG	Cell 3	N 1/2, W	-	N	106.1	11.7	108.9	97.4%				
1544	4-May-09	LSG	Cell 3	N 1/2, W	-	N	105.5	10.2	108.9	96.9%				
1545	4-May-09	LSG	Cell 3	N 1/2, W	-	N	104.8	10.0	108.9	96.2%				
1546	4-May-09	LSG	Cell 3	N 1/2, W	-	N	106.5	9.6	108.9	97.8%				
1547	4-May-09	BF	MH	Cell 2	+10	N	111.0	11.9	115.6	96.0%				
1548	4-May-09	BF	MH	Cell 2	+10.7	N	109.9	12.3	115.6	95.1%				
1549	4-May-09	BF	MH	Cell 2	+11.3	N	110.6	10.7	115.6	95.7%				
1550	4-May-09	BF	MH	Cell 2	+12	N	110.0	11.3	115.6	95.2%				
1551	4-May-09	BF	MH	Cell 2	+12.7	N	111.4	12.0	115.6	96.4%				
1552	4-May-09	BF	MH	Cell 2	+13.3	N	112.6	10.4	115.6	97.4%				
1553	4-May-09	BF	MH	Cell 2	+14	N	113.3	12.1	115.6	98.0%				
1554	4-May-09	BF	MH	Cell 2	+14.7	N	111.8	10.7	115.6	96.7%				
1555	4-May-09	BF	MH	Cell 2	+15.3	N	112.3	11.3	115.6	97.1%				
1556	4-May-09	BF	MH	Cell 2	+16	N	112.0	12.1	115.6	96.9%				
1557	4-May-09	BF	MH	Cell 2	+16.7	N	110.8	11.7	115.6	95.8%				
1558	4-May-09	BF	MH	Cell 2	+17.4	N	110.5	10.3	115.6	95.6%				
1559	4-May-09	BF	MH	Cell 2	+18	N	111.1	10.1	115.6	96.1%				
1560	4-May-09	BF	MH	Cell 2	+18.7	N	113.6	10.9	115.6	98.3%				
1561	5-May-09	LSG	Cell 4	N 1/2, E	-	N	110.8	11.7	112.3	98.7%				
1562	5-May-09	LSG	Cell 3	N 1/2, W	-	N	110.5	11.4	112.3	98.4%				
1563	5-May-09	LSG	Cell 3	N 1/2, W	-	N	104.8	7.9	108.9	96.2%				
1564	5-May-09	LSG	Cell 3	N 1/2, W	-	N	106.0	5.9	108.9	97.3%				
1565	5-May-09	LSG	Cell 3	N 1/2, W	-	N	104.9	7.3	108.9	96.3%				
1566	5-May-09	LSG	Cell 3	N 1/2, W	-	N	103.5	8.1	105.7	97.9%				
1567	5-May-09	LSG	Cell 3	N 1/2, W	-	N	104.6	8.2	105.7	99.0%				
1568	5-May-09	LSG	Cell 3	N 1/2, W	-	N	102.2	9.0	105.7	96.7%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1569	5-May-09	LSG	Cell 3	N 1/2, W	-	N	106.5	13.1	110.8	96.1%				
1570	5-May-09	LSG	Cell 3	S 1/2, W	-	N	105.5	9.9	110.8	95.2%				
1571	5-May-09	LSG	Cell 3	S 1/2, W	-	N	106.5	11.3	110.1	96.7%				
1572	5-May-09	LSG	Cell 4	S 1/2, E	-	N	104.3	12.8	106.1	98.3%				
1573	5-May-09	LSG	Cell 3	S 1/2, W	-	N	102.7	9.7	106.1	96.8%				
1574	5-May-09	LSG	Cell 3	S 1/2, W	-	N	106.6	9.6	110.8	96.2%				
1575	5-May-09	LSG	Cell 3	S 1/2, W	-	N	105.0	11.2	108.9	96.4%				
1576	5-May-09	LSG	Cell 4	S 1/2, E	-	N	106.0	9.9	108.9	97.3%				
1577	5-May-09	LSG	Cell 3	S 1/2, W	-	N	104.4	10.3	108.9	95.9%				
1578	5-May-09	LSG	Cell 3	S 1/2, W	-	N	108.8	7.9	110.8	98.2%				
1579	5-May-09	LSG	Cell 3	S 1/2, W	-	N	107.2	9.8	110.8	96.8%				
1580	5-May-09	LSG	Cell 4	N 1/2, E	-	N	108.5	16.1	109.4	99.2%				
1581	5-May-09	LSG	Cell 4	N 1/2, E	-	N	107.8	14.3	109.4	98.5%				
1582	5-May-09	LSG	Cell 4	N 1/2, E	-	N	105.4	6.8	109.6	96.2%				
1583	5-May-09	LSG	Cell 4	N 1/2, E	-	N	100.7	8.3	103.3	97.5%				
1584	5-May-09	LSG	Cell 4	N 1/2, E	-	N	102.4	8.3	106.4	96.2%				
1585	5-May-09	LSG	Cell 4	N 1/2, E	-	N	103.2	10.2	106.4	97.0%				
1586	5-May-09	LSG	Cell 4	N 1/2, E	-	N	105.0	11.2	106.4	98.7%				
1587	5-May-09	LSG	Cell 4	N 1/2, E	-	N	103.4	6.3	106.4	97.2%				
1588	5-May-09	LSG	Cell 4	N 1/2, E	-	N	101.9	7.0	106.4	95.8%				
1589	5-May-09	LSG	Cell 4	S 1/2, E	-	N	105.1	10.8	106.4	98.8%				
1590	5-May-09	LSG	Cell 4	S 1/2, E	-	N	104.6	10.8	106.4	98.3%				
1591	5-May-09	LSG	Cell 4	S 1/2, E	-	N	104.0	11.8	106.4	97.7%				
1592	5-May-09	LSG	Cell 4	S 1/2, E	-	N	105.8	9.0	110.1	96.1%				
1593	5-May-09	LSG	Cell 4	S 1/2, E	-	N	104.9	11.2	110.1	95.3%				
1594	5-May-09	LSG	Cell 4	S 1/2, E	-	N	101.7	11.1	106.1	95.9%				
1595	5-May-09	LSG	Cell 4	S 1/2, E	-	N	104.2	8.6	106.1	98.2%				
1596	5-May-09	LSG	Cell 4	S 1/2, E	-	N	106.9	8.4	109.0	98.1%				
1597	5-May-09	LSG	Cell 4	S 1/2, E	-	N	108.2	9.7	109.0	99.3%				
1598	5-May-09	LSG	Cell 4	S 1/2, E	-	N	106.3	11.3	109.0	97.5%				
1599	5-May-09	LSG	Cell 2	S 1/2, E	-	N	104.6	8.7	109.0	96.0%				
1600	5-May-09	LSG	Cell 2	S 1/2, E	-	N	107.8	8.9	109.0	98.9%				
1601	5-May-09	LSG	Cell 2	S 1/2, E	-	N	105.0	10.3	109.0	96.3%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1602	5-May-09	LSG	Cell 4	N 1/2, C	-	N	112.4	6.5	113.3	99.2%				
1603	5-May-09	LSG	Cell 4	N 1/2, C	-	N	114.1	7.8	115.6	98.7%				
1604	5-May-09	LSG	Cell 4	N 1/2, C	-	N	112.5	9.7	115.6	97.3%				
1605	5-May-09	LSG	Cell 4	N 1/2, C	-	N	110.3	9.2	112.6	98.0%				
1606	5-May-09	LSG	Cell 4	N 1/2, C	-	N	109.5	10.6	112.6	97.2%				
1607	5-May-09	LSG	Cell 4	N 1/2, C	-	N	101.6	14.0	105.7	96.1%				
1608	5-May-09	LSG	Cell 4	N 1/2, C	-	N	100.8	10.3	105.7	95.4%				
1609	5-May-09	LSG	Cell 4	N 1/2, C	-	N	104.5	13.2	106.1	98.5%				
1610	5-May-09	LSG	Cell 4	S 1/2, C	-	N	103.4	10.7	106.1	97.5%				
1611	5-May-09	LSG	Cell 4	S 1/2, C	-	N	102.2	11.3	106.1	96.3%				
1612	5-May-09	LSG	Cell 4	S 1/2, C	-	N	108.6	10.9	111.7	97.2%				
1613	5-May-09	LSG	Cell 4	S 1/2, C	-	N	110.6	9.2	111.7	99.0%				
1614	5-May-09	LSG	Cell 4	S 1/2, C	-	N	110.4	12.3	111.7	98.8%				
1615	5-May-09	LSG	Cell 4	S 1/2, C	-	N	109.2	10.8	111.7	97.8%				
1616	5-May-09	LSG	Cell 4	S 1/2, C	-	N	110.6	10.6	114.0	97.0%				
1617	5-May-09	LSG	Cell 4	S 1/2, C	-	N	114.9	8.9	115.6	99.4%				
1618	5-May-09	LSG	Cell 4	S 1/2, C	-	N	108.5	10.2	111.7	97.1%				
1619	5-May-09	LSG	Cell 4	S 1/2, C	-	N	107.1	9.1	111.7	95.9%				
1620	5-May-09	RSG	Box 1	WW SW	0	DC	108.3	8.9	109.4	99.0%				
1621	5-May-09	RSG	Box 1	WW SE	0	DC	107.4	10.2	109.4	98.2%				
1622	5-May-09	RSG	Box 1	WW NE	0	DC	108.0	9.1	109.4	98.7%				
1623	5-May-09	RSG	Box 1	WW NW	0	DC	107.6	13.8	109.4	98.4%				
1624	5-May-09	RSG	Box 2	WW NW	0	N	107.6	11.9	109.4	98.4%				
1625	5-May-09	RSG	Box 2	WW SW	0	N	108.2	12.3	109.4	98.9%				
1626	5-May-09	RSG	Box 2	WW SE	0	N	107.9	10.9	109.4	98.6%				
1627	5-May-09	RSG	Box 2	WW NE	0	N	108.4	11.5	109.4	99.1%				
1628	5-May-09	Fill	Cell 2	S 1/2, W	7	N	110.5	11.3	113.9	97.0%				
1629	5-May-09	Fill	Cell 2	N 1/2, W	7	N	101.7	8.8	106.1	95.9%				
1630	5-May-09	Fill	Cell 3	N 1/2, E	7	N	103.4	7.8	106.1	97.5%				
1631	5-May-09	Fill	Cell 3	S 1/2, E	8	N	106.8	10.9	108.9	98.1%				
1632	5-May-09	Fill	Cell 3	N 1/2, E	8	N	106.1	9.7	108.9	97.4%				
1633	5-May-09	Fill	Cell 3	S 1/2, C	9	N	101.4	15.0	106.1	95.6%				
1634	5-May-09	Fill	Cell 2	S 1/2, E	10	N	103.0	10.0	106.1	97.1%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1635	5-May-09	Fill	Cell 2	S 1/2, E	10	N	108.2	9.2	111.7	96.9%				
1636	5-May-09	Fill	Cell 2	S 1/2, E	10	N	109.6	11.8	111.7	98.1%				
1637	5-May-09	Fill	Cell 3	S 1/2, E	11	N	109.2	8.6	111.7	97.8%				
1638	5-May-09	Fill	Cell 3	S 1/2, E	11	N	99.9	8.6	102.5	97.5%				
1639	6-May-09	Fill	W berm	N 1/2	4	N	108.7	7.7	111.7	97.3%				
1640	6-May-09	Fill	W berm	N 1/2	5	N	109.6	13.8	111.7	98.1%				
1641	6-May-09	Fill	N berm	Cell 2	5	N	108.3	11.8	111.7	97.0%				
1642	6-May-09	Fill	N berm	Cell 2	5	N	98.8	11.4	102.5	96.4%				
1643	6-May-09	Fill	N berm	Cell 2	6	N	107.2	10.3	110.8	96.8%				
1644	6-May-09	Fill	N berm	Cell 3	6	N	107.9	10.7	110.8	97.4%				
1645	6-May-09	Fill	N berm	Cell 3	6	N	103.0	9.6	106.1	97.1%				
1646	6-May-09	Fill	N berm	Cell 4	6	N	105.0	10.5	106.1	99.0%				
1647	6-May-09	Fill	W berm	N 1/2	7	N	106.9	8.2	111.7	95.7%				
1648	6-May-09	Fill	N berm	Cell 4	7	N	108.6	8.3	111.7	97.2%				
1649	6-May-09	Fill	N berm	Cell 4	7	N	101.8	11.8	106.1	95.9%				
1650	6-May-09	Fill	N berm	Cell 3	7	N	102.1	12.4	106.1	96.2%				
1651	6-May-09	Fill	N berm	Cell 2	7	N	105.6	11.8	110.1	95.9%				
1652	6-May-09	Fill	N berm	Cell 2	7	N	100.5	11.5	102.5	98.0%				
1653	6-May-09	Fill	N berm	Cell 1	7	N	103.2	9.4	106.1	97.3%				
1654	6-May-09	Fill	N berm	Cell 1	8	N	102.7	10.3	106.1	96.8%				
1655	6-May-09	Fill	N berm	Cell 1	8	N	103.9	11.2	106.1	97.9%				
1656	6-May-09	Fill	N berm	Cell 2	8	N	109.0	11.6	111.7	97.6%				
1657	6-May-09	Fill	N berm	Cell 3	8	N	107.8	10.5	111.7	96.5%				
1658	6-May-09	Fill	N berm	Cell 4	8	N	109.8	10.9	111.7	98.3%				
1659	6-May-09	Fill	N berm	Cell 4	8	N	108.6	9.7	111.7	97.2%				
1660	6-May-09	Fill	W berm	S 1/2	8	N	104.6	15.6	106.1	98.6%				
1661	6-May-09	Fill	W berm	S 1/2	8	N	104.3	4.6	106.1	98.3%				
1662	6-May-09	Fill	W berm	N 1/2	8	N	105.6	10.7	106.1	99.5%				
1663	6-May-09	Fill	W berm	N 1/2	8	N	105.8	10.8	106.1	99.7%				
1664	6-May-09	Fill	W berm	N 1/2	8	N	103.8	12.1	106.1	97.8%				
1665	6-May-09	Fill	S berm	Cell 4	11	N	100.2	15.6	102.5	97.8%				
1666	6-May-09	Fill	S berm	Cell 4	12	N	105.9	11.5	108.9	97.2%				
1667	6-May-09	Fill	S berm	Cell 4	13	N	108.2	12.0	111.7	96.9%				

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SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1668	6-May-09	Fill	S berm	Cell 4	13	N	108.9	11.7	110.8	98.3%				
1669	6-May-09	Fill	S berm	Cell 4	13	N	109.9	8.2	111.7	98.4%				
1670	6-May-09	Fill	S berm	Cell 4	14	N	109.1	10.3	111.7	97.7%				
1671	6-May-09	Fill	S berm	Cell 4	14	N	98.8	15.5	102.5	96.4%				
1672	6-May-09	Fill	S berm	Cell 4	14	N	109.2	12.9	112.6	97.0%				
1673	6-May-09	Fill	S berm	Cell 4	15	N	108.5	13.5	112.6	96.4%				
1674	6-May-09	Fill	S berm	Cell 4	15	N	108.6	11.9	111.6	97.3%				
1675	6-May-09	Fill	S berm	Cell 4	15	N	107.0	12.3	111.6	95.9%				
1676	6-May-09	Fill	S berm	Cell 4	16	N	107.2	13.3	109.6	97.8%				
1677	6-May-09	Fill	S berm	Cell 4	16	N	108.0	12.5	109.6	98.5%				
1678	6-May-09	Fill	S berm	Cell 4	16	N	108.6	9.9	109.6	99.1%				
1679	7-May-09	RSG	Box 2	S Side BC	+2.7	N	113.2	14.0	114.0	99.3%				
1680	7-May-09	RSG	Box 2	S Side BC	+3.3	N	112.5	13.2	114.0	98.7%				
1681	7-May-09	RSG	Box 2	S Side BC	+4	N	111.9	12.5	114.0	98.2%				
1682	8-May-09	BF	Cell 2	valve box	+1	N	109.4	13.9	110.8	98.7%				
1683	8-May-09	BF	Cell 2	valve box	+2	N	109.1	14.7	110.8	98.5%				
1684	8-May-09	BF	Cell 2	valve box	+2.7	N	108.9	15.2	110.8	98.3%				
1685	8-May-09	BF	Cell 2	valve box	+3.5	N	108.8	14.3	110.8	98.2%				
1686	8-May-09	RSG	Box 2	S Side BC	+4.7	N	109.8	12.9	110.8	99.1%				
1687	8-May-09	RSG	Box 2	S Side BC	+5.3	N	109.5	13.8	110.8	98.8%				
1688	8-May-09	RSG	Box 2	S Side BC	+6	N	109.0	14.8	110.8	98.4%				
Week of 5/11/09 - 5/15/09														
1689	11-May-09	LSG	Cell 2	S 1/2, W	-	N	108.8	11.0	111.7	97.4%				
1690	11-May-09	LSG	Cell 3	S 1/2, E	-	N	108.2	10.5	111.7	96.9%				
1691	11-May-09	LSG	Cell 4	S 1/2, E	-	N	109.2	12.4	111.7	97.8%				
1692	12-May-09	LSG	Cell 2	S 1/2, E	-	DC	112.3	14.9	113.9	98.6%				
1693	12-May-09	LSG	Cell 2	S 1/2, E	-	DC	112.8	16.0	113.9	99.0%				
1694	12-May-09	LSG	Cell 2	S 1/2, E	-	DC	114.2	13.1	114.0	100.2%				
1695	12-May-09	LSG	Cell 2	S 1/2, E	-	DC	111.7	16.0	113.9	98.1%				
1696	12-May-09	LSG	Cell 2	S 1/2, E	-	DC	111.3	12.9	114.0	97.6%				
Week of 5/18/09 - 5/22/09														
1697	20-May-09	RSG	S Berm	Cell 1	-	N	100.8	17.3	102.5	98.3%	16.8	101.2	98.8%	oven moisture
1698	20-May-09	RSG	S Berm	Cell 1	-	N	101.6	12.8	102.5	99.1%				

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Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1699	21-May-09	RSG	S Berm	Phase 1	-	N	104.1	18.1	104.9	99.2%				
Week of 5/25/09 - 5/30/09														
1700	25-May-09	RSG	Culvert 1	NW	+1	N	103.2	13.4	104.6	98.7%	10.9	105.5	100.9%	oven moisture
1701	25-May-09	RSG	Culvert 1	SW	+1	N	103.8	13.6	104.6	99.2%				
1702	25-May-09	RSG	Culvert 1	NE	+2	N	102.9	12.5	104.6	98.4%				
1703	25-May-09	RSG	Culvert 1	SE	+2	N	103.6	12.7	104.6	99.0%				
1704	25-May-09	RSG	Culvert 1	SW	+3	N	106.9	14.3	109.0	98.1%				
1705	25-May-09	RSG	Culvert 1	NW	+3	N	107.1	14.5	109.0	98.3%				
1706	25-May-09	RSG	S Berm	Cell 4	-	N	106.6	14.6	108.8	98.0%				
1707	25-May-09	RSG	S Berm	Cell 4	-	N	112.1	14.7	113.9	98.4%				
1708	25-May-09	RSG	S Berm	Cell 4	-	N	113.1	14.3	113.9	99.3%	13.1	114.3	100.4%	oven moisture
1709	26-May-09	RSB	S Berm	Cell 4	1	N	123.4	13.9	125.0	98.7%				
1710	26-May-09	RSB	S Berm	Cell 4	1	N	122.6	15.7	125.0	98.1%				
1711	26-May-09	RSB	S Berm	Cell 4	1	N	123.0	15.6	125.0	98.4%				
1712	26-May-09	RSG	S Berm	Cell 4	-	N	109.3	12.3	110.8	98.6%				
1713	26-May-09	RSG	S Berm	Cell 3	-	N	108.8	14.9	110.8	98.2%				
1714	29-May-09	RSB	S Berm	Cell 3	1	N	123.3	12.4	125.0	98.6%				
1715	29-May-09	RSB	S Berm	Cell 4	1	N	124.1	10.6	125.0	99.3%				
Week of 5/31/09 - 6/6/09														
1716	1-Jun-09	RSB	S Berm	Cell 3	2	N	126.9	8.9	125.0	101.5%				
1717	1-Jun-09	RSB	S Berm	Cell 4	2	N	125.5	9.9	125.0	100.4%				
Week of 6/8/09 - 6/12/09														
1718	12-Jun-09	RSG	S Berm	Cell 3	-	N	108.2	15.0	110.1	98.3%				
1719	12-Jun-09	RSG	S Berm	Cell 2	-	N	108.8	14.4	110.1	98.8%				
Week of 6/22/09 - 6/27/09														
1720	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	113.0	10.2	115.3	98.0%				
1721	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	110.3	10.1	115.3	95.7%				
1722	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	100.2	7.3	102.5	97.8%				
1723	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	106.6	7.4	108.9	97.9%				
1724	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	107.9	8.0	108.9	99.1%				
1725	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	115.6	8.8	115.6	100.0%				
1726	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	115.4	9.4	115.6	99.8%				
1727	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	115.8	7.6	115.6	100.2%				

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Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1728	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	112.5	7.1	113.4	99.2%				
1729	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	107.3	14.1	110.7	96.9%				
1730	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	116.1	6.9	115.6	100.4%				
1731	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	100.4	5.6	102.5	98.0%				
1732	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	111.3	8.2	113.4	98.1%				
1733	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	115.2	8.1	115.6	99.7%				
1734	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	111.9	10.6	114.0	98.2%				
1735	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	112.3	11.3	114.0	98.5%				
1736	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	115.5	10.1	115.6	99.9%				
1737	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	113.2	10.6	115.3	98.2%				
1738	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	115.2	11.9	115.3	99.9%				
1739	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	115.4	11.4	115.3	100.1%				
1740	27-Jun-09	LSG	Cell 4	N 1/2, W	-	N	114.5	11.6	115.3	99.3%				
1741	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	103.3	13.4	105.7	97.7%				
1742	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	115.5	7.5	115.6	99.9%				
1743	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	110.1	9.8	111.7	98.6%				
1744	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	115.8	8.3	115.6	100.2%				
1745	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	114.1	10.1	115.6	98.7%				
1746	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	100.7	12.3	102.5	98.2%				
1747	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	106.3	8.8	109.6	97.0%				
1748	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	102.9	9.8	105.7	97.4%				
1749	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	101.7	7.8	105.7	96.2%				
1750	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	101.3	6.9	105.7	95.8%				
1751	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	105.1	8.4	105.7	99.4%				
1752	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	101.4	12.0	102.5	98.9%				
1753	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	101.8	9.5	105.7	96.3%				
1754	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	102.5	10.1	105.7	97.0%				
1755	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	103.1	11.1	105.7	97.5%				
1756	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	103.8	10.5	105.7	98.2%				
1757	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	101.7	10.3	105.7	96.2%				
1758	27-Jun-09	LSG	Cell 4	S 1/2, W	-	N	102.1	10.7	105.7	96.6%				
Week of	**7/13/09 - 7/18/09**													
1759	14-Jul-09	Fill	N Berm	NW Corner	1	N	103.8	15.7	106.1	97.8%				

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1760	14-Jul-09	Fill	N Berm	NW Corner	1	N	104.3	15.2	106.1	98.3%				
1761	14-Jul-09	Fill	N Berm	NW Corner	2	DC	102.8	14.1	106.1	96.9%				
1762	14-Jul-09	Fill	N Berm	NW Corner	2	DC	103.2	13.7	106.1	97.3%				
1763	14-Jul-09	Fill	N Berm	NW Corner	3	N	104.7	15.9	106.1	98.7%				
1764	14-Jul-09	Fill	N Berm	NW Corner	3	N	105.3	16.0	106.1	99.2%	11.4	109.6	103.3%	oven moisture
1765	14-Jul-09	Fill	N Berm	NW Corner	4	N	104.5	14.3	106.1	98.5%				
1766	14-Jul-09	Fill	N Berm	NW Corner	4	N	103.2	13.7	106.1	97.3%				
1767	14-Jul-09	Fill	N Berm	NW Corner	5	N	102.6	12.5	106.1	96.7%				
1768	14-Jul-09	Fill	N Berm	NW Corner	5	N	102.8	12.8	106.1	96.9%				
1769	14-Jul-09	Fill	N Berm	NW Corner	6	DC	103.0	11.7	106.1	97.1%				
1770	14-Jul-09	Fill	N Berm	NW Corner	6	N	102.5	12.0	106.1	96.6%				
1771	14-Jul-09	Fill	N Berm	NW Corner	7	N	103.3	14.1	106.7	96.8%	9.7	107.4	100.7%	oven moisture
1772	14-Jul-09	Fill	N Berm	NW Corner	7	N	103.8	14.5	106.7	97.3%				
1773	14-Jul-09	Fill	N Berm	NW Corner	8	N	101.8	12.3	106.7	95.4%				
1774	14-Jul-09	Fill	N Berm	NW Corner	8	N	102.1	12.0	106.7	95.7%				
Week of 8/3/09 - 8/8/09														
1775	6-Aug-09	RSB	S Berm	Cell 1	1	N	124.9	8.3	125.0	99.9%				
1776	6-Aug-09	RSB	S Berm	Cell 1	2	N	124.4	9.9	125.0	99.5%				
1777	6-Aug-09	RSB	S Berm	Cell 1	1	N	124.6	9.7	125.0	99.7%				
1778	6-Aug-09	RSB	S Berm	Cell 1	2	N	124.8	10.1	125.0	99.8%				
1779	6-Aug-09	RSB	S Berm	Cell 1	1	N	124.3	10.2	125.0	99.4%				
1780	6-Aug-09	RSB	S Berm	Cell 1	2	N	124.0	10.4	125.0	99.2%				
Week of 8/10/09 - 8/15/09														
1781	15-Aug-09	RSG	N Berm	Cell 2	-	N	111.5	14.9	110.8	100.6%				
1782	15-Aug-09	RSG	N Berm	Cell 2	-	N	108.9	14.2	110.8	98.3%				
Week of 9/14/09 - 9/18/09														
1783	17-Sep-09	BF	storm	NW access	+1	N	110.0	11.3	110.8	99.3%				
1784	17-Sep-09	BF	storm	NW access	+2	N	110.2	12.0	110.8	99.5%				
1785	17-Sep-09	BF	storm	NW access	+3	N	110.7	12.7	110.8	99.9%				
1786	17-Sep-09	BF	storm	NW access	+4	N	109.7	13.5	110.8	99.0%				
1787	17-Sep-09	BF	storm	NW access	+5	N	110.1	13.2	110.8	99.4%				
1788	17-Sep-09	BF	storm	NW access	+6	N	108.7	11.9	110.8	98.1%				
1789	17-Sep-09	BF	storm	NW access	+7	N	108.1	12.3	110.8	97.6%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date	Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
Week of 9/21/09 - 9/25/09													
1790	22-Sep-09	RSB	S Berm	Cell 2	1	N	124.3	8.1	125.0	99.4%			
1791	22-Sep-09	RSB	S Berm	Cell 2	1	N	123.6	7.5	125.0	98.9%			
1792	22-Sep-09	RSB	S Berm	Cell 2	1	N	124.6	8.3	125.0	99.7%			
1793	22-Sep-09	RSB	S Berm	Cell 2	2	N	123.5	10.3	125.0	98.8%			
1794	22-Sep-09	RSB	S Berm	Cell 2	2	N	122.8	10.7	125.0	98.2%			
1795	22-Sep-09	RSB	S Berm	Cell 1	2	N	123.1	9.9	125.0	98.5%			
1796	22-Sep-09	RSB	S Berm	Cell 4	2	N	123.4	10.1	125.0	98.7%			
1797	22-Sep-09	RSB	S Berm	Cell 4	2	N	123.4	11.0	125.0	98.7%			
1798	22-Sep-09	RSB	S Berm	Cell 4	2	N	124.3	10.4	125.0	99.4%			
Week of 9/28/09 - 10/2/09													
1799	28-Sep-09	Fill	N Berm	Cell 1	grade	N	103.7	16.7	106.7	97.2%			
1800	28-Sep-09	Fill	N Berm	Cell 2	grade	N	108.1	14.1	109.6	98.6%			
1801	28-Sep-09	Fill	N Berm	Cell 3	grade	N	106.4	15.2	106.7	99.7%			
1802	28-Sep-09	Fill	N Berm	Cell 4	grade	N	102.4	16.9	106.7	96.0%			
1803	28-Sep-09	Fill	N Berm	Cell 4	grade	N	103.6	13.9	106.7	97.1%			
1804	28-Sep-09	Fill	W Berm	Cell 4	grade	N	106.6	14.3	106.7	99.9%			
1805	28-Sep-09	Fill	W Berm	Cell 4	grade	N	109.3	13.8	109.6	99.7%			
1806	28-Sep-09	Fill	W Berm	Cell 4	grade	N	106.8	15.6	106.7	100.1%			
1807	28-Sep-09	Fill	W Berm	Cell 4	grade	N	109.5	14.9	109.6	99.9%			
1808	28-Sep-09	Fill	S Berm	Cell 4	grade	N	105.3	13.7	106.7	98.7%			
1809	28-Sep-09	Fill	S Berm	Cell 4	grade	N	109.6	14.9	109.6	100.0%			
1810	28-Sep-09	Fill	S Berm	Cell 3	grade	N	109.5	15.6	109.6	99.9%			
1811	28-Sep-09	Fill	S Berm	Cell 2	grade	N	102.8	15.8	103.3	99.5%			
1812	28-Sep-09	Fill	S Berm	Cell 1	grade	N	99.2	16.1	103.3	96.0%			
Week of 10/5/09 - 10/9/09													
1813	8-Oct-09	RB	S Berm	Ph 1	-	N	124.1	7.0	125.0	99.3%			
1814	8-Oct-09	RB	S Berm	Cell 1	-	N	123.7	7.7	125.0	99.0%			
1815	8-Oct-09	RB	S Berm	Cell 1	-	N	124.4	8.1	125.0	99.5%			
1816	8-Oct-09	RB	S Berm	Cell 2	-	N	125.0	8.5	125.0	100.0%			
1817	8-Oct-09	RB	S Berm	Cell 2	-	N	123.6	7.9	125.0	98.9%			
1818	8-Oct-09	RB	S Berm	Cell 3	-	N	124.9	8.3	125.0	99.9%			
1819	8-Oct-09	RB	S Berm	Cell 3	-	N	123.9	6.9	125.0	99.1%			

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test

SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 12

Summary of Compaction Testing

Test No.	Date		Location	Location Discription	Lift or Depth	Test Type	Dry Density (pcf)	Moisture (%)	Proctor Max Density (pcf)	Percent Compaction	Oven Moisture (%)	Recalc. dry density (pcf)	Recalc. Percent Comp.	Remarks
1820	8-Oct-09	RB	S Berm	Cell 4	-	N	124.0	8.8	125.0	99.2%				
1821	8-Oct-09	RB	S Berm	Cell 4	-	N	124.6	8.2	125.0	99.7%				
1822	8-Oct-09	RB	S Berm	Cell 4	-	N	125.0	7.8	125.0	100.0%				

For Cell fill, each lift is assumed 8 - 10" thickness; N = Nuclear Density Test; DC = Drive Cylinder Density Test
SG = subgrade below fill; Fill = eng fill; LSG = liner subgrade; RSG = road subgrade; BF = backfill; RSB = road subbase; RB = road base

Table 13

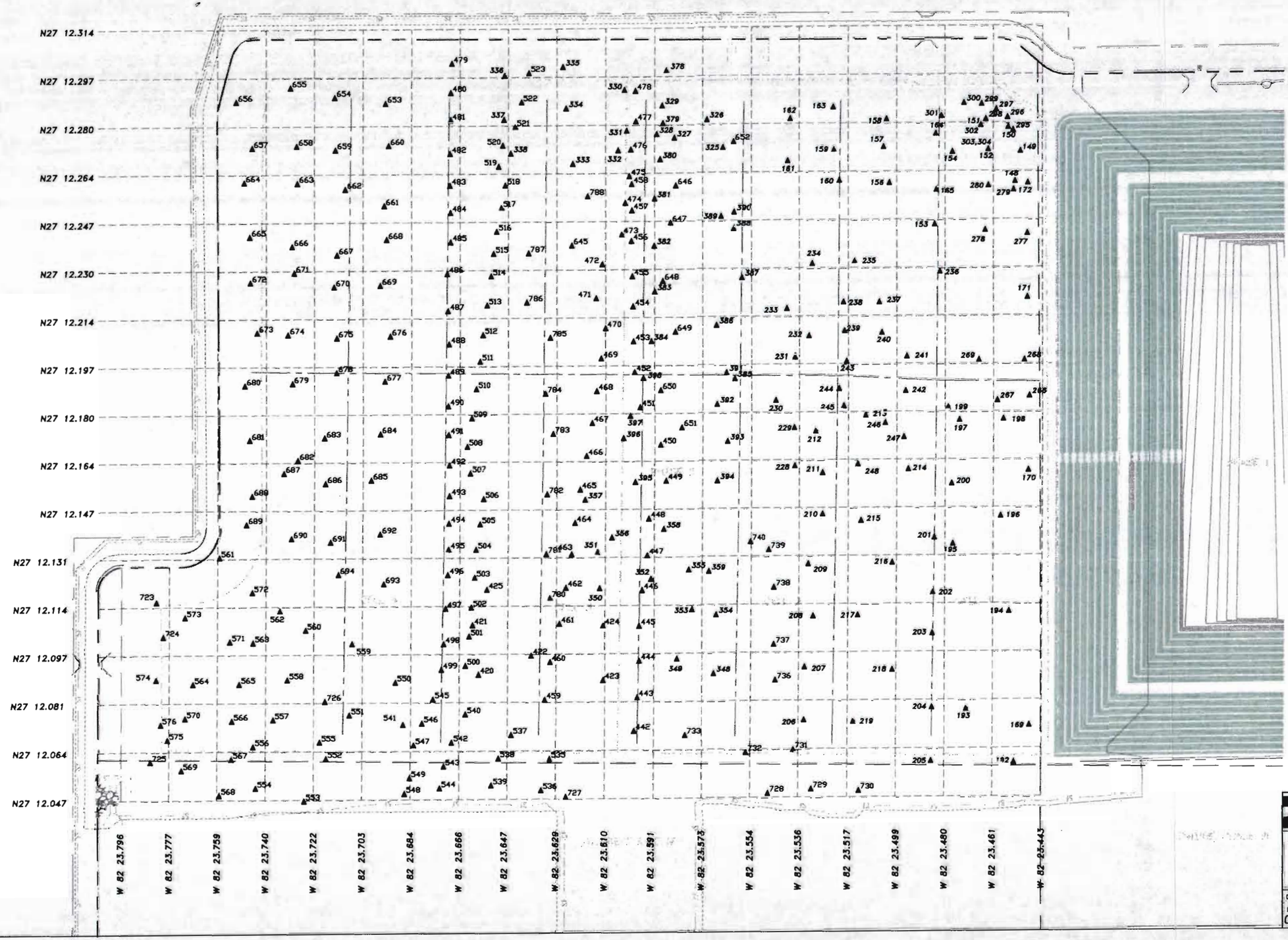
Limerock Base Laboratory Test Results

Test	Percent Passing Sieve Size (%)													USCS Class.
	3-1/2	2	1-1/2	1	3/4	1/2	3/8	#4	#10	#40	#60	#100	#200	
Limerock	100.0	92.2	NT	76.6	69.2	60.3	55.7	46.2	36.6	23.8	20.2	15.7	10.1	GP

NT - Not tested

Limerock Base
Proctor: 125.0 pcf at 10.0% water content
LBR: 201.5%
Atterberg: non-plastic

FIGURES



SCALE: 1"=200'

▲ COMPACTION TEST LOCATION– SUBGRADE SOILS

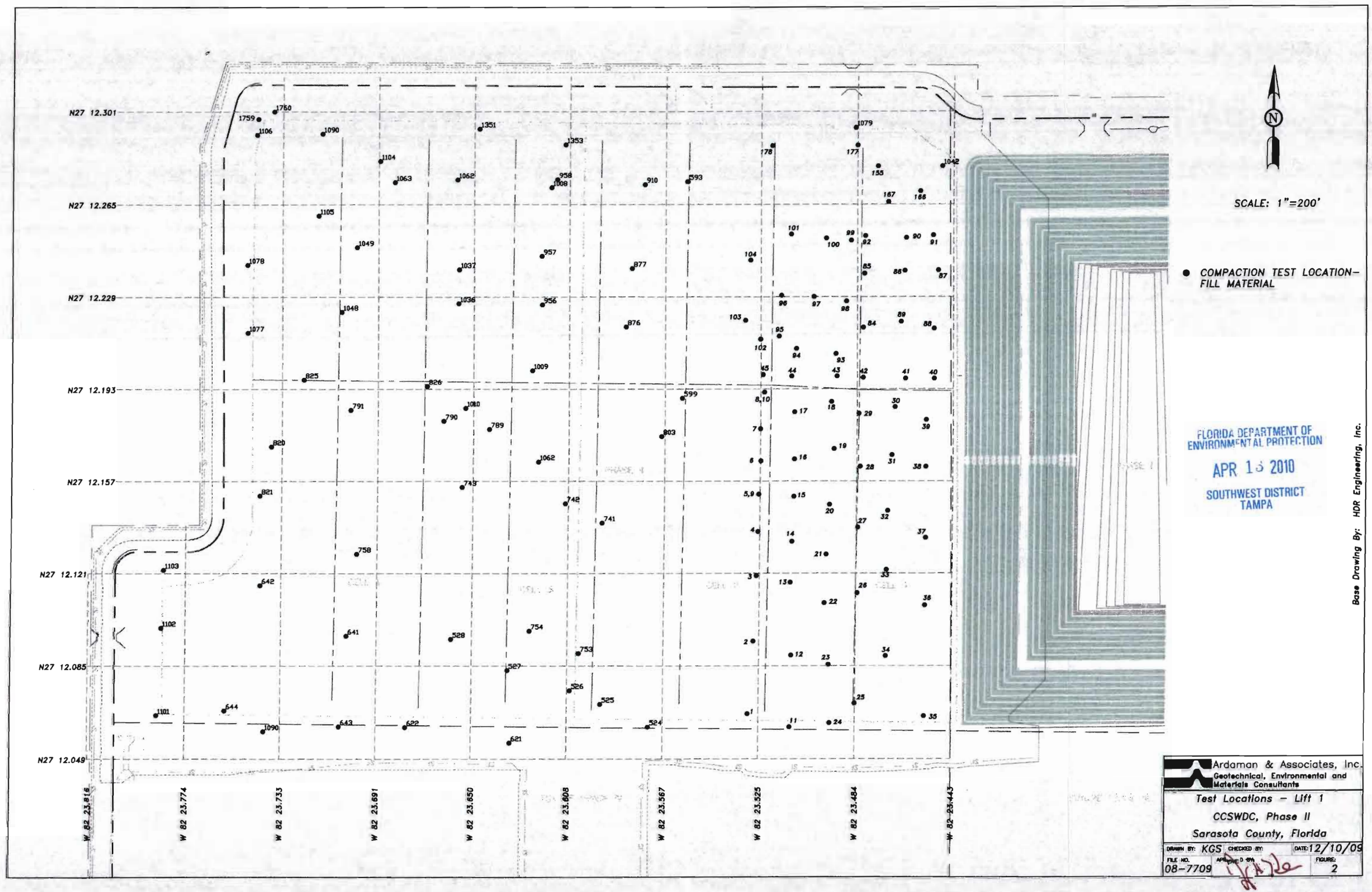
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Fill Subgrade
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 1



SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 15 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 1
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 2

N27 12.301
N27 12.265
N27 12.229
N27 12.193
N27 12.157
N27 12.121
N27 12.085
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W 82 23.816
W 82 23.774
W 82 23.733
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W 82 23.650
W 82 23.608
W 82 23.567
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W 82 23.484
W 82 23.443

1761 1107 1762 1091 1352 1242 1236 1354 1224 1080 1043 606 592 605 1108 1041 1034 594 1075 1031 879 222 220 1109 1074 1035 1032 221 878 1110 1073 60 73 74 54 62 1038 1040 53 61 83 804 1039 1148 718 717 823 822 52 59 63 72 82 51 824 626 58 64 75 50 81 65 71 49 57 66 76 1125 757 755 625 756 627 48 56 67 70 80 709 579 1124 708 580 624 47 77 581 578 623 55 68 1123 46 89 78 79 706 640 638 639

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

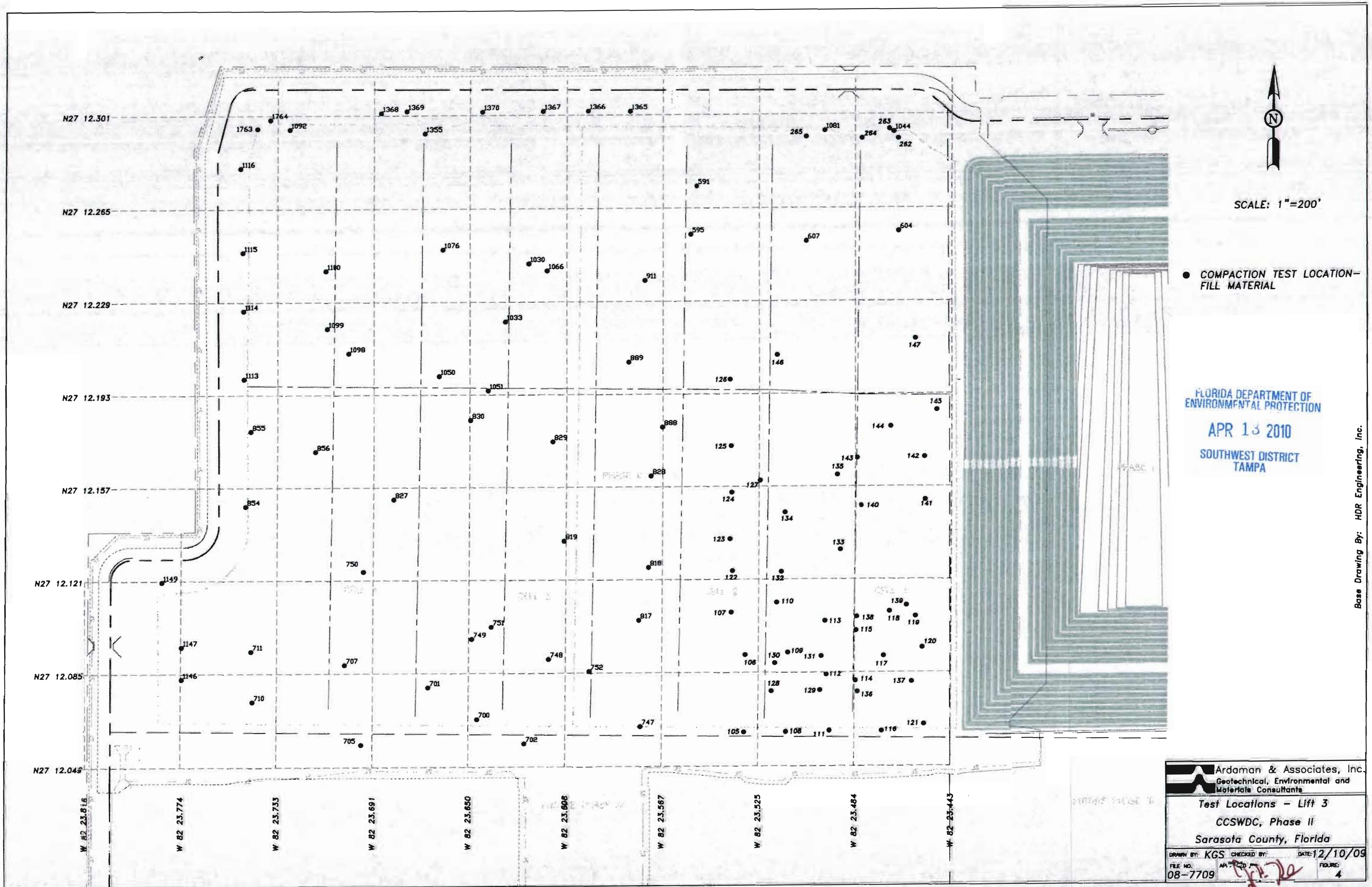
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT
TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 2
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 3



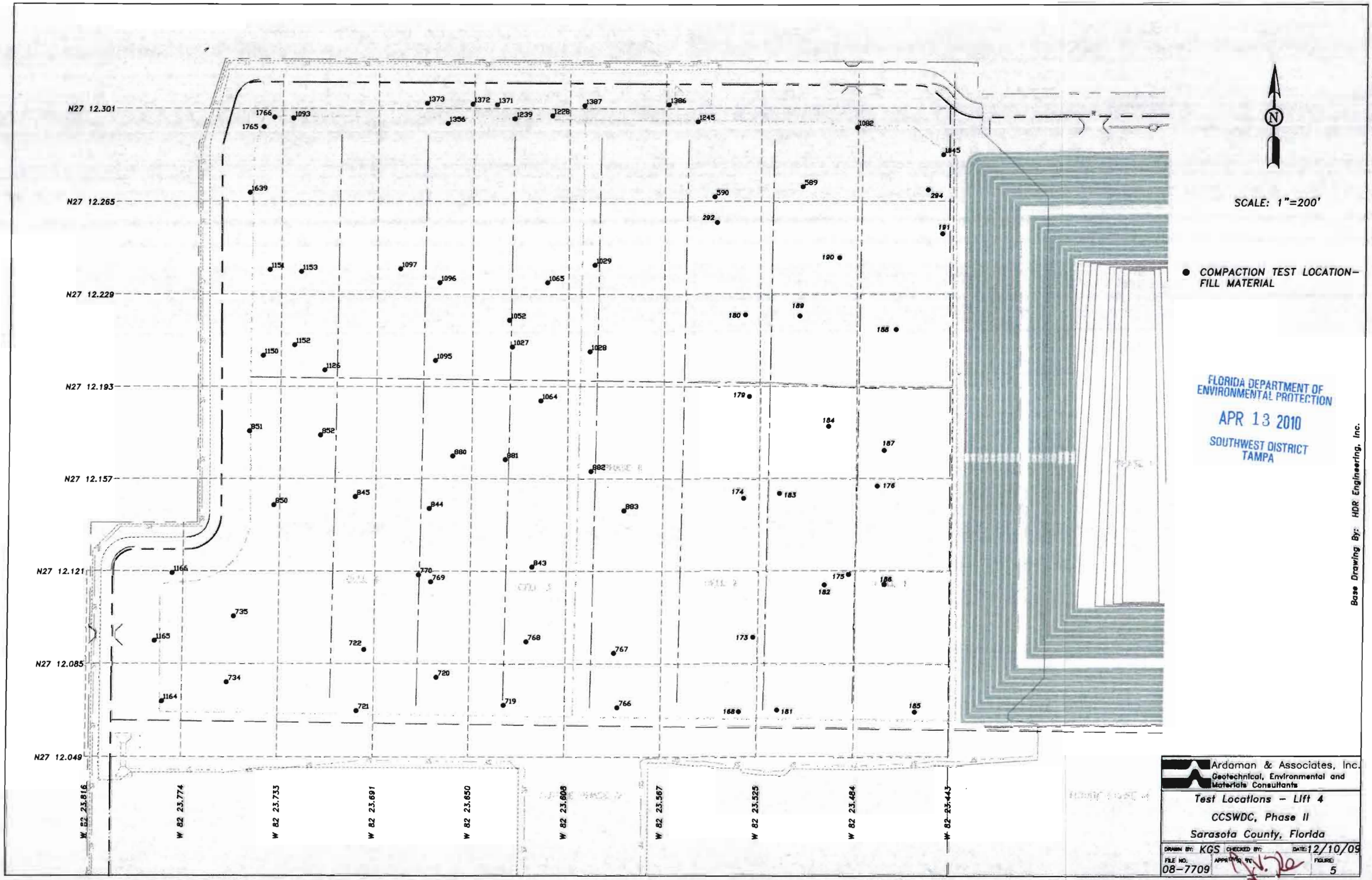
Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 3

CCSWDC, Phase II

Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 4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N27 12.193
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SCALE: 1"=200'
COMPACTION TEST LOCATION-FILL MATERIAL
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT
TAMPA
Base Drawing By: HDR Engineering, Inc.
Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants
Test Locations - Lift 4
CCSWDC, Phase II
Sarasota County, Florida
DRAWN BY: KGS
CHECKED BY:
DATE: 12/10/09
FILE NO. 08-7709
APPROVED BY:
FIGURE: 5

N27 12.301
N27 12.265
N27 12.229
N27 12.193
N27 12.157
N27 12.121
N27 12.085
N27 12.049

W 82 23.816
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1768 1767 1094 1374 1375 1376 1641 1642 1063 1046 260 259 1640 272 261 258 322 321 1144 1072 1071 1070 1156 1158 1143 273 271 1145 270,365 254 1142 227 1155 1157 1140 1067 1068 253 1141 955 1069 1154 885 884 886 887 226 257 251 865 858 863 857 872 875 874 225 256 250 1191 836 765 223 255 252 1190 833 763 224 249 1189 1216 746 602 764 762 745 744

PHASE II

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

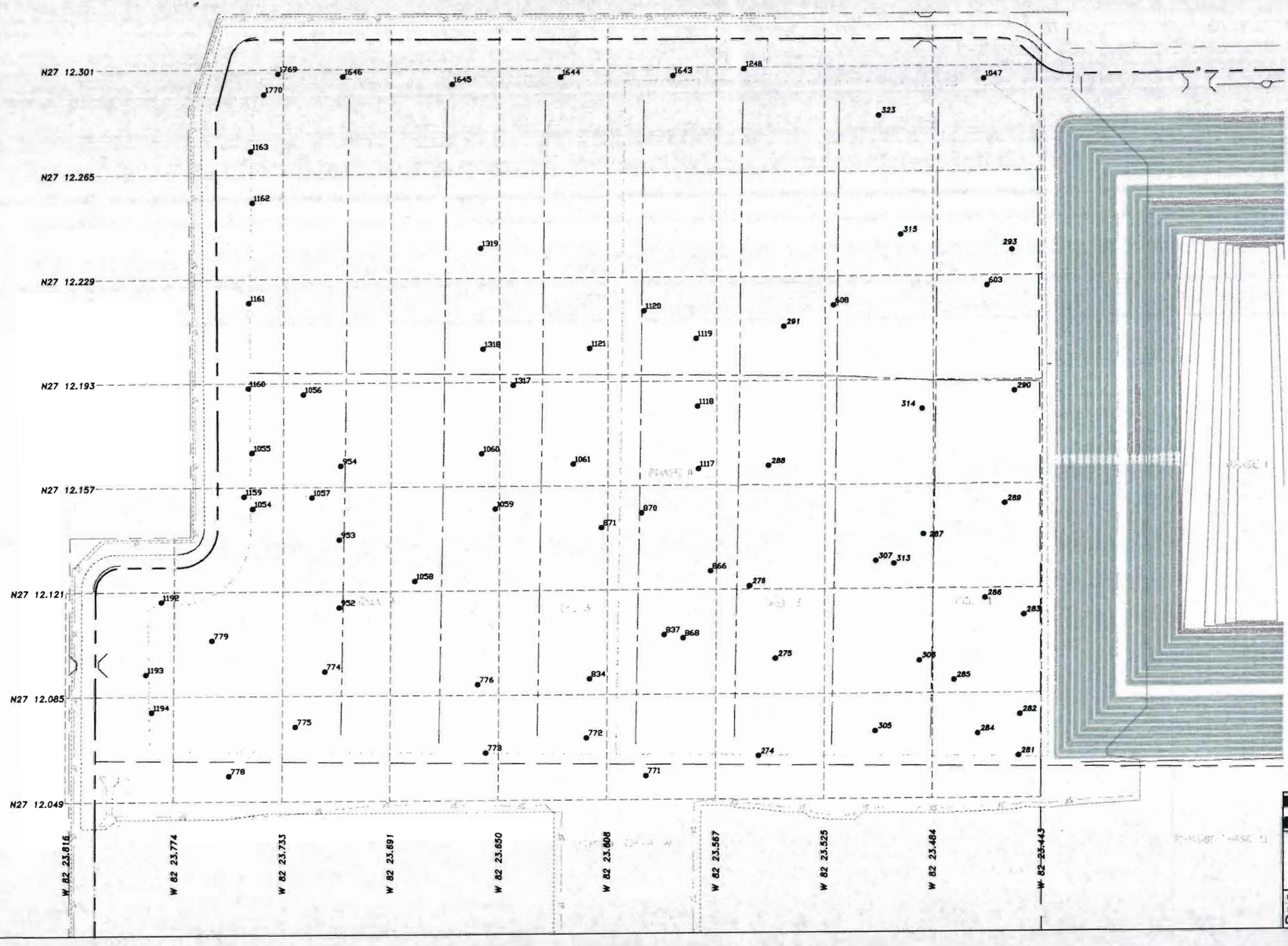
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT
TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 5
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 6


N27 12.301
N27 12.265
N27 12.229
N27 12.193
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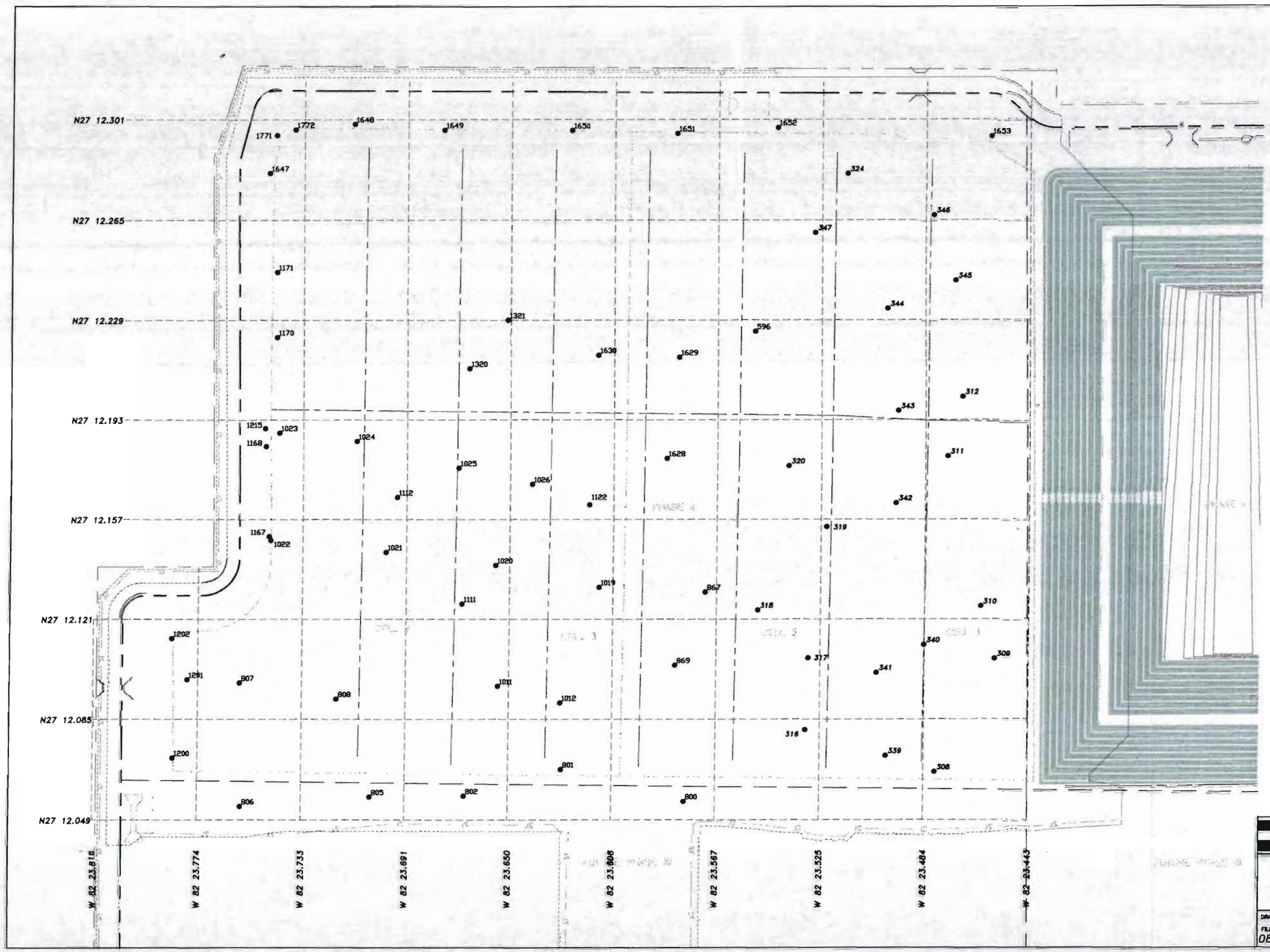
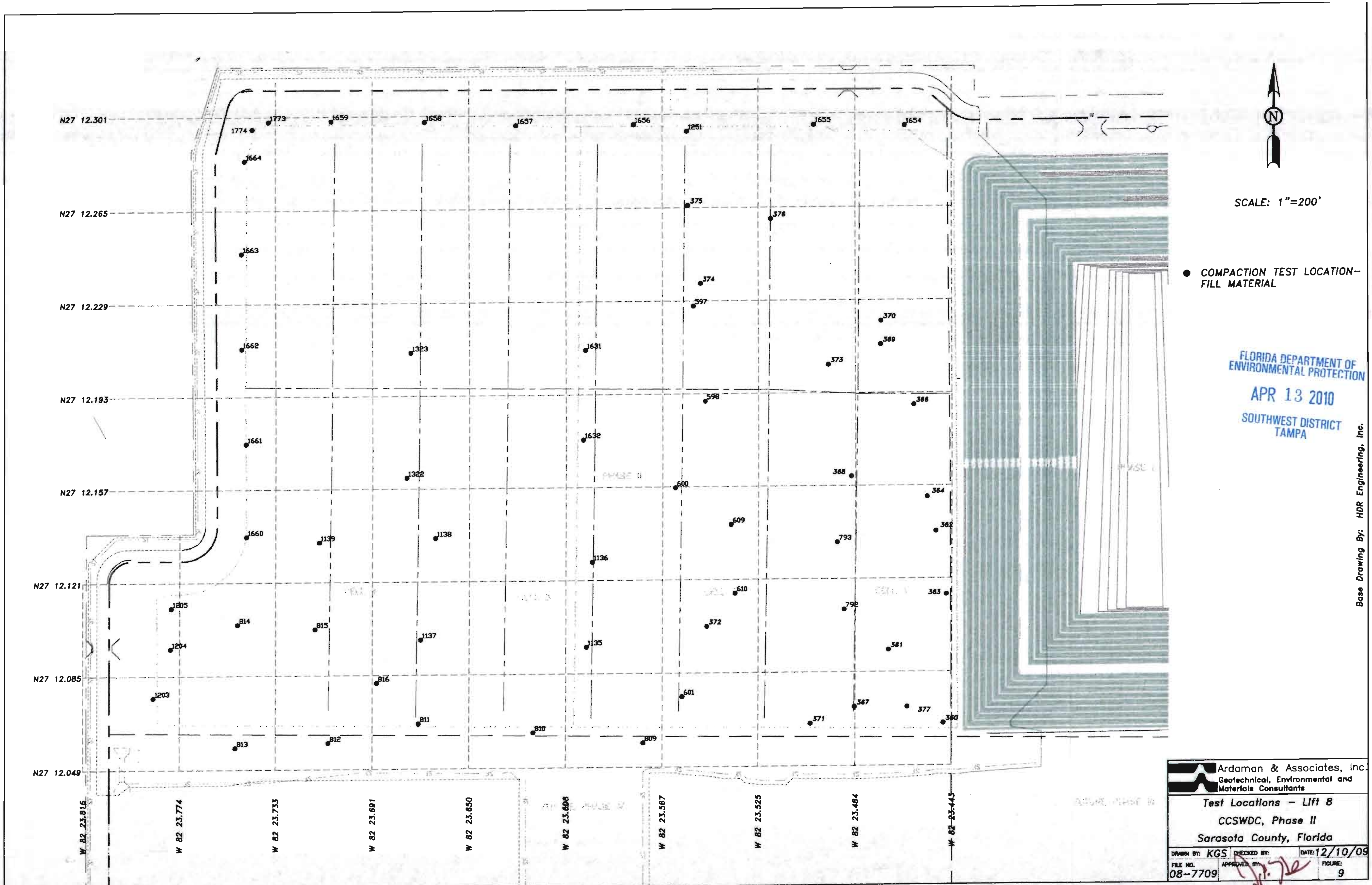
SCALE: 1"=200'
COMPACTION TEST LOCATION-FILL MATERIAL
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT
TAMPA
Base Drawing By: HDR Engineering, Inc.
Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants
Test Locations - Lift 6
CCSWDC, Phase II
Sarasota County, Florida
DRAWN BY: KGS
CHECKED BY:
DATE: 12/10/09
FILE NO. 08-7709
APPROVED BY:
FIGURE: 7



Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 7
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 8


N
SCALE: 1"=200'
● COMPACTION TEST LOCATION– FILL MATERIAL
N27 12.301
N27 12.265
N27 12.229
N27 12.193
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W 82 23.816
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792
372
1137
1204
1135
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1203
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367
377
371
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809
813
812
Base Drawing By: HDR Engineering, Inc.
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA
Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants
Test Locations – Lift 8
CCSWDC, Phase II
Sarasota County, Florida
DRAWN BY: KGS
CHECKED BY:
DATE: 12/10/09
FILE NO. 08-7709
APPROVED BY:
FIGURE: 9

N27 12.301
N27 12.265
N27 12.229
N27 12.193
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N27 12.121
N27 12.085
N27 12.049

W 82 23.816
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W 82 23.443

1327 1326 1325 1324 1208 1207 1206 1127 1128 1129 1130 1131 1132 1133 1134 1258 1252 1633 412 411 405 404 403 794 777 402 401 400 399 840 839 838 832 831 406

PHASE II

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

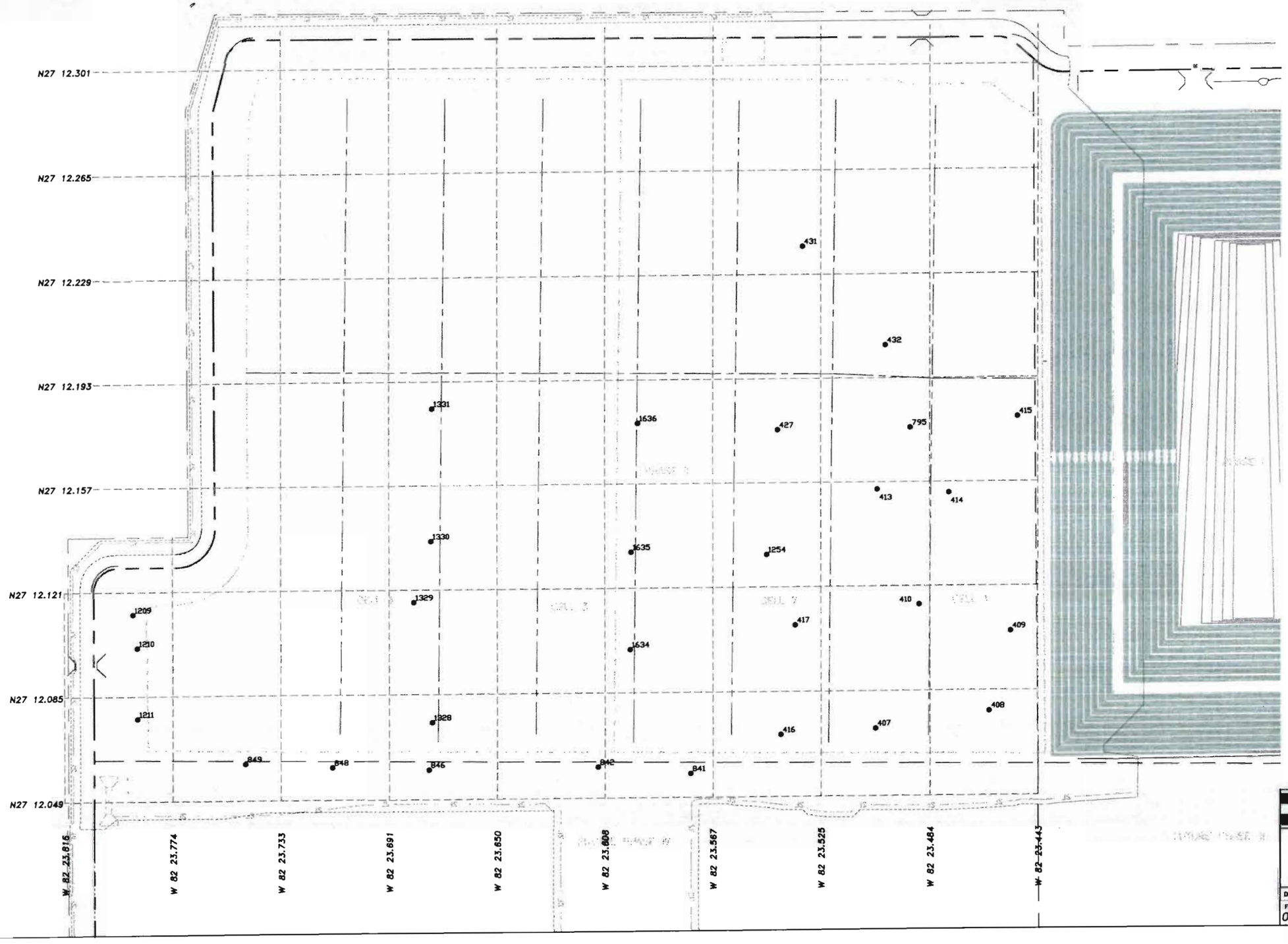
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 9
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 10

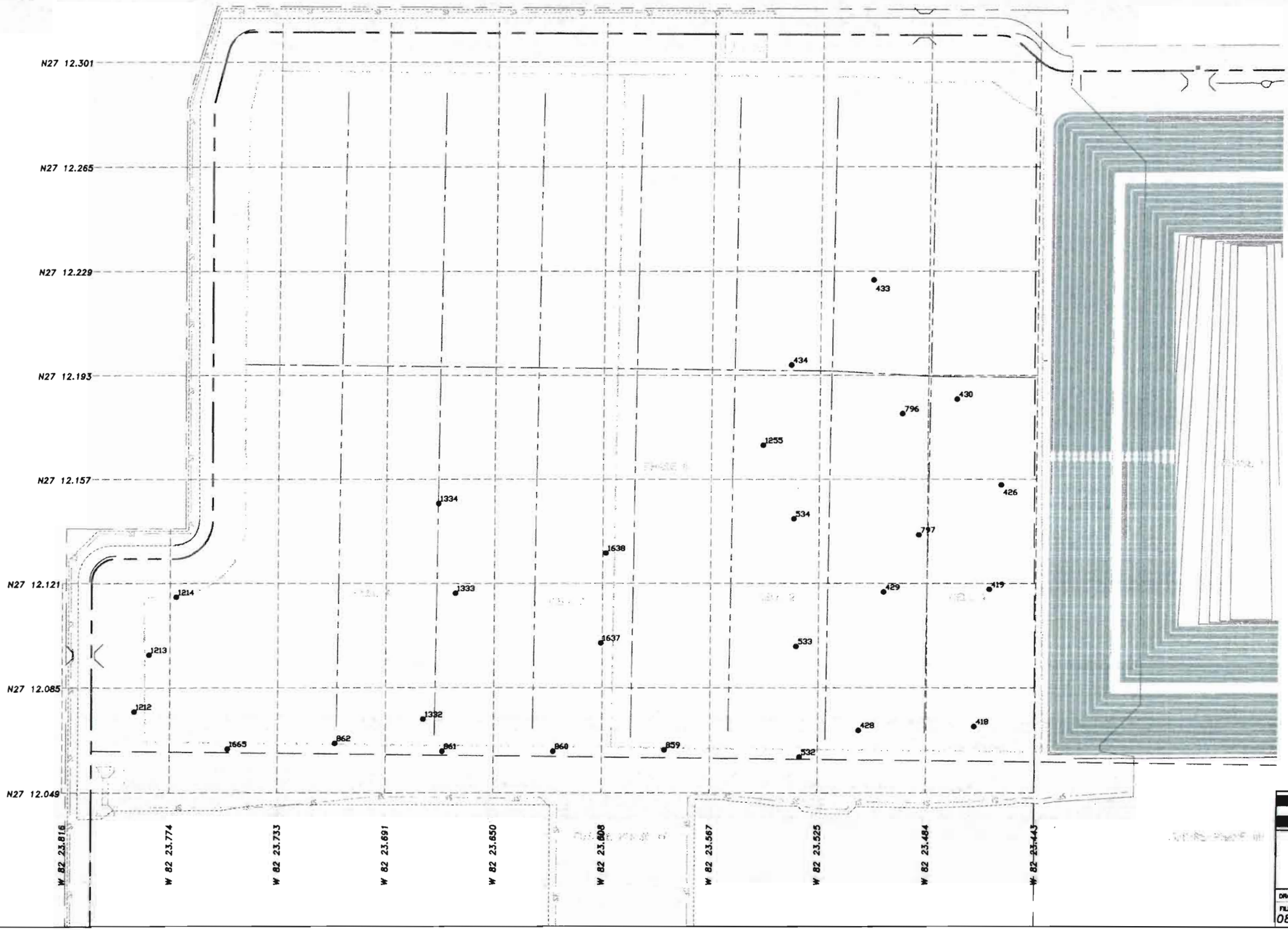


Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 10
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 11



SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

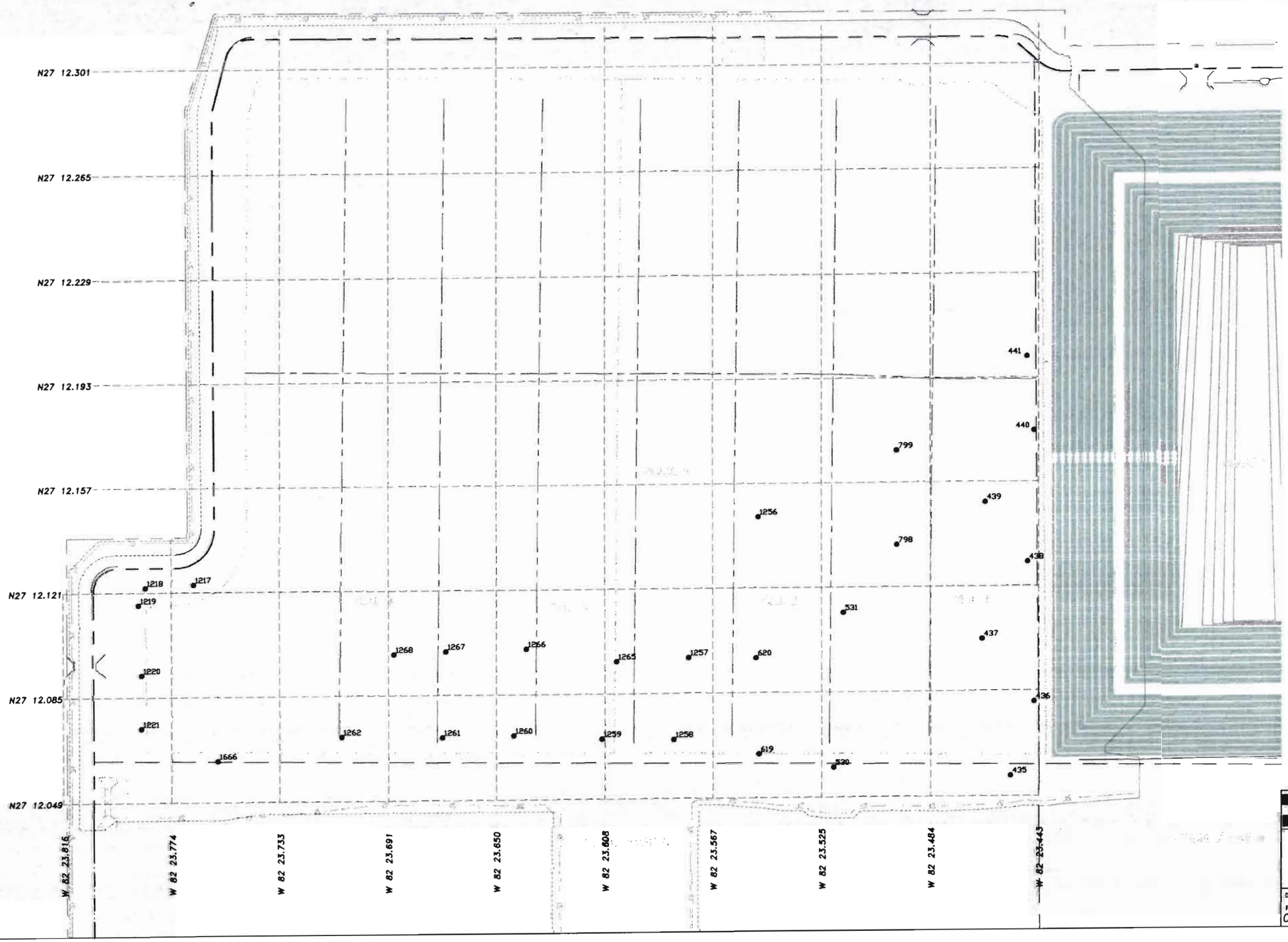
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT
TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 11
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 12



N

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

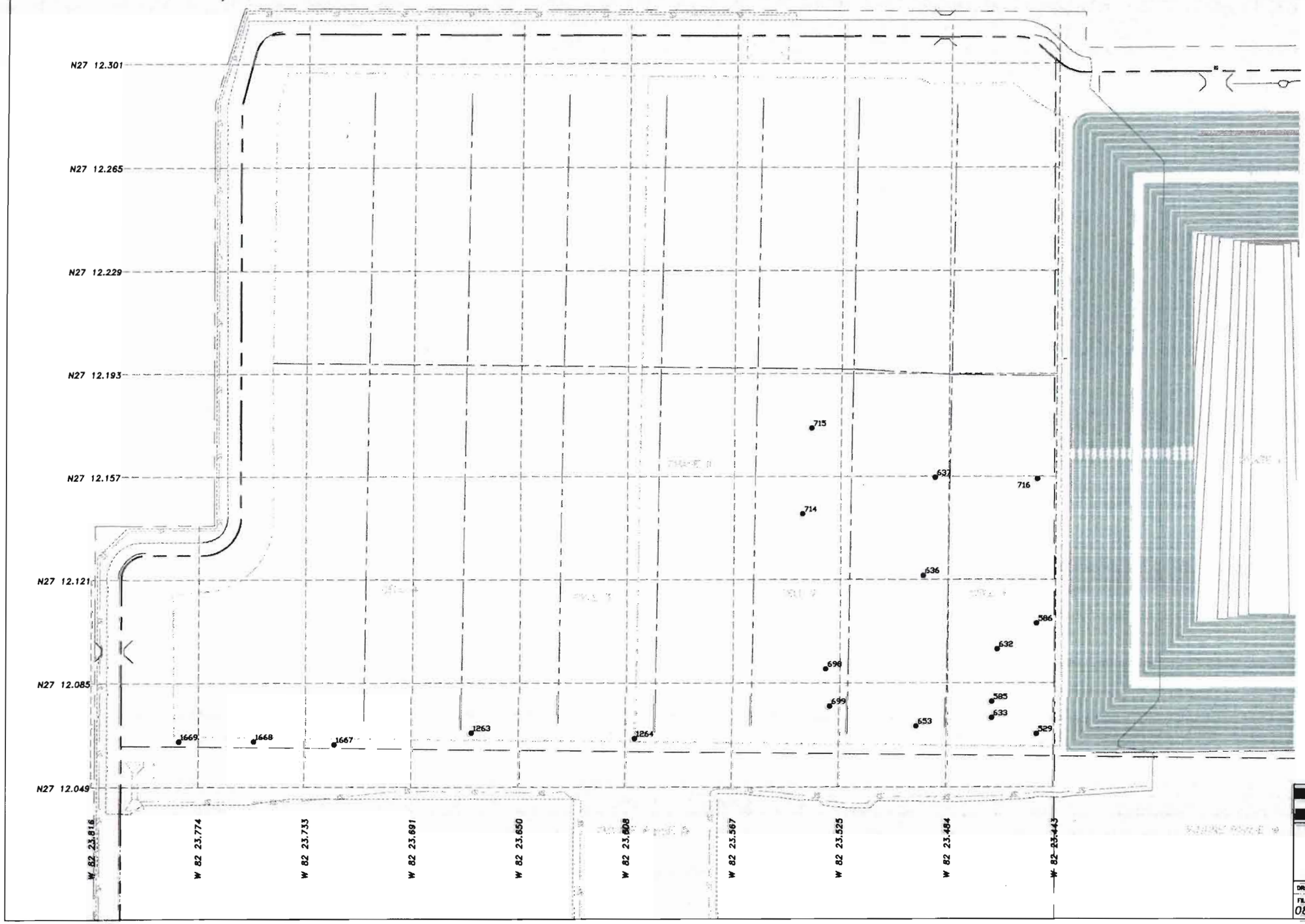
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 12
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 13



SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

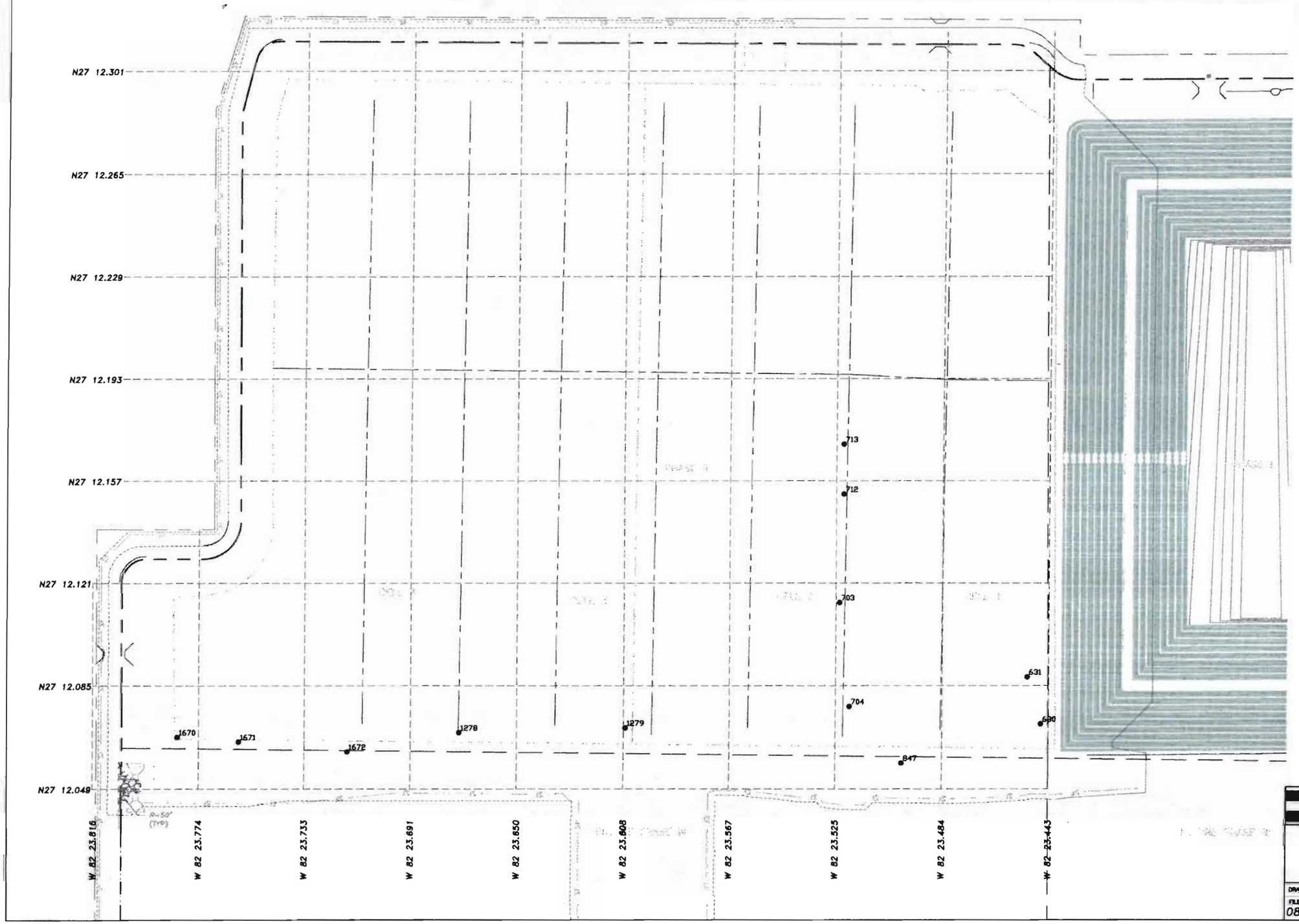
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 13
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 14



SCALE: 1"=200'

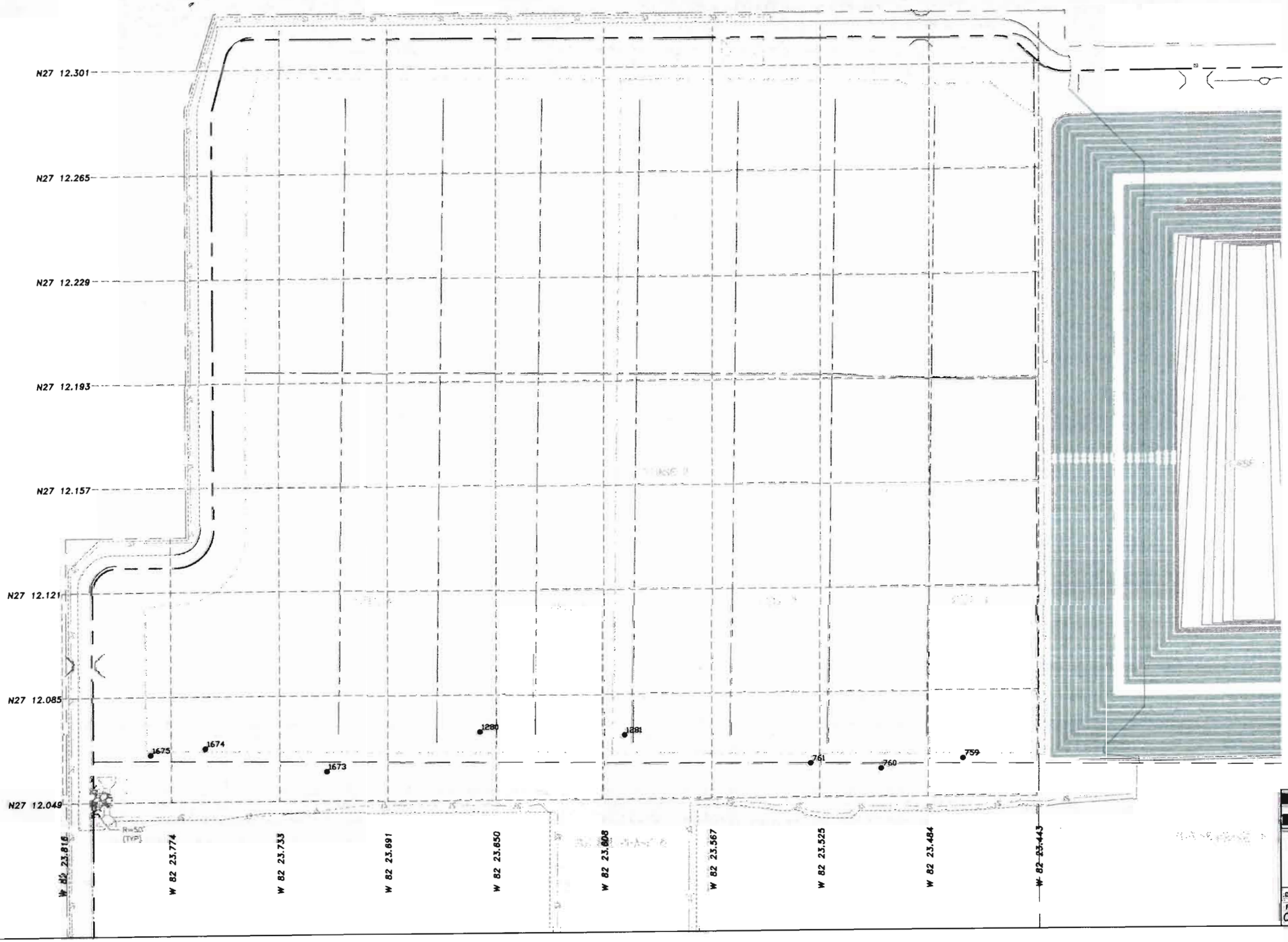
● COMPACTION TEST LOCATION– FILL MATERIAL

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 14
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 15



SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

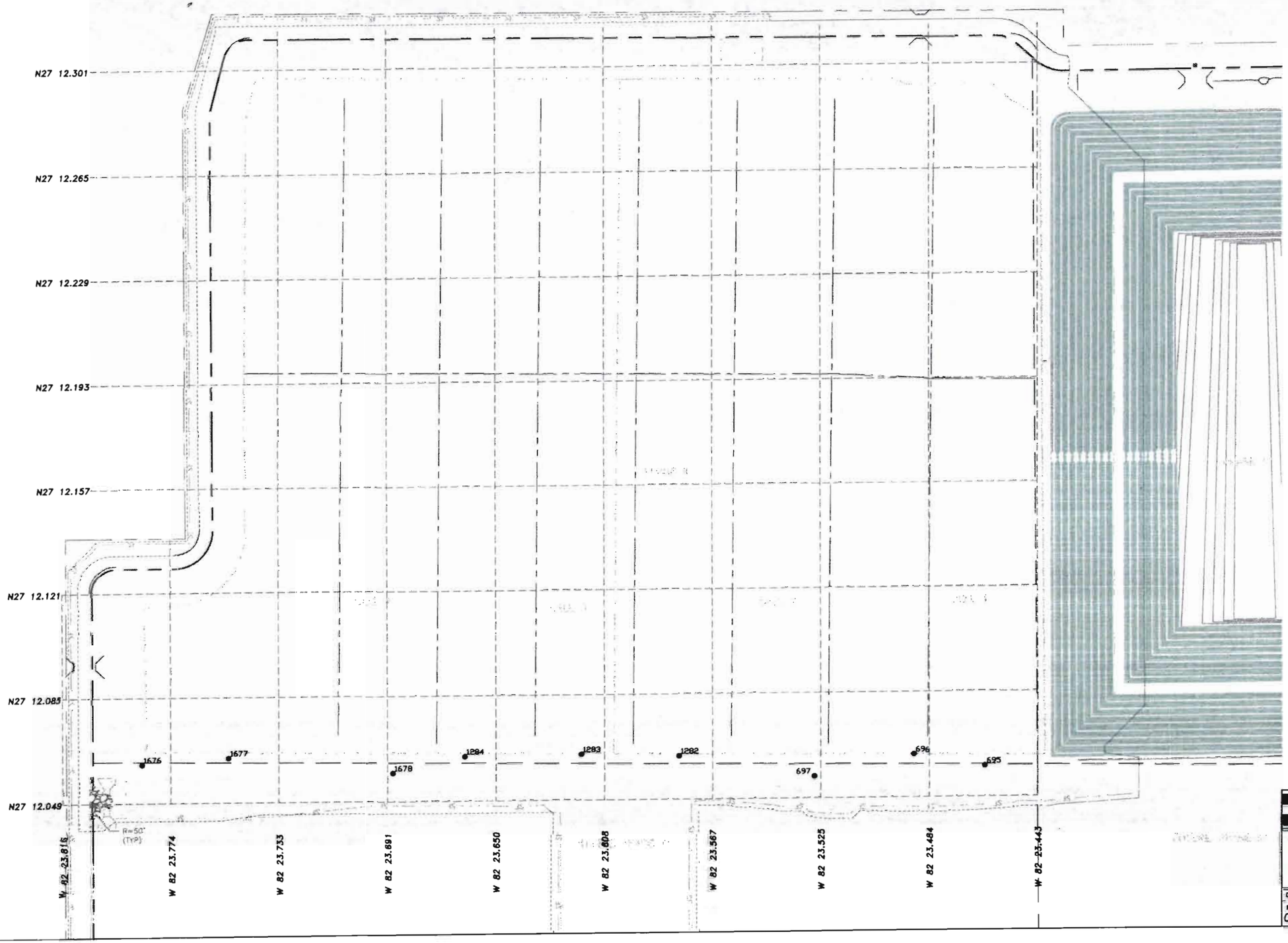
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 15
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS CHECKED BY: DATE: 12/10/09
FILE NO. 08-7709 APPROVED by: FIGURE: 16



N

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

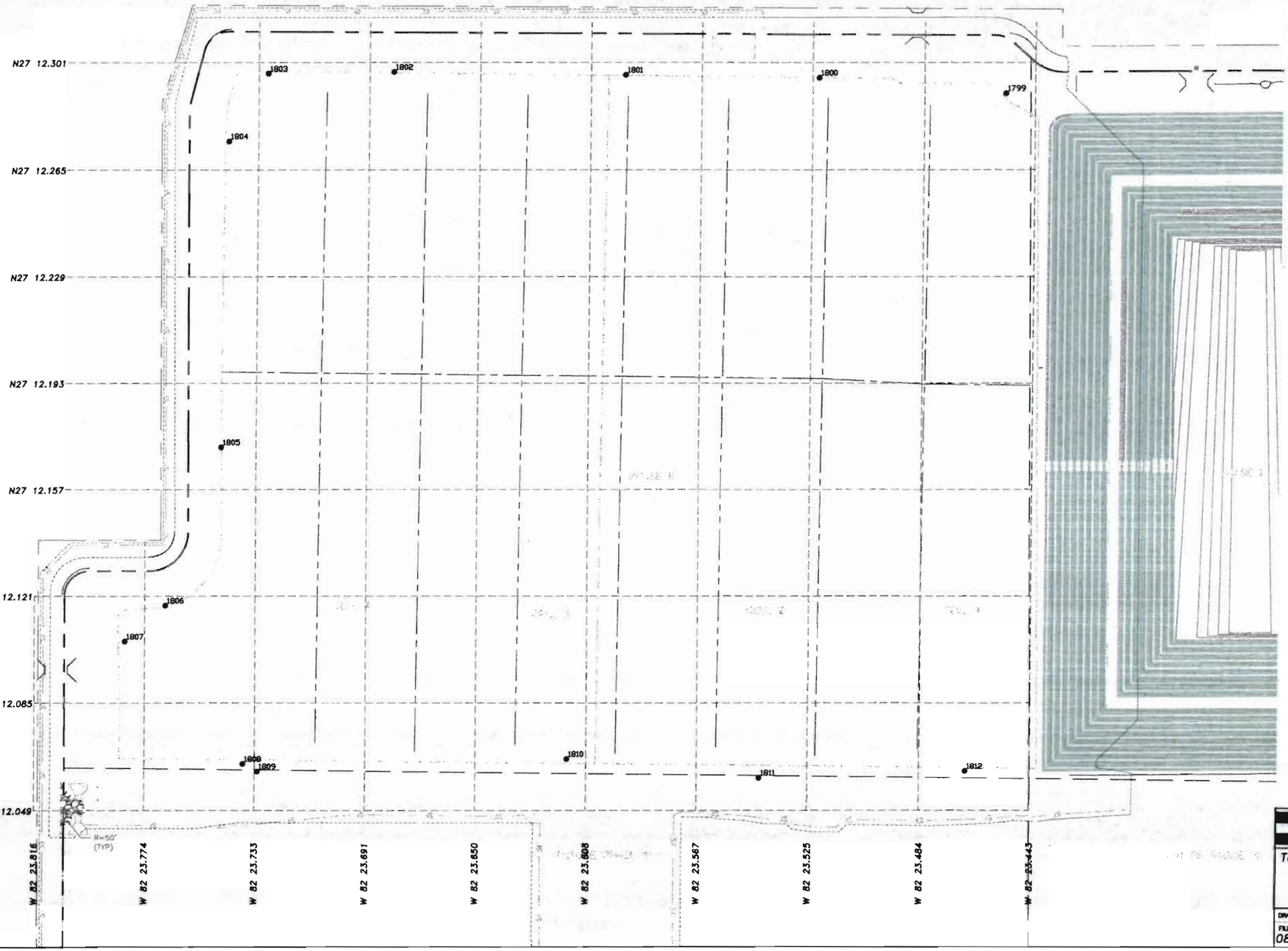
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Lift 16
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 17



SCALE: 1"=200'

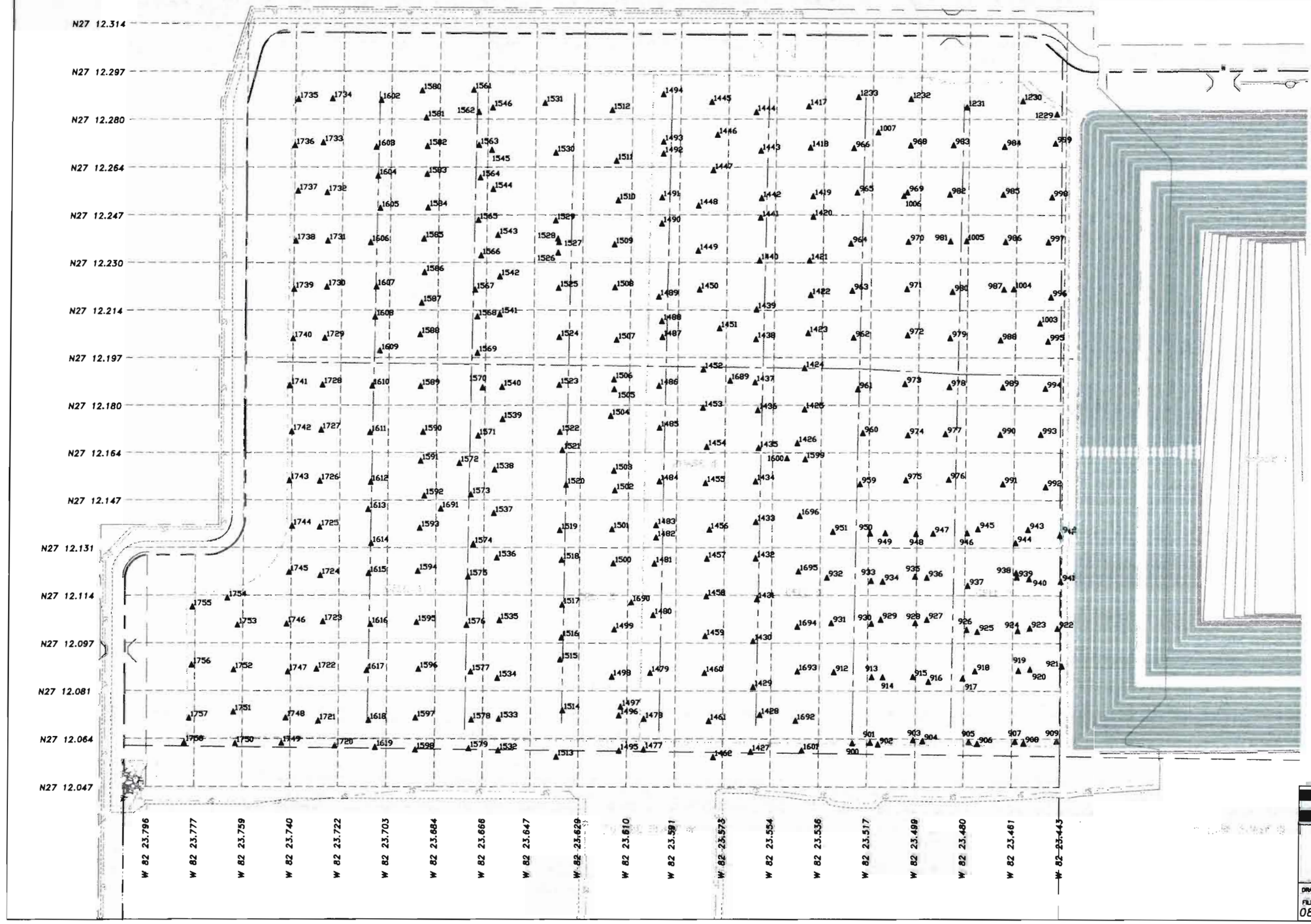
● COMPACTION TEST LOCATION–FILL MATERIAL

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations–Berm Finish Grade
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 18



N

SCALE: 1"=200'

▲ COMPACTION TEST LOCATION–SUBGRADE SOILS

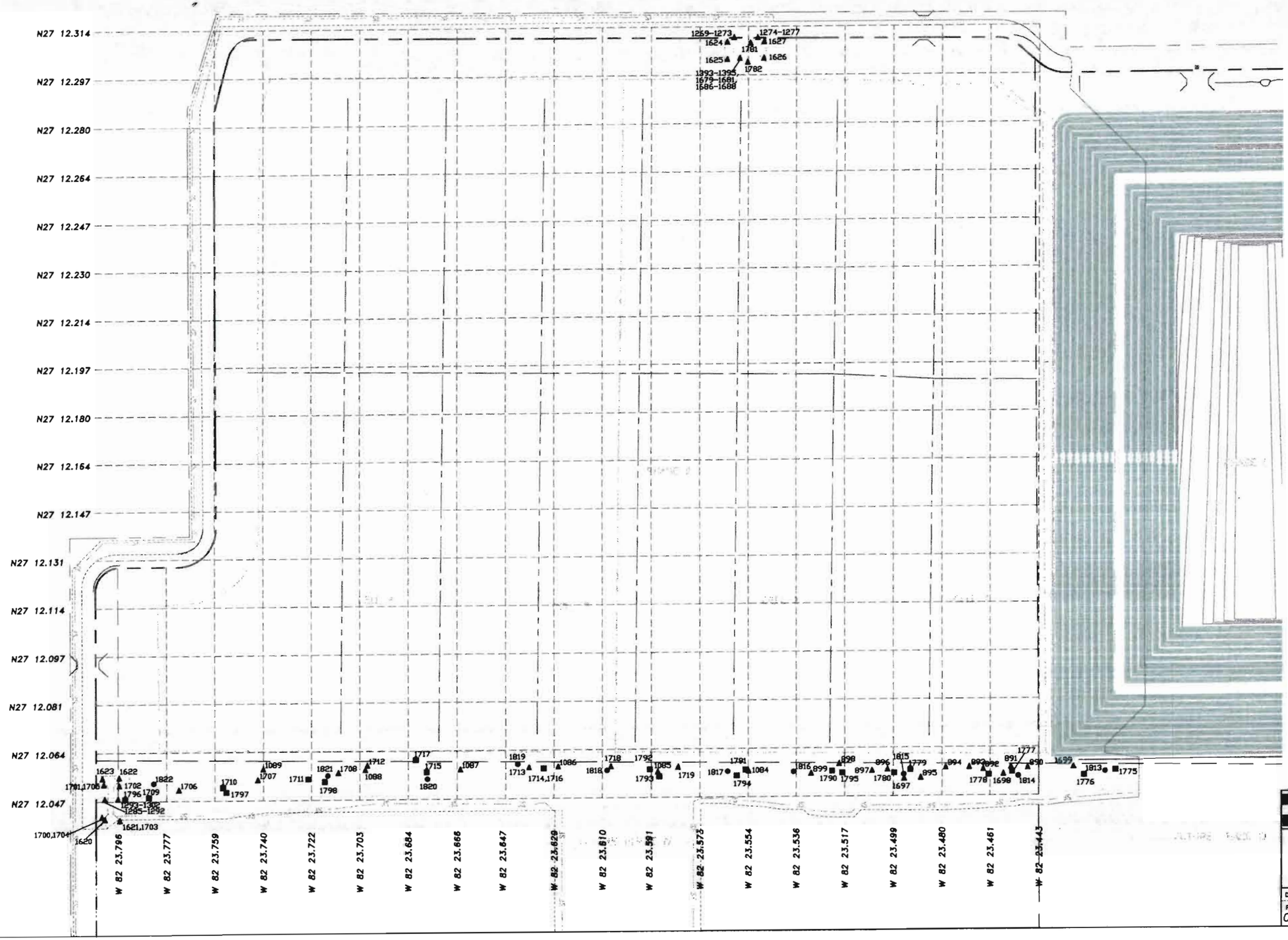
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations–LinerSubgrade
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS CHECKED BY: DATE: 12/10/09
FILE NO: 08-7709 APPROVED BY: FIGURE: 19



SCALE: 1"=200'

▲ COMPACTION TEST LOCATION–SUBGRADE SOILS

■ COMPACTION TEST LOCATION–SUBBASE SOILS

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations–Roadway
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08–7709	APPROVED BY:	FIGURE: 20

635
629,634
628
618
584
588,614
617
583
616
587,613
612
615
582,611
577

N

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Pipe Backfill
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 21

N27 12.085

N27 12.049

1783 1789 1786 1788 1784 1785 1787

R=50' (TYP)

864

853

W 82 23.816 W 82 23.774 W 82 23.733 W 82 23.691 W 82 23.650 W 82 23.608 W 82 23.567 W 82 23.525 W 82 23.484 W 82 23.443

SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

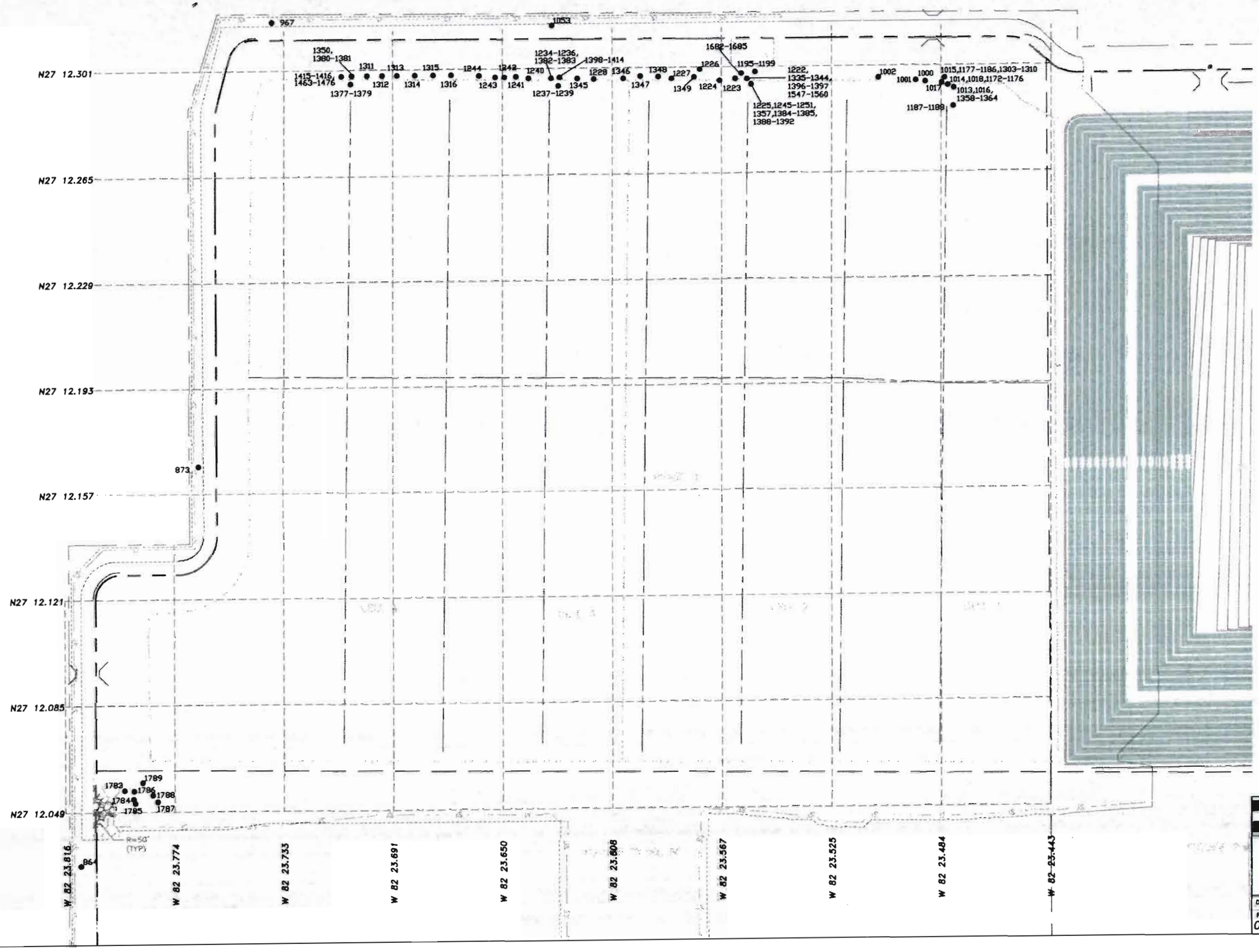
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Pipe Backfill
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 12/10/09
FILE NO. 08-7709	APPROVED BY:	FIGURE: 22



SCALE: 1"=200'

● COMPACTION TEST LOCATION– FILL MATERIAL

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 13 2010
SOUTHWEST DISTRICT TAMPA

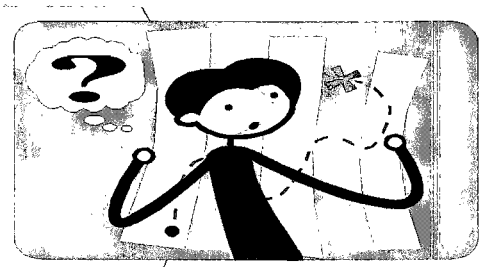
Base Drawing By: HDR Engineering, Inc.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations – Pipe Backfill
CCSWDC, Phase II
Sarasota County, Florida

DRAWN BY: KG | CHECKED BY: | DATE: 12/10/09
FILE NO. 08-7709 | APPROVED BY: | FIGURE: 23

ATTENTION



OVERSIZED DRAWINGS HAVE BEEN SCANNED SEPARATELY PLEASE SEE:

- **RD#5 SARASOTA CCSWDC PHASE II CONSTRUCTION CERT RAI#1 RESPONSE-ATTACHMENT D-VOLUME I**

- **RD#6 SARASOTA CCSWDC PHASE II CONSTRUCTION CERTIFICATION RAI#1 RESPONSE-ATTACHMENT D-VOLUME I**