

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03
August 26, 2015

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

Attention: Mr. Greg Lucas

Subject: COMPLETION OF GRADING
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

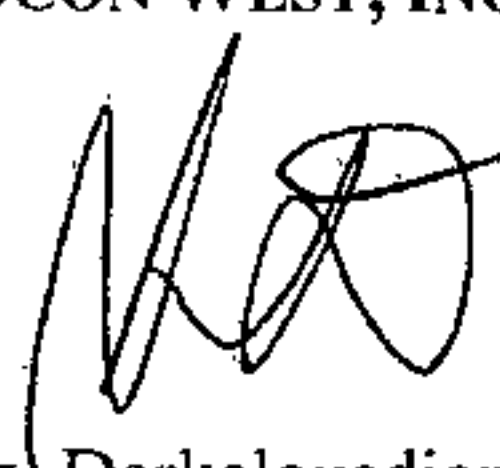
Dear Mr. Lucas:

Please accept this letter as formal notification that the grading for the project at the subject site has been completed. All grading work was performed in accordance with project plans, and geotechnical investigation report and addenda.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694



(1) Addressee

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
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- Field Inspection of Cut Slope – Northern Property Line*, by Geocon West, Inc. dated August 19, 2013;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013;
- Interim Rough Grading Permit*, by Geocon West, Inc. dated Revised September 27, 2013;
- Report of Observation and Testing Services during Upper MSE Wall Construction and Partial Building Pad Approval*, by Geocon West, Inc., dated October 10, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.10 & Gridlines 2-13*, by Geocon West, Inc., dated Revised October 4, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines G-T & Gridlines 1-8*, by Geocon West, Inc., dated October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.5 & Gridlines 2-14*, by Geocon West, Inc., dated Revised October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-AA & Gridlines 14 & Y10/Y11*, by Geocon West, Inc., dated October 30, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T-J & 14-Y10/Y11 and Gridlines H & 16 & Gridlines J & 11*, by Geocon West, Inc., dated November 18, 2013;

Deepened Foundations Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, by Geocon West, Inc., dated December 5, 2013;

Field Inspection of Temporary Bedrock Cut Slope, by Geocon West, Inc. dated January 22, 2014;

Partial Building Pad Approval at Gridline T Bounded By 2-11/12- and at Gridline 11 Bounded by J.2-T, by Geocon West, Inc., dated February 19, 2014;

Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, by Geocon West, Inc., dated February 28, 2014;

Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, by Geocon West, Inc., dated Revised April 14, 2014;

Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines J.2-T.5 & 8-14 by Geocon West, Inc., dated Revised April 14, 2014;

Partial Building Pad Approval Area Bounded by Gridlines A-J.2 & Gridlines 3-11, by Geocon West, Inc., dated May 12, 2014;

Report of Observation and Testing Services during Grading of Subgrade for the Fire Access Road, by Geocon West, Inc., dated May 29, 2014;

Field Inspection of Temporary Cut Slope and Driveway Subgrade – Picerne Shared Entry, by Geocon West, Inc., dated February 3, 2015.



Project No. A8803-06-03
September 10, 2015

VIA OVERNIGHT DELIVERY

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

Attention: Mr. Greg Lucas

Subject: FINAL REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING OF SUBGRADE FOR WALKWAYS/DRIVEWAYS
AND BACKFILL OF UTILITY TRENCHES AND RETAINING WALLS
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT #G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during grading of subgrade for walkways and driveways, as well as placement of backfill for utility trenches and retaining walls on the subject property. Our services were performed during the period of October 1, 2013 through July 23, 2015. The scope of our services included the following:

- Observing the grading operation, including the excavation/compaction of existing fill and surficial native soils, and excavation of utility trenches.
- Performing inspection and approval of all excavation bottoms, inspection of utility pipe bedding and shading materials prior to placing backfill, and placement and compaction of base materials and asphalt-concrete.
- Performing scarification and proper compaction of the subgrade soil beneath the paving section.
- Performing inspection and approval of all bottoms prior to placing fill.
- Verification of the suitability of earth and base materials used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of earth and base materials used for fill.
- Performing in-place density tests on the earth and base materials placed and compacted.
- Preparing Site Plans and this report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the proposed paving sections for walkways, driveways, and building slab-on-grade.

GRADING

Grading consisted of excavation and compaction of existing unsuitable site soils for the creation of roughly level paving subgrade, placement of utility trench and retaining wall backfill, as well as placement of base materials and asphalt-concrete in paving.

Paving subgrade soils were scarified, moistened to near optimum moisture content, and compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D1557 (Laboratory Compaction Test). Base materials were also placed and compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D1557. Asphalt-concrete was compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D2726-11 (HVEEM Density).

Prior to placing any engineered fill or bedding sands, the clean bottom of excavated trenches were observed and approved by a representative of this firm. Subsequent to the approval of the trench excavation bottom, the utility was placed on bedding sand and covered with shading sand prior to placement and compaction of engineered backfill. All backfill soils were placed and compacted to at least 90 percent of the maximum density.

Fill was placed by means of loaders, bobcats, and backhoes in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of water trucks and fire hoses, and compacted by track rolling and wheel rolling with loaders and backhoes, sheepsfoot rollers attached to backhoe arms, walk-behind vibratory rollers, dual-drum vibratory rollers, and mechanical whackers. Where failing tests occurred, additional compaction effort was applied utilizing the above mentioned compaction equipment until passing tests were achieved. Approximate limits and depths of engineered fill are indicated on the enclosed Site Plans (see Figures 1 through 9).

In-place density tests were performed in conformance with ASTM Test Method D1556-15 (Sand Cone), and ASTM Test Method ASTM D6938-10 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Tables 1 and 2. In general, the in-place density test results indicate that the paving subgrade and base materials placed have achieved a relative compaction of at least 95 percent, utility trench and wall backfills placed have achieved a relative compaction of at least 90 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test), and the asphalt placed have achieved a relative compaction of at least 95 percent in accordance with ASTM test method D2726-05A (Hveem Density). The results of the laboratory tests are summarized in Tables 3 and 4. The approximate locations of all in-place density tests are indicated on the Site Plan (see Figures 1 through 9).

Laboratory tests were performed on the earth, base, and asphalt-concrete materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Tables 3 and 4. Fill soils were derived from onsite excavations and consist primarily of clayey sand and sandy clay. Imported soil consisting of silty sand, crushed miscellaneous base, and crushed aggregate base was also utilized.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" to "high" expansive potential based on the 2013 California Building Code (CBC) Section 1803.5.3. Special considerations for expansive soils have been incorporated in the geotechnical recommendations. No additional recommendations are considered necessary at this time.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

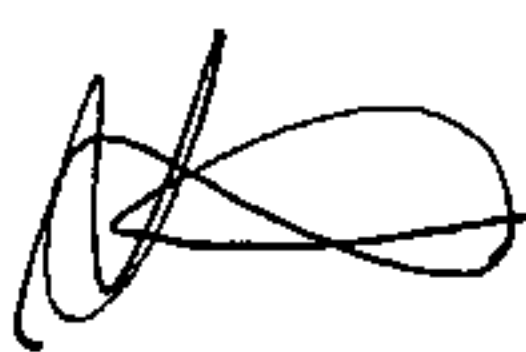
The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, July 23, 2015. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694




Neal Berliner
GE 2516



Enclosures: Figures 1-9 - Site Plan
 Explanation of Coded Terms
 Tables 1 through 4
 Certification

(Email) Addressee

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
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REFERENCES (CONTD.)

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- Field Inspection of Temporary Cut Slope and Driveway Subgrade – Picerne Shared Entry*, by Geocon West, Inc., dated February 3, 2015.

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WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8338 - FAX (818) 841-1704

CROWN VALLEY LUXURY APARTMENTS

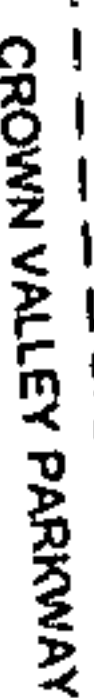
CAL I CROWN VALLEY, LLC
25691 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

PZ 8000

SEPT. 2015 PROJECT NO. A8803-06-03

FIG. 1

- A.C.
Base



PZ

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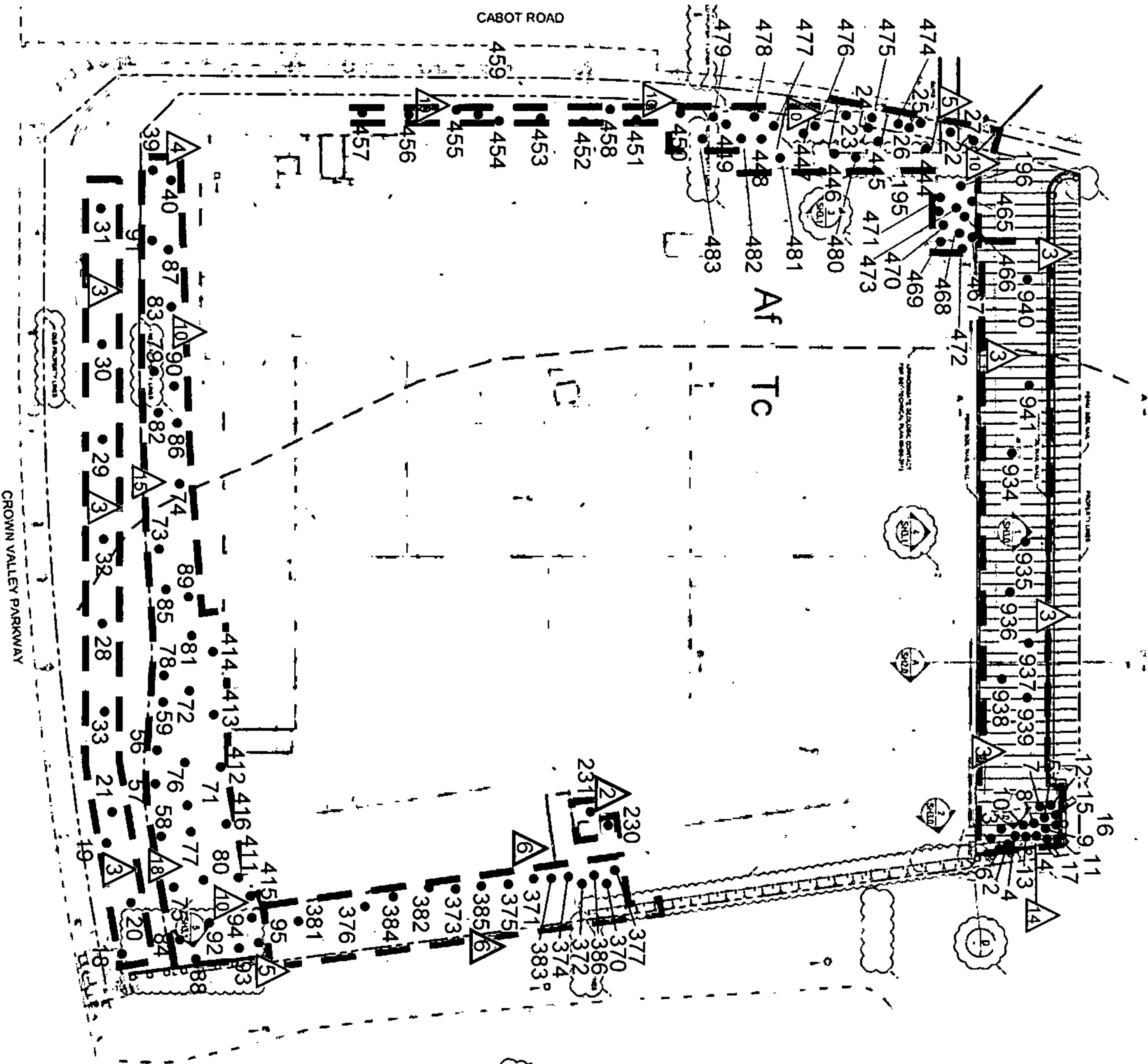
CROWN VALLEY LUXURY APARTMENTS

SEOT. 2015

FIG. 2

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- △₁₀₆ Approximate Depth of Engineered Fill (in feet)



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SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

PZ

8000

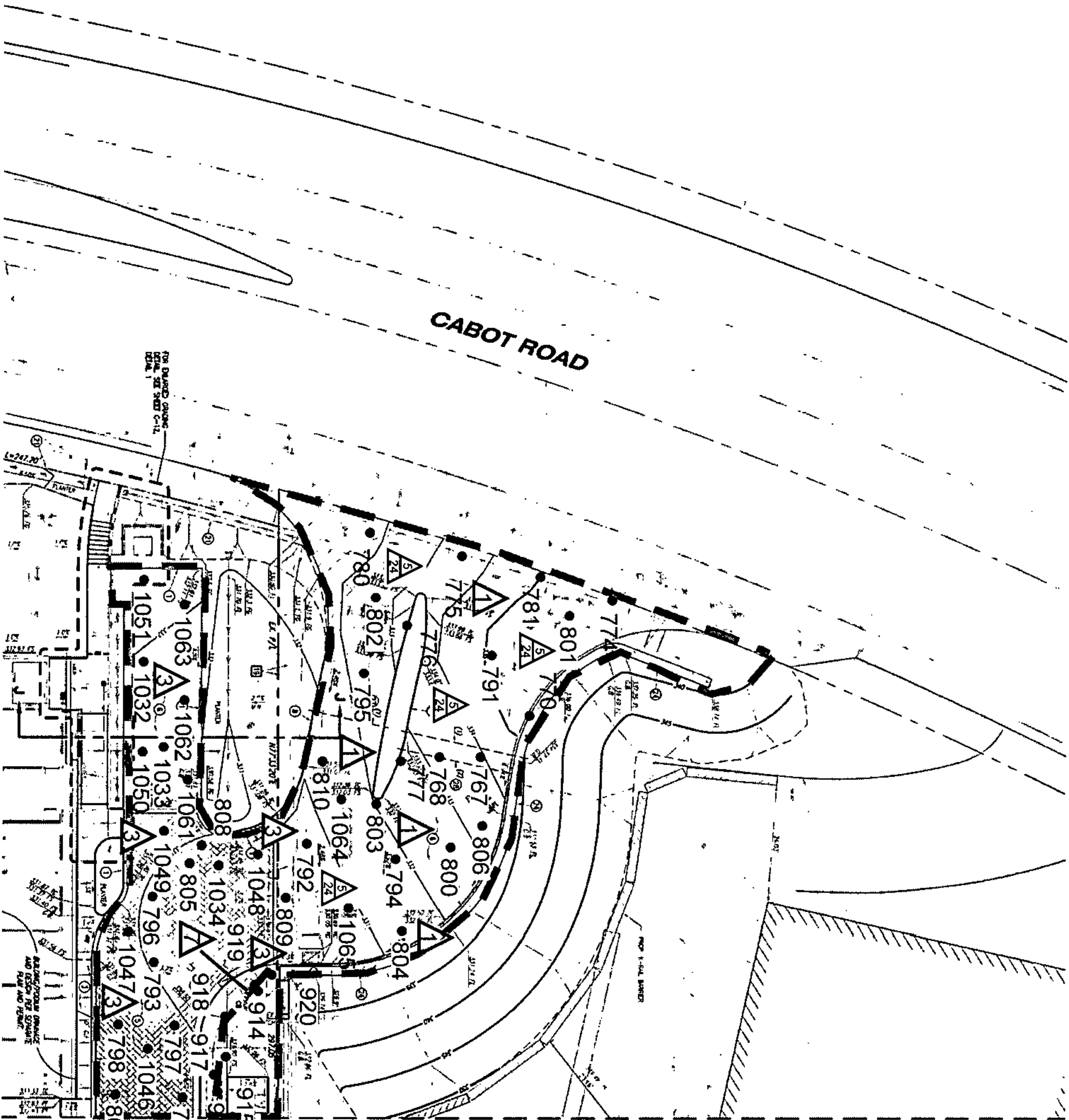
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PROJECT NO. A8803-06-03

FIG. 3

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base
Approximate Thickness of Paving Section (in inches)



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Drafted By: SB

Checked By: GAK/SFK

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

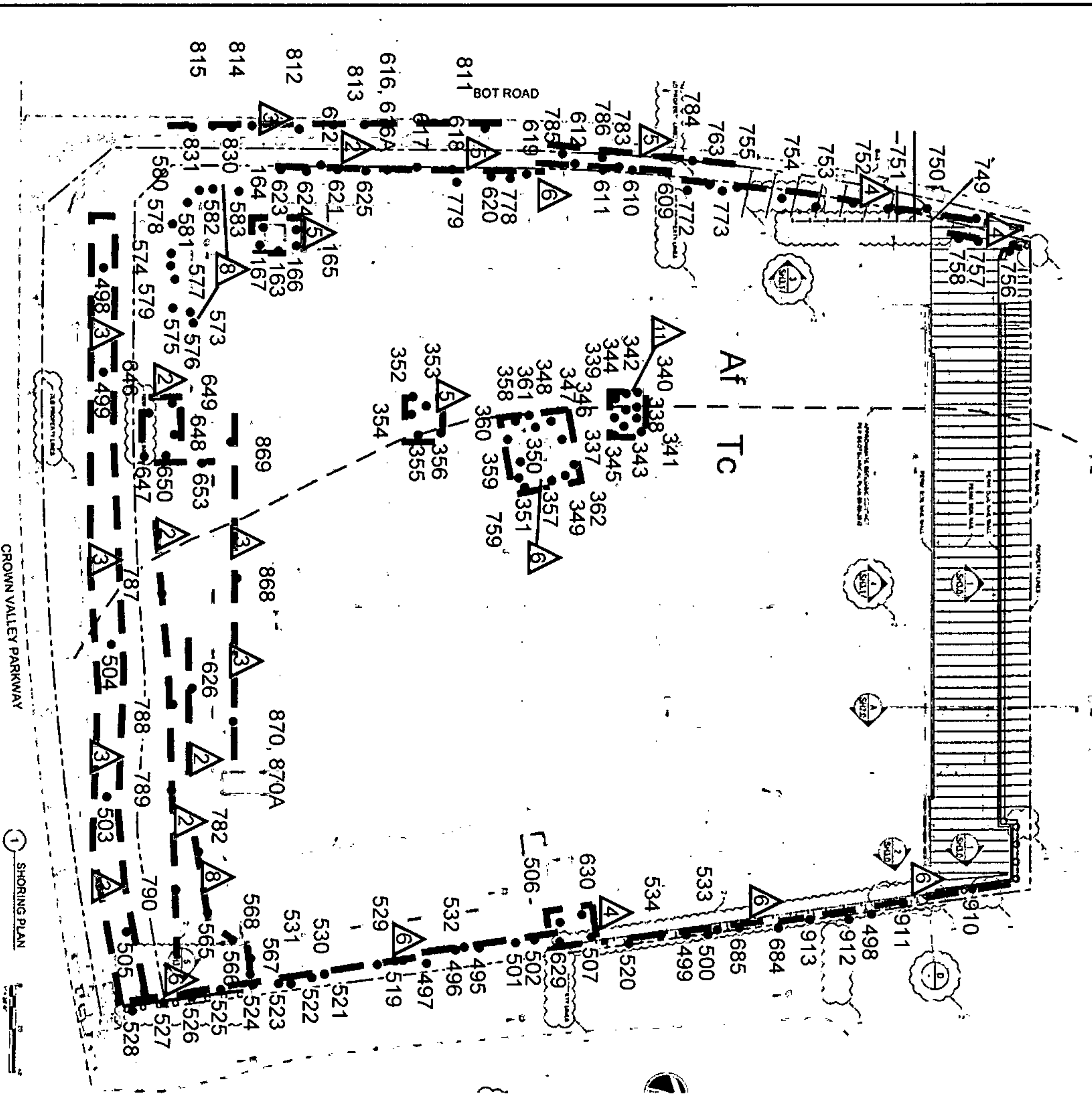
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FIG. 4

LEGEND

- 1065 Approximate Location of Density Test
- — — Approximate Limits of Engineered Fill
- — — Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)



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SITE PLAN

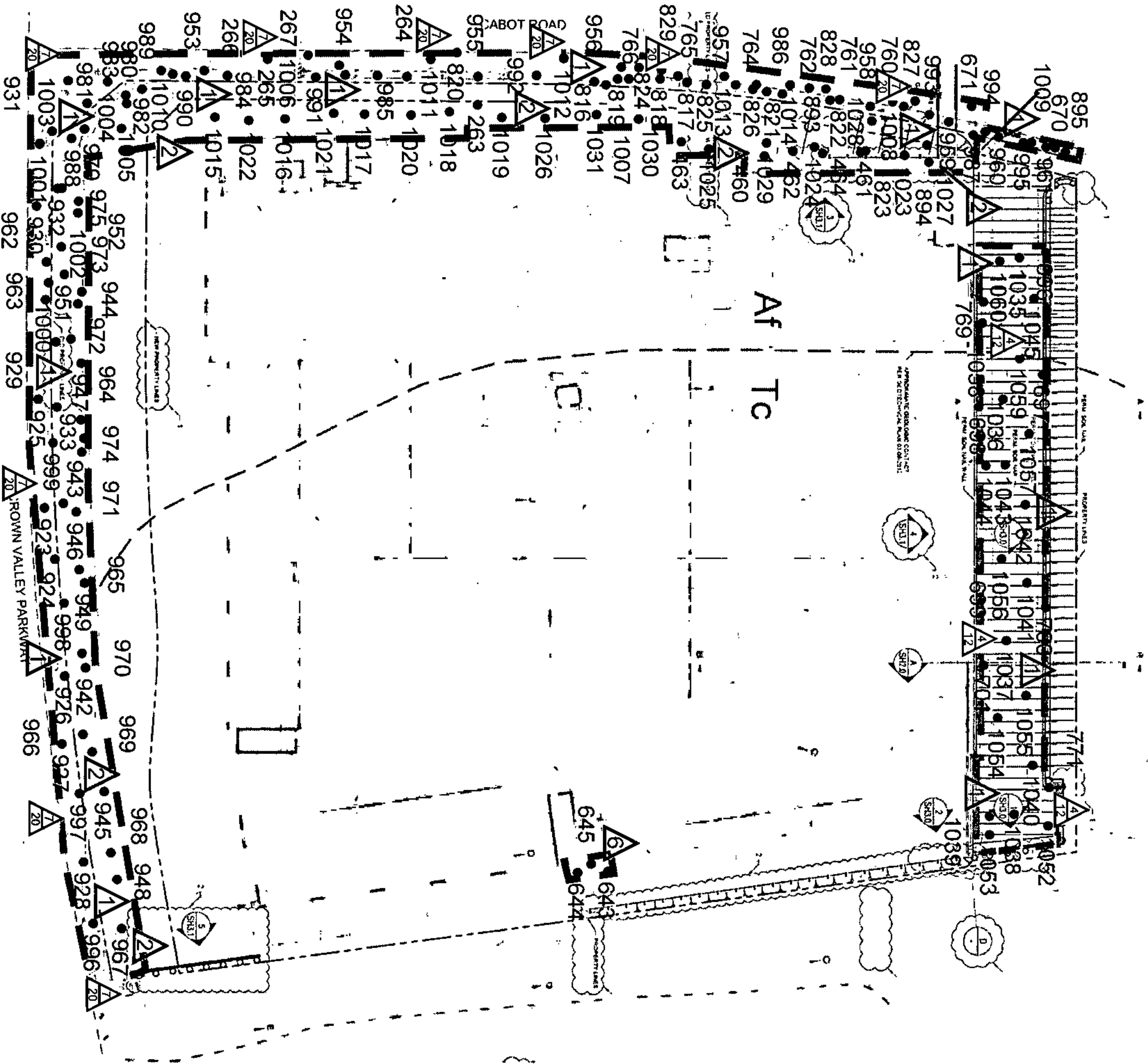
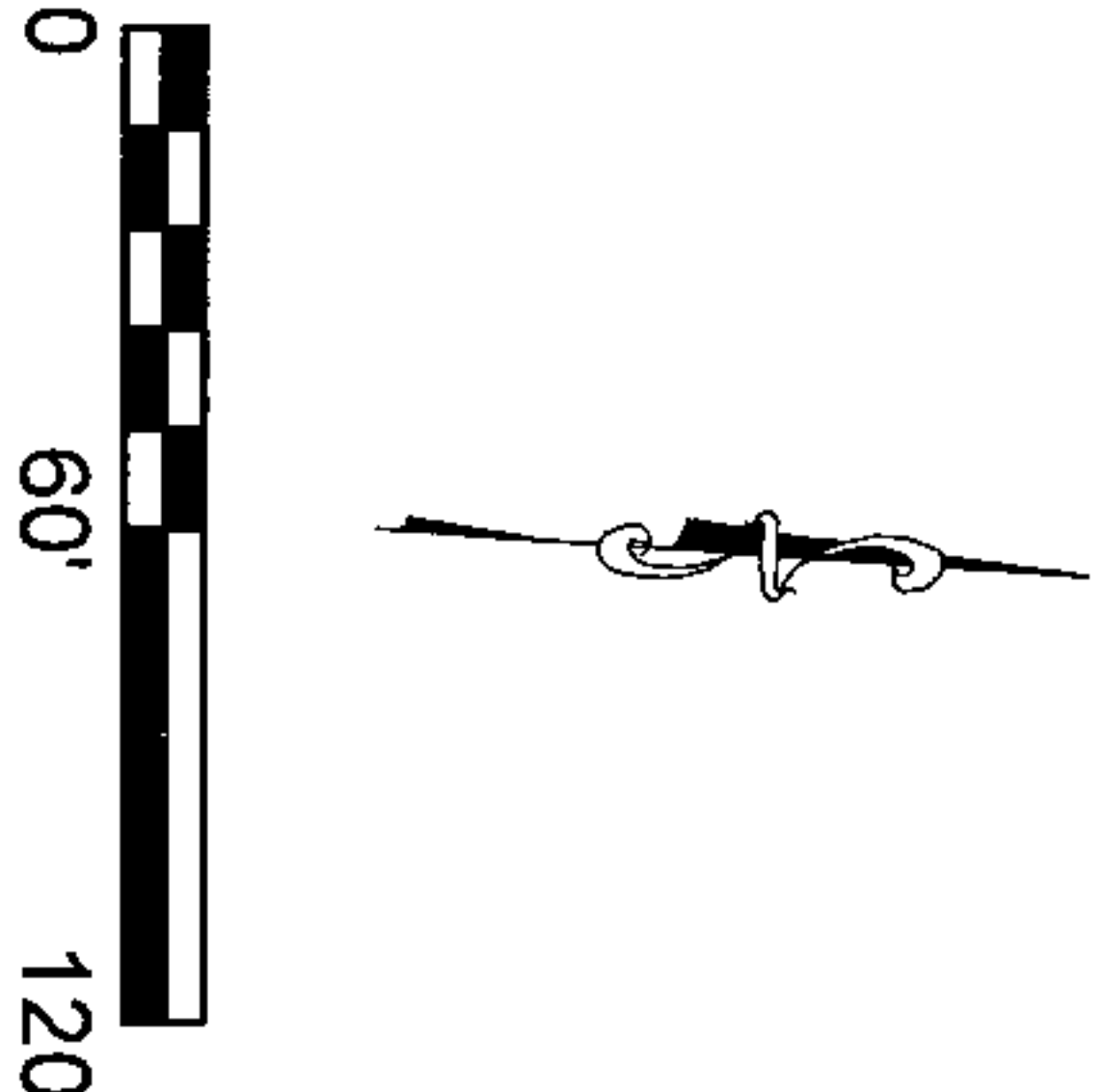
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25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

PZ 8000

SEPT. 2015 PROJECT NO. A8803-06-03 FIG. 7

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- △ Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base Approximate Thickness of Paving Section (in inches)



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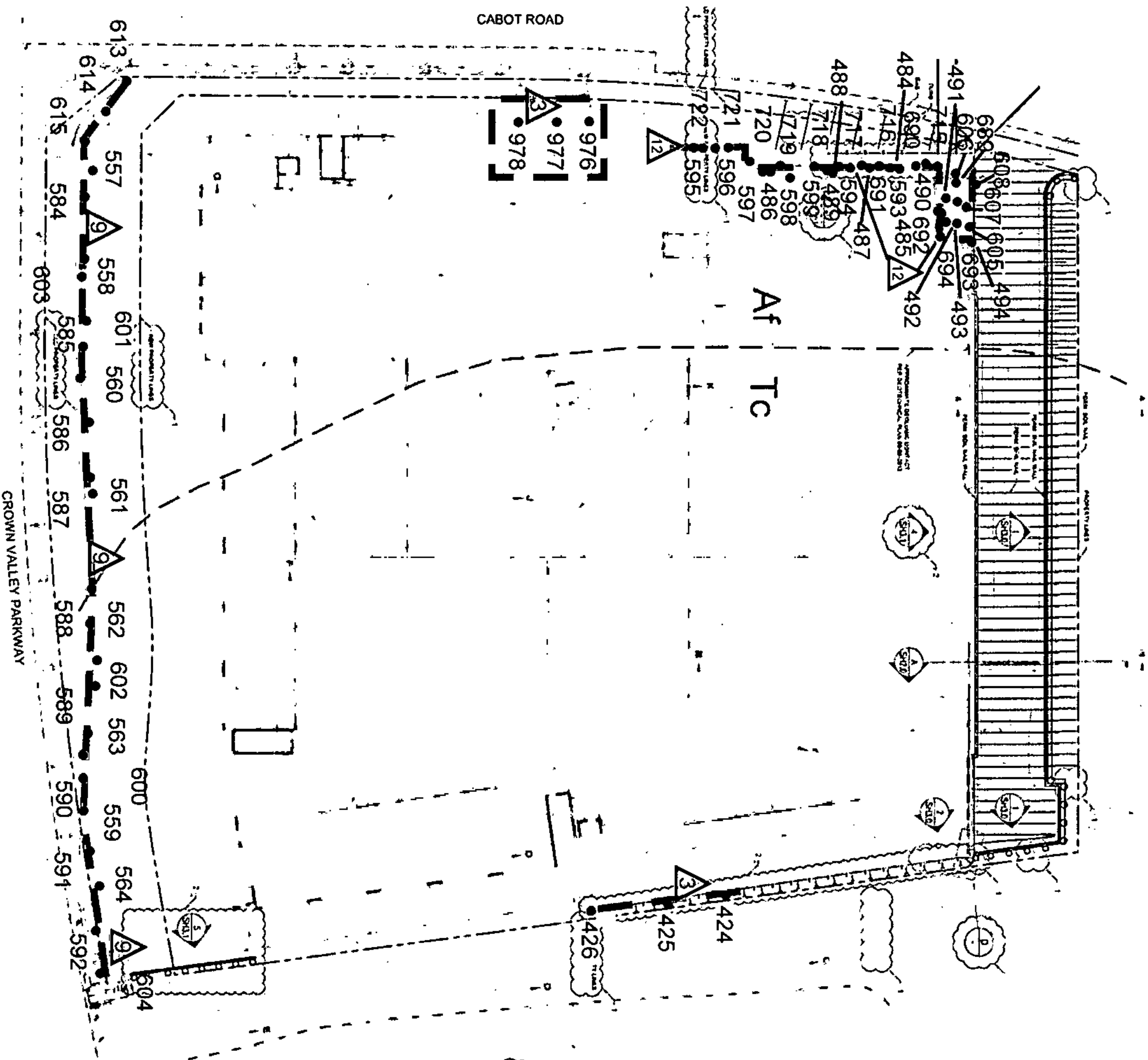
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SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

LEGEND

- 1065 Approximate Location of Density Test
- - - Approximate Location of Wall Backfill
- △ 1/2 Approximate Depth of Engineered Fill (in feet)



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SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
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LAGUNA NIGUEL, CALIFORNIA

PZ

8000

SEPT. 2015

PROJECT NO. A8803-06-03

FIG. 9



PROJECT NO. A8803-06-03

TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	1	7/12/2013	NE Soil Nail Wall	316.0	2	89.2	24.9	97.0	23.5	92	NU	Pass
BF	2	7/12/2013	NE Soil Nail Wall	316.0	2	89.7	24.1	97.0	23.5	92	NU	Pass
BF	3	7/12/2013	NE Soil Nail Wall	318.0	2	91.2	25.4	97.0	23.5	94	NU	Pass
BF	4	7/12/2013	NE Soil Nail Wall	318.0	2	91.0	25.1	97.0	23.5	94	NU	Pass
BF	5	7/12/2013	NE Soil Nail Wall	320.0	2	91.6	22.9	97.0	23.5	94	NU	Pass
BF	6	7/12/2013	NE Soil Nail Wall	320.0	2	89.7	23.6	97.0	23.5	92	NU	Pass
BF	7	7/17/2013	NE Soil Nail Wall	322.0	2	90.1	24.9	97.0	23.5	93	NU	Pass
BF	8	7/17/2013	NE Soil Nail Wall	322.0	2	90.2	26.4	97.0	23.5	93	NU	Pass
BF	9	7/17/2013	NE Soil Nail Wall	322.0	2	90.6	24.5	97.0	23.5	93	NU	Pass
BF	10	7/17/2013	NE Soil Nail Wall	324.0	2	89.7	24.1	97.0	23.5	92	NU	Pass
BF	11	7/17/2013	NE Soil Nail Wall	324.0	2	89.2	23.9	97.0	23.5	92	NU	Pass
BF	12	7/17/2013	NE Soil Nail Wall	324.0	2	89.5	24.1	97.0	23.5	92	NU	Pass
BF	13	7/17/2013	NE Soil Nail Wall	326.0	2	90.1	23.0	97.0	23.5	93	SC	Pass
BF	14	7/18/2013	NE Soil Nail Wall	328.0	2	89.1	24.9	97.0	23.5	92	NU	Pass
BF	15	7/18/2013	NE Soil Nail Wall	328.0	2	90.3	25.4	97.0	23.5	93	NU	Pass
BF	16	7/18/2013	NE Soil Nail Wall	330.0	2	89.7	25.1	97.0	23.5	92	NU	Pass
BF	17	7/18/2013	NE Soil Nail Wall	330.0	2	89.3	26.4	97.0	23.5	92	NU	Pass
BF	18	8/9/2013	South Lower MSE Wall	264.0	2	89.8	24.4	97.0	23.5	93	NU	Pass
BF	19	8/9/2013	South Lower MSE Wall	264.0	2	89.8	26.9	97.0	23.5	93	NU	Pass
BF	20	8/9/2013	South Lower MSE Wall	265.0	2	89.9	26.5	97.0	23.5	93	NU	Pass
BF	21	8/9/2013	South Lower MSE Wall	265.0	2	88.4	27.6	97.0	23.5	91	SC	Pass
BF	22	8/16/2013	NW Slope	330.0	3	88.9	28.0	97.0	26.0	92	NU	Pass
BF	23	8/16/2013	NW Slope	330.0	3	87.7	29.0	97.0	26.0	90	NU	Pass
BF	24	8/16/2013	NW Slope	332.0	3	88.1	27.6	97.0	26.0	91	NU	Pass
BF	25	8/16/2013	NW Slope	332.0	3	87.3	27.9	97.0	26.0	90	NU	Pass
BF	26	8/16/2013	NW Slope	333.0	3	87.4	28.5	97.0	26.0	90	NU	Pass
BF	27	8/16/2013	NW Slope	333.0	3	88.2	28.9	97.0	26.0	91	NU	Pass
BF	28	8/20/2013	South Lower MSE Wall	266.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BF	29	8/20/2013	South Lower MSE Wall	266.0	3	91.6	27.5	97.0	26.0	94	NU	Pass
BF	30	8/20/2013	South Lower MSE Wall	266.0	3	90.6	27.1	97.0	26.0	93	NU	Pass
BF	31	8/20/2013	South Lower MSE Wall	266.0	3	90.3	28.5	97.0	26.0	93	NU	Pass
BF	32	8/20/2013	South Lower MSE Wall	266.0	3	89.2	29.0	97.0	26.0	92	NU	Pass
BF	33	8/20/2013	South Lower MSE Wall	266.0	3	89.5	27.3	97.0	26.0	92	SC	Pass
SD	34	9/11/2013	Storm Drain - East Side	277.0	3	88.0	28.7	97.0	26.0	91	NU	Pass
SD	35	9/11/2013	Storm Drain - East Side	279.0	3	91.9	26.1	97.0	26.0	95	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SD	36	9/11/2013	Storm Drain - East Side	281.0	3	91.4	26.9	97.0	26.0	94	NU	Pass
SD	37	9/11/2013	Storm Drain - East Side	283.0	3	90.3	28.1	97.0	26.0	93	NU	Pass
SD	38	9/11/2013	Storm Drain - East Side	285.0	3	89.7	28.3	97.0	26.0	92	NU	Pass
BF	39	9/12/2013	South Upper MSE Wall	280.0	1	84.2	28.1	91.5	25.0	92	NU	Pass
BF	40	9/12/2013	South Upper MSE Wall	282.0	1	84.8	27.5	91.5	25.0	93	NU	Pass
SD	41	9/12/2013	Storm Drain - East Side	296.0	3	87.8	27.9	97.0	26.0	91	NU	Pass
SD	42	9/12/2013	Storm Drain - East Side	298.0	3	89.1	29.1	97.0	26.0	92	NU	Pass
SD	43	9/12/2013	Storm Drain - East Side	298.0	3	88.1	28.4	97.0	26.0	91	NU	Pass
SD	44	9/12/2013	Storm Drain - East Side	300.0	3	89.2	27.7	97.0	26.0	92	NU	Pass
SD	45	9/12/2013	Storm Drain - East Side	300.0	3	88.6	29.0	97.0	26.0	91	NU	Pass
SD	46	9/12/2013	Storm Drain - North Side	330.0	3	90.3	28.4	97.0	26.0	93	NU	Pass
SD	47	9/12/2013	Storm Drain - North Side	332.0	3	89.3	28.1	97.0	26.0	92	SC	Pass
SD	48	9/13/2013	Storm Drain - North Side	330.0	3	89.9	28.4	97.0	26.0	93	NU	Pass
SD	49	9/13/2013	Storm Drain - North Side	330.0	3	88.6	28.5	97.0	26.0	91	NU	Pass
SD	50	9/13/2013	Storm Drain - North Side	330.0	3	90.6	27.5	97.0	26.0	93	NU	Pass
SD	51	9/13/2013	Storm Drain - North Side	332.0	3	90.1	28.8	97.0	26.0	93	NU	Pass
SD	52	9/13/2013	Storm Drain - North Side	332.0	3	87.3	29.0	97.0	26.0	90	NU	Pass
SD	53	9/13/2013	Storm Drain - North Side	332.0	3	87.7	27.8	97.0	26.0	90	NU	Pass
SD	54	9/13/2013	Storm Drain - North Side	334.0	3	89.2	28.3	97.0	26.0	92	NU	Pass
SD	55	9/13/2013	Storm Drain - North Side	334.0	3	89.0	28.7	97.0	26.0	92	SC	Pass
BF	56	9/16/2013	South Upper MSE Wall	270.0	4	112.2	14.1	122.0	12.0	92	NU	Pass
BF	57	9/16/2013	South Upper MSE Wall	270.0	4	114.0	13.9	122.0	12.0	93	NU	Pass
BF	58	9/16/2013	South Upper MSE Wall	272.0	4	111.7	14.6	122.0	12.0	92	NU	Pass
BF	59	9/16/2013	South Upper MSE Wall	272.0	4	111.4	13.4	122.0	12.0	91	NU	Pass
SD	60	9/16/2013	Storm Drain - North Side	328.0	3	89.6	27.5	97.0	26.0	92	NU	Pass
SD	61	9/16/2013	Storm Drain - North Side	328.0	1	85.4	26.8	91.5	25.0	93	NU	Pass
SD	62	9/16/2013	Storm Drain - North Side	328.0	1	84.9	26.7	91.5	25.0	93	NU	Pass
SD	63	9/16/2013	Storm Drain - North Side	330.0	1	85.0	27.4	91.5	25.0	93	NU	Pass
SD	64	9/16/2013	Storm Drain - North Side	330.0	1	85.9	27.0	91.5	25.0	94	NU	Pass
SD	65	9/16/2013	Storm Drain - North Side	330.0	1	83.4	28.1	91.5	25.0	91	NU	Pass
SD	66	9/16/2013	Storm Drain - North Side	332.0	3	87.7	27.5	97.0	26.0	90	NU	Pass
SD	67	9/16/2013	Storm Drain - North Side	332.0	3	88.1	28.9	97.0	26.0	91	NU	Pass
SD	68	9/16/2013	Storm Drain - North Side	332.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
SD	69	9/16/2013	Storm Drain - North Side	334.0	3	89.2	27.9	97.0	26.0	92	NU	Pass
SD	70	9/16/2013	Storm Drain - North Side	334.0	3	88.2	28.4	97.0	26.0	91	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	71	9/17/2013	South Upper MSE Wall	274.0	4	112.6	11.4	122.0	12.0	92	NU	Pass
BF	72	9/17/2013	South Upper MSE Wall	274.0	4	112.7	12.1	122.0	12.0	92	NU	Pass
BF	73	9/17/2013	South Upper MSE Wall	274.0	4	110.4	10.5	122.0	12.0	90	NU	Pass
BF	74	9/17/2013	South Upper MSE Wall	276.0	4	113.4	10.7	122.0	12.0	93	NU	Pass
BF	75	9/17/2013	South Upper MSE Wall	276.0	4	113.5	10.9	122.0	12.0	93	NU	Pass
BF	76	9/17/2013	South Upper MSE Wall	276.0	4	115.2	11.5	122.0	12.0	94	NU	Pass
BF	77	9/17/2013	South Upper MSE Wall	278.0	4	113.3	12.4	122.0	12.0	93	SC	Pass
BF	78	9/17/2013	South Upper MSE Wall	278.0	4	111.5	12.1	122.0	12.0	91	SC	Pass
BF	79	9/17/2013	South Upper MSE Wall	278.0	4	115.9	11.5	122.0	12.0	95	SC	Pass
BF	80	9/18/2013	South Upper MSE Wall	280.0	4	113.9	11.9	122.0	12.0	93	NU	Pass
BF	81	9/18/2013	South Upper MSE Wall	280.0	4	114.3	10.6	122.0	12.0	94	NU	Pass
BF	82	9/18/2013	South Upper MSE Wall	280.0	4	114.8	10.0	122.0	12.0	94	NU	Pass
BF	83	9/18/2013	South Upper MSE Wall	280.0	4	114.5	11.1	122.0	12.0	94	NU	Pass
BF	84	9/18/2013	South Upper MSE Wall	282.0	4	115.2	12.2	122.0	12.0	94	NU	Pass
BF	85	9/18/2013	South Upper MSE Wall	282.0	4	112.8	10.5	122.0	12.0	92	NU	Pass
BF	86	9/18/2013	South Upper MSE Wall	282.0	4	113.3	11.9	122.0	12.0	93	NU	Pass
BF	87	9/18/2013	South Upper MSE Wall	282.0	4	111.6	11.5	122.0	12.0	91	NU	Pass
BF	88	9/18/2013	South Upper MSE Wall	284.0	4	114.8	13.4	122.0	12.0	94	NU	Pass
BF	89	9/18/2013	South Upper MSE Wall	284.0	4	114.0	10.8	122.0	12.0	93	NU	Pass
BF	90	9/18/2013	South Upper MSE Wall	284.0	4	113.4	10.5	122.0	12.0	93	NU	Pass
BF	91	9/18/2013	South Upper MSE Wall	284.0	4	115.2	11.7	122.0	12.0	94	SC	Pass
BF	92	9/19/2013	South Upper MSE Wall	286.0	4	114.8	12.8	122.0	12.0	94	NU	Pass
BF	93	9/19/2013	South Upper MSE Wall	286.0	4	113.3	12.5	122.0	12.0	93	NU	Pass
BF	94	9/19/2013	South Upper MSE Wall	286.0	4	111.6	13.1	122.0	12.0	91	NU	Pass
BF	95	9/19/2013	South Upper MSE Wall	286.0	4	110.4	10.4	122.0	12.0	90	NU	Pass
SD	96	9/20/2013	Storm Drain - North Side	330.0	3	88.2	27.1	97.0	26.0	91	NU	Pass
SD	97	9/20/2013	Storm Drain - North Side	332.0	3	88.0	28.4	97.0	26.0	91	NU	Pass
SD	98	9/20/2013	Storm Drain - North Side	330.0	3	88.1	26.9	97.0	26.0	91	NU	Pass
SD	99	9/20/2013	Storm Drain - North Side	332.0	3	87.6	27.5	97.0	26.0	90	NU	Pass
SD	100	9/20/2013	Storm Drain - North Side	334.0	3	88.7	27.9	97.0	26.0	91	NU	Pass
SD	101	9/20/2013	Storm Drain - North Side	330.0	3	88.1	28.4	97.0	26.0	91	NU	Pass
SD	102	9/20/2013	Storm Drain - North Side	332.0	3	88.2	29.0	97.0	26.0	91	NU	Pass
SD	103	9/20/2013	Storm Drain - North Side	334.0	3	88.5	27.9	97.0	26.0	91	NU	Pass
SD	104	9/20/2013	Storm Drain - North Side	330.0	3	87.3	28.5	97.0	26.0	90	NU	Pass
SD	105	9/20/2013	Storm Drain - North Side	332.0	3	87.4	28.9	97.0	26.0	90	SC	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SD	106	9/20/2013	Storm Drain - North Side	334.0	3	87.7	29.1	97.0	26.0	90	SC	Pass
SD	107	9/21/2013	Storm Drain - NE Corner	303.0	2	89.4	26.4	97.0	23.5	92	NU	Pass
SD	108	9/21/2013	Storm Drain - NE Corner	305.0	2	90.4	26.2	97.0	23.5	93	NU	Pass
SD	109	9/21/2013	Storm Drain - NE Corner	310.0	2	89.2	26.4	97.0	23.5	92	NU	Pass
SD	110	9/21/2013	Storm Drain - NE Corner	313.0	2	89.3	25.1	97.0	23.5	92	NU	Pass
SD	111	9/21/2013	Storm Drain - NE Corner	315.0	2	89.7	25.9	97.0	23.5	92	NU	Pass
SD	112	9/21/2013	Storm Drain - NE Corner	320.0	2	89.2	26.4	97.0	23.5	92	NU	Pass
SD	113	9/21/2013	Storm Drain - NE Corner	325.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
SD	114	9/21/2013	Storm Drain - NE Corner	331.0	2	89.2	25.3	97.0	23.5	92	NU	Pass
SD	115	9/21/2013	Storm Drain - NE Corner	333.0	2	88.7	25.1	97.0	23.5	91	NU	Pass
SD	116	9/21/2013	Storm Drain - NE Corner	334.0	2	87.3	26.8	97.0	23.5	90	NU	Pass
BP	117	9/21/2013	Storm Drain - NE Corner	270.0	4	113.5	11.0	122.0	12.0	93	SC	Pass
BP	118	10/1/2013	South Upper MSE Wall	270.0	4	115.0	11.9	122.0	12.0	94	NU	Pass
BP	119	10/1/2013	South Upper MSE Wall	272.0	4	113.3	11.5	122.0	12.0	93	NU	Pass
BP	120	10/1/2013	South Upper MSE Wall	272.0	4	113.4	13.1	122.0	12.0	93	NU	Pass
BP	121	10/1/2013	South Upper MSE Wall	274.0	4	113.5	13.0	122.0	12.0	93	NU	Pass
BP	122	10/1/2013	South Upper MSE Wall	274.0	4	114.0	12.5	122.0	12.0	93	NU	Pass
BP	123	10/1/2013	South Upper MSE Wall	274.0	4	113.2	11.4	122.0	12.0	93	NU	Pass
BP	124	10/1/2013	South Upper MSE Wall	276.0	3	89.3	27.1	97.0	26.0	92	NU	Pass
BP	125	10/1/2013	South Upper MSE Wall	276.0	3	89.2	26.5	97.0	26.0	92	NU	Pass
BP	126	10/1/2013	South Upper MSE Wall	276.0	3	90.1	27.5	97.0	26.0	93	NU	Pass
BP	127	10/1/2013	South Upper MSE Wall	278.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BP	128	10/1/2013	South Upper MSE Wall	278.0	3	89.2	26.9	97.0	26.0	92	NU	Pass
BP	129	10/1/2013	South Upper MSE Wall	278.0	3	89.2	27.5	97.0	26.0	92	NU	Pass
BP	130	10/1/2013	South Upper MSE Wall	280.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
BP	131	10/1/2013	South Upper MSE Wall	280.0	3	89.7	27.1	97.0	26.0	92	NU	Pass
BP	132	10/1/2013	South Upper MSE Wall	280.0	3	89.2	28.1	97.0	26.0	92	NU	Pass
BP	133	10/1/2013	South Upper MSE Wall	280.0	3	89.4	26.5	97.0	26.0	92	NU	Pass
BP	134	10/1/2013	South Upper MSE Wall	282.0	3	89.3	26.9	97.0	26.0	92	NU	Pass
BP	135	10/1/2013	South Upper MSE Wall	282.0	3	89.2	27.1	97.0	26.0	92	NU	Pass
BP	136	10/1/2013	South Upper MSE Wall	284.0	3	89.3	26.8	97.0	26.0	92	NU	Pass
BP	137	10/1/2013	South Upper MSE Wall	284.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BP	138	10/1/2013	South Upper MSE Wall	284.0	3	89.7	27.8	97.0	26.0	92	NU	Pass
BP	139	10/1/2013	South Upper MSE Wall	284.0	3	89.2	28.4	97.0	26.0	92	NU	Pass
BP	140	10/1/2013	South Upper MSE Wall	286.0	3	89.1	26.9	97.0	26.0	92	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BP	141	10/1/2013	South Upper MSE Wall	286.0	3	89.5	27.8	97.0	26.0	92	NU	Pass
BP	142	10/1/2013	South Upper MSE Wall	286.0	3	89.6	27.9	97.0	26.0	92	NU	Pass
BP	143	10/1/2013	South Upper MSE Wall	288.0	3	88.1	26.5	97.0	26.0	91	NU	Pass
BP	144	10/1/2013	South Upper MSE Wall	288.0	3	88.7	28.1	97.0	26.0	91	NU	Pass
BP	145	10/1/2013	South Upper MSE Wall	288.0	3	88.9	27.9	97.0	26.0	92	NU	Pass
BP	146	10/1/2013	South Upper MSE Wall	290.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
BP	147	10/1/2013	South Upper MSE Wall	290.0	3	89.2	27.0	97.0	26.0	92	SC	Pass
BP	148	10/1/2013	South Upper MSE Wall	290.0	3	87.3	27.0	97.0	26.0	90	SC	Pass
BP	149	10/1/2013	South Upper MSE Wall	290.0	3	87.4	27.5	97.0	26.0	90	SC	Pass
SM	150	10/31/2013	Sewer - SW Corner	289.0	3	89.7	27.3	97.0	26.0	92	NU	Pass
SM	151	10/31/2013	Sewer - SW Corner	289.0	3	89.4	27.6	97.0	26.0	92	NU	Pass
SM	152	10/31/2013	Sewer - SW Corner	289.0	3	90.2	28.0	97.0	26.0	93	NU	Pass
SM	153	10/31/2013	Sewer - SW Corner	289.0	3	89.8	27.1	97.0	26.0	93	NU	Pass
SM	154	10/31/2013	Sewer - SW Corner	289.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
SD	155	11/6/2013	Storm Drain - West Side	300.0	3	92.3	25.8	97.0	26.0	95	NU	Pass
SD	156	11/6/2013	Storm Drain - West Side	300.0	3	92.1	26.3	97.0	26.0	95	NU	Pass
SD	157	11/6/2013	Storm Drain - West Side	298.5	3	90.1	26.0	97.0	26.0	93	NU	Pass
SM	158	11/20/2013	Plumbing - SW Corner	290.0	3	93.0	26.9	97.0	26.0	96	NU	Pass
SM	159	11/20/2013	Plumbing - SW Corner	290.0	3	92.2	27.1	97.0	26.0	95	NU	Pass
SM	160	11/26/2013	Plumbing - SW Corner	290.0	2	88.6	26.2	97.0	23.5	91	NU	Pass
SM	161	11/27/2013	Plumbing - SW Corner	290.0	2	90.3	25.9	97.0	23.5	93	SC	Pass
SM	162	11/27/2013	Plumbing - SW Corner	290.0	3	89.4	27.5	97.0	26.0	92	SC	Pass
WB	163	12/3/2013	PIT	287.0	2	89.8	2.0	97.0	23.5	93	NU	Pass
WB	164	12/3/2013	PIT	287.0	2	90.5	25.8	97.0	23.5	93	NU	Pass
WB	165	12/3/2013	PIT	288.0	2	89.4	26.2	97.0	23.5	92	NU	Pass
WB	166	12/3/2013	PIT	289.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
WB	167	12/3/2013	PIT	289.0	2	90.7	25.7	97.0	23.5	94	NU	Pass
WM	168	12/3/2013	Water Line - West Side	324.0	5	134.3	8.1	137.0	10.0	98	NU	Pass
WM	169	12/3/2013	Water Line - West Side	322.0	5	134.7	8.0	137.0	10.0	98	NU	Pass
WM	170	12/17/2013	Water Line - West Side	314.0	5	130.9	9.1	137.0	10.0	96	NU	Pass
WM	171	12/17/2013	Water Line - West Side	315.0	5	131.2	8.7	137.0	10.0	96	NU	Pass
WM	172	12/18/2013	Water Line - West Side	322.0	5	131.5	8.4	137.0	10.0	96	NU	Pass
WM	173	12/18/2013	Water Line - West Side	317.0	5	131.0	8.7	137.0	10.0	96	NU	Pass
WM	174	12/18/2013	Water Line - West Side	318.0	5	131.1	8.5	137.0	10.0	96	SC	Pass
WM	175	1/6/2014	Water Line - West Side	309.0	5	130.4	10.2	137.0	10.0	95	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WM	176	1/6/2014	Water Line - West Side	310.0	5	130.9	10.1	137.0	10.0	96	NU	Pass
WM	177	1/6/2014	Water Line - West Side	314.0	5	131.9	10.0	137.0	10.0	96	NU	Pass
WM	178	1/6/2014	Water Line - West Side	315.0	5	130.6	10.1	137.0	10.0	95	NU	Pass
WM	179	1/8/2014	Water Line - West Side	308.0	5	130.8	10.4	137.0	10.0	95	NU	Pass
WM	180	1/8/2014	Water Line - West Side	309.0	5	131.1	9.8	137.0	10.0	96	NU	Pass
WM	181	1/8/2014	Water Line - West Side	310.0	5	130.7	10.2	137.0	10.0	95	NU	Pass
WM	182	1/10/2014	Water Line - West Side	316.0	5	130.3	10.5	137.0	10.0	95	NU	Pass
WM	183	1/10/2014	Water Line - West Side	316.0	5	130.6	10.4	137.0	10.0	95	NU	Pass
WM	184	1/10/2014	Water Line - West Side	318.0	5	131.8	10.0	137.0	10.0	96	NU	Pass
WM	185	1/10/2014	WL - Lat "G" Retest of #168	324.0	5	130.2	10.4	137.0	10.0	95	NU	Pass
WM	186	1/10/2014	Water Line - Lat "G"	323.0	5	130.5	10.3	137.0	10.0	95	NU	Pass
WM	187	1/10/2014	Water Line - Lat "G"	324.0	5	130.9	10.0	137.0	10.0	96	NU	Pass
WM	188	1/10/2014	WL - Lat "F" Retest of #169	322.0	5	130.7	10.1	137.0	10.0	95	SC	Pass
WM	189	1/13/2014	Lateral "E"	SG	5	130.6	10.5	137.0	10.0	95	NU	Pass
WM	190	1/13/2014	Lateral "E"	SG	5	133.9	10.7	137.0	10.0	98	NU	Pass
WM	191	1/13/2014	Lateral "E"	SG	5	133.2	10.0	137.0	10.0	97	NU	Pass
WM	192	1/13/2014	Lateral "E"	SG	5	132.1	10.3	137.0	10.0	96	NU	Pass
WM	193	1/13/2014	Lateral "E"	SG	5	130.4	10.9	137.0	10.0	95	NU	Pass
WM	94	1/13/2014	Lateral "E"	SG	5	130.3	10.6	137.0	10.0	95	NU	Pass
SG	195	1/15/2014	Cabot Road Slope	SG	2	92.4	24.3	97.0	23.5	95	NU	Pass
SG	196	1/15/2014	Cabot Road Slope	SG	2	94.2	25.5	97.0	23.5	97	NU	Pass
SG	197	1/23/2014	Lateral "D" - Cabot Rd	318.0	5	131.5	8.0	137.0	10.0	96	NU	Pass
SG	198	1/23/2014	Lateral "D" - Cabot Rd	318.0	5	130.1	8.4	137.0	10.0	95	NU	Pass
WM	199	1/23/2014	Lateral "D" - Cabot Rd	317.0	5	130.3	7.9	137.0	10.0	95	NU	Pass
SG	200	1/23/2014	Lateral "D" - Cabot Rd	319.0	5	130.2	7.5	137.0	10.0	95	NU	Pass
SG	201	1/23/2014	Lateral "D" - Cabot Rd	319.0	5	130.1	8.1	137.0	10.0	95	SC	Pass
WM	202	1/24/2014	Lateral "C" - Cabot Rd	311.0	5	131.9	9.9	137.0	10.0	96	NU	Pass
WM	203	1/24/2014	Lateral "C" - Cabot Rd	313.0	5	131.2	10.1	137.0	10.0	96	NU	Pass
WM	204	1/24/2014	Lateral "C" - Cabot Rd	313.0	5	131.7	10.3	137.0	10.0	96	NU	Pass
WM	205	1/24/2014	Lateral "C" - Cabot Rd	315.0	5	131.5	10.4	137.0	10.0	96	NU	Pass
WM	206	1/24/2014	Lateral "B" - Cabot Rd	310.0	5	131.1	9.7	137.0	10.0	96	NU	Pass
WM	207	1/24/2014	Lateral "B" - Cabot Rd	312.0	5	132.2	9.5	137.0	10.0	97	SC	Pass
WM	208	1/28/2014	Water Line - N of Lat "F"	319.0	5	130.2	10.0	137.0	10.0	95	NU	Pass
WM	209	1/28/2014	Water Line - N of Lat "F"	319.0	5	131.7	9.8	137.0	10.0	96	NU	Pass
WM	210	1/28/2014	Water Line - N of Lat "F"	320.0	5	131.1	10.1	137.0	10.0	96	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WM	211	1/28/2014	Water Line - N of Lat "F"	320.0	5	130.8	10.3	137.0	10.0	95	NU	Pass
WM	212	1/29/2014	Water Line - N of Lat "G"	323.0	5	130.5	10.4	137.0	10.0	95	NU	Pass
WM	213	1/29/2014	Water Line - N of Lat "G"	323.0	5	131.0	10.1	137.0	10.0	96	NU	Pass
WM	214	1/29/2014	Water Line - N of Lat "G"	324.0	5	130.6	10.2	137.0	10.0	95	NU	Pass
WM	215	1/30/2014	Water Line - N of Lat "D"	316.0	5	131.3	10.1	137.0	10.0	96	NU	Pass
WM	216	1/30/2014	Water Line - N of Lat "D"	317.0	5	130.7	10.3	137.0	10.0	95	NU	Pass
WM	217	1/30/2014	Water Line - N of Lat "D"	317.0	5	131.0	9.9	137.0	10.0	96	SC	Pass
WM	218	1/31/2014	Water Line - N of Lat "B"	306.0	5	130.9	10.0	137.0	10.0	96	NU	Pass
WM	219	1/31/2014	Water Line - N of Lat "B"	302.0	5	131.4	9.8	137.0	10.0	96	NU	Pass
WM	220	1/31/2014	Water Line - N of Lat "B"	308.0	5	131.7	10.1	137.0	10.0	96	NU	Pass
WM	221	1/31/2014	Water Line - S of Lat "F"	319.0	5	131.0	10.0	137.0	10.0	96	NU	Pass
WM	222	1/31/2014	Water Line - S of Lat "F"	320.0	5	130.8	10.2	137.0	10.0	95	NU	Pass
WM	223	1/31/2014	Water Line - S of Lat "F"	321.0	5	130.5	10.4	137.0	10.0	95	NU	Pass
WB	224	2/4/2014	Gridline T.5	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	225	2/4/2014	Gridline T.5	291.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	226	2/4/2014	Gridline T.5	292.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	227	2/4/2014	Gridline T.5	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	228	2/4/2014	Gridline T.5	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	229	2/4/2014	Gridline 14	291.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	230	2/4/2014	Elevator Pit - East Side	287.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
WB	231	2/4/2014	Elevator Pit - East Side	289.0	2	90.3	25.7	97.0	23.5	93	SC	Pass
WB	232	2/4/2014	Gridline 14	292.0	6	119.1	12.3	128.0	10.0	93	SC	Pass
WB	236	2/5/2014	Gridline T.5	293.0	6	119.2	12.6	128.0	10.0	93	NU	Pass
WB	237	2/5/2014	Gridline T.5	294.0	6	118.7	12.5	128.0	10.0	93	NU	Pass
WB	238	2/5/2014	Gridline 1	291.0	6	119.5	12.1	128.0	10.0	93	NU	Pass
WB	239	2/5/2014	Gridline 1	292.0	6	120.3	12.0	128.0	10.0	94	NU	Pass
WB	240	2/5/2014	Gridline 1	293.0	6	118.2	12.7	128.0	10.0	92	NU	Pass
WB	241	2/5/2014	Gridline 14	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	242	2/5/2014	Gridline 14	292.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	243	2/5/2014	Gridline 14	293.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
SG	244	2/5/2014	North of Sewer Lateral	318.0	6	126.2	11.4	128.0	10.0	99	NU	Pass
SG	245	2/5/2014	North of Sewer Lateral	320.0	6	125.0	11.7	128.0	10.0	98	SC	Pass
WB	246	2/6/2014	Gridline 14	294.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	247	2/6/2014	Gridlines J.2 & 14	291.0	6	117.9	13.1	128.0	10.0	92	NU	Pass
WB	248	2/6/2014	Gridlines J.2 & 14	292.0	6	118.8	12.2	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	249	2/6/2014	Gridlines J.2 & 14	293.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
WB	250	2/6/2014	Gridlines J.2 & 14	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	251	2/6/2014	Gridline T.5	295.0	6	118.2	12.5	128.0	10.0	92	NU	Pass
WB	252	2/6/2014	Gridline T.5	295.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	253	2/6/2014	Gridline T.5	296.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	254	2/6/2014	Gridline T.5	297.0	6	118.5	12.7	128.0	10.0	93	NU	Pass
B	255	2/6/2014	Between Laterals	316.0	5	131.6	10.7	137.0	10.0	96	NU	Pass
B	256	2/6/2014	Between Laterals	318.0	5	131.0	11.1	137.0	10.0	96	NU	Pass
WB	259	2/7/2014	Gridline J.2	291.0	6	118.6	12.6	128.0	10.0	93	NU	Pass
WB	260	2/7/2014	Gridline J.2	291.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	261	2/7/2014	Gridline J.2	292.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	262	2/7/2014	Gridline J.2	292.0	6	118.5	12.9	128.0	10.0	93	SC	Pass
WB	268	2/10/2014	Gridline 14 - Between T.5&J.2	294.0	6	119.0	12.3	128.0	10.0	93	NU	Pass
WB	269	2/10/2014	Gridline 14 - Between T.5&J.2	295.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	270	2/10/2014	Gridline 14 - Between T.5&J.2	296.0	6	119.9	12.0	128.0	10.0	94	NU	Pass
WB	271	2/11/2014	Gridline J.2 - Between 13&19	291.0	6	118.2	12.8	128.0	10.0	92	NU	Pass
WB	272	2/11/2014	Gridline J.2 - Between 13&19	292.0	6	118.5	13.0	128.0	10.0	93	NU	Pass
WB	273	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
WB	274	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.9	12.1	128.0	10.0	94	NU	Pass
WB	275	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.8	13.1	128.0	10.0	93	NU	Pass
WB	276	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.3	13.4	128.0	10.0	92	NU	Pass
WM	277	2/11/2014	Lateral "F"	325.0	2	87.9	25.8	97.0	23.5	91	NU	Pass
WM	278	2/11/2014	Lateral "G"	323.0	2	87.8	26.0	97.0	23.5	91	NU	Pass
WM	279	2/11/2014	Fire Hydrant	291.0	2	87.8	25.9	97.0	23.5	91	NU	Pass
WM	280	2/11/2014	Fire Hydrant	292.0	2	88.0	26.9	97.0	23.5	91	NU	Pass
WB	281	2/12/2014	Gridline 14 - Between T.5&J.2	295.0	2	88.3	12.8	97.0	23.5	91	NU	Pass
WB	282	2/12/2014	Gridline 14 - Between T.5&J.2	296.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	283	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
WB	284	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	119.1	12.2	128.0	10.0	93	SC	Pass
WB	285	2/12/2014	Gridline 14 - Between T.5&J.2	298.0	6	117.8	13.1	128.0	10.0	92	NU	Pass
WB	286	2/12/2014	Gridline 14 - Between T.5&J.2	299.0	6	118.0	12.7	128.0	10.0	92	NU	Pass
WB	287	2/12/2014	Gridline T.5	299.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	288	2/12/2014	Gridline T.5	299.0	6	118.2	12.6	128.0	10.0	92	NU	Pass
WB	289	2/12/2014	Gridline T.5	299.0	6	119.3	12.0	128.0	10.0	93	NU	Pass
WB	290	2/12/2014	Gridline J.2 - Between 13&19	295.0	6	118.7	12.4	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	291	2/13/2014	Gridline J.2 - Between 13&19	295.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	292	2/14/2014	Gridline J.2 - Between 13&19	296.0	6	119.0	12.1	128.0	10.0	93	NU	Pass
WB	293	2/14/2014	Gridline J.2 - Between 13&19	291.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
WB	294	2/14/2014	Gridline J.2 - Between 13&19	292.0	6	118.9	12.3	128.0	10.0	93	NU	Pass
WB	295	2/14/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	296	2/14/2014	Gridline J.2 - Between 13&19	294.0	6	118.6	12.5	128.0	10.0	93	SC	Pass
WB	297	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	298	2/18/2014	Gridline J.2 - Between 14&18	298.0	6	118.3	12.7	128.0	10.0	92	NU	Pass
WB	299	2/18/2014	Gridline J.2 - Between 14&18	299.0	6	118.9	12.2	128.0	10.0	93	NU	Pass
WB	300	2/18/2014	Gridline J.2 - Between 14&18	300.0	6	118.1	12.6	128.0	10.0	92	NU	Pass
WB	301	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	302	2/18/2014	Gridline J.2 - Between 14&18	298.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	303	2/18/2014	Gridline J.2 - Between 14&18	299.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	304	2/19/2014	Gridline 1/2 - Between AA-T.5	292.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	305	2/19/2014	Gridline 1/2 - Between AA-T.5	295.0	6	118.0	12.8	128.0	10.0	92	NU	Pass
WB	306	2/19/2014	Gridline 1/2 - Between AA-T.5	294.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	307	2/19/2014	Gridline 1/2 - Between AA-T.5	296.0	6	118.8	12.1	128.0	10.0	93	NU	Pass
WB	308	2/19/2014	Gridline 1/2 - Between AA-T.5	296.0	6	118.1	13.0	128.0	10.0	92	SC	Pass
WB	309	2/20/2014	Gridline 1/2 - Between AA-T.5	299.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	310	2/20/2014	Gridline 1/2 - Between AA-T.5	300.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	311	2/20/2014	Gridline 14	296.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	312	2/20/2014	Gridline 14	296.0	6	118.1	12.9	128.0	10.0	92	NU	Pass
WB	313	2/20/2014	Gridline 14	297.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	314	2/20/2014	Gridline 14	298.0	6	118.9	12.1	128.0	10.0	93	NU	Pass
WB	315	2/20/2014	Gridline 14	299.0	6	118.6	12.5	128.0	10.0	93	NU	Pass
WB	316	2/20/2014	Gridline 14	300.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	317	3/18/2014	Column Backfill	291.0	2	90.2	25.7	97.0	23.5	93	NU	Pass
WB	318	3/18/2014	Column Backfill	293.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	319	3/18/2014	Column Backfill	295.0	6	118.7	12.1	128.0	10.0	93	NU	Pass
WB	320	3/18/2014	Column Backfill	297.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	321	3/18/2014	Column Backfill	299.0	6	118.8	12.0	128.0	10.0	93	SC	Pass
WB	322	3/19/2014	Gridline J.2 - 18	291.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
WB	323	3/19/2014	Gridline J.2 - 18	292.0	6	118.4	12.1	128.0	10.0	93	NU	Pass
WB	324	3/19/2014	Gridline J.2 - 18	292.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	325	3/19/2014	Gridline J.2 - 18	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	326	3/19/2014	Gridline J.2-18	293.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	327	3/20/2014	Gridline J.2-18	294.0	6	119.5	12.3	128.0	10.0	93	NU	Pass
WB	328	3/20/2014	Gridline J.2-18	295.0	6	118.9	13.0	128.0	10.0	93	NU	Pass
WB	329	3/20/2014	Gridline J.2-18	296.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	330	3/20/2014	Gridline J.2-18	297.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	331	3/20/2014	Gridline J.2-18	298.0	6	118.6	12.9	128.0	10.0	93	NU	Pass
WB	332	3/20/2014	Gridline J.2-18	299.0	6	118.3	13.1	128.0	10.0	92	SC	Pass
WB	333	4/4/2014	Along J.2	300.0	6	118.8	12.2	128.0	10.0	93	NU	Pass
WB	334	4/4/2014	Along J.2	300.0	6	118.5	12.5	128.0	10.0	93	NU	Pass
WB	335	4/4/2014	Along J.2	300.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	336	4/4/2014	Along J.2	300.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
BF	337	4/7/2014	Column Backfill - Gridline M/11	291.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
BF	338	4/7/2014	Column Backfill - Gridline M/11	292.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
BF	339	4/7/2014	Column Backfill - Gridline M/11	293.0	2	90.3	25.6	97.0	23.5	93	NU	Pass
BF	340	4/7/2014	Column Backfill - Gridline M/11	294.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	341	4/7/2014	Column Backfill - Gridline M/11	295.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
BF	342	4/7/2014	Column Backfill - Gridline M/11	296.0	2	89.5	26.3	97.0	23.5	92	NU	Pass
BF	343	4/7/2014	Column Backfill - Gridline M/11	297.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
BF	344	4/7/2014	Column Backfill - Gridline M/11	298.0	2	90.4	25.6	97.0	23.5	93	NU	Pass
BF	345	4/7/2014	Column Backfill - Gridline M/11	299.0	2	89.9	25.8	97.0	23.5	93	NU	Pass
BF	346	4/7/2014	Column Backfill - Gridline M/11	300.0	2	89.5	26.1	97.0	23.5	92	NU	Pass
BF	347	4/7/2014	Column/Elevator Backfill - N/11	296.0	2	89.3	26.8	97.0	23.5	92	NU	Pass
BF	348	4/7/2014	Column/Elevator Backfill - N/11	297.0	2	90.6	25.6	97.0	23.5	93	SC	Pass
BF	349	4/8/2014	Column/Elevator Backfill - N/11	298.0	2	90.9	25.4	97.0	23.5	94	NU	Pass
BF	350	4/8/2014	Column/Elevator Backfill - N/11	299.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	351	4/8/2014	Column/Elevator Backfill - N/11	300.0	2	89.8	24.3	97.0	23.5	93	NU	Pass
BF	352	4/8/2014	Column Backfill - Gridline T/11	296.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
BF	353	4/8/2014	Column Backfill - Gridline T/11	297.0	2	90.3	25.5	97.0	23.5	93	NU	Pass
BF	354	4/8/2014	Column Backfill - Gridline T/11	298.0	2	90.6	25.6	97.0	23.5	93	NU	Pass
BF	355	4/8/2014	Column Backfill - Gridline T/11	299.0	2	89.4	25.9	97.0	23.5	92	NU	Pass
BF	356	4/8/2014	Column Backfill - Gridline T/11	300.0	2	89.7	25.6	97.0	23.5	92	SC	Pass
BF	357	4/9/2014	Column Backfill - Gridline T/11	295.0	2	90.4	25.7	97.0	23.5	93	NU	Pass
BF	358	4/9/2014	Column Backfill - Gridline T/11	296.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
BF	359	4/9/2014	Column Backfill - Gridline T/11	297.0	2	89.7	26.2	97.0	23.5	92	NU	Pass
BF	360	4/9/2014	Column Backfill - Gridline T/11	298.0	2	89.4	26.1	97.0	23.5	92	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	361	4/9/2014	Column Backfill - Gridline T/11	299.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
BF	362	4/9/2014	Column Backfill - Gridline T/11	300.0	2	90.3	25.6	97.0	23.5	93	SC	Pass
SM	363	4/12/2014	Sewer Line - Gridline T East	297.0	2	90.7	25.5	97.0	23.5	94	NU	Pass
SM	364	4/12/2014	Sewer Line - Gridline T East	298.0	2	89.9	25.8	97.0	23.5	93	NU	Pass
SM	365	4/12/2014	Sewer Line - Gridline T East	300.0	2	89.5	26.0	97.0	23.5	92	NU	Pass
SM	366	4/14/2014	Gridline T.5	297.0	2	89.8	26.4	97.0	23.5	93	NU	Pass
SM	367	4/14/2014	Gridline T.5	298.0	2	90.2	26.1	97.0	23.5	93	NU	Pass
SM	368	4/14/2014	Gridline T.5	299.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
SM	369	4/14/2014	Gridline T.5	300.0	2	89.7	26.3	97.0	23.5	92	NU	Pass
WB	370	4/14/2014	Wall - East Side of Bldg	292.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	371	4/14/2014	Wall - East Side of Bldg	292.0	6	118.9	12.1	128.0	10.0	93	NU	Pass
WB	372	4/14/2014	Wall - East Side of Bldg	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	373	4/14/2014	Wall - East Side of Bldg	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	374	4/14/2014	Wall - East Side of Bldg	294.0	6	119.3	12.2	128.0	10.0	93	NU	Pass
WB	375	4/14/2014	Wall - East Side of Bldg	294.0	6	118.5	12.8	128.0	10.0	93	NU	Pass
WB	376	4/14/2014	Wall - East Side of Bldg	295.0	6	118.2	12.9	128.0	10.0	92	NU	Pass
WB	377	4/14/2014	Wall - East Side of Bldg	295.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
SD	378	4/15/2014	Gridlines M/N - 7/8	300.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
SM	379	4/15/2014	Gridline N/14	299.0	2	90.5	25.8	97.0	23.5	93	NU	Pass
SM	380	4/15/2014	Gridline T.5/14	299.0	2	89.9	26.5	97.0	23.5	93	NU	Pass
WB	381	4/15/2014	Wall - East Side of Bldg	296.0	6	119.0	12.4	128.0	10.0	93	NU	Pass
WB	382	4/15/2014	Wall - East Side of Bldg	296.0	6	118.8	12.7	128.0	10.0	93	NU	Pass
WB	383	4/15/2014	Wall - East Side of Bldg	296.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	384	4/15/2014	Wall - East Side of Bldg	297.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
WB	385	4/15/2014	Wall - East Side of Bldg	297.0	6	118.7	12.4	128.0	10.0	93	SC	Pass
WB	386	4/15/2014	Wall - East Side of Bldg	297.0	6	118.9	12.2	128.0	10.0	93	SC	Pass
FL	387	4/16/2014	North Access Road	329.0	2	90.4	25.5	97.0	23.5	93	NU	Pass
FL	388	4/16/2014	North Access Road	329.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
FL	389	4/16/2014	North Access Road	329.0	2	89.5	26.9	97.0	23.5	92	NU	Pass
FL	390	4/16/2014	North Access Road	330.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
FL	391	4/16/2014	North Access Road	330.0	2	90.7	25.6	97.0	23.5	94	NU	Pass
FL	392	4/16/2014	North Access Road	330.0	2	90.0	26.1	97.0	23.5	93	NU	Pass
FL	393	4/16/2014	North Access Road	331.0	2	89.6	26.4	97.0	23.5	92	NU	Pass
FL	394	4/16/2014	North Access Road	331.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
FL	395	4/16/2014	North Access Road	331.0	2	90.3	25.7	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	396	4/21/2014	East Side of Bldg	298.0	2	91.1	25.7	97.0	23.5	94	NU	Pass
SG	397	4/21/2014	East Side of Bldg	299.0	2	90.5	26.0	97.0	23.5	93	SC	Pass
SG	398	4/22/2014	Column Backfill	291.0	2	89.6	26.3	97.0	23.5	92	NU	Pass
SG	399	4/22/2014	Column Backfill	293.0	2	90.0	26.1	97.0	23.5	93	NU	Pass
SG	400	4/22/2014	Column Backfill	295.0	2	90.7	25.9	97.0	23.5	94	NU	Pass
SG	401	4/22/2014	Column Backfill	297.0	2	89.4	26.6	97.0	23.5	92	NU	Pass
SG	402	4/22/2014	Column Backfill	299.0	2	89.9	26.0	97.0	23.5	93	NU	Pass
SG	403	4/22/2014	Column Backfill	300.0	2	89.5	26.4	97.0	23.5	92	NU	Pass
SG	404	4/22/2014	East Side of Bldg	300.0	2	89.8	26.0	97.0	23.5	93	NU	Pass
SG	405	4/22/2014	East Side of Bldg	301.0	2	89.5	26.2	97.0	23.5	92	SC	Pass
UT	406	4/24/2014	Storm Drain - Line B	299.0	2	89.6	26.4	97.0	23.5	92	NU	Pass
UT	407	4/24/2014	Storm Drain - Line B	300.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
UT	408	4/24/2014	Storm Drain - Line B	299.0	2	90.6	25.7	97.0	23.5	93	NU	Pass
UT	409	4/24/2014	Sewer Line - Line G	300.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
UT	410	4/24/2014	Sewer Line - Line G	300.0	2	90.3	26.0	97.0	23.5	93	NU	Pass
SG	411	4/24/2014	South of Bldg	290.0	2	90.6	26.2	97.0	23.5	93	NU	Pass
SG	412	4/24/2014	South of Bldg	290.0	2	90.8	26.0	97.0	23.5	94	NU	Pass
SG	413	4/24/2014	South of Bldg	290.0	2	90.7	26.4	97.0	23.5	94	NU	Pass
SG	414	4/24/2014	South of Bldg	291.0	2	91.3	25.6	97.0	23.5	94	NU	Pass
SG	415	4/24/2014	South of Bldg	291.0	2	89.5	25.9	97.0	23.5	92	SC	Pass
SG	416	4/24/2014	South of Bldg	300.0	2	90.2	26.2	97.0	23.5	93	SC	Pass
UT	417	4/25/2014	Storm Drain - Line B	300.0	2	90.8	26.0	97.0	23.5	94	NU	Pass
UT	418	4/25/2014	Storm Drain - Line B	299.0	2	89.5	25.8	97.0	23.5	92	NU	Pass
UT	419	4/25/2014	Storm Drain - Line 14-15	300.0	2	89.9	26.3	97.0	23.5	93	NU	Pass
UT	420	4/25/2014	Storm Drain - Line 14-15	299.0	2	90.5	26.1	97.0	23.5	93	NU	Pass
UT	421	4/25/2014	Storm Drain - Line 14-15	300.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
UT	422	4/25/2014	Storm Drain - Line 14-15	299.0	2	91.1	25.5	97.0	23.5	94	NU	Pass
UT	423	4/25/2014	Storm Drain - Line 14-15	300.0	2	89.9	26.2	97.0	23.5	93	SC	Pass
WB	424	5/6/2014	East Side - Grid Line X6 to X9	288.0	2	90.1	25.8	97.0	23.5	93	NU	Pass
WB	425	5/6/2014	East Side - Grid Line X6 to X9	289.0	2	89.7	25.5	97.0	23.5	92	NU	Pass
WB	426	5/6/2014	East Side - Grid Line X6 to X9	290.0	2	90.3	26.1	97.0	23.5	93	NU	Pass
SG	427	5/20/2014	Fire Road - East to West	334.0	2	92.9	24.1	97.0	23.5	96	NU	Pass
SG	428	5/20/2014	Fire Road - East to West	334.0	2	93.1	23.8	97.0	23.5	96	NU	Pass
SG	429	5/20/2014	Fire Road - East to West	332.0	2	92.4	24.3	97.0	23.5	95	NU	Pass
SG	430	5/20/2014	Fire Road - East to West	331.0	2	92.7	24.0	97.0	23.5	96	SC	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	431	5/23/2014	Fire Access Road	332.0	9	120.4	8.6	123.0	10.0	98	NU	Pass
B	432	5/23/2014	Fire Access Road	332.0	9	118.2	7.3	123.0	10.0	96	NU	Pass
B	433	5/23/2014	Fire Access Road	332.0	9	117.6	8.1	123.0	10.0	96	NU	Pass
SG	434	6/3/2014	Gridline Y11 - X6 to X10	290.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
SG	435	6/3/2014	Gridline Y11 - X6 to X10	292.0	2	89.8	26.0	97.0	23.5	93	NU	Pass
SG	436	6/3/2014	Gridline Y11 - X6 to X10	294.0	2	90.3	25.5	97.0	23.5	93	SC	Pass
SG	437	7/1/2014	Gridline Y10 - X10 to X16	300.0	2	90.6	25.3	97.0	23.5	93	NU	Pass
SG	438	7/1/2014	Gridline Y10 - X10 to X16	301.0	2	90.9	25.0	97.0	23.5	94	NU	Pass
SG	439	7/1/2014	Gridline Y10 - X10 to X16	302.0	2	89.7	26.0	97.0	23.5	92	SC	Pass
SG	440	7/2/2014	Gridline Y10 - X10 to X16	303.0	2	90.1	25.8	97.0	23.5	93	NU	Pass
SG	441	7/2/2014	Gridline Y10 - X10 to X16	304.0	2	90.4	25.6	97.0	23.5	93	NU	Pass
SG	442	7/2/2014	Gridline Y10 to X6 to X10	296.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
SG	443	7/2/2014	Gridline Y10 to X6 to X10	298.0	2	90.0	25.8	97.0	23.5	93	SC	Pass
SG	444	7/8/2014	Gridlines 1-3s and D.5-G	292.0	2	90.1	25.3	97.0	23.5	93	NU	Pass
SG	445	7/8/2014	Gridlines 1-3s and D.5-G	293.0	2	90.5	25.0	97.0	23.5	93	NU	Pass
SG	446	7/8/2014	Gridlines 1-3s and D.5-G	295.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
SG	447	7/8/2014	Gridlines 1-3s and D.5-G	296.0	2	90.0	25.1	97.0	23.5	93	NU	Pass
SG	448	7/8/2014	Gridlines 1-3s and D.5-G	297.0	2	90.3	25.0	97.0	23.5	93	SC	Pass
SG	449	7/15/2014	Gridlines 1-3 between D.5 to N.8	293.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
SG	450	7/15/2014	Gridlines 1-3 between D.5 to N.8	295.0	2	90.4	25.8	97.0	23.5	93	NU	Pass
SG	451	7/15/2014	Gridlines 1-3 between D.5 to N.8	297.0	2	90.8	25.5	97.0	23.5	94	NU	Pass
SG	452	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	90.0	25.9	97.0	23.5	93	NU	Pass
SG	453	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	90.3	25.6	97.0	23.5	93	NU	Pass
SG	454	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	89.9	26.1	97.0	23.5	93	SC	Pass
SG	455	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
SG	456	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	117.9	12.8	128.0	10.0	92	NU	Pass
SG	457	7/21/2015	Gridlines 1-3 between D.5 to N.8	308.0	6	118.4	12.3	128.0	10.0	93	NU	Pass
SG	458	7/21/2015	Gridlines 1-3 between D.5 to N.8	309.0	6	118.7	12.0	128.0	10.0	93	NU	Pass
SG	459	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	118.5	12.1	128.0	10.0	93	SC	Pass
SG	460	7/22/2015	West of Building	301.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
SG	461	7/22/2015	West of Building	303.0	6	118.9	12.0	128.0	10.0	93	NU	Pass
SG	462	7/22/2015	West of Building	305.0	6	118.3	12.2	128.0	10.0	92	NU	Pass
SG	463	7/22/2015	West of Building	307.0	6	118.0	12.7	128.0	10.0	92	SC	Pass
SG	464	7/23/2015	Gridline 3-7 and A-B	302.0	6	118.7	12.6	128.0	10.0	93	NU	Pass
SG	465	7/23/2015	Gridline 3-7 and A-B	303.0	6	118.4	13.1	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	466	7/23/2014	Gridlines 3-7 and A-B	304.0	6	119.2	12.0	128.0	10.0	93	NU	Pass
SG	467	7/23/2014	Gridlines 3-7 and A-B	305.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
SG	468	7/23/2014	Gridlines 3-7 and A-B	306.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
SG	469	7/23/2014	Gridlines 3-7 and A-B	307.0	6	118.3	12.8	128.0	10.0	92	SC	Pass
SG	470	7/24/2014	Gridlines 3-7 and A-B	309.0	6	120.1	12.3	128.0	10.0	94	NU	Pass
SG	471	7/24/2014	Gridlines 3-7 and A-B	310.0	6	118.7	12.2	128.0	10.0	93	NU	Pass
SG	472	7/24/2014	Gridlines 3-7 and A-B	311.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
SG	473	7/24/2014	Gridlines 3-7 and A-B	312.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
SG	474	7/28/2014	Gridlines 1-3 and D-K	311.0	6	118.8	12.3	128.0	10.0	93	NU	Pass
SG	475	7/28/2014	Gridlines 1-3 and D-K	312.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
SG	476	7/28/2014	Gridlines 1-3 and D-K	313.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
SG	477	7/28/2014	Gridlines 1-3 and D-K	314.0	6	118.6	12.9	128.0	10.0	93	NU	Pass
SG	478	7/28/2014	Gridlines 1-3 and D-K	315.0	6	118.9	12.3	128.0	10.0	93	SC	Pass
SG	479	7/29/2014	Gridlines 3-7 and A-B	313.0	6	118.5	13.1	128.0	10.0	93	NU	Pass
SG	480	7/29/2014	Gridlines 3-7 and A-B	314.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
SG	481	7/29/2014	Gridlines 3-7 and A-B	317.0	6	118.6	12.7	128.0	10.0	93	NU	Pass
SG	482	7/29/2014	Gridlines 3-7 and A-B	315.0	6	118.2	12.4	128.0	10.0	92	NU	Pass
SG	483	7/29/2014	Gridlines 3-7 and A-B	315.0	6	119.0	12.1	128.0	10.0	93	SC	Pass
WB	484	8/14/2014	Gridlines 5-9 and C-K	316.0	6	119.4	12.2	128.0	10.0	93	NU	Pass
WB	485	8/14/2014	Gridlines 5-9 and C-K	317.0	6	118.9	12.7	128.0	10.0	93	NU	Pass
WB	486	8/14/2014	Gridlines 5-9 and C-K	318.0	6	118.4	13.3	128.0	10.0	93	NU	Pass
WB	487	8/14/2014	Gridlines 5-9 and C-K	319.0	6	118.7	13.1	128.0	10.0	93	NU	Pass
WB	488	8/14/2014	Gridlines 5-9 and C-K	320.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
WB	489	8/14/2014	Gridlines 5-9 and C-K	320.0	6	118.3	13.6	128.0	10.0	92	SC	Pass
WB	490	8/15/2015	Gridlines 3-7 and A-B	316.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	491	8/15/2015	Gridlines 3-7 and A-B	317.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	492	8/15/2015	Gridlines 3-7 and A-B	318.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	493	8/15/2015	Gridlines 3-7 and A-B	319.0	6	118.6	13.0	128.0	10.0	93	NU	Pass
WB	494	8/15/2015	Gridlines 3-7 and A-B	320.0	6	119.0	12.1	128.0	10.0	93	SC	Pass
UT	495	8/20/2014	Storm Drain - East of Bldg	295.0	6	118.5	13.1	128.0	10.0	93	NU	Pass
UT	496	8/20/2014	Storm Drain - East of Bldg	296.0	6	119.7	12.0	128.0	10.0	94	NU	Pass
UT	497	8/20/2014	Storm Drain - East of Bldg	297.0	6	118.0	12.6	128.0	10.0	92	NU	Pass
UT	498	8/21/2014	Storm Drain - NE Side Bldg	304.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
UT	499	8/21/2014	Storm Drain - NE Side Bldg	300.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
UT	500	8/21/2014	Storm Drain - NE Side Bldg	302.0	6	119.4	12.0	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	501	8/22/2014	Storm Drain - NE Side Bldg	296.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
UT	502	8/22/2014	Storm Drain - NE Side Bldg	297.0	6	118.2	13.1	128.0	10.0	92	NU	Pass
UT	503	8/26/2014	Storm Drain - Filter Unit	291.0	4	114.1	12.3	122.0	12.0	94	NU	Pass
UT	504	8/26/2014	Storm Drain - Filter Unit	290.0	4	112.8	11.4	122.0	12.0	92	NU	Pass
UT	505	8/26/2014	Storm Drain - Filter Unit	291.0	4	113.0	10.7	122.0	12.0	93	NU	Pass
UT	506	8/26/2014	Storm Drain - Filter Unit	290.0	4	112.7	11.1	122.0	12.0	92	NU	Pass
UT	507	8/26/2014	Storm Drain - Filter Unit	291.0	4	114.4	12.1	122.0	12.0	94	SC	Pass
UT	508	8/29/2014	Storm Drain - South of Bldg.	289.0	4	115.1	11.6	122.0	12.0	94	NU	Pass
UT	509	8/29/2014	Storm Drain - South of Bldg.	290.0	4	114.8	12.5	122.0	12.0	94	NU	Pass
UT	510	8/29/2014	Storm Drain - South of Bldg.	291.0	4	113.8	12.0	122.0	12.0	93	NU	Pass
UT	511	8/29/2014	Storm Drain - South of Bldg.	290.0	4	114.0	11.4	122.0	12.0	93	NU	Pass
UT	512	8/29/2014	Storm Drain - South of Bldg.	291.0	4	113.5	10.9	122.0	12.0	93	SC	Pass
UT	513	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.4	12.8	122.0	12.0	94	NU	Pass
UT	514	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.5	11.9	122.0	12.0	94	NU	Pass
UT	515	9/2/2014	Storm Drain - South of Bldg.	290.0	4	114.0	13.2	122.0	12.0	93	NU	Pass
UT	516	9/2/2014	Storm Drain - South of Bldg.	291.0	4	113.6	12.1	122.0	12.0	93	NU	Pass
UT	517	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.6	11.3	122.0	12.0	94	NU	Pass
UT	518	9/2/2014	Storm Drain - South of Bldg.	291.0	4	113.7	12.4	122.0	12.0	93	NU	Pass
UT	519	9/2/2014	Storm Drain - East of Bldg	292.0	3	91.6	26.8	97.0	26.0	94	NU	Pass
UT	520	9/2/2014	Storm Drain - East of Bldg	294.0	3	90.0	26.4	97.0	26.0	93	SC	Pass
UT	521	9/2/2014	Storm Drain - East of Bldg	297.0	3	90.6	27.1	97.0	26.0	93	SC	Pass
UT	522	9/3/2014	Storm Drain	296.0	3	91.1	26.8	97.0	26.0	94	NU	Pass
UT	523	9/3/2014	Storm Drain	298.0	3	91.3	27.5	97.0	26.0	94	NU	Pass
UT	524	9/3/2014	Storm Drain	297.0	3	90.5	26.8	97.0	26.0	93	NU	Pass
UT	525	9/3/2014	Storm Drain	299.0	3	90.2	27.2	97.0	26.0	93	SC	Pass
UT	526	9/10/2014	Storm Drain	287.0	3	90.8	26.3	97.0	26.0	94	NU	Pass
UT	527	9/10/2014	Storm Drain	289.0	3	91.0	28.1	97.0	26.0	94	NU	Pass
UT	528	9/10/2014	Storm Drain	292.0	3	92.3	26.5	97.0	26.0	95	NU	Pass
UT	529	9/10/2014	Storm Drain	294.0	3	90.6	27.7	97.0	26.0	93	NU	Pass
UT	530	9/10/2014	Storm Drain	295.0	3	90.5	27.1	97.0	26.0	93	NU	Pass
UT	531	9/10/2014	Storm Drain	290.0	3	91.3	26.6	97.0	26.0	94	NU	Pass
UT	532	9/10/2014	Storm Drain	293.0	3	91.6	26.8	97.0	26.0	94	NU	Pass
UT	533	9/10/2014	Storm Drain	294.0	3	90.8	27.4	97.0	26.0	94	SC	Pass
UT	534	9/10/2014	Storm Drain	295.0	3	91.6	27.8	97.0	26.0	94	SC	Pass
UT	535	9/11/2014	Storm Drain Main - Slope East	325.0	2	90.3	24.3	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	536	9/11/2014	Storm Drain Main - Slope East	327.0	2	89.7	25.1	97.0	23.5	92	NU	Pass
UT	537	9/11/2014	Storm Drain Main - Slope East	329.0	2	91.1	23.8	97.0	23.5	94	NU	Pass
UT	538	9/11/2014	Storm Drain Main - Slope East	330.0	2	90.5	24.4	97.0	23.5	93	NU	Pass
UT	539	9/11/2014	Storm Drain Main - Slope East	331.0	2	89.8	24.0	97.0	23.5	93	NU	Pass
UT	540	9/11/2014	Storm Drain Main - Slope East	328.0	2	91.6	25.3	97.0	23.5	94	NU	Pass
UT	541	9/11/2014	Storm Drain Main - Slope East	327.0	2	90.4	25.8	97.0	23.5	93	NU	Pass
UT	542	9/11/2014	Storm Drain Main - Slope East	325.0	2	90.0	24.2	97.0	23.5	93	SC	Pass
UT	543	9/16/2014	Storm Drain - East Side	285.0	3	89.8	27.1	97.0	26.0	93	NU	Pass
UT	544	9/16/2014	Storm Drain - East Side	284.0	3	91.3	26.9	97.0	26.0	94	NU	Pass
UT	545	9/16/2014	Storm Drain - East Side	290.0	3	90.6	28.1	97.0	26.0	93	NU	Pass
UT	546	9/16/2014	Storm Drain - East Side	292.0	3	89.6	27.4	97.0	26.0	92	SC	Pass
UT	547	9/17/2014	Storm Drain	290.0	3	89.8	26.6	97.0	26.0	93	NU	Pass
UT	548	9/17/2014	Storm Drain	292.0	3	91.1	27.3	97.0	26.0	94	NU	Pass
UT	549	9/17/2014	Storm Drain	286.0	3	90.3	27.2	97.0	26.0	93	NU	Pass
UT	550	9/17/2014	Storm Drain	288.0	3	90.0	26.8	97.0	26.0	93	NU	Pass
UT	551	9/17/2014	Storm Drain	290.0	3	90.4	27.5	97.0	26.0	93	SC	Pass
UT	552	9/18/2014	Storm Drain	292.0	3	89.5	27.2	97.0	26.0	92	NU	Pass
UT	553	9/18/2014	Storm Drain	292.0	3	91.3	26.6	97.0	26.0	94	NU	Pass
UT	554	9/18/2014	Storm Drain	288.0	3	90.6	28.1	97.0	26.0	93	NU	Pass
UT	555	9/18/2014	Storm Drain	290.0	3	89.8	27.7	97.0	26.0	93	NU	Pass
UT	556	9/18/2014	Storm Drain	292.0	3	90.1	27.3	97.0	26.0	93	NU	Pass
WB	557	9/18/2014	Loffel Wall - Verdura A	273.0	3	90.6	25.7	97.0	26.0	93	NU	Pass
WB	558	9/18/2014	Loffel Wall - Verdura A	268.0	3	91.2	26.0	97.0	26.0	94	NU	Pass
WB	559	9/18/2014	Loffel Wall - Verdura A	266.0	3	89.4	24.3	97.0	26.0	92	SC	Pass
WB	560	9/18/2014	Loffel Wall - Verdura A	264.0	3	89.2	25.0	97.0	26.0	92	SC	Pass
WB	561	9/19/2014	Loffel Wall - Verdura A	276.0	3	91.8	24.1	97.0	26.0	95	NU	Pass
WB	562	9/19/2014	Loffel Wall - Verdura A	271.0	3	92.1	24.8	97.0	26.0	95	NU	Pass
WB	563	9/19/2014	Loffel Wall - Verdura A	269.0	3	92.4	23.7	97.0	26.0	95	NU	Pass
WB	564	9/19/2014	Loffel Wall - Verdura A	266.0	3	91.3	24.6	97.0	26.0	94	SC	Pass
UT	565	9/19/2014	Storm Drain - Lateral 14-15	285.0	3	91.3	27.3	97.0	26.0	94	NU	Pass
UT	566	9/19/2014	Storm Drain - Lateral 14-15	287.0	3	90.8	26.4	97.0	26.0	94	NU	Pass
UT	567	9/19/2014	Storm Drain - Lateral 14-15	291.0	3	89.8	26.8	97.0	26.0	93	NU	Pass
UT	568	9/19/2014	Storm Drain - Lateral 14-15	286.0	3	91.2	27.0	97.0	26.0	94	SC	Pass
UT	569	9/23/2015	Storm Drain - Lateral	288.0	3	90.3	26.6	97.0	26.0	93	NU	Pass
UT	570	9/23/2015	Storm Drain - Lateral	290.0	3	89.9	27.3	97.0	26.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	571	9/23/2014	Storm Drain - Lateral	290.0	3	92.1	26.3	97.0	26.0	95	NU	Pass
UT	572	9/23/2014	Storm Drain - Lateral	291.0	3	91.3	28.2	97.0	26.0	94	SC	Pass
UT	573	9/25/2014	Storm Drain - South West	286.0	3	89.8	27.8	97.0	26.0	93	NU	Pass
UT	574	9/25/2014	Storm Drain - South West	288.0	3	90.2	28.1	97.0	26.0	93	NU	Pass
UT	575	9/25/2014	Storm Drain - South West	287.0	3	90.0	27.5	97.0	26.0	93	NU	Pass
UT	576	9/25/2014	Storm Drain - South West	290.0	3	91.3	28.3	97.0	26.0	94	NU	Pass
UT	577	9/25/2014	Storm Drain - South West	287.0	3	91.4	26.9	97.0	26.0	94	NU	Pass
UT	578	9/25/2014	Storm Drain - South West	289.0	3	90.6	27.5	97.0	26.0	93	NU	Pass
UT	579	9/25/2014	Storm Drain - South West	290.0	3	90.5	27.7	97.0	26.0	93	SC	Pass
UT	580	9/26/2014	Storm Drain - South West	288.0	3	90.0	28.9	97.0	26.0	93	NU	Pass
UT	581	9/26/2014	Storm Drain - South West	290.0	3	91.1	27.9	97.0	26.0	94	NU	Pass
UT	582	9/26/2014	Storm Drain - South West	291.0	3	90.8	28.7	97.0	26.0	94	NU	Pass
UT	583	9/26/2014	Storm Drain - South West	292.0	3	90.3	28.4	97.0	26.0	93	SC	Pass
WB	584	9/29/2014	Loffel Wall - Verdura A	268.0	9	115.2	12.8	123.0	10.0	94	NU	Pass
WB	585	9/29/2014	Loffel Wall - Verdura A	269.0	9	114.8	13.3	123.0	10.0	93	NU	Pass
WB	586	9/29/2014	Loffel Wall - Verdura A	272.0	9	114.5	12.6	123.0	10.0	93	NU	Pass
WB	587	9/29/2014	Loffel Wall - Verdura A	273.0	9	115.7	14.1	123.0	10.0	94	SC	Pass
WB	588	9/30/2014	Loffel Wall - Verdura A	273.0	9	114.8	11.9	123.0	10.0	93	NU	Pass
WB	589	9/30/2014	Loffel Wall - Verdura A	272.0	9	115.6	12.4	123.0	10.0	94	NU	Pass
WB	590	9/30/2014	Loffel Wall - Verdura A	273.0	9	116.2	13.1	123.0	10.0	94	NU	Pass
WB	591	9/30/2014	Loffel Wall - Verdura A	272.0	9	116.0	12.6	123.0	10.0	94	NU	Pass
WB	592	9/30/2014	Loffel Wall - Verdura A	271.0	9	115.3	12.0	123.0	10.0	94	NU	Pass
WB	593	9/30/2014	Loffel Wall - Verdura A	323.0	2	89.8	26.8	97.0	23.5	93	NU	Pass
WB	594	9/30/2014	Loffel Wall - Verdura A	324.0	2	90.0	27.1	97.0	23.5	93	NU	Pass
WB	595	9/30/2014	Loffel Wall - Verdura A	322.0	2	90.3	26.7	97.0	23.5	93	NU	Pass
WB	596	9/30/2014	Loffel Wall - Verdura A	325.0	2	89.6	27.4	97.0	23.5	92	NU	Pass
WB	597	9/30/2014	Loffel Wall - Verdura A	324.0	2	90.2	27.8	97.0	23.5	93	SC	Pass
WB	598	9/30/2014	Loffel Wall - Verdura A	325.0	2	89.6	26.5	97.0	23.5	92	SC	Pass
WB	599	10/1/2014	Loffel Wall - Verdura A	271.0	9	114.0	12.5	123.0	10.0	93	NU	Pass
WB	600	10/1/2014	Loffel Wall - Verdura A	275.0	9	115.1	13.4	123.0	10.0	94	NU	Pass
WB	601	10/1/2014	Loffel Wall - Verdura A	276.0	9	114.8	14.1	123.0	10.0	93	NU	Pass
WB	602	10/1/2014	Loffel Wall - Verdura A	279.0	9	115.3	13.3	123.0	10.0	94	NU	Pass
WB	603	10/1/2014	Loffel Wall - Verdura A	278.0	9	116.2	12.9	123.0	10.0	94	NU	Pass
WB	604	10/1/2014	Loffel Wall - Verdura A	278.0	9	115.1	12.7	123.0	10.0	94	NU	Pass
WB	605	10/1/2014	Loffel Wall - Verdura A	319.0	2	91.3	25.8	97.0	23.5	94	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	606	10/1/2014	Northwest - Adjacent Cabot Rd	320.0	2	91.8	26.2	97.0	23.5	95	NU	Pass
WB	607	10/1/2014	Northwest - Adjacent Cabot Rd	321.0	2	90.7	26.4	97.0	23.5	94	NU	Pass
WB	608	10/1/2014	Northwest - Adjacent Cabot Rd	323.0	2	89.8	25.9	97.0	23.5	93	NU	Pass
UT	609	10/3/2014	Storm Drain - West	SG	3	87.9	29.4	97.0	26.0	91	NU	Pass
UT	610	10/3/2014	Storm Drain - West	SG	3	90.1	30.8	97.0	26.0	93	NU	Pass
UT	611	10/3/2014	Storm Drain - West	SG	3	88.5	29.7	97.0	26.0	91	NU	Pass
UT	612	10/3/2014	Storm Drain - West	SG	3	88.9	29.4	97.0	26.0	92	NU	Pass
WB	613	10/3/2014	Segment Wall A	SG	9	117.8	12.1	123.0	10.0	96	NU	Pass
WB	614	10/3/2014	Segment Wall A	SG	9	114.2	10.1	123.0	10.0	93	NU	Pass
WB	615	10/3/2014	Segment Wall A	SG	9	115.9	10.4	123.0	10.0	94	SC	Pass
UT	616	10/7/2014	Storm Drain - West of Bldg	311.0	3	85.5	24.2	97.0	26.0	88	NU	Fail
UT	616A	10/7/2014	Storm Drain - West of Bldg	311.0	3	88.5	29.3	97.0	26.0	91	NU	Pass
UT	617	10/7/2014	Storm Drain - West of Bldg	313.0	3	89.6	29.5	97.0	26.0	92	NU	Pass
UT	618	10/7/2014	Storm Drain - West of Bldg	315.0	3	88.9	29.1	97.0	26.0	92	NU	Pass
UT	619	10/7/2014	Storm Drain - West of Bldg	318.0	3	88.1	29.7	97.0	26.0	91	NU	Pass
UT	620	10/7/2014	Storm Drain - West of Bldg	319.0	3	89.8	30.1	97.0	26.0	93	NU	Pass
UT	621	10/8/2014	Storm Drain - West of Bldg	311.0	3	89.5	21.8	97.0	26.0	92	NU	Pass
UT	622	10/8/2014	Storm Drain - West of Bldg	311.0	3	96.5	17.4	97.0	26.0	99	NU	Pass
UT	623	10/8/2014	Storm Drain - West of Bldg	313.0	3	95.3	13.2	97.0	26.0	98	NU	Pass
UT	624	10/8/2014	Storm Drain - West of Bldg	313.0	3	90.3	19.3	97.0	26.0	93	NU	Pass
UT	625	10/8/2014	Storm Drain - West of Bldg	313.0	3	88.2	18.2	97.0	26.0	91	NU	Pass
UT	626	10/13/2014	Storm Drain - S of Bldg	291.0	7	114.4	14.5	126.0	11.0	91	NU	Pass
UT	627	10/13/2014	Storm Drain - S of Bldg	321.0	7	114.8	13.2	126.0	11.0	91	NU	Pass
UT	628	10/13/2014	Storm Drain - S of Bldg	321.0	7	114.9	13.5	126.0	11.0	91	SC	Pass
WB	629	10/13/2014	East of Bldg	305.0	7	113.7	14.3	126.0	11.0	90	SC	Pass
WB	630	10/13/2014	East of Bldg	308.0	7	113.8	14.6	126.0	11.0	90	SC	Pass
UT	631	10/13/2014	Storm Drain - Crown Valley	261.0	10	128.9	7.8	134.6	5.5	96	NU	Pass
UT	632	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.1	9.1	134.6	5.5	97	NU	Pass
UT	633	10/13/2014	Storm Drain - Crown Valley	264.0	10	129.7	6.8	134.6	5.5	96	NU	Pass
UT	634	10/13/2014	Storm Drain - Crown Valley	262.0	10	128.8	7.7	134.6	5.5	96	NU	Pass
UT	635	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.0	8.6	134.6	5.5	97	NU	Pass
UT	636	10/13/2014	Storm Drain - Crown Valley	264.0	10	128.7	8.5	134.6	5.5	96	SC	Pass
UT	637	10/13/2014	Storm Drain - Crown Valley	261.0	10	129.1	8.4	134.6	5.5	96	NU	Pass
UT	638	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.2	9.1	134.6	5.5	97	NU	Pass
UT	639	10/13/2014	Storm Drain - Crown Valley	264.0	10	128.8	6.9	134.6	5.5	96	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	640	10/13/2014	Storm Drain - Crown Valley	262.0	10	131.2	7.7	134.6	5.5	97	NU	Pass
UT	641	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.3	8.6	134.6	5.5	97	NU	Pass
UT	642	10/13/2014	Storm Drain - Crown Valley	264.0	10	129.4	8.3	134.6	5.5	96	NU	Pass
SG	643	10/14/2014	Stairs - East Side	293.0	2	92.2	24.1	97.0	23.5	95	NU	Pass
SG	644	10/14/2014	Stairs - East Side	295.0	2	93.2	25.1	97.0	23.5	96	NU	Pass
SG	645	10/14/2014	Stairs - East Side	297.0	2	90.2	23.7	97.0	23.5	93	SC	Pass
UT	646	10/16/2014	Storm Drain - Storage Tank	283.0	3	89.7	28.7	97.0	26.0	92	NU	Pass
UT	647	10/16/2014	Storm Drain - Storage Tank	284.0	3	90.3	29.1	97.0	26.0	93	NU	Pass
UT	648	10/16/2014	Storm Drain - Storage Tank	285.0	3	89.8	27.8	97.0	26.0	93	NU	Pass
UT	649	10/16/2014	Storm Drain - Storage Tank	284.0	3	91.2	28.0	97.0	26.0	94	NU	Pass
UT	650	10/16/2014	Storm Drain - Storage Tank	286.0	3	90.8	28.6	97.0	26.0	94	SC	Pass
UT	651	10/17/2014	Storm Drain - Storage Tank	316.5	3	90.5	28.8	97.0	26.0	93	NU	Pass
UT	652	10/17/2014	Storm Drain - Storage Tank	319.0	3	89.9	29.4	97.0	26.0	93	NU	Pass
UT	653	10/17/2014	Storm Drain - Storage Tank	284.5	3	90.1	27.2	97.0	26.0	93	SC	Pass
UT	654	10/21/2014	Storm Drain - Crown Valley	261.0	10	130.0	6.8	134.6	5.5	97	NU	Pass
UT	655	10/21/2014	Storm Drain - Crown Valley	262.0	10	129.8	7.3	134.6	5.5	96	NU	Pass
UT	656	10/21/2014	Storm Drain - Crown Valley	263.0	10	129.3	8.5	134.6	5.5	96	NU	Pass
UT	657	10/21/2014	Storm Drain - Crown Valley	264.0	10	128.8	8.3	134.6	5.5	96	NU	Pass
UT	658	10/21/2014	Storm Drain - Crown Valley	263.0	10	129.8	7.7	134.6	5.5	96	NU	Pass
UT	659	10/21/2014	Storm Drain - Crown Valley	264.0	10	130.2	8.2	134.6	5.5	97	SC	Pass
UT	660	10/24/2014	Domestic Water Vault	312.0	2	89.6	22.0	97.0	23.5	92	NU	Pass
UT	661	10/24/2014	Domestic Water Vault	314.0	2	88.2	23.0	97.0	23.5	91	NU	Pass
UT	662	10/24/2014	Domestic Water Vault	314.0	2	87.3	23.4	97.0	23.5	90	NU	Pass
UT	663	10/24/2014	Storm Drain - Crown Valley	263.0	10	129.5	6.8	134.6	5.5	96	NU	Pass
UT	664	10/24/2014	Storm Drain - Crown Valley	264.0	10	130.3	7.7	134.6	5.5	97	NU	Pass
UT	665	10/24/2014	Storm Drain - Crown Valley	264.0	10	128.8	8.1	134.6	5.5	96	NU	Pass
UT	666	10/24/2014	Storm Drain - Crown Valley	264.0	10	129.4	6.9	134.6	5.5	96	SC	Pass
UT	667	10/27/2014	Domestic - Water Vault	314.0	2	90.1	19.0	97.0	23.5	93	NU	Pass
UT	668	10/27/2014	Domestic - Water Vault	314.0	2	89.4	22.2	97.0	23.5	92	NU	Pass
UT	669	10/27/2014	Domestic - Water Vault	314.0	2	88.6	21.3	97.0	23.5	91	NU	Pass
UT	670	10/27/2014	Storm Drain - Man Hole Area	264.0	10	129.8	6.8	134.6	5.5	96	NU	Pass
UT	671	10/27/2014	Storm Drain - Man Hole Area	264.0	10	129.1	7.7	134.6	5.5	96	SC	Pass
UT	678	10/30/2014	Domestic Water Vault	314.0	2	92.6	21.8	97.0	23.5	95	NU	Pass
UT	679	10/30/2014	Domestic Water Vault	310.0	2	93.4	23.1	97.0	23.5	96	NU	Pass
UT	680	10/30/2014	Domestic Water Vault	312.0	2	94.1	20.9	97.0	23.5	97	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	681	10/30/2014	Domestic Water Vault	309.0	2	95.2	24.1	97.0	23.5	98	NU	Pass
UT	684	10/30/2014	Storm Drain	270.0	3	89.8	28.8	97.0	26.0	93	NU	Pass
UT	685	10/30/2014	Storm Drain	271.0	3	90.1	28.3	97.0	26.0	93	SC	Pass
UT	686	11/14/2014	Flow Line - NW End of Bldg	319.0	2	90.4	23.7	97.0	23.5	93	NU	Pass
UT	687	11/17/2014	Storm Drain - West of Bldg	325.0	2	90.5	24.1	97.0	23.5	93	NU	Pass
UT	688	11/17/2014	Storm Drain - West of Bldg	327.0	2	91.6	23.9	97.0	23.5	94	NU	Pass
WB	689	11/18/2014	Northwest corner of Bldg	324.0	2	92.7	23.0	97.0	23.5	96	NU	Pass
WB	690	11/18/2014	Northwest corner of Bldg	325.0	2	89.4	23.6	97.0	23.5	92	NU	Pass
WB	691	11/18/2014	Northwest corner of Bldg	326.0	2	91.7	24.0	97.0	23.5	95	SC	Pass
WB	692	11/19/2014	Northwest corner of Bldg	328.0	2	94.0	22.8	97.0	23.5	97	NU	Pass
WB	693	11/19/2014	Northwest corner of Bldg	329.0	2	90.6	24.1	97.0	23.5	93	NU	Pass
WB	694	11/19/2014	Northwest corner of Bldg	331.0	2	92.7	21.7	97.0	23.5	96	SC	Pass
CG	695	11/25/2014	Curb & Gutter	299.0	2	90.6	20.8	97.0	23.5	93	NU	Pass
CG	696	11/25/2014	Curb & Gutter	303.0	2	92.8	19.7	97.0	23.5	96	NU	Pass
CG	697	11/25/2014	Curb & Gutter	314.0	2	91.5	18.7	97.0	23.5	94	SC	Pass
CG	698	12/16/2014	Curb & Gutter	320.0	2	93.5	21.0	97.0	23.5	96	NU	Pass
CG	699	12/16/2014	Curb & Gutter	317.0	2	91.5	18.9	97.0	23.5	94	NU	Pass
CG	700	12/16/2014	Curb & Gutter	305.0	2	95.5	22.2	97.0	23.5	98	NU	Pass
CG	701	12/16/2014	Curb & Gutter	298.0	2	95.2	18.7	97.0	23.5	98	SC	Pass
UT	706	1/7/2015	Water Line - NW of Bldg	290.0	2	96.1	18.8	97.0	23.5	99	NU	Pass
UT	707	1/7/2015	Water Line - NW of Bldg	290.0	2	94.7	18.5	97.0	23.5	98	NU	Pass
UT	708	1/7/2015	Water Line - NW of Bldg	290.0	2	95.4	18.9	97.0	23.5	98	NU	Pass
UT	709	1/7/2015	Water Line - NW of Bldg	290.0	2	96.2	16.2	97.0	23.5	99	NU	Pass
UT	710	1/7/2015	Water Line - NW of Bldg	290.0	2	95.6	18.4	97.0	23.5	99	NU	Pass
UT	711	1/7/2015	Water Line - NW of Bldg	290.0	2	94.2	18.9	97.0	23.5	97	SC	Pass
UT	712	1/8/2015	Water Line - NW of Bldg	292.0	2	95.6	17.4	97.0	23.5	99	NU	Pass
UT	713	1/8/2015	Water Line - NW of Bldg	295.0	2	94.8	18.6	97.0	23.5	98	NU	Pass
UT	714	1/8/2015	Water Line - NW of Bldg	298.0	2	95.6	18.2	97.0	23.5	99	NU	Pass
WB	715	1/9/2015	Line 5 Between B to G	320.5	2	93.8	25.1	97.0	23.5	97	NU	Pass
WB	716	1/9/2015	Line 5 Between B to G	322.5	2	92.2	25.3	97.0	23.5	95	NU	Pass
WB	717	1/9/2015	Line 5 Between B to G	323.5	2	92.4	25.0	97.0	23.5	95	NU	Pass
WB	718	1/9/2015	Line 5 Between B to G	317.0	2	91.9	25.2	97.0	23.5	95	NU	Pass
WB	719	1/9/2015	Line 5 Between B to G	320.0	2	92.4	25.0	97.0	23.5	95	NU	Pass
WB	720	1/9/2015	Line 5 Between B to G	320.0	2	92.2	25.4	97.0	23.5	95	NU	Pass
WB	721	1/9/2015	Line 5 Between B to G	315.0	2	94.5	25.2	97.0	23.5	97	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	722	1/9/2015	Line 5 Between B to G	317.0	2	95.4	25.1	97.0	23.5	98	SC	Pass
UT	723	1/9/2015	Sewer Line - Crown Valley	285.0	10	130.1	5.1	134.6	5.5	97	NU	Pass
UT	724	1/9/2015	Sewer Line - Crown Valley	SG	10	126.3	4.8	134.6	5.5	94	NU	Pass
UT	724A	1/9/2015	Sewer Line - Crown Valley	SG	10	131.2	5.4	134.6	5.5	97	NU	Pass
UT	725	1/9/2015	Sewer Line - Crown Valley	284.0	2	91.1	22.0	97.0	23.5	94	NU	Pass
UT	726	1/9/2015	Sewer Line - Crown Valley	285.0	10	128.8	5.1	134.6	5.5	96	NU	Pass
UT	727	1/9/2015	Sewer Line - Crown Valley	SG	10	131.8	4.9	134.6	5.5	98	NU	Pass
UT	728	1/9/2015	Sewer Line - Crown Valley	SG	10	129.4	5.6	134.6	5.5	96	SC	Pass
UT	735	1/29/2015	Southwest Corner of Bldg	290.0	2	89.6	25.1	97.0	23.5	92	NU	Pass
UT	736	1/29/2015	Southwest Corner of Bldg	293.0	2	89.9	25.0	97.0	23.5	93	NU	Pass
UT	737	1/29/2015	Southwest Corner of Bldg	292.0	2	90.9	25.2	97.0	23.5	94	NU	Pass
UT	738	1/30/2015	Southwest Corner of Bldg	292.0	2	89.9	25.2	97.0	23.5	93	NU	Pass
UT	739	1/30/2015	Southwest Corner of Bldg	294.0	2	89.7	25.0	97.0	23.5	92	NU	Pass
UT	740	1/30/2015	Southwest Corner of Bldg	296.0	2	90.5	25.3	97.0	23.5	93	NU	Pass
UT	741	1/30/2015	Southwest Corner of Bldg	297.0	2	90.1	25.1	97.0	23.5	93	SC	Pass
UT	742	2/5/2015	Cabot Rd - Access Road	331.0	2	90.4	24.7	97.0	23.5	93	NU	Pass
UT	743	2/10/2015	Transformer - NW Bldg Corner	328.0	2	90.2	25.9	97.0	23.5	93	NU	Pass
UT	744	2/10/2015	Transformer - NW Bldg Corner	330.0	2	91.1	26.2	97.0	23.5	94	NU	Pass
UT	745	2/10/2015	Electrical - NW Bldg Corner	331.0	2	90.6	25.0	97.0	23.5	93	NU	Pass
UT	746	2/10/2015	Electrical - NW Bldg Corner	334.0	2	88.6	27.2	97.0	23.5	91	NU	Pass
UT	747	2/10/2015	Transformer - NW Bldg Corner	329.0	2	89.0	25.8	97.0	23.5	92	SC	Pass
UT	748	2/11/2015	Electrical - Cabot Rd	337.0	12	129.9	8.0	136.1	7.0	95	NU	Pass
UT	749	2/11/2015	Electrical - Cabot Rd	337.0	12	129.0	7.6	136.1	7.0	95	NU	Pass
UT	750	2/11/2015	Electrical - Cabot Rd	336.0	12	129.7	7.0	136.1	7.0	95	NU	Pass
UT	751	2/11/2015	Electrical - Cabot Rd	335.0	12	132.0	7.2	136.1	7.0	97	NU	Pass
UT	752	2/11/2015	Electrical - Cabot Rd	334.0	12	130.4	7.0	136.1	7.0	96	SC	Pass
UT	753	2/12/2015	Electrical - Cabot Rd	333.0	12	131.2	6.3	136.1	7.0	96	NU	Pass
UT	754	2/12/2015	Electrical - Cabot Rd	333.0	12	129.9	6.9	136.1	7.0	95	NU	Pass
UT	755	2/12/2015	Traffic Control - NW of Bldg	331.0	2	90.5	22.8	97.0	23.5	93	NU	Pass
UT	756	2/12/2015	Traffic Control - NW of Bldg	331.0	2	89.6	19.9	97.0	23.5	92	NU	Pass
UT	757	2/12/2015	Electrical - Cabot Rd	331.0	12	130.6	6.8	136.1	7.0	96	NU	Pass
UT	758	2/12/2015	Traffic Control - NW of Bldg	329.0	2	88.5	20.9	97.0	23.5	91	NU	Pass
UT	759	2/13/2015	Electrical - NW of Bldg	329.0	2	87.6	25.0	97.0	23.5	90	SC	Pass
UT	763	2/13/2015	Electrical - NW of Bldg	328.0	2	89.7	24.2	97.0	23.5	92	NU	Pass
UT	767	2/16/2015	Electrical - Drive Entrance	328.0	2	91.2	26.4	97.0	23.5	94	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	768	2/16/2015	Electrical - NW Bldg Corner	327.0	2	90.3	25.8	97.0	23.5	93	NU	Pass
SG	769	2/17/2015	Curb & Gutter	331.0	1	85.7	30.1	91.5	25.0	94	NU	Pass
SG	770	2/17/2015	Curb & Gutter	334.0	1	86.2	27.4	91.5	25.0	94	NU	Pass
SG	771	2/17/2015	Curb & Gutter	330.0	2	92.0	26.0	97.0	23.5	95	NU	Pass
UT	772	2/17/2015	Electrical - Cabot Road	325.0	12	128.8	6.8	136.1	7.0	95	NU	Pass
UT	773	2/17/2015	Electrical - Cabot Road	325.0	12	132.6	6.2	136.1	7.0	97	NU	Pass
SG	774	2/17/2015	Electrical - Cabot Road	336.0	2	92.4	25.4	97.0	23.5	95	NU	Pass
SG	775	2/17/2015	Picerne Shared Entry	332.0	2	87.0	27.9	97.0	23.5	90	NU	Pass
SG	776	2/17/2015	Picerne Shared Entry	332.0	12	125.4	7.4	136.1	7.0	92	SC	Pass
SG	777	2/17/2015	Picerne Shared Entry	331.0	12	129.6	7.5	136.1	7.0	95	SC	Pass
UT	778	2/18/2015	Storm Drain - West of Bldg	298.0	2	93.0	24.8	97.0	23.5	96	NU	Pass
UT	779	2/18/2015	Storm Drain - West of Bldg	295.0	2	89.6	25.2	97.0	23.5	92	NU	Pass
B	780	2/18/2015	Picerne Shared Entry	333.0	13	117.0	12.9	119.3	11.3	98	NU	Pass
B	781	2/18/2015	Picerne Shared Entry	333.0	13	117.7	13.3	119.3	11.3	99	NU	Pass
UT	782	2/18/2015	Storm Drain - South of Bldg	268.0	2	95.5	21.0	97.0	23.5	98	SC	Pass
UT	783	2/19/2015	Storm Drain - West of Bldg	294.0	2	89.6	22.8	97.0	23.5	92	NU	Pass
UT	784	2/19/2015	Storm Drain - West of Bldg	294.0	2	91.7	18.1	97.0	23.5	95	NU	Pass
UT	785	2/19/2015	Storm Drain - West of Bldg	295.0	2	92.1	20.1	97.0	23.5	95	NU	Pass
UT	786	2/19/2015	Storm Drain - West of Bldg	295.0	2	89.7	22.0	97.0	23.5	92	NU	Pass
UT	787	2/19/2015	Storm Drain - SE of Bldg	272.0	2	94.4	22.8	97.0	23.5	97	NU	Pass
UT	788	2/19/2015	Storm Drain - SE of Bldg	272.0	2	95.8	25.0	97.0	23.5	99	NU	Pass
UT	789	2/19/2015	Storm Drain - SE of Bldg	272.0	2	96.0	24.2	97.0	23.5	99	NU	Pass
UT	790	2/19/2015	Storm Drain - SE of Bldg	272.0	2	93.4	22.4	97.0	23.5	96	SC	Pass
SG	791	2/24/2015	Picerne Shared Entry	333.0	2	94.0	24.8	97.0	23.5	97	NU	Pass
SG	792	2/24/2015	Picerne Shared Entry	331.0	2	91.1	26.7	97.0	23.5	94	NU	Pass
SG	793	2/24/2015	Picerne Shared Entry	329.0	2	93.4	25.8	97.0	23.5	96	SC	Pass
B	794	2/25/2015	Picerne Shared Entry	330.0	13	114.2	12.1	119.3	11.3	96	NU	Pass
B	795	2/25/2015	Picerne Shared Entry	331.0	13	115.0	13.0	119.3	11.3	96	NU	Pass
B	796	2/25/2015	Picerne Shared Entry	330.0	13	114.8	12.5	119.3	11.3	96	NU	Pass
B	797	2/25/2015	Picerne Shared Entry	331.0	13	113.2	12.6	119.3	11.3	95	NU	Pass
B	798	2/25/2015	Picerne Shared Entry	330.0	13	114.6	12.2	119.3	11.3	96	NU	Pass
B	799	2/25/2015	Picerne Shared Entry	331.0	13	113.9	11.6	119.3	11.3	95	NU	Pass
B	800	2/25/2015	Picerne Shared Entry	330.0	13	113.8	11.8	119.3	11.3	95	NU	Pass
B	801	2/25/2015	Picerne Shared Entry	331.0	13	115.5	12.1	119.3	11.3	97	NU	Pass
B	802	2/25/2015	Picerne Shared Entry	330.0	13	115.8	12.2	119.3	11.3	97	NU	Pass

* - See "Explanation of Coded Terms"



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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	811	2/27/2015	Electrical Line - Cabot	SG	12	129.1	8.1	136.1	7.0	95	NU	Pass
UT	812	2/27/2015	Electrical Line - Cabot	SG	12	128.9	8.0	136.1	7.0	95	NU	Pass
UT	813	2/27/2015	Electrical Line - Cabot	SG	12	130.1	8.4	136.1	7.0	96	NU	Pass
UT	814	2/27/2015	Electrical Line - Cabot	SG	12	130.5	8.9	136.1	7.0	96	NU	Pass
UT	815	2/27/2015	Electrical Line - Cabot	SG	12	129.8	7.4	136.1	7.0	95	NU	Pass
SG	816	3/3/2015	SDGE - Cabot Road	SG	12	134.0	5.6	136.1	7.0	98	NU	Pass
SG	817	3/4/2015	SDGE - Cabot Road	SG	12	132.2	7.8	136.1	7.0	97	NU	Pass
SG	818	3/4/2015	SDGE - Cabot Road	SG	12	130.5	7.0	136.1	7.0	96	NU	Pass
UT	830	3/13/2015	Electrical Line - Cabot	SG	12	132.5	6.4	136.1	7.0	97	NU	Pass
UT	831	3/13/2015	Electrical Line - Cabot	SG	12	130.1	5.8	136.1	7.0	96	NU	Pass
UT	832	3/13/2015	Water Line - Cabot	SG	12	129.0	7.3	136.1	7.0	95	NU	Pass
UT	833	3/13/2015	Water Line - Cabot	SG	12	129.9	5.8	136.1	7.0	95	NU	Pass
UT	834	3/13/2015	Water Line - Cabot	SG	12	134.0	6.1	136.1	7.0	98	NU	Pass
UT	835	3/13/2015	Water Line - Cabot	SG	12	128.4	6.8	136.1	7.0	94	NU	Pass
UT	836	3/16/2015	Electrical Line - Cabot	330.5	12	133.1	9.3	136.1	7.0	98	NU	Pass
UT	837	3/16/2015	Electrical Line - Cabot	330.5	12	131.8	9.7	136.1	7.0	97	NU	Pass
UT	838	3/19/2015	Electrical Line - Cabot	SG	12	130.6	9.7	136.1	7.0	96	NU	Pass
UT	839	3/19/2015	Electrical Line - Cabot	SG	12	131.6	8.8	136.1	7.0	97	NU	Pass
UT	840	3/19/2015	Electrical Line - Cabot	SG	12	131.0	8.3	136.1	7.0	96	NU	Pass
UT	841	3/19/2015	Electrical Line - Cabot	SG	12	130.8	8.6	136.1	7.0	96	SC	Pass
UT	842	3/20/2015	Electrical Line - Cabot	SG	12	131.4	9.4	136.1	7.0	97	SC	Pass
UT	843	3/20/2015	Electrical Line - Cabot	SG	12	131.7	9.2	136.1	7.0	97	SC	Pass
UT	844	3/22/2015	Electrical Line - Cabot	SG	12	131.6	8.2	136.1	7.0	97	NU	Pass
UT	845	3/22/2015	Electrical Line - Cabot	SG	12	132.2	8.1	136.1	7.0	97	NU	Pass
UT	846	3/22/2015	Electrical Line - Cabot	SG	12	131.8	7.0	136.1	7.0	97	NU	Pass
UT	847	3/25/2015	Gas Line - Cabot	309.0	12	124.1	8.7	136.1	7.0	91	NU	Fail
UT	847A	3/25/2015	Gas Line - Cabot	309.0	12	131.3	7.7	136.1	7.0	96	NU	Pass
UT	848	3/25/2015	Gas Line - Cabot	309.0	12	124.5	9.1	136.1	7.0	91	NU	Fail
UT	848A	3/25/2015	Gas Line - Cabot	309.0	12	132.1	8.3	136.1	7.0	97	NU	Pass
UT	849	3/25/2015	Gas Line - Cabot	311.0	12	131.0	8.0	136.1	7.0	96	NU	Pass
UT	850	3/25/2015	Gas Line - Cabot	312.0	12	130.8	7.7	136.1	7.0	96	NU	Pass
UT	851	3/26/2015	Gas Line - Cabot	305.0	12	131.8	8.6	136.1	7.0	97	NU	Pass
UT	852	3/26/2015	Gas Line - Cabot	303.0	12	132.0	9.1	136.1	7.0	97	NU	Pass
UT	853	3/26/2015	Gas Line - Cabot	301.0	12	131.3	8.3	136.1	7.0	96	NU	Pass
UT	868	4/6/2015	Electrical Line - S. of Bldg.	SG	13	108.5	14.4	119.3	11.3	91	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	869	4/6/2015	Electrical Line - S. of Bldg.	SG	13	111.1	15.6	119.3	11.3	93	NU	Pass
UT	870	4/16/2015	Electrical Line - S. of Bldg.	SG	4	108.4	14.6	122.0	12.0	89	NU	Fail
UT	870A	4/16/2015	Electrical Line - S. of Bldg.	271.0	4	109.8	13.8	122.0	12.0	90	NU	Pass
UT	871	4/16/2015	Electrical Line - S. of Bldg.	274.0	4	111.3	14.5	122.0	12.0	91	NU	Pass
UT	872	4/17/2015	Electrical Line - NW. of Bldg.	-6' SG	2	96.0	21.7	97.0	23.5	99	NU	Pass
UT	873	4/17/2015	Electrical Line - NW. of Bldg.	-4' SG	2	96.3	21.0	97.0	23.5	99	NU	Pass
UT	874	4/17/2015	Electrical Line - NW. of Bldg.	-2' SG	2	94.1	21.9	97.0	23.5	97	NU	Pass
UT	875	4/17/2015	Electrical Line - NW. of Bldg.	SG	2	93.7	22.2	97.0	23.5	97	NU	Pass
UT	876	4/17/2015	Electrical Line - NW. of Bldg.	-6' SG	2	94.1	23.3	97.0	23.5	97	NU	Pass
UT	877	4/17/2015	Electrical Line - NW. of Bldg.	-4' SG	2	94.7	22.1	97.0	23.5	98	NU	Pass
UT	878	4/17/2015	Electrical Line - NW. of Bldg.	-2' SG	2	95.0	23.2	97.0	23.5	98	NU	Pass
UT	879	4/17/2015	Electrical Line - NW. of Bldg.	SG	2	93.3	22.9	97.0	23.5	96	NU	Pass
UT	880	5/5/2015	Electrical Line - NW. of Bldg.	-3' SG	5	133.7	8.5	137.0	10.0	98	NU	Pass
UT	881	5/5/2015	Electrical Line - NW. of Bldg.	-2' SG	5	135.1	8.4	137.0	10.0	99	NU	Pass
UT	886	5/12/2015	Electrical Line - NW. of Bldg.	SG	5	135.5	8.0	137.0	10.0	99	NU	Pass
WB	887	5/16/2015	NW Corner of E1 Room	-4' SG	2	89.6	25.6	97.0	23.5	92	NU	Pass
WB	888	5/16/2015	NW Corner of E1 Room	-3' SG	2	90.2	24.5	97.0	23.5	93	NU	Pass
WB	889	5/16/2015	NW Corner of E1 Room	-2' SG	2	91.3	25.2	97.0	23.5	94	NU	Pass
WB	890	5/16/2015	NW Corner of E1 Room	-2' SG	2	90.6	26.1	97.0	23.5	93	NU	Pass
WB	891	5/16/2015	NW Corner of E1 Room	-3' SG	2	88.7	24.7	97.0	23.5	91	NU	Pass
WB	892	5/16/2015	NW Corner of E1 Room	-2' SG	2	89.2	25.3	97.0	23.5	92	NU	Pass
CG	893	5/18/2015	Cabot Road Entry	SG	2	92.3	24.1	97.0	23.5	95	NU	Pass
CG	894	5/18/2015	Cabot Road Entry	SG	2	92.6	24.3	97.0	23.5	95	NU	Pass
CG	895	5/18/2015	Cabot Road Entry	SG	2	93.1	23.8	97.0	23.5	96	NU	Pass
SG	896	5/22/2015	Sidewalk - East	SG	2	93.6	25.1	97.0	23.5	96	NU	Pass
SG	897	5/22/2015	Sidewalk - East	SG	2	94.1	24.8	97.0	23.5	97	NU	Pass
SG	898	5/22/2015	Sidewalk - East	SG	2	93.1	26.0	97.0	23.5	96	NU	Pass
SG	899	5/22/2015	Sidewalk - East	SG	2	93.5	25.7	97.0	23.5	96	NU	Pass
SG	900	5/22/2015	Sidewalk - East	SG	2	94.0	26.3	97.0	23.5	97	NU	Pass
UT	901	5/29/2015	Storm Drain	330.0	2	90.0	25.4	97.0	23.5	93	NU	Pass
UT	902	5/29/2015	Storm Drain	330.0	2	88.9	25.3	97.0	23.5	92	NU	Pass
UT	903	5/29/2015	Storm Drain	330.0	2	89.3	26.1	97.0	23.5	92	SC	Pass
UT	904	5/29/2015	Storm Drain	330.0	2	91.1	25.3	97.0	23.5	94	SC	Pass
UT	905	5/29/2015	Storm Drain	330.0	2	90.2	26.4	97.0	23.5	93	SC	Pass
SG	906	6/1/2015	Transformer Pad NW of Bldg	SG	3	94.5	23.0	97.0	26.0	97	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	907	6/1/2015	Transformer Pad NW of Bldg	SG	3	96.2	23.5	97.0	26.0	99	NU	Pass
SG	908	6/2/2015	Transformer Pad NW of Bldg	SG	3	95.1	26.0	97.0	26.0	98	NU	Pass
SG	909	6/2/2015	Transformer Pad NW of Bldg	SG	3	95.3	24.1	97.0	26.0	98	SC	Pass
UT	910	6/8/2015	Storm Drain - N Access Road	-3' SG	3	95.5	26.7	97.0	26.0	98	NU	Pass
UT	911	6/8/2015	Storm Drain - N Access Road	-2' SG	3	91.9	27.1	97.0	26.0	95	NU	Pass
UT	912	6/9/2015	Catch Basin NE of Bldg	322.0	3	90.8	28.2	97.0	26.0	94	NU	Pass
UT	913	6/9/2015	Catch Basin NE of Bldg	324.0	3	92.0	27.6	97.0	26.0	95	NU	Pass
UT	914	6/9/2015	Catch Basin NW of Bldg	323.0	3	89.8	27.7	97.0	26.0	93	NU	Pass
UT	915	6/9/2015	Catch Basin NW of Bldg	325.0	3	91.1	28.8	97.0	26.0	94	NU	Pass
UT	916	6/10/2015	Catch Basin NW of Bldg	-6' SG	3	92.3	27.7	97.0	26.0	95	NU	Pass
UT	917	6/10/2015	Catch Basin NW of Bldg	-3' SG	3	91.7	28.1	97.0	26.0	95	NU	Pass
UT	918	6/10/2015	Catch Basin NW of Bldg	-2' SG	3	91.3	27.2	97.0	26.0	94	NU	Pass
UT	919	6/10/2015	Catch Basin NW of Bldg	SG	3	92.1	27.7	97.0	26.0	95	NU	Pass
UT	920	6/10/2015	Catch Basin NW of Bldg	-3' SG	3	90.7	27.8	97.0	26.0	94	NU	Pass
SG	921	6/12/2015	Entrey Between Podiums	SG	6	121.8	11.0	128.0	10.0	95	NU	Pass
SG	922	6/12/2015	Entrey Between Podiums	SG	6	122.3	10.9	128.0	10.0	96	SC	Pass
SG	923	6/17/2015	Crown Valley Pkwy	SG	3	92.6	26.6	97.0	26.0	95	NU	Pass
SG	924	6/17/2015	Crown Valley Pkwy	SG	3	93.5	27.0	97.0	26.0	96	NU	Pass
SG	925	6/17/2015	Crown Valley Pkwy	SG	3	93.2	26.5	97.0	26.0	96	NU	Pass
SG	926	6/17/2015	Crown Valley Pkwy	SG	3	94.2	26.1	97.0	26.0	97	NU	Pass
SG	927	6/17/2015	Crown Valley Pkwy	SG	3	93.9	28.2	97.0	26.0	97	NU	Pass
SG	928	6/17/2015	Crown Valley Pkwy	SG	3	94.9	26.7	97.0	26.0	98	NU	Pass
SG	929	6/18/2015	Crown Valley Pkwy	SG	3	95.2	27.1	97.0	26.0	98	NU	Pass
SG	930	6/18/2015	Crown Valley Pkwy	SG	3	94.3	28.2	97.0	26.0	97	NU	Pass
SG	931	6/18/2015	Crown Valley Pkwy	SG	3	94.2	27.3	97.0	26.0	97	NU	Pass
SG	932	6/18/2015	Crown Valley Pkwy	SG	3	94.7	26.6	97.0	26.0	98	SC	Pass
SG	933	6/22/2015	Crown Valley Pkwy	SG	3	93.4	28.3	97.0	26.0	96	NU	Pass
CB	934	6/22/2015	Fire Access Road	SG	6	120.6	10.1	128.0	10.0	94	NU	Pass
CB	935	6/22/2015	Fire Access Road	SG	6	121.2	10.5	128.0	10.0	95	NU	Pass
CB	936	6/22/2015	Fire Access Road	SG	6	119.9	10.9	128.0	10.0	94	NU	Pass
CB	937	6/22/2015	Fire Access Road	SG	6	118.3	11.3	128.0	10.0	92	NU	Pass
CB	938	6/22/2015	Fire Access Road	SG	6	119.6	11.2	128.0	10.0	93	NU	Pass
CB	939	6/22/2015	Fire Access Road	SG	6	119.3	10.3	128.0	10.0	93	NU	Pass
CB	940	6/22/2015	Fire Access Road	SG	6	120.2	12.1	128.0	10.0	94	NU	Pass
CB	941	6/22/2015	Fire Access Road	SG	6	120.1	11.7	128.0	10.0	94	NU	Pass

* - See "Explanation of Coded Terms"



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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	942	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	125.8	8.8	132.0	8.0	95	NU	Pass
B	943	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	124.8	8.1	132.0	8.0	95	NU	Pass
B	944	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	124.0	8.3	132.0	8.0	94	NU	Fail
B	944A	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	126.6	9.2	132.0	8.0	96	NU	Pass
B	945	6/22/2015	Crown Valley Pkwy	-1' SG	11	127.7	8.7	132.0	8.0	97	NU	Pass
B	946	6/22/2015	Crown Valley Pkwy	-1' SG	11	125.8	8.4	132.0	8.0	95	NU	Pass
B	947	6/22/2015	Crown Valley Pkwy	-1' SG	11	125.3	8.8	132.0	8.0	95	NU	Pass
B	948	6/23/2015	Crown Valley Pkwy	-1' SG	11	125.9	8.5	132.0	8.0	95	NU	Pass
B	949	6/23/2015	Crown Valley Pkwy	-1' SG	11	126.2	8.9	132.0	8.0	96	NU	Pass
B	950	6/23/2015	Crown Valley Pkwy	-1' SG	11	126.6	8.4	132.0	8.0	96	NU	Pass
B	951	6/23/2015	Crown Valley Pkwy	-1' SG	11	127.4	8.3	132.0	8.0	97	NU	Pass
B	952	6/23/2015	Crown Valley Pkwy	-1' SG	11	125.9	8.7	132.0	8.0	95	NU	Pass
SG	953	6/23/2015	Cabot Road	SG	2	93.4	23.9	97.0	23.5	96	NU	Pass
SG	954	6/23/2015	Cabot Road	SG	2	92.5	24.1	97.0	23.5	95	NU	Pass
SG	955	6/23/2015	Cabot Road	SG	2	96.1	24.2	97.0	23.5	99	NU	Pass
SG	956	6/23/2015	Cabot Road	SG	2	93.0	25.1	97.0	23.5	96	NU	Pass
SG	957	6/23/2015	Cabot Road	SG	2	95.2	24.2	97.0	23.5	98	NU	Pass
SG	958	6/23/2015	Cabot Road	SG	2	93.8	24.8	97.0	23.5	97	NU	Pass
SG	959	6/23/2015	Cabot Road	SG	2	93.1	24.3	97.0	23.5	96	SC	Pass
SG	960	6/23/2015	Cabot Road	SG	2	92.3	23.8	97.0	23.5	95	SC	Pass
SG	961	6/23/2015	Cabot Road	SG	2	92.6	24.6	97.0	23.5	95	SC	Pass
WB	976	6/29/2015	Garage Ramp Entry	-2' SG	2	91.5	23.8	97.0	23.5	94	NU	Pass
WB	977	6/29/2015	Garage Ramp Entry	-1' SG	2	92.2	25.2	97.0	23.5	95	NU	Pass
WB	978	6/29/2015	Garage Ramp Entry	SG	2	91.7	23.9	97.0	23.5	95	NU	Pass
B	979	6/29/2015	Crown Valley and Cabot Road	SG	11	128.8	8.1	132.0	8.0	98	NU	Pass
B	980	6/29/2015	Crown Valley and Cabot Road	SG	11	127.7	8.4	132.0	8.0	97	NU	Pass
B	981	6/29/2015	Crown Valley and Cabot Road	SG	11	126.5	8.9	132.0	8.0	96	NU	Pass
SG	1015	7/6/2015	Cabot Road Lower Sidewalk	SG	3	92.7	27.1	97.0	26.0	96	NU	Pass
SG	1016	7/6/2015	Cabot Road Lower Sidewalk	SG	3	93.2	26.6	97.0	26.0	96	NU	Pass
SG	1017	7/6/2015	Cabot Road Lower Sidewalk	SG	3	92.9	27.3	97.0	26.0	96	NU	Pass
SG	1018	7/6/2015	Cabot Road Lower Sidewalk	SG	3	93.3	27.5	97.0	26.0	96	NU	Pass
B	1019	7/8/2015	Cabot Road Lower Sidewalk	SG	13	114.2	12.6	119.3	11.3	96	NU	Pass
B	1020	7/8/2015	Cabot Road Lower Sidewalk	SG	13	113.9	13.3	119.3	11.3	95	NU	Pass
B	1021	7/8/2015	Cabot Road Lower Sidewalk	SG	13	109.8	9.2	119.3	11.3	92	NU	Fail
B	1021A	7/8/2015	Cabot Road Lower Sidewalk	SG	13	114.3	12.7	119.3	11.3	96	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	1022	7/8/2015	Cabot Road Lower Sidewalk	SG	13	110.2	13.1	119.3	11.3	92	NU	Fail
B	1022A	7/8/2015	Cabot Road Lower Sidewalk	SG	13	115.1	12.4	119.3	11.3	96	NU	Pass
SG	1023	7/16/2015	Cabot Road Upper Sidewalk	SG	3	90.4	19.3	97.0	26.0	93	NU	Fail
SG	1023A	7/16/2015	Cabot Road Upper Sidewalk	SG	3	94.1	26.6	97.0	26.0	97	NU	Pass
SG	1024	7/16/2015	Cabot Road Upper Sidewalk	SG	3	94.4	27.2	97.0	26.0	97	NU	Pass
SG	1025	7/16/2015	Cabot Road Upper Sidewalk	SG	3	93.2	20.1	97.0	26.0	96	NU	Pass
SG	1026	7/16/2015	Cabot Road Upper Sidewalk	SG	3	88.2	27.8	97.0	26.0	91	NU	Fail
SG	1026A	7/16/2015	Cabot Road Upper Sidewalk	SG	3	93.3	27.2	97.0	26.0	96	SC	Pass
B	1027	7/17/2015	Cabot Road Upper Sidewalk	SG	13	115.1	12.1	119.3	11.3	96	NU	Pass
B	1028	7/17/2015	Cabot Road Upper Sidewalk	SG	13	111.2	13.2	119.3	11.3	93	NU	Fail
B	1028A	7/17/2015	Cabot Road Upper Sidewalk	SG	13	114.1	13.1	119.3	11.3	96	NU	Pass
B	1029	7/17/2015	Cabot Road Upper Sidewalk	SG	13	114.2	12.5	119.3	11.3	96	NU	Pass
B	1030	7/17/2015	Cabot Road Upper Sidewalk	SG	13	111.8	13.3	119.3	11.3	94	NU	Pass
B	1031	7/17/2015	Cabot Road Upper Sidewalk	SG	13	113.7	12.2	119.3	11.3	95	NU	Pass
SG	1032	7/22/2015	Driveway Main Entry	SG	3	94.0	27.6	97.0	26.0	97	NU	Pass
SG	1033	7/22/2015	Driveway Main Entry	SG	3	93.5	26.6	97.0	26.0	96	NU	Pass
SG	1034	7/22/2015	Driveway Main Entry	SG	3	91.9	22.4	97.0	26.0	95	NU	Pass
SG	1035	7/22/2015	Driveway Main Entry	SG	3	92.1	26.1	97.0	26.0	95	NU	Pass
SG	1036	7/22/2015	Driveway Main Entry	SG	3	93.8	27.3	97.0	26.0	97	NU	Pass
SG	1037	7/22/2015	Driveway Main Entry	SG	3	93.0	26.9	97.0	26.0	96	NU	Pass
SG	1038	7/22/2015	Driveway Main Entry	SG	3	93.6	27.4	97.0	26.0	96	SC	Pass
B	1039	7/22/2015	Driveway North Entry	SG	11	125.3	9.6	132.0	8.0	95	NU	Pass
B	1040	7/22/2015	Driveway North Entry	SG	11	125.6	9.2	132.0	8.0	95	NU	Pass
B	1041	7/22/2015	Driveway North Entry	SG	11	127.2	8.4	132.0	8.0	96	NU	Pass
B	1042	7/23/2015	Driveway North Entry	SG	11	125.3	8.8	132.0	8.0	95	NU	Pass
B	1043	7/23/2015	Driveway North Entry	SG	11	126.2	8.9	132.0	8.0	96	NU	Pass
B	1044	7/23/2015	Driveway North Entry	SG	11	127.2	9.1	132.0	8.0	96	NU	Pass
B	1045	7/23/2015	Driveway North Entry	SG	11	125.9	8.7	132.0	8.0	95	NU	Pass
B	1046	7/23/2015	Driveway North Entry	SG	11	126.6	9.3	132.0	8.0	96	NU	Pass
B	1047	7/23/2015	Driveway North Entry	SG	11	127.3	9.2	132.0	8.0	96	NU	Pass
B	1048	7/23/2015	Driveway North Entry	SG	11	125.9	9.7	132.0	8.0	95	NU	Pass
B	1049	7/23/2015	Driveway North Entry	SG	11	126.6	8.9	132.0	8.0	96	NU	Pass
B	1050	7/23/2015	Driveway North Entry	SG	11	127.3	8.5	132.0	8.0	96	NU	Pass
B	1051	7/23/2015	Driveway North Entry	SG	11	125.8	9.2	132.0	8.0	95	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	233		Lateral B	3/4	A	148.0	143.1	97	Pass
AC	234	1/0/1900	Lateral C	3/4	A	148.0	143.4	97	Pass
AC	235	1/0/1900	Lateral F	3/4	A	148.0	142.8	96	Pass
AC	257	1/0/1900	Lateral B	3/4	A	148.0	143.5	97	Pass
AC	258	1/0/1900	Lateral C	3/4	A	148.0	143.9	97	Pass
AC	263	1/0/1900	Cabot Rd	3/4	A	148.0	143.0	97	Pass
AC	264	1/0/1900	Cabot Rd	3/4	A	148.0	143.7	97	Pass
AC	265	1/0/1900	Cabot Rd	3/4	A	148.0	144.0	97	Pass
AC	266	1/0/1900	Cabot Rd	3/4	A	148.0	143.8	97	Pass
AC	267	1/0/1900	Cabot Rd	3/4	A	148.0	144.2	97	Pass
AC	672	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.2	96	Pass
AC	673	10/29/2014	Crown Valley Parkway	3/4	B	152.0	145.8	96	Pass
AC	674	10/29/2014	Crown Valley Parkway	3/4	B	152.0	145.3	96	Pass
AC	675	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.4	96	Pass
AC	676	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.0	96	Pass
AC	677	10/29/2014	Crown Valley Parkway	3/4	B	152.0	147.1	97	Pass
AC	682	10/30/2014	Crown Valley Parkway	3/4	B	152.0	146.6	96	Pass
AC	683	10/30/2014	Crown Valley Parkway	3/4	B	152.0	145.9	96	Pass
AC	702	12/18/2014	Crown Valley Parkway	3/4	C	149.0	145.2	97	Pass
AC	703	12/18/2014	Crown Valley Parkway	3/4	C	149.0	144.8	97	Pass
AC	704	12/18/2014	Crown Valley Parkway	3/4	C	149.0	145.0	97	Pass
AC	705	12/18/2014	Crown Valley Parkway	3/4	C	149.0	143.1	96	Pass
AC	729	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	144.3	97	Pass
AC	730	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	146.6	98	Pass
AC	731	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	147.8	99	Pass
AC	732	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	146.9	99	Pass
AC	733	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	148.2	99	Pass
AC	734	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.2	97	Pass
AC	760	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	148.0	99	Pass
AC	761	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.3	98	Pass
AC	762	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.0	97	Pass
AC	764	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	143.9	97	Pass
AC	765	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	143.3	96	Pass
AC	766	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	144.1	97	Pass
AC	803	2/26/2015	Picerne Shared Entry	3/4	D	146.0	142.1	97	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	804	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.1	97	Pass
AC	805	2/26/2015	Picerne Shared Entry	3/4	D	146.0	140.9	97	Pass
AC	806	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.5	97	Pass
AC	807	2/26/2015	Picerne Shared Entry	3/4	D	146.0	142.7	98	Pass
AC	808	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.6	97	Pass
AC	809	2/26/2015	Picerne Shared Entry	3/4	D	146.0	140.7	96	Pass
AC	810	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.8	97	Pass
AC	819	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.8	96	Pass
AC	820	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.2	96	Pass
AC	821	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	143.0	97	Pass
AC	822	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	140.9	95	Pass
AC	823	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.1	96	Pass
AC	824	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	140.7	95	Pass
AC	825	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.2	96	Pass
AC	826	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	141.5	96	Pass
AC	827	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	140.8	95	Pass
AC	828	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	140.6	95	Pass
AC	829	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	141.4	96	Pass
AC	854	3/26/2015	Cabot Road	3/4	A	148.0	141.6	96	Pass
AC	855	3/26/2015	Cabot Road	3/4	A	148.0	142.3	96	Pass
AC	856	3/26/2015	Cabot Road	3/4	A	148.0	142.4	96	Pass
AC	857	3/26/2015	Cabot Road	3/4	A	148.0	141.8	96	Pass
AC	858	3/26/2015	Cabot Road	3/4	A	148.0	142.0	96	Pass
AC	859	3/26/2015	Cabot Road	3/4	A	148.0	141.6	96	Pass
AC	860	3/26/2015	Cabot Road	3/4	A	148.0	143.1	97	Pass
AC	861	3/26/2015	Cabot Road	3/4	A	148.0	142.0	96	Pass
AC	862	3/26/2015	Cabot Road	3/4	A	148.0	142.6	96	Pass
AC	863	3/26/2015	Cabot Road	3/4	A	148.0	141.0	95	Pass
AC	864	3/26/2015	Cabot Road	3/4	A	148.0	140.8	95	Pass
AC	865	3/26/2015	Cabot Road	3/4	A	148.0	142.3	96	Pass
AC	866	3/26/2015	Cabot Road	3/4	A	148.0	141.2	95	Pass
AC	867	3/26/2015	Cabot Road	3/4	A	148.0	143.1	97	Pass
AC	882	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	142.0	96	Pass
AC	883	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	142.2	96	Pass
AC	884	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	141.4	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	885	5/6/2015	Crown Valley and Cabbot Inter	3/4	A	148.0	143.4	97	Pass
AC	962	6/23/2015	Station 11+05	3/4	D	146.0	140.8	96	Pass
AC	963	6/23/2015	Station 11+50	3/4	D	146.0	141.2	97	Pass
AC	964	6/23/2015	Station 12+20	3/4	D	146.0	139.9	96	Pass
AC	965	6/23/2015	Station 13+00	3/4	D	146.0	140.1	96	Pass
AC	966	6/23/2015	Station 13+60	3/4	D	146.0	139.4	95	Pass
AC	967	6/23/2015	Station 14+30	3/4	D	146.0	140.3	96	Pass
AC	968	6/23/2015	Station 14+10	3/4	D	146.0	141.7	97	Pass
AC	969	6/23/2015	Station 13+90	3/4	D	146.0	140.8	96	Pass
AC	970	6/23/2015	Station 13+50	3/4	D	146.0	142.1	97	Pass
AC	971	6/23/2015	Station 12+80	3/4	D	146.0	141.9	97	Pass
AC	972	6/23/2015	Station 11+95	3/4	D	146.0	142.7	98	Pass
AC	973	6/23/2015	Station 11+60	3/4	D	146.0	140.6	96	Pass
AC	974	6/23/2015	Station 12+40	3/4	D	146.0	140.8	96	Pass
AC	975	6/23/2015	Station 11+30	3/4	D	146.0	141.3	97	Pass
AC	982	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	143.6	96	Pass
AC	983	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	144.1	97	Pass
AC	984	6/30/2015	Cabot Road	3/4	C	149.0	143.8	97	Pass
AC	985	6/30/2015	Cabot Road	3/4	C	149.0	143.6	96	Pass
AC	986	6/30/2015	Cabot Road	3/4	C	149.0	142.9	96	Pass
AC	987	6/30/2015	Cabot Road	3/4	C	149.0	143.9	97	Pass
AC	988	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	143.8	97	Pass
AC	989	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	144.3	97	Pass
AC	990	6/30/2015	Cabot Road	3/4	C	149.0	142.7	96	Pass
AC	991	6/30/2015	Cabot Road	3/4	C	149.0	143.3	96	Pass
AC	992	6/30/2015	Cabot Road	3/4	C	149.0	144.6	97	Pass
AC	993	6/30/2015	Cabot Road	3/4	C	149.0	142.7	96	Pass
AC	994	6/30/2015	Cabot Road	3/4	C	149.0	143.4	96	Pass
AC	995	6/30/2015	Cabot Road	3/4	C	149.0	142.9	96	Pass
AC	996	7/2/2015	Cabot Road	3/4	D	146.0	140.8	96	Pass
AC	997	7/2/2015	Cabot Road	3/4	D	146.0	141.4	97	Pass
AC	998	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	140.2	96	Pass
AC	999	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.1	97	Pass
AC	1000	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	142.2	97	Pass
AC	1001	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	139.8	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	1002	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	140.4	96	Pass
AC	1003	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.2	97	Pass
AC	1004	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.7	97	Pass
AC	1005	7/2/2015	Crown Valley and Cabot	3/4	D	146.0	141.6	97	Pass
AC	1006	7/2/2015	Crown Valley and Cabot	3/4	D	146.0	142.4	98	Pass
AC	1007	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.8	96	Pass
AC	1008	7/2/2015	Cabot Road CAP	3/4	D	146.0	141.2	97	Pass
AC	1009	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.3	96	Pass
AC	1010	7/2/2015	Cabot Road CAP	3/4	D	146.0	139.7	96	Pass
AC	1011	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.8	96	Pass
AC	1012	7/2/2015	Cabot Road CAP	3/4	D	146.0	139.2	95	Pass
AC	1013	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.9	97	Pass
AC	1014	7/2/2015	Cabot Road CAP	3/4	D	146.0	141.6	97	Pass
AC	1052	7/23/2015	Cabot Road CAP	3/4	D	146.0	142.2	97	Pass
AC	1053	7/23/2015	Driveway North Entry	3/4	D	146.0	140.9	97	Pass
AC	1054	7/23/2015	Driveway North Entry	3/4	D	146.0	141.3	97	Pass
AC	1055	7/23/2015	Driveway North Entry	3/4	D	146.0	140.2	96	Pass
AC	1056	7/23/2015	Driveway North Entry	3/4	D	146.0	139.6	96	Pass
AC	1057	7/23/2015	Driveway North Entry	3/4	D	146.0	141.1	97	Pass
AC	1058	7/23/2015	Driveway North Entry	3/4	D	146.0	140.3	96	Pass
AC	1059	7/23/2015	Driveway North Entry	3/4	D	146.0	141.7	97	Pass
AC	1060	7/23/2015	Driveway North Entry	3/4	D	146.0	139.4	95	Pass
AC	1061	7/23/2015	Driveway North Entry	3/4	D	146.0	140.9	97	Pass
AC	1062	7/23/2015	Driveway North Entry	3/4	D	146.0	140.3	96	Pass
AC	1063	7/23/2015	Driveway North Entry	3/4	D	146.0	141.4	97	Pass
AC	1064	7/23/2015	Driveway North Entry	3/4	D	146.0	139.8	96	Pass
AC	1065	7/23/2015	Driveway North Entry	3/4	D	146.0	140.5	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 3
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557-12

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	EXPANSION INDEX	
				UBC*	CBC**
1	Brown Silt	91.5	25.0	HIGH	EXPANSIVE
2	Brown Sandy Clay	97.0	23.5	MEDIUM	EXPANSIVE
3	Brown Silt	97.0	26.0	HIGH	EXPANSIVE
4	Crushed Miscellaneous Base	122.0	12.0	VERY LOW	NON-EXPANSIVE
5	Crushed Aggregate Base	137.0	10.0	VERY LOW	NON-EXPANSIVE
6	Light Brown Silty Sand	128.0	10.0	LOW	EXPANSIVE
7	Light Brown Clayey Sand	126.0	11.0	LOW	EXPANSIVE
8	NOT USED	—	—		
9	Crushed Miscellaneous Base	123.0	10.0	VERY LOW	NON-EXPANSIVE
10	Crushed Aggregate Base	134.6	5.5	VERY LOW	NON-EXPANSIVE
11	Crushed Aggregate Base	132.0	8.0	VERY LOW	NON-EXPANSIVE
12	Crushed Aggregate Base	136.1	7.0	VERY LOW	NON-EXPANSIVE
13	Crushed Miscellaneous Base	119.3	11.3	VERY LOW	NON-EXPANSIVE

*Reference: 1997 Uniform Building Code, Table 18-I-B.

**Reference: 2013 California Building Code, Section 18.02.3.2

TABLE 4
SUMMARY OF LABORATORY ASPHALT TEST RESULTS
ASTM D 2726-05A, CALTRANS 366

CURVE NO.	TEST	
	HVEEM MAX DENSITY	STABILITY
A	148	47
B	152	47
C	149	48
D	146	47



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Subgrade for Walkways and Driveways and
Backfill of Utility Trenches and Retaining walls
(see Site Plan, Figures 1 through 9)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

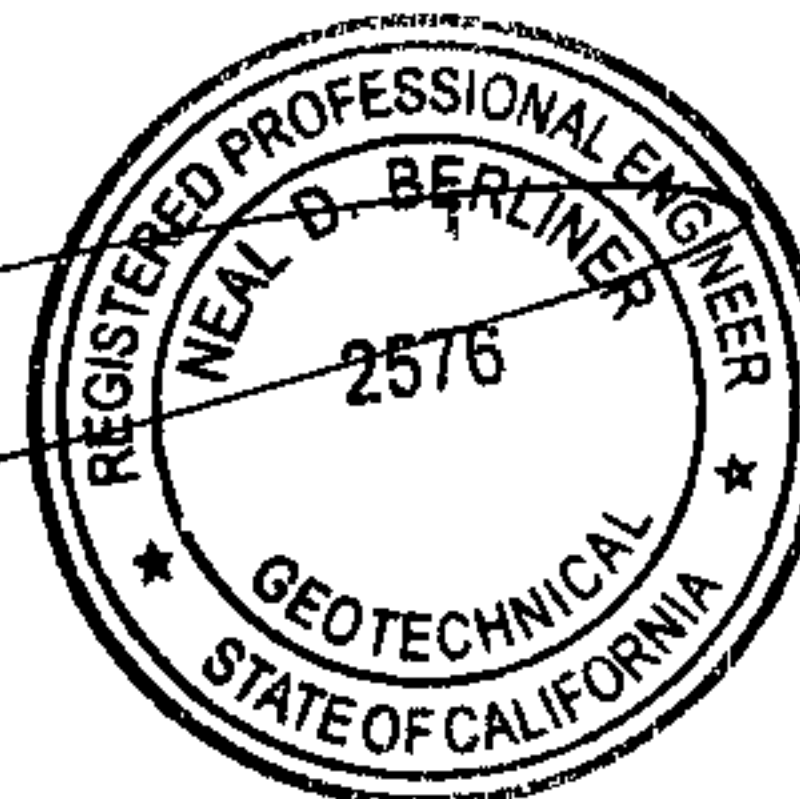
PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 10/01/2013
DATE FILL WAS COMPLETED: 07/23/2015
DATE OF THIS CERTIFICATE: 09/10/2015

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.*

NEAL D. BERLINER
G.E. 2576



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.



Project No. A8803-06-03
September 10, 2015

VIA OVERNIGHT DELIVERY

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

Attention: Mr. Greg Lucas

Subject: FINAL REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING OF SUBGRADE FOR WALKWAYS/DRIVEWAYS
AND BACKFILL OF UTILITY TRENCHES AND RETAINING WALLS
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT #G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during grading of subgrade for walkways and driveways, as well as placement of backfill for utility trenches and retaining walls on the subject property. Our services were performed during the period of October 1, 2013 through July 23, 2015. The scope of our services included the following:

- Observing the grading operation, including the excavation/compaction of existing fill and surficial native soils, and excavation of utility trenches.
- Performing inspection and approval of all excavation bottoms, inspection of utility pipe bedding and shading materials prior to placing backfill, and placement and compaction of base materials and asphalt-concrete.
- Performing scarification and proper compaction of the subgrade soil beneath the paving section.
- Performing inspection and approval of all bottoms prior to placing fill.
- Verification of the suitability of earth and base materials used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of earth and base materials used for fill.
- Performing in-place density tests on the earth and base materials placed and compacted.
- Preparing Site Plans and this report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the proposed paving sections for walkways, driveways, and building slab-on-grade.

GRADING

Grading consisted of excavation and compaction of existing unsuitable site soils for the creation of roughly level paving subgrade, placement of utility trench and retaining wall backfill, as well as placement of base materials and asphalt-concrete in paving.

Paving subgrade soils were scarified, moistened to near optimum moisture content, and compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D1557 (Laboratory Compaction Test). Base materials were also placed and compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D1557. Asphalt-concrete was compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D2726-11 (HVEEM Density).

Prior to placing any engineered fill or bedding sands, the clean bottom of excavated trenches were observed and approved by a representative of this firm. Subsequent to the approval of the trench excavation bottom, the utility was placed on bedding sand and covered with shading sand prior to placement and compaction of engineered backfill. All backfill soils were placed and compacted to at least 90 percent of the maximum density.

Fill was placed by means of loaders, bobcats, and backhoes in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of water trucks and fire hoses, and compacted by track rolling and wheel rolling with loaders and backhoes, sheepsfoot rollers attached to backhoe arms, walk-behind vibratory rollers, dual-drum vibratory rollers, and mechanical whackers. Where failing tests occurred, additional compaction effort was applied utilizing the above mentioned compaction equipment until passing tests were achieved. Approximate limits and depths of engineered fill are indicated on the enclosed Site Plans (see Figures 1 through 9).

In-place density tests were performed in conformance with ASTM Test Method D1556-15 (Sand Cone), and ASTM Test Method ASTM D6938-10 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Tables 1 and 2. In general, the in-place density test results indicate that the paving subgrade and base materials placed have achieved a relative compaction of at least 95 percent, utility trench and wall backfills placed have achieved a relative compaction of at least 90 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test), and the asphalt placed have achieved a relative compaction of at least 95 percent in accordance with ASTM test method D2726-05A (Hveem Density). The results of the laboratory tests are summarized in Tables 3 and 4. The approximate locations of all in-place density tests are indicated on the Site Plan (see Figures 1 through 9).

Laboratory tests were performed on the earth, base, and asphalt-concrete materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Tables 3 and 4. Fill soils were derived from onsite excavations and consist primarily of clayey sand and sandy clay. Imported soil consisting of silty sand, crushed miscellaneous base, and crushed aggregate base was also utilized.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" to "high" expansive potential based on the 2013 California Building Code (CBC) Section 1803.5.3. Special considerations for expansive soils have been incorporated in the geotechnical recommendations. No additional recommendations are considered necessary at this time.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, July 23, 2015. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694




Neal Berliner
GE 2516



Enclosures: Figures 1-9 - Site Plan
 Explanation of Coded Terms
 Tables 1 through 4
 Certification

(Email) Addressee

REFERENCES

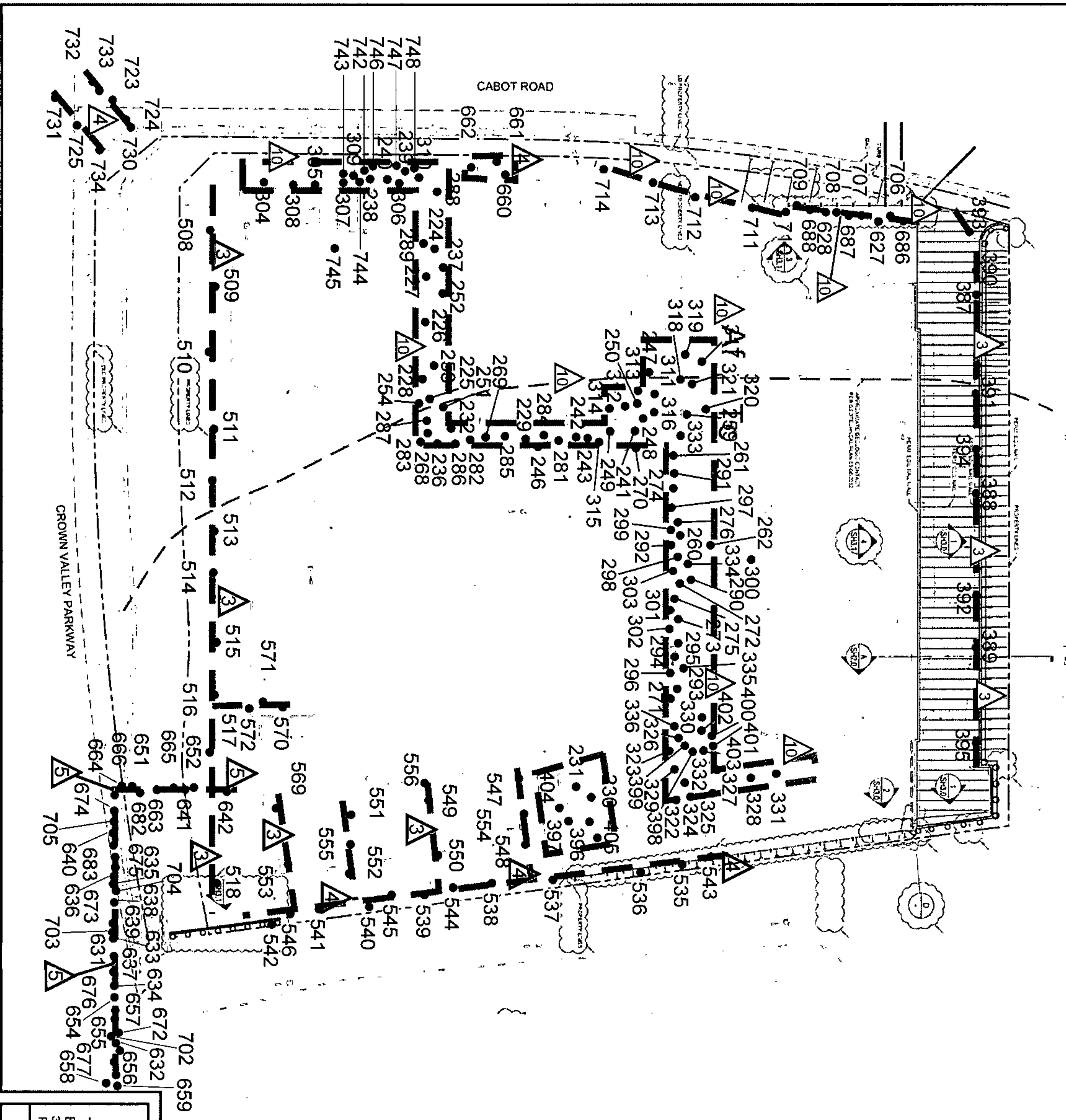
- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Field Inspection of Cut Slope – Northern Property Line*, by Geocon West, Inc. dated August 19, 2013;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013;
- Interim Rough Grading Permit*, by Geocon West, Inc. dated Revised September 27, 2013;
- Report of Observation and Testing Services during Upper MSE Wall Construction and Partial Building Pad Approval*, by Geocon West, Inc., dated October 10, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.10 & Gridlines 2-13*, by Geocon West, Inc., dated Revised October 4, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines G-T & Gridlines 1-8*, by Geocon West, Inc., dated October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.5 & Gridlines 2-14*, by Geocon West, Inc., dated Revised October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-AA & Gridlines 14 & Y10/Y11*, by Geocon West, Inc., dated October 30, 2013;

REFERENCES (CONTD.)

- Partial Building Pad Approval Area Bounded by Gridlines T-J & 14-Y10/Y11 and Gridlines H & 16 & Gridlines J & 11, by Geocon West, Inc., dated November 18, 2013;*
- Deepened Foundations Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, by Geocon West, Inc., dated December 5, 2013;*
- Field Inspection of Temporary Bedrock Cut Slope, by Geocon West, Inc. dated January 22, 2014;*
- Partial Building Pad Approval at Gridline T Bounded By 2-11/12- and at Gridline 11 Bounded by J.2-T, by Geocon West, Inc., dated February 19, 2014;*
- Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, by Geocon West, Inc., dated February 28, 2014;*
- Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, by Geocon West, Inc., dated Revised April 14, 2014;*
- Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines J.2-T.5 & 8-14 by Geocon West, Inc., dated Revised April 14, 2014;*
- Partial Building Pad Approval Area Bounded by Gridlines A-J.2 & Gridlines 3-11, by Geocon West, Inc., dated May 12, 2014;*
- Report of Observation and Testing Services during Grading of Subgrade for the Fire Access Road, by Geocon West, Inc., dated May 29, 2014;*
- Field Inspection of Temporary Cut Slope and Driveway Subgrade – Picerne Shared Entry, by Geocon West, Inc., dated February 3, 2015.*

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △ 10 Approximate Depth of Engineered Fill (in feet)



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ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

P2

8000

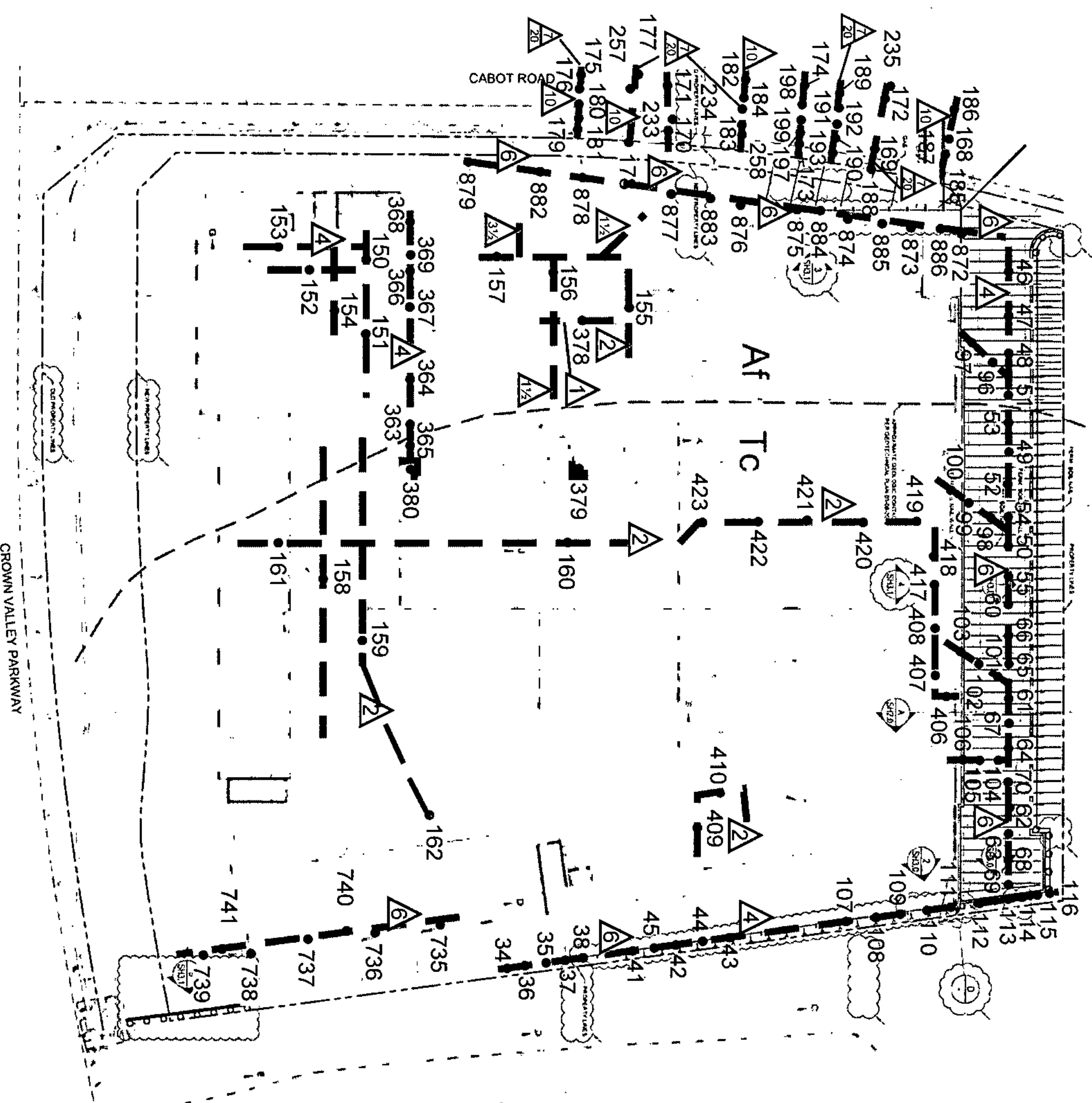
SEPT. 2015

PROJECT NO. A8803-06-03

FIG. 1

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Location of Utility Trench Backfill
- △ 10 Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base Approximate Thickness of Paving Section (in inches)



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3303 N. SAN FERNANDO BLVD., SUITE 100 - BURBANK, CA 91504
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SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

PZ

8000

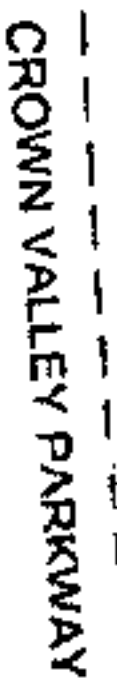
SEOT. 2015

PROJECT NO. A8803-06-03

FIG. 2

100

- 



SITE PLAN

CROWN VALLEY LUXURY APARTMENTS

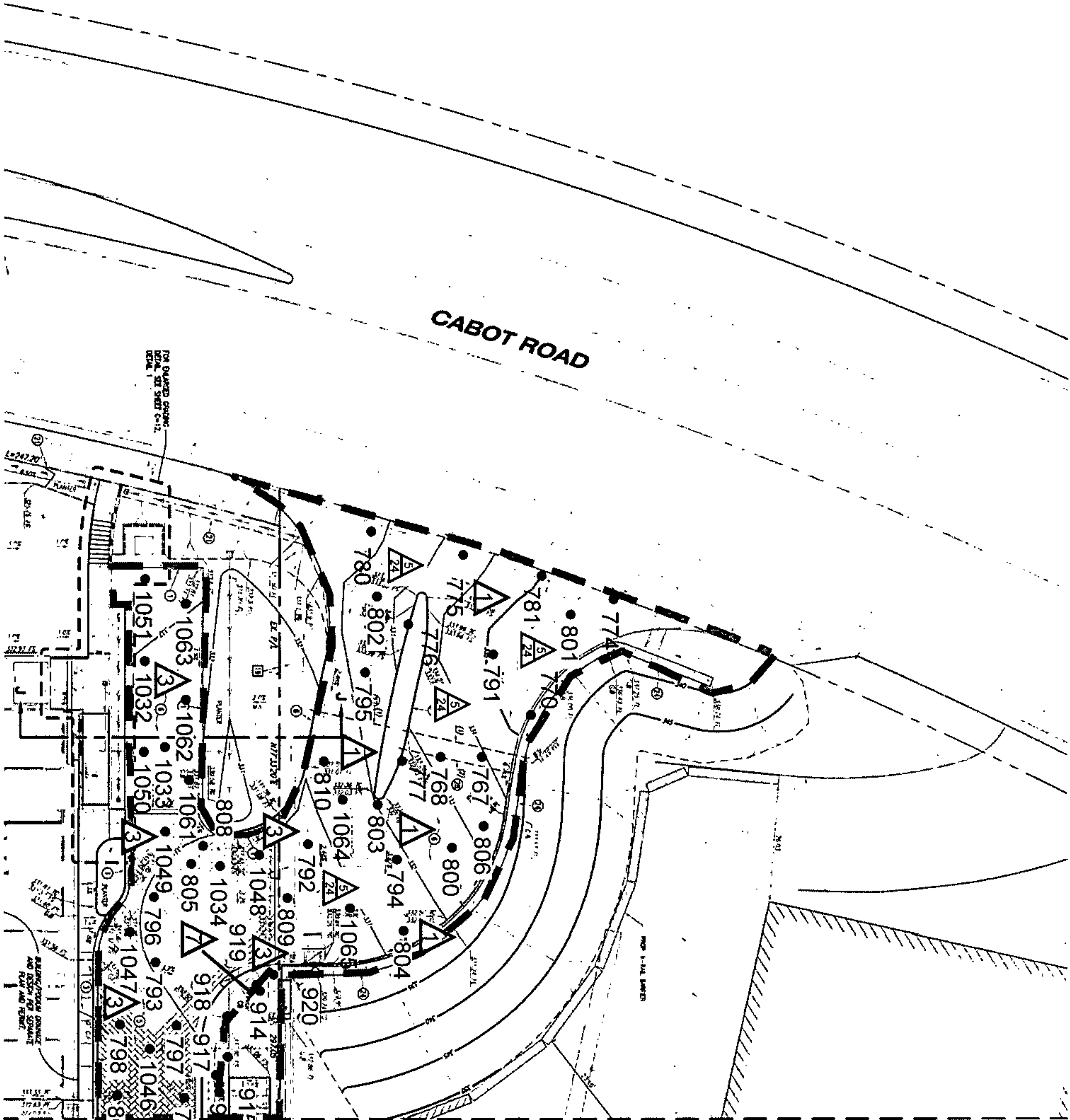
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SEPT. 2015	PROJECT NO. A8803-06-03

FIG. 3

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base Approximate Thickness of Paving Section (in inches)



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ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

Drafted By: SB

Checked By: GAK/SFK

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

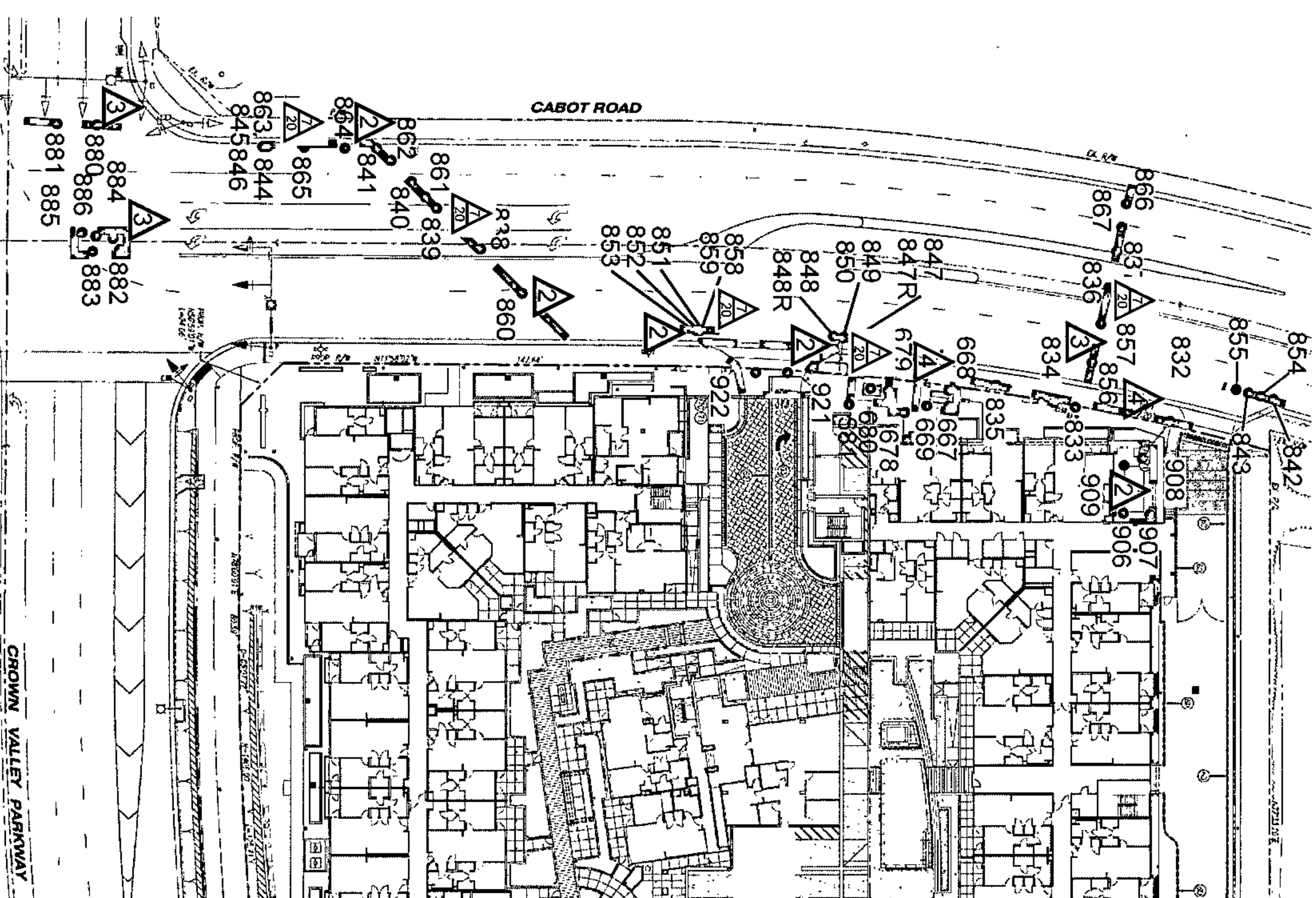
SEPT. 2015

PROJECT NO. A8803-06-03

FIG. 4

LEGEND

- 1065 Approximate Location of Density Test
- ▬▬▬ Approximate Limits of Engineered Fill
- ▬▬▬ Approximate Location of Utility Trench Backfill
- ▴ Approximate Depth of Engineered Fill (in feet)
- ▴ A.C. Base Approximate Thickness of Paving Section (in inches)



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ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 841-8388 - FAX (818) 841-1704

PZ

8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

SEPT. 2015

PROJECT NO. A8803-06-03

FIG. 5

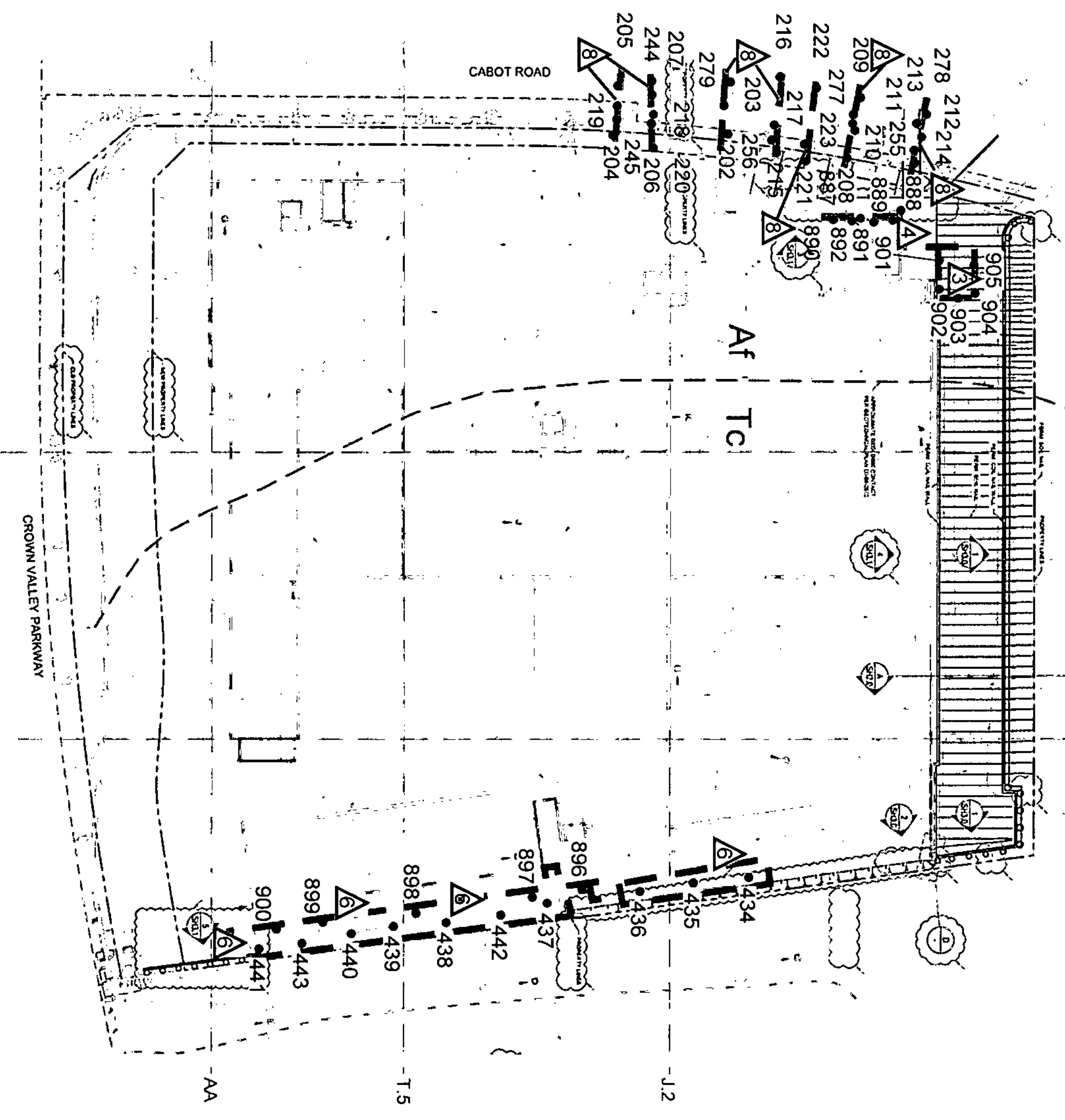
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14

19

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- Approximate Location of Wall Backfill
- △ 6 Approximate Depth of Engineered Fill (in feet)



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ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD., SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

PZ

8000

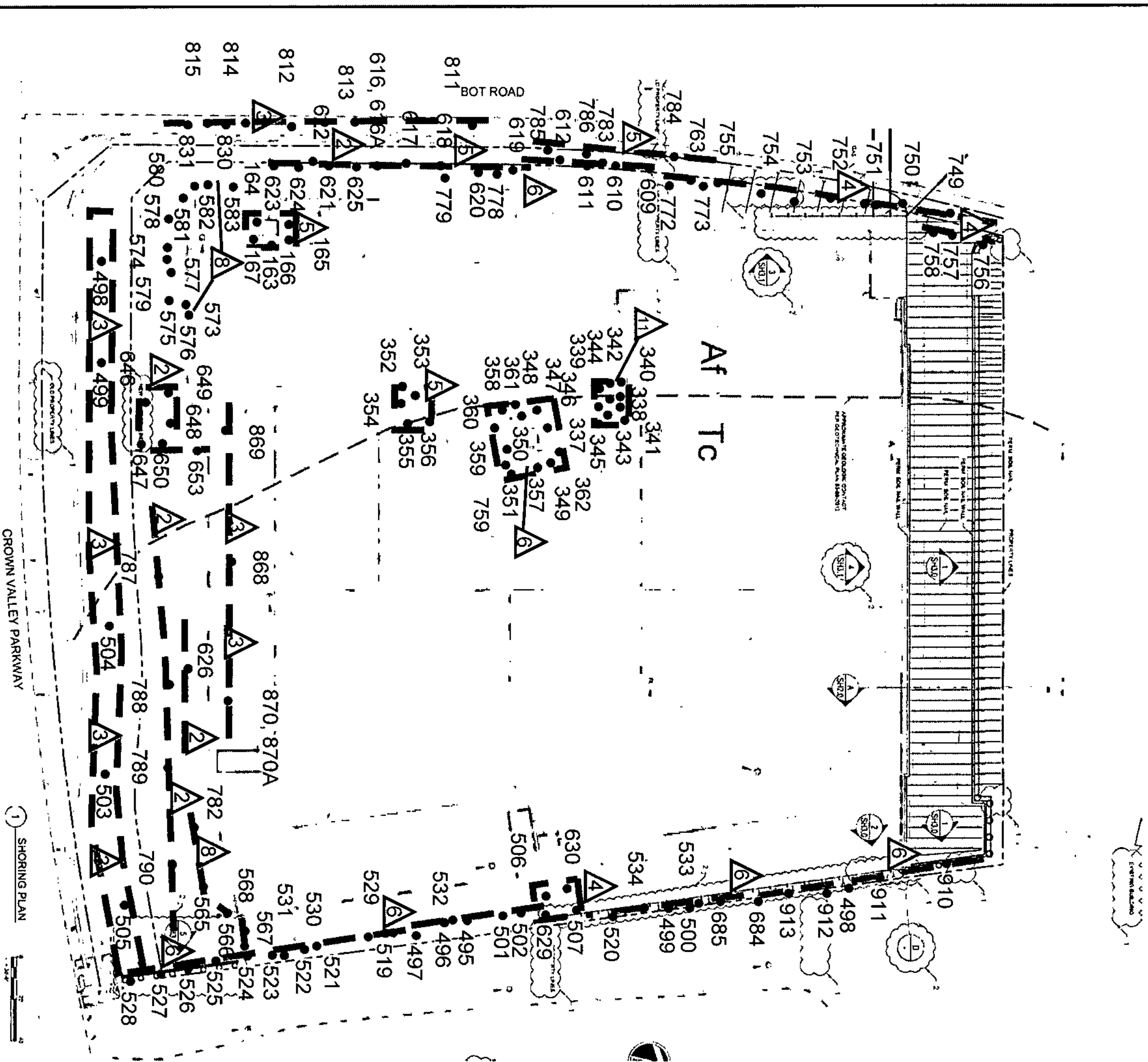
SEPT. 2015

PROJECT NO. A8803-06-03

FIG. 6

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)



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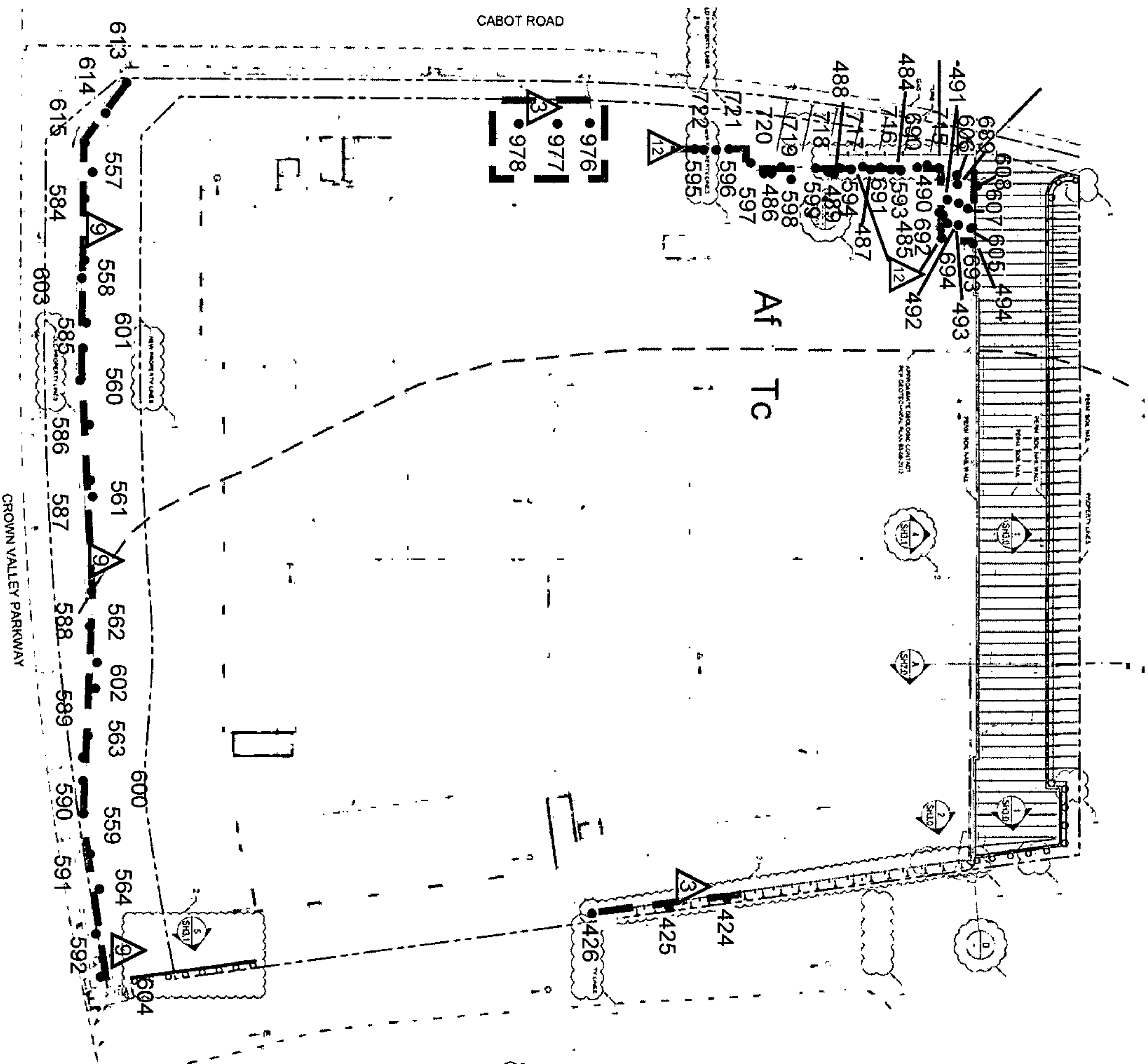
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FIG. 7

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Location of Wall Backfill
- △ 1/2 Approximate Depth of Engineered Fill (in feet)



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LAGUNA NIGUEL, CALIFORNIA

SEPT. 2015 PROJECT NO. A8803-06-03

FIG. 9



TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	1	7/12/2013	NE Soil Nail Wall	316.0	2	89.2	24.9	97.0	23.5	92	NU	Pass
BF	2	7/12/2013	NE Soil Nail Wall	316.0	2	89.7	24.1	97.0	23.5	92	NU	Pass
BF	3	7/12/2013	NE Soil Nail Wall	318.0	2	91.2	25.4	97.0	23.5	94	NU	Pass
BF	4	7/12/2013	NE Soil Nail Wall	318.0	2	91.0	25.1	97.0	23.5	94	NU	Pass
BF	5	7/12/2013	NE Soil Nail Wall	320.0	2	91.6	22.9	97.0	23.5	94	NU	Pass
BF	6	7/12/2013	NE Soil Nail Wall	320.0	2	89.7	23.6	97.0	23.5	92	NU	Pass
BF	7	7/17/2013	NE Soil Nail Wall	322.0	2	90.1	24.9	97.0	23.5	93	NU	Pass
BF	8	7/17/2013	NE Soil Nail Wall	322.0	2	90.2	26.4	97.0	23.5	93	NU	Pass
BF	9	7/17/2013	NE Soil Nail Wall	322.0	2	90.6	24.5	97.0	23.5	93	NU	Pass
BF	10	7/17/2013	NE Soil Nail Wall	324.0	2	89.7	24.1	97.0	23.5	92	NU	Pass
BF	11	7/17/2013	NE Soil Nail Wall	324.0	2	89.2	23.9	97.0	23.5	92	NU	Pass
BF	12	7/17/2013	NE Soil Nail Wall	324.0	2	89.5	24.1	97.0	23.5	92	NU	Pass
BF	13	7/17/2013	NE Soil Nail Wall	326.0	2	90.1	23.0	97.0	23.5	93	SC	Pass
BF	14	7/18/2013	NE Soil Nail Wall	328.0	2	89.1	24.9	97.0	23.5	92	NU	Pass
BF	15	7/18/2013	NE Soil Nail Wall	328.0	2	90.3	25.4	97.0	23.5	93	NU	Pass
BF	16	7/18/2013	NE Soil Nail Wall	330.0	2	89.7	25.1	97.0	23.5	92	NU	Pass
BF	17	7/18/2013	NE Soil Nail Wall	330.0	2	89.3	26.4	97.0	23.5	92	NU	Pass
BF	18	8/9/2013	South Lower MSE Wall	264.0	2	89.8	24.4	97.0	23.5	93	NU	Pass
BF	19	8/9/2013	South Lower MSE Wall	264.0	2	89.8	26.9	97.0	23.5	93	NU	Pass
BF	20	8/9/2013	South Lower MSE Wall	265.0	2	89.9	26.5	97.0	23.5	93	NU	Pass
BF	21	8/9/2013	South Lower MSE Wall	265.0	2	88.4	27.6	97.0	23.5	91	SC	Pass
BF	22	8/16/2013	NW Slope	330.0	3	88.9	28.0	97.0	26.0	92	NU	Pass
BF	23	8/16/2013	NW Slope	330.0	3	87.7	29.0	97.0	26.0	90	NU	Pass
BF	24	8/16/2013	NW Slope	332.0	3	88.1	27.6	97.0	26.0	91	NU	Pass
BF	25	8/16/2013	NW Slope	332.0	3	87.3	27.9	97.0	26.0	90	NU	Pass
BF	26	8/16/2013	NW Slope	333.0	3	87.4	28.5	97.0	26.0	90	NU	Pass
BF	27	8/16/2013	NW Slope	333.0	3	88.2	28.9	97.0	26.0	91	NU	Pass
BF	28	8/20/2013	South Lower MSE Wall	266.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BF	29	8/20/2013	South Lower MSE Wall	266.0	3	91.6	27.5	97.0	26.0	94	NU	Pass
BF	30	8/20/2013	South Lower MSE Wall	266.0	3	90.6	27.1	97.0	26.0	93	NU	Pass
BF	31	8/20/2013	South Lower MSE Wall	266.0	3	90.3	28.5	97.0	26.0	93	NU	Pass
BF	32	8/20/2013	South Lower MSE Wall	266.0	3	89.2	29.0	97.0	26.0	92	NU	Pass
BF	33	8/20/2013	South Lower MSE Wall	266.0	3	89.5	27.3	97.0	26.0	92	SC	Pass
SD	34	9/11/2013	Storm Drain - East Side	277.0	3	88.0	28.7	97.0	26.0	91	NU	Pass
SD	35	9/11/2013	Storm Drain - East Side	279.0	3	91.9	26.1	97.0	26.0	95	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SD	36	9/11/2013	Storm Drain - East Side	281.0	3	91.4	26.9	97.0	26.0	94	NU	Pass
SD	37	9/11/2013	Storm Drain - East Side	283.0	3	90.3	28.1	97.0	26.0	93	NU	Pass
SD	38	9/11/2013	Storm Drain - East Side	285.0	3	89.7	28.3	97.0	26.0	92	NU	Pass
BF	39	9/12/2013	South Upper MSE Wall	280.0	1	84.2	28.1	91.5	25.0	92	NU	Pass
BF	40	9/12/2013	South Upper MSE Wall	282.0	1	84.8	27.5	91.5	25.0	93	NU	Pass
SD	41	9/12/2013	Storm Drain - East Side	296.0	3	87.8	27.9	97.0	26.0	91	NU	Pass
SD	42	9/12/2013	Storm Drain - East Side	298.0	3	89.1	29.1	97.0	26.0	92	NU	Pass
SD	43	9/12/2013	Storm Drain - East Side	298.0	3	88.1	28.4	97.0	26.0	91	NU	Pass
SD	44	9/12/2013	Storm Drain - East Side	300.0	3	89.2	27.7	97.0	26.0	92	NU	Pass
SD	45	9/12/2013	Storm Drain - East Side	300.0	3	88.6	29.0	97.0	26.0	91	NU	Pass
SD	46	9/12/2013	Storm Drain - North Side	330.0	3	90.3	28.4	97.0	26.0	93	NU	Pass
SD	47	9/12/2013	Storm Drain - North Side	332.0	3	89.3	28.1	97.0	26.0	92	SC	Pass
SD	48	9/13/2013	Storm Drain - North Side	330.0	3	89.9	28.4	97.0	26.0	93	NU	Pass
SD	49	9/13/2013	Storm Drain - North Side	330.0	3	88.6	28.5	97.0	26.0	91	NU	Pass
SD	50	9/13/2013	Storm Drain - North Side	330.0	3	90.6	27.5	97.0	26.0	93	NU	Pass
SD	51	9/13/2013	Storm Drain - North Side	332.0	3	90.1	28.8	97.0	26.0	93	NU	Pass
SD	52	9/13/2013	Storm Drain - North Side	332.0	3	87.3	29.0	97.0	26.0	90	NU	Pass
SD	53	9/13/2013	Storm Drain - North Side	332.0	3	87.7	27.8	97.0	26.0	90	NU	Pass
SD	54	9/13/2013	Storm Drain - North Side	334.0	3	89.2	28.3	97.0	26.0	92	NU	Pass
SD	55	9/13/2013	Storm Drain - North Side	334.0	3	89.0	28.7	97.0	26.0	92	SC	Pass
BF	56	9/16/2013	South Upper MSE Wall	270.0	4	112.2	14.1	122.0	12.0	92	NU	Pass
BF	57	9/16/2013	South Upper MSE Wall	270.0	4	114.0	13.9	122.0	12.0	93	NU	Pass
BF	58	9/16/2013	South Upper MSE Wall	272.0	4	111.7	14.6	122.0	12.0	92	NU	Pass
BF	59	9/16/2013	South Upper MSE Wall	272.0	4	111.4	13.4	122.0	12.0	91	NU	Pass
SD	60	9/16/2013	Storm Drain - North Side	328.0	3	89.6	27.5	97.0	26.0	92	NU	Pass
SD	61	9/16/2013	Storm Drain - North Side	328.0	1	85.4	26.8	91.5	25.0	93	NU	Pass
SD	62	9/16/2013	Storm Drain - North Side	328.0	1	84.9	26.7	91.5	25.0	93	NU	Pass
SD	63	9/16/2013	Storm Drain - North Side	330.0	1	85.0	27.4	91.5	25.0	93	NU	Pass
SD	64	9/16/2013	Storm Drain - North Side	330.0	1	85.9	27.0	91.5	25.0	94	NU	Pass
SD	65	9/16/2013	Storm Drain - North Side	330.0	1	83.4	28.1	91.5	25.0	91	NU	Pass
SD	66	9/16/2013	Storm Drain - North Side	332.0	3	87.7	27.5	97.0	26.0	90	NU	Pass
SD	67	9/16/2013	Storm Drain - North Side	332.0	3	88.1	28.9	97.0	26.0	91	NU	Pass
SD	68	9/16/2013	Storm Drain - North Side	332.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
SD	69	9/16/2013	Storm Drain - North Side	334.0	3	89.2	27.9	97.0	26.0	92	NU	Pass
SD	70	9/16/2013	Storm Drain - North Side	334.0	3	88.2	28.4	97.0	26.0	91	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	71	9/17/2013	South Upper MSE Wall	274.0	4	112.6	11.4	122.0	12.0	92	NU	Pass
BF	72	9/17/2013	South Upper MSE Wall	274.0	4	112.7	12.1	122.0	12.0	92	NU	Pass
BF	73	9/17/2013	South Upper MSE Wall	274.0	4	110.4	10.5	122.0	12.0	90	NU	Pass
BF	74	9/17/2013	South Upper MSE Wall	276.0	4	113.4	10.7	122.0	12.0	93	NU	Pass
BF	75	9/17/2013	South Upper MSE Wall	276.0	4	113.5	10.9	122.0	12.0	93	NU	Pass
BF	76	9/17/2013	South Upper MSE Wall	276.0	4	115.2	11.5	122.0	12.0	94	NU	Pass
BF	77	9/17/2013	South Upper MSE Wall	278.0	4	113.3	12.4	122.0	12.0	93	SC	Pass
BF	78	9/17/2013	South Upper MSE Wall	278.0	4	111.5	12.1	122.0	12.0	91	SC	Pass
BF	79	9/17/2013	South Upper MSE Wall	278.0	4	115.9	11.5	122.0	12.0	95	SC	Pass
BF	80	9/18/2013	South Upper MSE Wall	280.0	4	113.9	11.9	122.0	12.0	93	NU	Pass
BF	81	9/18/2013	South Upper MSE Wall	280.0	4	114.3	10.6	122.0	12.0	94	NU	Pass
BF	82	9/18/2013	South Upper MSE Wall	280.0	4	114.8	10.0	122.0	12.0	94	NU	Pass
BF	83	9/18/2013	South Upper MSE Wall	280.0	4	114.5	11.1	122.0	12.0	94	NU	Pass
BF	84	9/18/2013	South Upper MSE Wall	282.0	4	115.2	12.2	122.0	12.0	94	NU	Pass
BF	85	9/18/2013	South Upper MSE Wall	282.0	4	112.8	10.5	122.0	12.0	92	NU	Pass
BF	86	9/18/2013	South Upper MSE Wall	282.0	4	113.3	11.9	122.0	12.0	93	NU	Pass
BF	87	9/18/2013	South Upper MSE Wall	282.0	4	111.6	11.5	122.0	12.0	91	NU	Pass
BF	88	9/18/2013	South Upper MSE Wall	284.0	4	114.8	13.4	122.0	12.0	94	NU	Pass
BF	89	9/18/2013	South Upper MSE Wall	284.0	4	114.0	10.8	122.0	12.0	93	NU	Pass
BF	90	9/18/2013	South Upper MSE Wall	284.0	4	113.4	10.5	122.0	12.0	93	NU	Pass
BF	91	9/18/2013	South Upper MSE Wall	284.0	4	115.2	11.7	122.0	12.0	94	SC	Pass
BF	92	9/19/2013	South Upper MSE Wall	286.0	4	114.8	12.8	122.0	12.0	94	NU	Pass
BF	93	9/19/2013	South Upper MSE Wall	286.0	4	113.3	12.5	122.0	12.0	93	NU	Pass
BF	94	9/19/2013	South Upper MSE Wall	286.0	4	111.6	13.1	122.0	12.0	91	NU	Pass
BF	95	9/19/2013	South Upper MSE Wall	286.0	4	110.4	10.4	122.0	12.0	90	NU	Pass
SD	96	9/20/2013	Storm Drain - North Side	330.0	3	88.2	27.1	97.0	26.0	91	NU	Pass
SD	97	9/20/2013	Storm Drain - North Side	332.0	3	88.0	28.4	97.0	26.0	91	NU	Pass
SD	98	9/20/2013	Storm Drain - North Side	330.0	3	88.1	26.9	97.0	26.0	91	NU	Pass
SD	99	9/20/2013	Storm Drain - North Side	332.0	3	87.6	27.5	97.0	26.0	90	NU	Pass
SD	100	9/20/2013	Storm Drain - North Side	334.0	3	88.7	27.9	97.0	26.0	91	NU	Pass
SD	101	9/20/2013	Storm Drain - North Side	330.0	3	88.1	28.4	97.0	26.0	91	NU	Pass
SD	102	9/20/2013	Storm Drain - North Side	332.0	3	88.2	29.0	97.0	26.0	91	NU	Pass
SD	103	9/20/2013	Storm Drain - North Side	334.0	3	88.5	27.9	97.0	26.0	91	NU	Pass
SD	104	9/20/2013	Storm Drain - North Side	330.0	3	87.3	28.5	97.0	26.0	90	NU	Pass
SD	105	9/20/2013	Storm Drain - North Side	332.0	3	87.4	28.9	97.0	26.0	90	SC	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SD	106	9/20/2013	Storm Drain - North Side	334.0	3	87.7	29.1	97.0	26.0	90	SC	Pass
SD	107	9/21/2013	Storm Drain - NE Corner	303.0	2	89.4	26.4	97.0	23.5	92	NU	Pass
SD	108	9/21/2013	Storm Drain - NE Corner	305.0	2	90.4	26.2	97.0	23.5	93	NU	Pass
SD	109	9/21/2013	Storm Drain - NE Corner	310.0	2	89.2	26.4	97.0	23.5	92	NU	Pass
SD	110	9/21/2013	Storm Drain - NE Corner	313.0	2	89.3	25.1	97.0	23.5	92	NU	Pass
SD	111	9/21/2013	Storm Drain - NE Corner	315.0	2	89.7	25.9	97.0	23.5	92	NU	Pass
SD	112	9/21/2013	Storm Drain - NE Corner	320.0	2	89.2	26.4	97.0	23.5	92	NU	Pass
SD	113	9/21/2013	Storm Drain - NE Corner	325.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
SD	114	9/21/2013	Storm Drain - NE Corner	331.0	2	89.2	25.3	97.0	23.5	92	NU	Pass
SD	115	9/21/2013	Storm Drain - NE Corner	333.0	2	88.7	25.1	97.0	23.5	91	NU	Pass
SD	116	9/21/2013	Storm Drain - NE Corner	334.0	2	87.3	26.8	97.0	23.5	90	NU	Pass
BP	117	9/21/2013	Storm Drain - NE Corner	270.0	4	113.5	11.0	122.0	12.0	93	SC	Pass
BP	118	10/1/2013	South Upper MSE Wall	270.0	4	115.0	11.9	122.0	12.0	94	NU	Pass
BP	119	10/1/2013	South Upper MSE Wall	272.0	4	113.3	11.5	122.0	12.0	93	NU	Pass
BP	120	10/1/2013	South Upper MSE Wall	272.0	4	113.4	13.1	122.0	12.0	93	NU	Pass
BP	121	10/1/2013	South Upper MSE Wall	274.0	4	113.5	13.0	122.0	12.0	93	NU	Pass
BP	122	10/1/2013	South Upper MSE Wall	274.0	4	114.0	12.5	122.0	12.0	93	NU	Pass
BP	123	10/1/2013	South Upper MSE Wall	274.0	4	113.2	11.4	122.0	12.0	93	NU	Pass
BP	124	10/1/2013	South Upper MSE Wall	276.0	3	89.3	27.1	97.0	26.0	92	NU	Pass
BP	125	10/1/2013	South Upper MSE Wall	276.0	3	89.2	26.5	97.0	26.0	92	NU	Pass
BP	126	10/1/2013	South Upper MSE Wall	276.0	3	90.1	27.5	97.0	26.0	93	NU	Pass
BP	127	10/1/2013	South Upper MSE Wall	278.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BP	128	10/1/2013	South Upper MSE Wall	278.0	3	89.2	26.9	97.0	26.0	92	NU	Pass
BP	129	10/1/2013	South Upper MSE Wall	278.0	3	89.2	27.5	97.0	26.0	92	NU	Pass
BP	130	10/1/2013	South Upper MSE Wall	280.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
BP	131	10/1/2013	South Upper MSE Wall	280.0	3	89.7	27.1	97.0	26.0	92	NU	Pass
BP	132	10/1/2013	South Upper MSE Wall	280.0	3	89.2	28.1	97.0	26.0	92	NU	Pass
BP	133	10/1/2013	South Upper MSE Wall	280.0	3	89.4	26.5	97.0	26.0	92	NU	Pass
BP	134	10/1/2013	South Upper MSE Wall	282.0	3	89.3	26.9	97.0	26.0	92	NU	Pass
BP	135	10/1/2013	South Upper MSE Wall	282.0	3	89.2	27.1	97.0	26.0	92	NU	Pass
BP	136	10/1/2013	South Upper MSE Wall	284.0	3	89.3	26.8	97.0	26.0	92	NU	Pass
BP	137	10/1/2013	South Upper MSE Wall	284.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BP	138	10/1/2013	South Upper MSE Wall	284.0	3	89.7	27.8	97.0	26.0	92	NU	Pass
BP	139	10/1/2013	South Upper MSE Wall	284.0	3	89.2	28.4	97.0	26.0	92	NU	Pass
BP	140	10/1/2013	South Upper MSE Wall	286.0	3	89.1	26.9	97.0	26.0	92	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BP	141	10/1/2013	South Upper MSE Wall	286.0	3	89.5	27.8	97.0	26.0	92	NU	Pass
BP	142	10/1/2013	South Upper MSE Wall	286.0	3	89.6	27.9	97.0	26.0	92	NU	Pass
BP	143	10/1/2013	South Upper MSE Wall	288.0	3	88.1	26.5	97.0	26.0	91	NU	Pass
BP	144	10/1/2013	South Upper MSE Wall	288.0	3	88.7	28.1	97.0	26.0	91	NU	Pass
BP	145	10/1/2013	South Upper MSE Wall	288.0	3	88.9	27.9	97.0	26.0	92	NU	Pass
BP	146	10/1/2013	South Upper MSE Wall	290.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
BP	147	10/1/2013	South Upper MSE Wall	290.0	3	89.2	27.0	97.0	26.0	92	SC	Pass
BP	148	10/1/2013	South Upper MSE Wall	290.0	3	87.3	27.0	97.0	26.0	90	SC	Pass
BP	149	10/1/2013	South Upper MSE Wall	290.0	3	87.4	27.5	97.0	26.0	90	SC	Pass
SM	150	10/31/2013	Sewer - SW Corner	289.0	3	89.7	27.3	97.0	26.0	92	NU	Pass
SM	151	10/31/2013	Sewer - SW Corner	289.0	3	89.4	27.6	97.0	26.0	92	NU	Pass
SM	152	10/31/2013	Sewer - SW Corner	289.0	3	90.2	28.0	97.0	26.0	93	NU	Pass
SM	153	10/31/2013	Sewer - SW Corner	289.0	3	89.8	27.1	97.0	26.0	93	NU	Pass
SM	154	10/31/2013	Sewer - SW Corner	289.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
SD	155	11/6/2013	Storm Drain - West Side	300.0	3	92.3	25.8	97.0	26.0	95	NU	Pass
SD	156	11/6/2013	Storm Drain - West Side	300.0	3	92.1	26.3	97.0	26.0	95	NU	Pass
SD	157	11/6/2013	Storm Drain - West Side	298.5	3	90.1	26.0	97.0	26.0	93	NU	Pass
SM	158	11/20/2013	Plumbing - SW Corner	290.0	3	93.0	26.9	97.0	26.0	96	NU	Pass
SM	159	11/20/2013	Plumbing - SW Corner	290.0	3	92.2	27.1	97.0	26.0	95	NU	Pass
SM	160	11/26/2013	Plumbing - SW Corner	290.0	2	88.6	26.2	97.0	23.5	91	NU	Pass
SM	161	11/27/2013	Plumbing - SW Corner	290.0	2	90.3	25.9	97.0	23.5	93	SC	Pass
SM	162	11/27/2013	Plumbing - SW Corner	290.0	3	89.4	27.5	97.0	26.0	92	SC	Pass
WB	163	12/3/2013	PIT	287.0	2	89.8	2.0	97.0	23.5	93	NU	Pass
WB	164	12/3/2013	PIT	287.0	2	90.5	25.8	97.0	23.5	93	NU	Pass
WB	165	12/3/2013	PIT	288.0	2	89.4	26.2	97.0	23.5	92	NU	Pass
WB	166	12/3/2013	PIT	289.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
WB	167	12/3/2013	PIT	289.0	2	90.7	25.7	97.0	23.5	94	NU	Pass
WM	168	12/3/2013	Water Line - West Side	324.0	5	134.3	8.1	137.0	10.0	98	NU	Pass
WM	169	12/3/2013	Water Line - West Side	322.0	5	134.7	8.0	137.0	10.0	98	NU	Pass
WM	170	12/17/2013	Water Line - West Side	314.0	5	130.9	9.1	137.0	10.0	96	NU	Pass
WM	171	12/17/2013	Water Line - West Side	315.0	5	131.2	8.7	137.0	10.0	96	NU	Pass
WM	172	12/18/2013	Water Line - West Side	322.0	5	131.5	8.4	137.0	10.0	96	NU	Pass
WM	173	12/18/2013	Water Line - West Side	317.0	5	131.0	8.7	137.0	10.0	96	NU	Pass
WM	174	12/18/2013	Water Line - West Side	318.0	5	131.1	8.5	137.0	10.0	96	SC	Pass
WM	175	1/6/2014	Water Line - West Side	309.0	5	130.4	10.2	137.0	10.0	95	NU	Pass

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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WM	176	1/6/2014	Water Line - West Side	310.0	5	130.9	10.1	137.0	10.0	96	NU	Pass
WM	177	1/6/2014	Water Line - West Side	314.0	5	131.9	10.0	137.0	10.0	96	NU	Pass
WM	178	1/6/2014	Water Line - West Side	315.0	5	130.6	10.1	137.0	10.0	95	NU	Pass
WM	179	1/8/2014	Water Line - West Side	308.0	5	130.8	10.4	137.0	10.0	95	NU	Pass
WM	180	1/8/2014	Water Line - West Side	309.0	5	131.1	9.8	137.0	10.0	96	NU	Pass
WM	181	1/8/2014	Water Line - West Side	310.0	5	130.7	10.2	137.0	10.0	95	NU	Pass
WM	182	1/10/2014	Water Line - West Side	316.0	5	130.3	10.5	137.0	10.0	95	NU	Pass
WM	183	1/10/2014	Water Line - West Side	316.0	5	130.6	10.4	137.0	10.0	95	NU	Pass
WM	184	1/10/2014	Water Line - West Side	318.0	5	131.8	10.0	137.0	10.0	96	NU	Pass
WM	185	1/10/2014	WL - Lat "G" Retest of #168	324.0	5	130.2	10.4	137.0	10.0	95	NU	Pass
WM	186	1/10/2014	Water Line - Lat "G"	323.0	5	130.5	10.3	137.0	10.0	95	NU	Pass
WM	187	1/10/2014	Water Line - Lat "G"	324.0	5	130.9	10.0	137.0	10.0	96	NU	Pass
WM	188	1/10/2014	WL - Lat "F" Retest of #169	322.0	5	130.7	10.1	137.0	10.0	95	SC	Pass
WM	189	1/13/2014	Lateral "E"	SG	5	130.6	10.5	137.0	10.0	95	NU	Pass
WM	190	1/13/2014	Lateral "E"	SG	5	133.9	10.7	137.0	10.0	98	NU	Pass
WM	191	1/13/2014	Lateral "E"	SG	5	133.2	10.0	137.0	10.0	97	NU	Pass
WM	192	1/13/2014	Lateral "E"	SG	5	132.1	10.3	137.0	10.0	96	NU	Pass
WM	193	1/13/2014	Lateral "E"	SG	5	130.4	10.9	137.0	10.0	95	NU	Pass
WM	94	1/13/2014	Lateral "E"	SG	5	130.3	10.6	137.0	10.0	95	NU	Pass
SG	195	1/15/2014	Cabot Road Slope	SG	2	92.4	24.3	97.0	23.5	95	NU	Pass
SG	196	1/15/2014	Cabot Road Slope	SG	2	94.2	25.5	97.0	23.5	97	NU	Pass
SG	197	1/23/2014	Lateral "D" - Cabot Rd	318.0	5	131.5	8.0	137.0	10.0	96	NU	Pass
SG	198	1/23/2014	Lateral "D" - Cabot Rd	318.0	5	130.1	8.4	137.0	10.0	95	NU	Pass
WM	199	1/23/2014	Lateral "D" - Cabot Rd	317.0	5	130.3	7.9	137.0	10.0	95	NU	Pass
SG	200	1/23/2014	Lateral "D" - Cabot Rd	319.0	5	130.2	7.5	137.0	10.0	95	NU	Pass
SG	201	1/23/2014	Lateral "D" - Cabot Rd	319.0	5	130.1	8.1	137.0	10.0	95	SC	Pass
WM	202	1/24/2014	Lateral "C" - Cabot Rd	311.0	5	131.9	9.9	137.0	10.0	96	NU	Pass
WM	203	1/24/2014	Lateral "C" - Cabot Rd	313.0	5	131.2	10.1	137.0	10.0	96	NU	Pass
WM	204	1/24/2014	Lateral "C" - Cabot Rd	313.0	5	131.7	10.3	137.0	10.0	96	NU	Pass
WM	205	1/24/2014	Lateral "C" - Cabot Rd	315.0	5	131.5	10.4	137.0	10.0	96	NU	Pass
WM	206	1/24/2014	Lateral "B" - Cabot Rd	310.0	5	131.1	9.7	137.0	10.0	96	NU	Pass
WM	207	1/24/2014	Lateral "B" - Cabot Rd	312.0	5	132.2	9.5	137.0	10.0	97	SC	Pass
WM	208	1/28/2014	Water Line - N of Lat "F"	319.0	5	130.2	10.0	137.0	10.0	95	NU	Pass
WM	209	1/28/2014	Water Line - N of Lat "F"	319.0	5	131.7	9.8	137.0	10.0	96	NU	Pass
WM	210	1/28/2014	Water Line - N of Lat "F"	320.0	5	131.1	10.1	137.0	10.0	96	NU	Pass

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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WM	211	1/28/2014	Water Line - N of Lat "F"	320.0	5	130.8	10.3	137.0	10.0	95	NU	Pass
WM	212	1/29/2014	Water Line - N of Lat "G"	323.0	5	130.5	10.4	137.0	10.0	95	NU	Pass
WM	213	1/29/2014	Water Line - N of Lat "G"	323.0	5	131.0	10.1	137.0	10.0	96	NU	Pass
WM	214	1/29/2014	Water Line - N of Lat "G"	324.0	5	130.6	10.2	137.0	10.0	95	NU	Pass
WM	215	1/30/2014	Water Line - N of Lat "D"	316.0	5	131.3	10.1	137.0	10.0	96	NU	Pass
WM	216	1/30/2014	Water Line - N of Lat "D"	317.0	5	130.7	10.3	137.0	10.0	95	NU	Pass
WM	217	1/30/2014	Water Line - N of Lat "D"	317.0	5	131.0	9.9	137.0	10.0	96	SC	Pass
WM	218	1/31/2014	Water Line - N of Lat "B"	306.0	5	130.9	10.0	137.0	10.0	96	NU	Pass
WM	219	1/31/2014	Water Line - N of Lat "B"	302.0	5	131.4	9.8	137.0	10.0	96	NU	Pass
WM	220	1/31/2014	Water Line - N of Lat "B"	308.0	5	131.7	10.1	137.0	10.0	96	NU	Pass
WM	221	1/31/2014	Water Line - S of Lat "F"	319.0	5	131.0	10.0	137.0	10.0	96	NU	Pass
WM	222	1/31/2014	Water Line - S of Lat "F"	320.0	5	130.8	10.2	137.0	10.0	95	NU	Pass
WM	223	1/31/2014	Water Line - S of Lat "F"	321.0	5	130.5	10.4	137.0	10.0	95	NU	Pass
WB	224	2/4/2014	Gridline T.5	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	225	2/4/2014	Gridline T.5	291.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	226	2/4/2014	Gridline T.5	292.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	227	2/4/2014	Gridline T.5	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	228	2/4/2014	Gridline T.5	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	229	2/4/2014	Gridline 14	291.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	230	2/4/2014	Elevator Pit - East Side	287.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
WB	231	2/4/2014	Elevator Pit - East Side	289.0	2	90.3	25.7	97.0	23.5	93	SC	Pass
WB	232	2/4/2014	Gridline 14	292.0	6	119.1	12.3	128.0	10.0	93	SC	Pass
WB	236	2/5/2014	Gridline T.5	293.0	6	119.2	12.6	128.0	10.0	93	NU	Pass
WB	237	2/5/2014	Gridline T.5	294.0	6	118.7	12.5	128.0	10.0	93	NU	Pass
WB	238	2/5/2014	Gridline 1	291.0	6	119.5	12.1	128.0	10.0	93	NU	Pass
WB	239	2/5/2014	Gridline 1	292.0	6	120.3	12.0	128.0	10.0	94	NU	Pass
WB	240	2/5/2014	Gridline 1	293.0	6	118.2	12.7	128.0	10.0	92	NU	Pass
WB	241	2/5/2014	Gridline 14	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	242	2/5/2014	Gridline 14	292.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	243	2/5/2014	Gridline 14	293.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
SG	244	2/5/2014	North of Sewer Lateral	318.0	6	126.2	11.4	128.0	10.0	99	NU	Pass
SG	245	2/5/2014	North of Sewer Lateral	320.0	6	125.0	11.7	128.0	10.0	98	SC	Pass
WB	246	2/6/2014	Gridline 14	294.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	247	2/6/2014	Gridlines J.2 & 14	291.0	6	117.9	13.1	128.0	10.0	92	NU	Pass
WB	248	2/6/2014	Gridlines J.2 & 14	292.0	6	118.8	12.2	128.0	10.0	93	NU	Pass

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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	249	2/6/2014	Gridlines J.2 & 14	293.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
WB	250	2/6/2014	Gridlines J.2 & 14	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	251	2/6/2014	Gridline T.5	295.0	6	118.2	12.5	128.0	10.0	92	NU	Pass
WB	252	2/6/2014	Gridline T.5	295.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	253	2/6/2014	Gridline T.5	296.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	254	2/6/2014	Gridline T.5	297.0	6	118.5	12.7	128.0	10.0	93	NU	Pass
B	255	2/6/2014	Between Laterals	316.0	5	131.6	10.7	137.0	10.0	96	NU	Pass
B	256	2/6/2014	Between Laterals	318.0	5	131.0	11.1	137.0	10.0	96	NU	Pass
WB	259	2/7/2014	Gridline J.2	291.0	6	118.6	12.6	128.0	10.0	93	NU	Pass
WB	260	2/7/2014	Gridline J.2	291.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	261	2/7/2014	Gridline J.2	292.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	262	2/7/2014	Gridline J.2	292.0	6	118.5	12.9	128.0	10.0	93	SC	Pass
WB	268	2/10/2014	Gridline 14 - Between T.5&J.2	294.0	6	119.0	12.3	128.0	10.0	93	NU	Pass
WB	269	2/10/2014	Gridline 14 - Between T.5&J.2	295.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	270	2/10/2014	Gridline 14 - Between T.5&J.2	296.0	6	119.9	12.0	128.0	10.0	94	NU	Pass
WB	271	2/11/2014	Gridline J.2 - Between 13&19	291.0	6	118.2	12.8	128.0	10.0	92	NU	Pass
WB	272	2/11/2014	Gridline J.2 - Between 13&19	292.0	6	118.5	13.0	128.0	10.0	93	NU	Pass
WB	273	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
WB	274	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.9	12.1	128.0	10.0	94	NU	Pass
WB	275	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.8	13.1	128.0	10.0	93	NU	Pass
WB	276	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.3	13.4	128.0	10.0	92	NU	Pass
WM	277	2/11/2014	Lateral "F"	325.0	2	87.9	25.8	97.0	23.5	91	NU	Pass
WM	278	2/11/2014	Lateral "G"	323.0	2	87.8	26.0	97.0	23.5	91	NU	Pass
WM	279	2/11/2014	Fire Hydrant	291.0	2	87.8	25.9	97.0	23.5	91	NU	Pass
WM	280	2/11/2014	Fire Hydrant	292.0	2	88.0	26.9	97.0	23.5	91	NU	Pass
WB	281	2/12/2014	Gridline 14 - Between T.5&J.2	295.0	2	88.3	12.8	97.0	23.5	91	NU	Pass
WB	282	2/12/2014	Gridline 14 - Between T.5&J.2	296.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	283	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
WB	284	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	119.1	12.2	128.0	10.0	93	SC	Pass
WB	285	2/12/2014	Gridline 14 - Between T.5&J.2	298.0	6	117.8	13.1	128.0	10.0	92	NU	Pass
WB	286	2/12/2014	Gridline 14 - Between T.5&J.2	299.0	6	118.0	12.7	128.0	10.0	92	NU	Pass
WB	287	2/12/2014	Gridline T.5	299.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	288	2/12/2014	Gridline T.5	299.0	6	118.2	12.6	128.0	10.0	92	NU	Pass
WB	289	2/12/2014	Gridline T.5	299.0	6	119.3	12.0	128.0	10.0	93	NU	Pass
WB	290	2/12/2014	Gridline J.2 - Between 13&19	295.0	6	118.7	12.4	128.0	10.0	93	NU	Pass

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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	291	2/13/2014	Gridline J.2 - Between 13&19	295.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	292	2/14/2014	Gridline J.2 - Between 13&19	296.0	6	119.0	12.1	128.0	10.0	93	NU	Pass
WB	293	2/14/2014	Gridline J.2 - Between 13&19	291.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
WB	294	2/14/2014	Gridline J.2 - Between 13&19	292.0	6	118.9	12.3	128.0	10.0	93	NU	Pass
WB	295	2/14/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	296	2/14/2014	Gridline J.2 - Between 13&19	294.0	6	118.6	12.5	128.0	10.0	93	SC	Pass
WB	297	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	298	2/18/2014	Gridline J.2 - Between 14&18	298.0	6	118.3	12.7	128.0	10.0	92	NU	Pass
WB	299	2/18/2014	Gridline J.2 - Between 14&18	299.0	6	118.9	12.2	128.0	10.0	93	NU	Pass
WB	300	2/18/2014	Gridline J.2 - Between 14&18	300.0	6	118.1	12.6	128.0	10.0	92	NU	Pass
WB	301	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	302	2/18/2014	Gridline J.2 - Between 14&18	298.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	303	2/18/2014	Gridline J.2 - Between 14&18	299.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	304	2/19/2014	Gridline 1/2 - Between AA-T.5	292.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	305	2/19/2014	Gridline 1/2 - Between AA-T.5	295.0	6	118.0	12.8	128.0	10.0	92	NU	Pass
WB	306	2/19/2014	Gridline 1/2 - Between AA-T.5	294.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	307	2/19/2014	Gridline 1/2 - Between AA-T.5	296.0	6	118.8	12.1	128.0	10.0	93	NU	Pass
WB	308	2/19/2014	Gridline 1/2 - Between AA-T.5	296.0	6	118.1	13.0	128.0	10.0	92	SC	Pass
WB	309	2/20/2014	Gridline 1/2 - Between AA-T.5	299.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	310	2/20/2014	Gridline 1/2 - Between AA-T.5	300.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	311	2/20/2014	Gridline 14	296.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	312	2/20/2014	Gridline 14	296.0	6	118.1	12.9	128.0	10.0	92	NU	Pass
WB	313	2/20/2014	Gridline 14	297.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	314	2/20/2014	Gridline 14	298.0	6	118.9	12.1	128.0	10.0	93	NU	Pass
WB	315	2/20/2014	Gridline 14	299.0	6	118.6	12.5	128.0	10.0	93	NU	Pass
WB	316	2/20/2014	Gridline 14	300.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	317	3/18/2014	Column Backfill	291.0	2	90.2	25.7	97.0	23.5	93	NU	Pass
WB	318	3/18/2014	Column Backfill	293.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	319	3/18/2014	Column Backfill	295.0	6	118.7	12.1	128.0	10.0	93	NU	Pass
WB	320	3/18/2014	Column Backfill	297.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	321	3/18/2014	Column Backfill	299.0	6	118.8	12.0	128.0	10.0	93	SC	Pass
WB	322	3/19/2014	Gridline J.2 - 18	291.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
WB	323	3/19/2014	Gridline J.2 - 18	292.0	6	118.4	12.1	128.0	10.0	93	NU	Pass
WB	324	3/19/2014	Gridline J.2 - 18	292.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	325	3/19/2014	Gridline J.2 - 18	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	326	3/19/2014	Gridline J.2-18	293.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	327	3/20/2014	Gridline J.2-18	294.0	6	119.5	12.3	128.0	10.0	93	NU	Pass
WB	328	3/20/2014	Gridline J.2-18	295.0	6	118.9	13.0	128.0	10.0	93	NU	Pass
WB	329	3/20/2014	Gridline J.2-18	296.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	330	3/20/2014	Gridline J.2-18	297.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	331	3/20/2014	Gridline J.2-18	298.0	6	118.6	12.9	128.0	10.0	93	NU	Pass
WB	332	3/20/2014	Gridline J.2-18	299.0	6	118.3	13.1	128.0	10.0	92	SC	Pass
WB	333	4/4/2014	Along J.2	300.0	6	118.8	12.2	128.0	10.0	93	NU	Pass
WB	334	4/4/2014	Along J.2	300.0	6	118.5	12.5	128.0	10.0	93	NU	Pass
WB	335	4/4/2014	Along J.2	300.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	336	4/4/2014	Along J.2	300.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
BF	337	4/7/2014	Column Backfill - Gridline M/11	291.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
BF	338	4/7/2014	Column Backfill - Gridline M/11	292.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
BF	339	4/7/2014	Column Backfill - Gridline M/11	293.0	2	90.3	25.6	97.0	23.5	93	NU	Pass
BF	340	4/7/2014	Column Backfill - Gridline M/11	294.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	341	4/7/2014	Column Backfill - Gridline M/11	295.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
BF	342	4/7/2014	Column Backfill - Gridline M/11	296.0	2	89.5	26.3	97.0	23.5	92	NU	Pass
BF	343	4/7/2014	Column Backfill - Gridline M/11	297.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
BF	344	4/7/2014	Column Backfill - Gridline M/11	298.0	2	90.4	25.6	97.0	23.5	93	NU	Pass
BF	345	4/7/2014	Column Backfill - Gridline M/11	299.0	2	89.9	25.8	97.0	23.5	93	NU	Pass
BF	346	4/7/2014	Column Backfill - Gridline M/11	300.0	2	89.5	26.1	97.0	23.5	92	NU	Pass
BF	347	4/7/2014	Column/Elevator Backfill - N/11	296.0	2	89.3	26.8	97.0	23.5	92	NU	Pass
BF	348	4/7/2014	Column/Elevator Backfill - N/11	297.0	2	90.6	25.6	97.0	23.5	93	SC	Pass
BF	349	4/8/2014	Column/Elevator Backfill - N/11	298.0	2	90.9	25.4	97.0	23.5	94	NU	Pass
BF	350	4/8/2014	Column/Elevator Backfill - N/11	299.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	351	4/8/2014	Column/Elevator Backfill - N/11	300.0	2	89.8	24.3	97.0	23.5	93	NU	Pass
BF	352	4/8/2014	Column Backfill - Gridline T/11	296.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
BF	353	4/8/2014	Column Backfill - Gridline T/11	297.0	2	90.3	25.5	97.0	23.5	93	NU	Pass
BF	354	4/8/2014	Column Backfill - Gridline T/11	298.0	2	90.6	25.6	97.0	23.5	93	NU	Pass
BF	355	4/8/2014	Column Backfill - Gridline T/11	299.0	2	89.4	25.9	97.0	23.5	92	NU	Pass
BF	356	4/8/2014	Column Backfill - Gridline T/11	300.0	2	89.7	25.6	97.0	23.5	92	SC	Pass
BF	357	4/9/2014	Column Backfill - Gridline T/11	295.0	2	90.4	25.7	97.0	23.5	93	NU	Pass
BF	358	4/9/2014	Column Backfill - Gridline T/11	296.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
BF	359	4/9/2014	Column Backfill - Gridline T/11	297.0	2	89.7	26.2	97.0	23.5	92	NU	Pass
BF	360	4/9/2014	Column Backfill - Gridline T/11	298.0	2	89.4	26.1	97.0	23.5	92	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	361	4/9/2014	Column Backfill - Gridline T/11	299.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
BF	362	4/9/2014	Column Backfill - Gridline T/11	300.0	2	90.3	25.6	97.0	23.5	93	SC	Pass
SM	363	4/12/2014	Sewer Line - Gridline T East	297.0	2	90.7	25.5	97.0	23.5	94	NU	Pass
SM	364	4/12/2014	Sewer Line - Gridline T East	298.0	2	89.9	25.8	97.0	23.5	93	NU	Pass
SM	365	4/12/2014	Sewer Line - Gridline T East	300.0	2	89.5	26.0	97.0	23.5	92	NU	Pass
SM	366	4/14/2014	Gridline T.5	297.0	2	89.8	26.4	97.0	23.5	93	NU	Pass
SM	367	4/14/2014	Gridline T.5	298.0	2	90.2	26.1	97.0	23.5	93	NU	Pass
SM	368	4/14/2014	Gridline T.5	299.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
SM	369	4/14/2014	Gridline T.5	300.0	2	89.7	26.3	97.0	23.5	92	NU	Pass
WB	370	4/14/2014	Wall - East Side of Bldg	292.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	371	4/14/2014	Wall - East Side of Bldg	292.0	6	118.9	12.1	128.0	10.0	93	NU	Pass
WB	372	4/14/2014	Wall - East Side of Bldg	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	373	4/14/2014	Wall - East Side of Bldg	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	374	4/14/2014	Wall - East Side of Bldg	294.0	6	119.3	12.2	128.0	10.0	93	NU	Pass
WB	375	4/14/2014	Wall - East Side of Bldg	294.0	6	118.5	12.8	128.0	10.0	93	NU	Pass
WB	376	4/14/2014	Wall - East Side of Bldg	295.0	6	118.2	12.9	128.0	10.0	92	NU	Pass
WB	377	4/14/2014	Wall - East Side of Bldg	295.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
SD	378	4/15/2014	Gridlines M/N - 7/8	300.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
SM	379	4/15/2014	Gridline N/14	299.0	2	90.5	25.8	97.0	23.5	93	NU	Pass
SM	380	4/15/2014	Gridline T.5/14	299.0	2	89.9	26.5	97.0	23.5	93	NU	Pass
WB	381	4/15/2014	Wall - East Side of Bldg	296.0	6	119.0	12.4	128.0	10.0	93	NU	Pass
WB	382	4/15/2014	Wall - East Side of Bldg	296.0	6	118.8	12.7	128.0	10.0	93	NU	Pass
WB	383	4/15/2014	Wall - East Side of Bldg	296.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	384	4/15/2014	Wall - East Side of Bldg	297.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
WB	385	4/15/2014	Wall - East Side of Bldg	297.0	6	118.7	12.4	128.0	10.0	93	SC	Pass
WB	386	4/15/2014	Wall - East Side of Bldg	297.0	6	118.9	12.2	128.0	10.0	93	SC	Pass
FL	387	4/16/2014	North Access Road	329.0	2	90.4	25.5	97.0	23.5	93	NU	Pass
FL	388	4/16/2014	North Access Road	329.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
FL	389	4/16/2014	North Access Road	329.0	2	89.5	26.9	97.0	23.5	92	NU	Pass
FL	390	4/16/2014	North Access Road	330.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
FL	391	4/16/2014	North Access Road	330.0	2	90.7	25.6	97.0	23.5	94	NU	Pass
FL	392	4/16/2014	North Access Road	330.0	2	90.0	26.1	97.0	23.5	93	NU	Pass
FL	393	4/16/2014	North Access Road	331.0	2	89.6	26.4	97.0	23.5	92	NU	Pass
FL	394	4/16/2014	North Access Road	331.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
FL	395	4/16/2014	North Access Road	331.0	2	90.3	25.7	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	396	4/21/2014	East Side of Bldg	298.0	2	91.1	25.7	97.0	23.5	94	NU	Pass
SG	397	4/21/2014	East Side of Bldg	299.0	2	90.5	26.0	97.0	23.5	93	SC	Pass
SG	398	4/22/2014	Column Backfill	291.0	2	89.6	26.3	97.0	23.5	92	NU	Pass
SG	399	4/22/2014	Column Backfill	293.0	2	90.0	26.1	97.0	23.5	93	NU	Pass
SG	400	4/22/2014	Column Backfill	295.0	2	90.7	25.9	97.0	23.5	94	NU	Pass
SG	401	4/22/2014	Column Backfill	297.0	2	89.4	26.6	97.0	23.5	92	NU	Pass
SG	402	4/22/2014	Column Backfill	299.0	2	89.9	26.0	97.0	23.5	93	NU	Pass
SG	403	4/22/2014	Column Backfill	300.0	2	89.5	26.4	97.0	23.5	92	NU	Pass
SG	404	4/22/2014	East Side of Bldg	300.0	2	89.8	26.0	97.0	23.5	93	NU	Pass
SG	405	4/22/2014	East Side of Bldg	301.0	2	89.5	26.2	97.0	23.5	92	SC	Pass
UT	406	4/24/2014	Storm Drain - Line B	299.0	2	89.6	26.4	97.0	23.5	92	NU	Pass
UT	407	4/24/2014	Storm Drain - Line B	300.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
UT	408	4/24/2014	Storm Drain - Line B	299.0	2	90.6	25.7	97.0	23.5	93	NU	Pass
UT	409	4/24/2014	Sewer Line - Line G	300.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
UT	410	4/24/2014	Sewer Line - Line G	300.0	2	90.3	26.0	97.0	23.5	93	NU	Pass
SG	411	4/24/2014	South of Bldg	290.0	2	90.6	26.2	97.0	23.5	93	NU	Pass
SG	412	4/24/2014	South of Bldg	290.0	2	90.8	26.0	97.0	23.5	94	NU	Pass
SG	413	4/24/2014	South of Bldg	290.0	2	90.7	26.4	97.0	23.5	94	NU	Pass
SG	414	4/24/2014	South of Bldg	291.0	2	91.3	25.6	97.0	23.5	94	NU	Pass
SG	415	4/24/2014	South of Bldg	291.0	2	89.5	25.9	97.0	23.5	92	SC	Pass
SG	416	4/24/2014	South of Bldg	300.0	2	90.2	26.2	97.0	23.5	93	SC	Pass
UT	417	4/25/2014	Storm Drain - Line B	300.0	2	90.8	26.0	97.0	23.5	94	NU	Pass
UT	418	4/25/2014	Storm Drain - Line B	299.0	2	89.5	25.8	97.0	23.5	92	NU	Pass
UT	419	4/25/2014	Storm Drain - Line 14-15	300.0	2	89.9	26.3	97.0	23.5	93	NU	Pass
UT	420	4/25/2014	Storm Drain - Line 14-15	299.0	2	90.5	26.1	97.0	23.5	93	NU	Pass
UT	421	4/25/2014	Storm Drain - Line 14-15	300.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
UT	422	4/25/2014	Storm Drain - Line 14-15	299.0	2	91.1	25.5	97.0	23.5	94	NU	Pass
UT	423	4/25/2014	Storm Drain - Line 14-15	300.0	2	89.9	26.2	97.0	23.5	93	SC	Pass
WB	424	5/6/2014	East Side - Grid Line X6 to X9	288.0	2	90.1	25.8	97.0	23.5	93	NU	Pass
WB	425	5/6/2014	East Side - Grid Line X6 to X9	289.0	2	89.7	25.5	97.0	23.5	92	NU	Pass
WB	426	5/6/2014	East Side - Grid Line X6 to X9	290.0	2	90.3	26.1	97.0	23.5	93	NU	Pass
SG	427	5/20/2014	Fire Road - East to West	334.0	2	92.9	24.1	97.0	23.5	96	NU	Pass
SG	428	5/20/2014	Fire Road - East to West	334.0	2	93.1	23.8	97.0	23.5	96	NU	Pass
SG	429	5/20/2014	Fire Road - East to West	332.0	2	92.4	24.3	97.0	23.5	95	NU	Pass
SG	430	5/20/2014	Fire Road - East to West	331.0	2	92.7	24.0	97.0	23.5	96	SC	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	431	5/23/2014	Fire Access Road	332.0	9	120.4	8.6	123.0	10.0	98	NU	Pass
B	432	5/23/2014	Fire Access Road	332.0	9	118.2	7.3	123.0	10.0	96	NU	Pass
B	433	5/23/2014	Fire Access Road	332.0	9	117.6	8.1	123.0	10.0	96	NU	Pass
SG	434	6/3/2014	Gridline Y11 - X6 to X10	290.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
SG	435	6/3/2014	Gridline Y11 - X6 to X10	292.0	2	89.8	26.0	97.0	23.5	93	NU	Pass
SG	436	6/3/2014	Gridline Y11 - X6 to X10	294.0	2	90.3	25.5	97.0	23.5	93	SC	Pass
SG	437	7/1/2014	Gridline Y10 - X10 to X16	300.0	2	90.6	25.3	97.0	23.5	93	NU	Pass
SG	438	7/1/2014	Gridline Y10 - X10 to X16	301.0	2	90.9	25.0	97.0	23.5	94	NU	Pass
SG	439	7/1/2014	Gridline Y10 - X10 to X16	302.0	2	89.7	26.0	97.0	23.5	92	SC	Pass
SG	440	7/2/2014	Gridline Y10 - X10 to X16	303.0	2	90.1	25.8	97.0	23.5	93	NU	Pass
SG	441	7/2/2014	Gridline Y10 - X10 to X16	304.0	2	90.4	25.6	97.0	23.5	93	NU	Pass
SG	442	7/2/2014	Gridline Y10 to X6 to X10	296.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
SG	443	7/2/2014	Gridline Y10 to X6 to X10	298.0	2	90.0	25.8	97.0	23.5	93	SC	Pass
SG	444	7/8/2014	Gridlines 1-3s and D.5-G	292.0	2	90.1	25.3	97.0	23.5	93	NU	Pass
SG	445	7/8/2014	Gridlines 1-3s and D.5-G	293.0	2	90.5	25.0	97.0	23.5	93	NU	Pass
SG	446	7/8/2014	Gridlines 1-3s and D.5-G	295.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
SG	447	7/8/2014	Gridlines 1-3s and D.5-G	296.0	2	90.0	25.1	97.0	23.5	93	NU	Pass
SG	448	7/8/2014	Gridlines 1-3s and D.5-G	297.0	2	90.3	25.0	97.0	23.5	93	SC	Pass
SG	449	7/15/2014	Gridlines 1-3 between D.5 to N.8	293.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
SG	450	7/15/2014	Gridlines 1-3 between D.5 to N.8	295.0	2	90.4	25.8	97.0	23.5	93	NU	Pass
SG	451	7/15/2014	Gridlines 1-3 between D.5 to N.8	297.0	2	90.8	25.5	97.0	23.5	94	NU	Pass
SG	452	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	90.0	25.9	97.0	23.5	93	NU	Pass
SG	453	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	90.3	25.6	97.0	23.5	93	NU	Pass
SG	454	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	89.9	26.1	97.0	23.5	93	SC	Pass
SG	455	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
SG	456	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	117.9	12.8	128.0	10.0	92	NU	Pass
SG	457	7/21/2015	Gridlines 1-3 between D.5 to N.8	308.0	6	118.4	12.3	128.0	10.0	93	NU	Pass
SG	458	7/21/2015	Gridlines 1-3 between D.5 to N.8	309.0	6	118.7	12.0	128.0	10.0	93	NU	Pass
SG	459	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	118.5	12.1	128.0	10.0	93	SC	Pass
SG	460	7/22/2015	West of Building	301.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
SG	461	7/22/2015	West of Building	303.0	6	118.9	12.0	128.0	10.0	93	NU	Pass
SG	462	7/22/2015	West of Building	305.0	6	118.3	12.2	128.0	10.0	92	NU	Pass
SG	463	7/22/2015	West of Building	307.0	6	118.0	12.7	128.0	10.0	92	SC	Pass
SG	464	7/23/2015	Gridline 3-7 and A-B	302.0	6	118.7	12.6	128.0	10.0	93	NU	Pass
SG	465	7/23/2015	Gridline 3-7 and A-B	303.0	6	118.4	13.1	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	466	7/23/2014	Gridlines 3-7 and A-B	304.0	6	119.2	12.0	128.0	10.0	93	NU	Pass
SG	467	7/23/2014	Gridlines 3-7 and A-B	305.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
SG	468	7/23/2014	Gridlines 3-7 and A-B	306.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
SG	469	7/23/2014	Gridlines 3-7 and A-B	307.0	6	118.3	12.8	128.0	10.0	92	SC	Pass
SG	470	7/24/2014	Gridlines 3-7 and A-B	309.0	6	120.1	12.3	128.0	10.0	94	NU	Pass
SG	471	7/24/2014	Gridlines 3-7 and A-B	310.0	6	118.7	12.2	128.0	10.0	93	NU	Pass
SG	472	7/24/2014	Gridlines 3-7 and A-B	311.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
SG	473	7/24/2014	Gridlines 3-7 and A-B	312.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
SG	474	7/28/2014	Gridlines 1-3 and D-K	311.0	6	118.8	12.3	128.0	10.0	93	NU	Pass
SG	475	7/28/2014	Gridlines 1-3 and D-K	312.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
SG	476	7/28/2014	Gridlines 1-3 and D-K	313.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
SG	477	7/28/2014	Gridlines 1-3 and D-K	314.0	6	118.6	12.9	128.0	10.0	93	NU	Pass
SG	478	7/28/2014	Gridlines 1-3 and D-K	315.0	6	118.9	12.3	128.0	10.0	93	SC	Pass
SG	479	7/29/2014	Gridlines 3-7 and A-B	313.0	6	118.5	13.1	128.0	10.0	93	NU	Pass
SG	480	7/29/2014	Gridlines 3-7 and A-B	314.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
SG	481	7/29/2014	Gridlines 3-7 and A-B	317.0	6	118.6	12.7	128.0	10.0	93	NU	Pass
SG	482	7/29/2014	Gridlines 3-7 and A-B	315.0	6	118.2	12.4	128.0	10.0	92	NU	Pass
SG	483	7/29/2014	Gridlines 3-7 and A-B	315.0	6	119.0	12.1	128.0	10.0	93	SC	Pass
WB	484	8/14/2014	Gridlines 5-9 and C-K	316.0	6	119.4	12.2	128.0	10.0	93	NU	Pass
WB	485	8/14/2014	Gridlines 5-9 and C-K	317.0	6	118.9	12.7	128.0	10.0	93	NU	Pass
WB	486	8/14/2014	Gridlines 5-9 and C-K	318.0	6	118.4	13.3	128.0	10.0	93	NU	Pass
WB	487	8/14/2014	Gridlines 5-9 and C-K	319.0	6	118.7	13.1	128.0	10.0	93	NU	Pass
WB	488	8/14/2014	Gridlines 5-9 and C-K	320.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
WB	489	8/14/2014	Gridlines 5-9 and C-K	320.0	6	118.3	13.6	128.0	10.0	92	SC	Pass
WB	490	8/15/2015	Gridlines 3-7 and A-B	316.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	491	8/15/2015	Gridlines 3-7 and A-B	317.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	492	8/15/2015	Gridlines 3-7 and A-B	318.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	493	8/15/2015	Gridlines 3-7 and A-B	319.0	6	118.6	13.0	128.0	10.0	93	NU	Pass
WB	494	8/15/2015	Gridlines 3-7 and A-B	320.0	6	119.0	12.1	128.0	10.0	93	SC	Pass
UT	495	8/20/2014	Storm Drain - East of Bldg	295.0	6	118.5	13.1	128.0	10.0	93	NU	Pass
UT	496	8/20/2014	Storm Drain - East of Bldg	296.0	6	119.7	12.0	128.0	10.0	94	NU	Pass
UT	497	8/20/2014	Storm Drain - East of Bldg	297.0	6	118.0	12.6	128.0	10.0	92	NU	Pass
UT	498	8/21/2014	Storm Drain - NE Side Bldg	304.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
UT	499	8/21/2014	Storm Drain - NE Side Bldg	300.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
UT	500	8/21/2014	Storm Drain - NE Side Bldg	302.0	6	119.4	12.0	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	501	8/22/2014	Storm Drain - NE Side Bldg	296.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
UT	502	8/22/2014	Storm Drain - NE Side Bldg	297.0	6	118.2	13.1	128.0	10.0	92	NU	Pass
UT	503	8/26/2014	Storm Drain - Filter Unit	291.0	4	114.1	12.3	122.0	12.0	94	NU	Pass
UT	504	8/26/2014	Storm Drain - Filter Unit	290.0	4	112.8	11.4	122.0	12.0	92	NU	Pass
UT	505	8/26/2014	Storm Drain - Filter Unit	291.0	4	113.0	10.7	122.0	12.0	93	NU	Pass
UT	506	8/26/2014	Storm Drain - Filter Unit	290.0	4	112.7	11.1	122.0	12.0	92	NU	Pass
UT	507	8/26/2014	Storm Drain - Filter Unit	291.0	4	114.4	12.1	122.0	12.0	94	SC	Pass
UT	508	8/29/2014	Storm Drain - South of Bldg.	289.0	4	115.1	11.6	122.0	12.0	94	NU	Pass
UT	509	8/29/2014	Storm Drain - South of Bldg.	290.0	4	114.8	12.5	122.0	12.0	94	NU	Pass
UT	510	8/29/2014	Storm Drain - South of Bldg.	291.0	4	113.8	12.0	122.0	12.0	93	NU	Pass
UT	511	8/29/2014	Storm Drain - South of Bldg.	290.0	4	114.0	11.4	122.0	12.0	93	NU	Pass
UT	512	8/29/2014	Storm Drain - South of Bldg.	291.0	4	113.5	10.9	122.0	12.0	93	SC	Pass
UT	513	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.4	12.8	122.0	12.0	94	NU	Pass
UT	514	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.5	11.9	122.0	12.0	94	NU	Pass
UT	515	9/2/2014	Storm Drain - South of Bldg.	290.0	4	114.0	13.2	122.0	12.0	93	NU	Pass
UT	516	9/2/2014	Storm Drain - South of Bldg.	291.0	4	113.6	12.1	122.0	12.0	93	NU	Pass
UT	517	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.6	11.3	122.0	12.0	94	NU	Pass
UT	518	9/2/2014	Storm Drain - South of Bldg.	291.0	4	113.7	12.4	122.0	12.0	93	NU	Pass
UT	519	9/2/2014	Storm Drain - East of Bldg	292.0	3	91.6	26.8	97.0	26.0	94	NU	Pass
UT	520	9/2/2014	Storm Drain - East of Bldg	294.0	3	90.0	26.4	97.0	26.0	93	SC	Pass
UT	521	9/2/2014	Storm Drain - East of Bldg	297.0	3	90.6	27.1	97.0	26.0	93	SC	Pass
UT	522	9/3/2014	Storm Drain	296.0	3	91.1	26.8	97.0	26.0	94	NU	Pass
UT	523	9/3/2014	Storm Drain	298.0	3	91.3	27.5	97.0	26.0	94	NU	Pass
UT	524	9/3/2014	Storm Drain	297.0	3	90.5	26.8	97.0	26.0	93	NU	Pass
UT	525	9/3/2014	Storm Drain	299.0	3	90.2	27.2	97.0	26.0	93	SC	Pass
UT	526	9/10/2014	Storm Drain	287.0	3	90.8	26.3	97.0	26.0	94	NU	Pass
UT	527	9/10/2014	Storm Drain	289.0	3	91.0	28.1	97.0	26.0	94	NU	Pass
UT	528	9/10/2014	Storm Drain	292.0	3	92.3	26.5	97.0	26.0	95	NU	Pass
UT	529	9/10/2014	Storm Drain	294.0	3	90.6	27.7	97.0	26.0	93	NU	Pass
UT	530	9/10/2014	Storm Drain	295.0	3	90.5	27.1	97.0	26.0	93	NU	Pass
UT	531	9/10/2014	Storm Drain	290.0	3	91.3	26.6	97.0	26.0	94	NU	Pass
UT	532	9/10/2014	Storm Drain	293.0	3	91.6	26.8	97.0	26.0	94	NU	Pass
UT	533	9/10/2014	Storm Drain	294.0	3	90.8	27.4	97.0	26.0	94	SC	Pass
UT	534	9/10/2014	Storm Drain	295.0	3	91.6	27.8	97.0	26.0	94	SC	Pass
UT	535	9/11/2014	Storm Drain Main - Slope East	325.0	2	90.3	24.3	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	536	9/11/2014	Storm Drain Main - Slope East	327.0	2	89.7	25.1	97.0	23.5	92	NU	Pass
UT	537	9/11/2014	Storm Drain Main - Slope East	329.0	2	91.1	23.8	97.0	23.5	94	NU	Pass
UT	538	9/11/2014	Storm Drain Main - Slope East	330.0	2	90.5	24.4	97.0	23.5	93	NU	Pass
UT	539	9/11/2014	Storm Drain Main - Slope East	331.0	2	89.8	24.0	97.0	23.5	93	NU	Pass
UT	540	9/11/2014	Storm Drain Main - Slope East	328.0	2	91.6	25.3	97.0	23.5	94	NU	Pass
UT	541	9/11/2014	Storm Drain Main - Slope East	327.0	2	90.4	25.8	97.0	23.5	93	NU	Pass
UT	542	9/11/2014	Storm Drain Main - Slope East	325.0	2	90.0	24.2	97.0	23.5	93	SC	Pass
UT	543	9/16/2014	Storm Drain - East Side	285.0	3	89.8	27.1	97.0	26.0	93	NU	Pass
UT	544	9/16/2014	Storm Drain - East Side	284.0	3	91.3	26.9	97.0	26.0	94	NU	Pass
UT	545	9/16/2014	Storm Drain - East Side	290.0	3	90.6	28.1	97.0	26.0	93	NU	Pass
UT	546	9/16/2014	Storm Drain - East Side	292.0	3	89.6	27.4	97.0	26.0	92	SC	Pass
UT	547	9/17/2014	Storm Drain	290.0	3	89.8	26.6	97.0	26.0	93	NU	Pass
UT	548	9/17/2014	Storm Drain	292.0	3	91.1	27.3	97.0	26.0	94	NU	Pass
UT	549	9/17/2014	Storm Drain	286.0	3	90.3	27.2	97.0	26.0	93	NU	Pass
UT	550	9/17/2014	Storm Drain	288.0	3	90.0	26.8	97.0	26.0	93	NU	Pass
UT	551	9/17/2014	Storm Drain	290.0	3	90.4	27.5	97.0	26.0	93	SC	Pass
UT	552	9/18/2014	Storm Drain	292.0	3	89.5	27.2	97.0	26.0	92	NU	Pass
UT	553	9/18/2014	Storm Drain	292.0	3	91.3	26.6	97.0	26.0	94	NU	Pass
UT	554	9/18/2014	Storm Drain	288.0	3	90.6	28.1	97.0	26.0	93	NU	Pass
UT	555	9/18/2014	Storm Drain	290.0	3	89.8	27.7	97.0	26.0	93	NU	Pass
UT	556	9/18/2014	Storm Drain	292.0	3	90.1	27.3	97.0	26.0	93	NU	Pass
WB	557	9/18/2014	Loffel Wall - Verdura A	273.0	3	90.6	25.7	97.0	26.0	93	NU	Pass
WB	558	9/18/2014	Loffel Wall - Verdura A	268.0	3	91.2	26.0	97.0	26.0	94	NU	Pass
WB	559	9/18/2014	Loffel Wall - Verdura A	266.0	3	89.4	24.3	97.0	26.0	92	SC	Pass
WB	560	9/18/2014	Loffel Wall - Verdura A	264.0	3	89.2	25.0	97.0	26.0	92	SC	Pass
WB	561	9/19/2014	Loffel Wall - Verdura A	276.0	3	91.8	24.1	97.0	26.0	95	NU	Pass
WB	562	9/19/2014	Loffel Wall - Verdura A	271.0	3	92.1	24.8	97.0	26.0	95	NU	Pass
WB	563	9/19/2014	Loffel Wall - Verdura A	269.0	3	92.4	23.7	97.0	26.0	95	NU	Pass
WB	564	9/19/2014	Loffel Wall - Verdura A	266.0	3	91.3	24.6	97.0	26.0	94	SC	Pass
UT	565	9/19/2014	Storm Drain - Lateral 14-15	285.0	3	91.3	27.3	97.0	26.0	94	NU	Pass
UT	566	9/19/2014	Storm Drain - Lateral 14-15	287.0	3	90.8	26.4	97.0	26.0	94	NU	Pass
UT	567	9/19/2014	Storm Drain - Lateral 14-15	291.0	3	89.8	26.8	97.0	26.0	93	NU	Pass
UT	568	9/19/2014	Storm Drain - Lateral 14-15	286.0	3	91.2	27.0	97.0	26.0	94	SC	Pass
UT	569	9/23/2015	Storm Drain - Lateral	288.0	3	90.3	26.6	97.0	26.0	93	NU	Pass
UT	570	9/23/2015	Storm Drain - Lateral	290.0	3	89.9	27.3	97.0	26.0	93	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	571	9/23/2014	Storm Drain - Lateral	290.0	3	92.1	26.3	97.0	26.0	95	NU	Pass
UT	572	9/23/2014	Storm Drain - Lateral	291.0	3	91.3	28.2	97.0	26.0	94	SC	Pass
UT	573	9/25/2014	Storm Drain - South West	286.0	3	89.8	27.8	97.0	26.0	93	NU	Pass
UT	574	9/25/2014	Storm Drain - South West	288.0	3	90.2	28.1	97.0	26.0	93	NU	Pass
UT	575	9/25/2014	Storm Drain - South West	287.0	3	90.0	27.5	97.0	26.0	93	NU	Pass
UT	576	9/25/2014	Storm Drain - South West	290.0	3	91.3	28.3	97.0	26.0	94	NU	Pass
UT	577	9/25/2014	Storm Drain - South West	287.0	3	91.4	26.9	97.0	26.0	94	NU	Pass
UT	578	9/25/2014	Storm Drain - South West	289.0	3	90.6	27.5	97.0	26.0	93	NU	Pass
UT	579	9/25/2014	Storm Drain - South West	290.0	3	90.5	27.7	97.0	26.0	93	SC	Pass
UT	580	9/26/2014	Storm Drain - South West	288.0	3	90.0	28.9	97.0	26.0	93	NU	Pass
UT	581	9/26/2014	Storm Drain - South West	290.0	3	91.1	27.9	97.0	26.0	94	NU	Pass
UT	582	9/26/2014	Storm Drain - South West	291.0	3	90.8	28.7	97.0	26.0	94	NU	Pass
UT	583	9/26/2014	Storm Drain - South West	292.0	3	90.3	28.4	97.0	26.0	93	SC	Pass
WB	584	9/29/2014	Loffel Wall - Verdura A	268.0	9	115.2	12.8	123.0	10.0	94	NU	Pass
WB	585	9/29/2014	Loffel Wall - Verdura A	269.0	9	114.8	13.3	123.0	10.0	93	NU	Pass
WB	586	9/29/2014	Loffel Wall - Verdura A	272.0	9	114.5	12.6	123.0	10.0	93	NU	Pass
WB	587	9/29/2014	Loffel Wall - Verdura A	273.0	9	115.7	14.1	123.0	10.0	94	SC	Pass
WB	588	9/30/2014	Loffel Wall - Verdura A	273.0	9	114.8	11.9	123.0	10.0	93	NU	Pass
WB	589	9/30/2014	Loffel Wall - Verdura A	272.0	9	115.6	12.4	123.0	10.0	94	NU	Pass
WB	590	9/30/2014	Loffel Wall - Verdura A	273.0	9	116.2	13.1	123.0	10.0	94	NU	Pass
WB	591	9/30/2014	Loffel Wall - Verdura A	272.0	9	116.0	12.6	123.0	10.0	94	NU	Pass
WB	592	9/30/2014	Loffel Wall - Verdura A	271.0	9	115.3	12.0	123.0	10.0	94	NU	Pass
WB	593	9/30/2014	Loffel Wall - Verdura A	323.0	2	89.8	26.8	97.0	23.5	93	NU	Pass
WB	594	9/30/2014	Loffel Wall - Verdura A	324.0	2	90.0	27.1	97.0	23.5	93	NU	Pass
WB	595	9/30/2014	Loffel Wall - Verdura A	322.0	2	90.3	26.7	97.0	23.5	93	NU	Pass
WB	596	9/30/2014	Loffel Wall - Verdura A	325.0	2	89.6	27.4	97.0	23.5	92	NU	Pass
WB	597	9/30/2014	Loffel Wall - Verdura A	324.0	2	90.2	27.8	97.0	23.5	93	SC	Pass
WB	598	9/30/2014	Loffel Wall - Verdura A	325.0	2	89.6	26.5	97.0	23.5	92	SC	Pass
WB	599	10/1/2014	Loffel Wall - Verdura A	271.0	9	114.0	12.5	123.0	10.0	93	NU	Pass
WB	600	10/1/2014	Loffel Wall - Verdura A	275.0	9	115.1	13.4	123.0	10.0	94	NU	Pass
WB	601	10/1/2014	Loffel Wall - Verdura A	276.0	9	114.8	14.1	123.0	10.0	93	NU	Pass
WB	602	10/1/2014	Loffel Wall - Verdura A	279.0	9	115.3	13.3	123.0	10.0	94	NU	Pass
WB	603	10/1/2014	Loffel Wall - Verdura A	278.0	9	116.2	12.9	123.0	10.0	94	NU	Pass
WB	604	10/1/2014	Loffel Wall - Verdura A	278.0	9	115.1	12.7	123.0	10.0	94	NU	Pass
WB	605	10/1/2014	Loffel Wall - Verdura A	319.0	2	91.3	25.8	97.0	23.5	94	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	606	10/1/2014	Northwest - Adjacent Cabot Rd	320.0	2	91.8	26.2	97.0	23.5	95	NU	Pass
WB	607	10/1/2014	Northwest - Adjacent Cabot Rd	321.0	2	90.7	26.4	97.0	23.5	94	NU	Pass
WB	608	10/1/2014	Northwest - Adjacent Cabot Rd	323.0	2	89.8	25.9	97.0	23.5	93	NU	Pass
UT	609	10/3/2014	Storm Drain - West	SG	3	87.9	29.4	97.0	26.0	91	NU	Pass
UT	610	10/3/2014	Storm Drain - West	SG	3	90.1	30.8	97.0	26.0	93	NU	Pass
UT	611	10/3/2014	Storm Drain - West	SG	3	88.5	29.7	97.0	26.0	91	NU	Pass
UT	612	10/3/2014	Storm Drain - West	SG	3	88.9	29.4	97.0	26.0	92	NU	Pass
WB	613	10/3/2014	Segment Wall A	SG	9	117.8	12.1	123.0	10.0	96	NU	Pass
WB	614	10/3/2014	Segment Wall A	SG	9	114.2	10.1	123.0	10.0	93	NU	Pass
WB	615	10/3/2014	Segment Wall A	SG	9	115.9	10.4	123.0	10.0	94	SC	Pass
UT	616	10/7/2014	Storm Drain - West of Bldg	311.0	3	85.5	24.2	97.0	26.0	88	NU	Fail
UT	616A	10/7/2014	Storm Drain - West of Bldg	311.0	3	88.5	29.3	97.0	26.0	91	NU	Pass
UT	617	10/7/2014	Storm Drain - West of Bldg	313.0	3	89.6	29.5	97.0	26.0	92	NU	Pass
UT	618	10/7/2014	Storm Drain - West of Bldg	315.0	3	88.9	29.1	97.0	26.0	92	NU	Pass
UT	619	10/7/2014	Storm Drain - West of Bldg	318.0	3	88.1	29.7	97.0	26.0	91	NU	Pass
UT	620	10/7/2014	Storm Drain - West of Bldg	319.0	3	89.8	30.1	97.0	26.0	93	NU	Pass
UT	621	10/8/2014	Storm Drain - West of Bldg	311.0	3	89.5	21.8	97.0	26.0	92	NU	Pass
UT	622	10/8/2014	Storm Drain - West of Bldg	311.0	3	96.5	17.4	97.0	26.0	99	NU	Pass
UT	623	10/8/2014	Storm Drain - West of Bldg	313.0	3	95.3	13.2	97.0	26.0	98	NU	Pass
UT	624	10/8/2014	Storm Drain - West of Bldg	313.0	3	90.3	19.3	97.0	26.0	93	NU	Pass
UT	625	10/8/2014	Storm Drain - West of Bldg	313.0	3	88.2	18.2	97.0	26.0	91	NU	Pass
UT	626	10/13/2014	Storm Drain - S of Bldg	291.0	7	114.4	14.5	126.0	11.0	91	NU	Pass
UT	627	10/13/2014	Storm Drain - S of Bldg	321.0	7	114.8	13.2	126.0	11.0	91	NU	Pass
UT	628	10/13/2014	Storm Drain - S of Bldg	321.0	7	114.9	13.5	126.0	11.0	91	SC	Pass
WB	629	10/13/2014	East of Bldg	305.0	7	113.7	14.3	126.0	11.0	90	SC	Pass
WB	630	10/13/2014	East of Bldg	308.0	7	113.8	14.6	126.0	11.0	90	SC	Pass
UT	631	10/13/2014	Storm Drain - Crown Valley	261.0	10	128.9	7.8	134.6	5.5	96	NU	Pass
UT	632	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.1	9.1	134.6	5.5	97	NU	Pass
UT	633	10/13/2014	Storm Drain - Crown Valley	264.0	10	129.7	6.8	134.6	5.5	96	NU	Pass
UT	634	10/13/2014	Storm Drain - Crown Valley	262.0	10	128.8	7.7	134.6	5.5	96	NU	Pass
UT	635	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.0	8.6	134.6	5.5	97	NU	Pass
UT	636	10/13/2014	Storm Drain - Crown Valley	264.0	10	128.7	8.5	134.6	5.5	96	SC	Pass
UT	637	10/13/2014	Storm Drain - Crown Valley	261.0	10	129.1	8.4	134.6	5.5	96	NU	Pass
UT	638	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.2	9.1	134.6	5.5	97	NU	Pass
UT	639	10/13/2014	Storm Drain - Crown Valley	264.0	10	128.8	6.9	134.6	5.5	96	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	640	10/13/2014	Storm Drain - Crown Valley	262.0	10	131.2	7.7	134.6	5.5	97	NU	Pass
UT	641	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.3	8.6	134.6	5.5	97	NU	Pass
UT	642	10/13/2014	Storm Drain - Crown Valley	264.0	10	129.4	8.3	134.6	5.5	96	NU	Pass
SG	643	10/14/2014	Stairs - East Side	293.0	2	92.2	24.1	97.0	23.5	95	NU	Pass
SG	644	10/14/2014	Stairs - East Side	295.0	2	93.2	25.1	97.0	23.5	96	NU	Pass
SG	645	10/14/2014	Stairs - East Side	297.0	2	90.2	23.7	97.0	23.5	93	SC	Pass
UT	646	10/16/2014	Storm Drain - Storage Tank	283.0	3	89.7	28.7	97.0	26.0	92	NU	Pass
UT	647	10/16/2014	Storm Drain - Storage Tank	284.0	3	90.3	29.1	97.0	26.0	93	NU	Pass
UT	648	10/16/2014	Storm Drain - Storage Tank	285.0	3	89.8	27.8	97.0	26.0	93	NU	Pass
UT	649	10/16/2014	Storm Drain - Storage Tank	284.0	3	91.2	28.0	97.0	26.0	94	NU	Pass
UT	650	10/16/2014	Storm Drain - Storage Tank	286.0	3	90.8	28.6	97.0	26.0	94	SC	Pass
UT	651	10/17/2014	Storm Drain - Storage Tank	316.5	3	90.5	28.8	97.0	26.0	93	NU	Pass
UT	652	10/17/2014	Storm Drain - Storage Tank	319.0	3	89.9	29.4	97.0	26.0	93	NU	Pass
UT	653	10/17/2014	Storm Drain - Storage Tank	284.5	3	90.1	27.2	97.0	26.0	93	SC	Pass
UT	654	10/21/2014	Storm Drain - Crown Valley	261.0	10	130.0	6.8	134.6	5.5	97	NU	Pass
UT	655	10/21/2014	Storm Drain - Crown Valley	262.0	10	129.8	7.3	134.6	5.5	96	NU	Pass
UT	656	10/21/2014	Storm Drain - Crown Valley	263.0	10	129.3	8.5	134.6	5.5	96	NU	Pass
UT	657	10/21/2014	Storm Drain - Crown Valley	264.0	10	128.8	8.3	134.6	5.5	96	NU	Pass
UT	658	10/21/2014	Storm Drain - Crown Valley	263.0	10	129.8	7.7	134.6	5.5	96	NU	Pass
UT	659	10/21/2014	Storm Drain - Crown Valley	264.0	10	130.2	8.2	134.6	5.5	97	SC	Pass
UT	660	10/24/2014	Domestic Water Vault	312.0	2	89.6	22.0	97.0	23.5	92	NU	Pass
UT	661	10/24/2014	Domestic Water Vault	314.0	2	88.2	23.0	97.0	23.5	91	NU	Pass
UT	662	10/24/2014	Domestic Water Vault	314.0	2	87.3	23.4	97.0	23.5	90	NU	Pass
UT	663	10/24/2014	Storm Drain - Crown Valley	263.0	10	129.5	6.8	134.6	5.5	96	NU	Pass
UT	664	10/24/2014	Storm Drain - Crown Valley	264.0	10	130.3	7.7	134.6	5.5	97	NU	Pass
UT	665	10/24/2014	Storm Drain - Crown Valley	264.0	10	128.8	8.1	134.6	5.5	96	NU	Pass
UT	666	10/24/2014	Storm Drain - Crown Valley	264.0	10	129.4	6.9	134.6	5.5	96	SC	Pass
UT	667	10/27/2014	Domestic - Water Vault	314.0	2	90.1	19.0	97.0	23.5	93	NU	Pass
UT	668	10/27/2014	Domestic - Water Vault	314.0	2	89.4	22.2	97.0	23.5	92	NU	Pass
UT	669	10/27/2014	Domestic - Water Vault	314.0	2	88.6	21.3	97.0	23.5	91	NU	Pass
UT	670	10/27/2014	Storm Drain - Man Hole Area	264.0	10	129.8	6.8	134.6	5.5	96	NU	Pass
UT	671	10/27/2014	Storm Drain - Man Hole Area	264.0	10	129.1	7.7	134.6	5.5	96	SC	Pass
UT	678	10/30/2014	Domestic Water Vault	314.0	2	92.6	21.8	97.0	23.5	95	NU	Pass
UT	679	10/30/2014	Domestic Water Vault	310.0	2	93.4	23.1	97.0	23.5	96	NU	Pass
UT	680	10/30/2014	Domestic Water Vault	312.0	2	94.1	20.9	97.0	23.5	97	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	681	10/30/2014	Domestic Water Vault	309.0	2	95.2	24.1	97.0	23.5	98	NU	Pass
UT	684	10/30/2014	Storm Drain	270.0	3	89.8	28.8	97.0	26.0	93	NU	Pass
UT	685	10/30/2014	Storm Drain	271.0	3	90.1	28.3	97.0	26.0	93	SC	Pass
UT	686	11/14/2014	Flow Line - NW End of Bldg	319.0	2	90.4	23.7	97.0	23.5	93	NU	Pass
UT	687	11/17/2014	Storm Drain - West of Bldg	325.0	2	90.5	24.1	97.0	23.5	93	NU	Pass
UT	688	11/17/2014	Storm Drain - West of Bldg	327.0	2	91.6	23.9	97.0	23.5	94	NU	Pass
WB	689	11/18/2014	Northwest corner of Bldg	324.0	2	92.7	23.0	97.0	23.5	96	NU	Pass
WB	690	11/18/2014	Northwest corner of Bldg	325.0	2	89.4	23.6	97.0	23.5	92	NU	Pass
WB	691	11/18/2014	Northwest corner of Bldg	326.0	2	91.7	24.0	97.0	23.5	95	SC	Pass
WB	692	11/19/2014	Northwest corner of Bldg	328.0	2	94.0	22.8	97.0	23.5	97	NU	Pass
WB	693	11/19/2014	Northwest corner of Bldg	329.0	2	90.6	24.1	97.0	23.5	93	NU	Pass
WB	694	11/19/2014	Northwest corner of Bldg	331.0	2	92.7	21.7	97.0	23.5	96	SC	Pass
CG	695	11/25/2014	Curb & Gutter	299.0	2	90.6	20.8	97.0	23.5	93	NU	Pass
CG	696	11/25/2014	Curb & Gutter	303.0	2	92.8	19.7	97.0	23.5	96	NU	Pass
CG	697	11/25/2014	Curb & Gutter	314.0	2	91.5	18.7	97.0	23.5	94	SC	Pass
CG	698	12/16/2014	Curb & Gutter	320.0	2	93.5	21.0	97.0	23.5	96	NU	Pass
CG	699	12/16/2014	Curb & Gutter	317.0	2	91.5	18.9	97.0	23.5	94	NU	Pass
CG	700	12/16/2014	Curb & Gutter	305.0	2	95.5	22.2	97.0	23.5	98	NU	Pass
CG	701	12/16/2014	Curb & Gutter	298.0	2	95.2	18.7	97.0	23.5	98	SC	Pass
UT	706	1/7/2015	Water Line - NW of Bldg	290.0	2	96.1	18.8	97.0	23.5	99	NU	Pass
UT	707	1/7/2015	Water Line - NW of Bldg	290.0	2	94.7	18.5	97.0	23.5	98	NU	Pass
UT	708	1/7/2015	Water Line - NW of Bldg	290.0	2	95.4	18.9	97.0	23.5	98	NU	Pass
UT	709	1/7/2015	Water Line - NW of Bldg	290.0	2	96.2	16.2	97.0	23.5	99	NU	Pass
UT	710	1/7/2015	Water Line - NW of Bldg	290.0	2	95.6	18.4	97.0	23.5	99	NU	Pass
UT	711	1/7/2015	Water Line - NW of Bldg	290.0	2	94.2	18.9	97.0	23.5	97	SC	Pass
UT	712	1/8/2015	Water Line - NW of Bldg	292.0	2	95.6	17.4	97.0	23.5	99	NU	Pass
UT	713	1/8/2015	Water Line - NW of Bldg	295.0	2	94.8	18.6	97.0	23.5	98	NU	Pass
UT	714	1/8/2015	Water Line - NW of Bldg	298.0	2	95.6	18.2	97.0	23.5	99	NU	Pass
WB	715	1/9/2015	Line 5 Between B to G	320.5	2	93.8	25.1	97.0	23.5	97	NU	Pass
WB	716	1/9/2015	Line 5 Between B to G	322.5	2	92.2	25.3	97.0	23.5	95	NU	Pass
WB	717	1/9/2015	Line 5 Between B to G	323.5	2	92.4	25.0	97.0	23.5	95	NU	Pass
WB	718	1/9/2015	Line 5 Between B to G	317.0	2	91.9	25.2	97.0	23.5	95	NU	Pass
WB	719	1/9/2015	Line 5 Between B to G	320.0	2	92.4	25.0	97.0	23.5	95	NU	Pass
WB	720	1/9/2015	Line 5 Between B to G	320.0	2	92.2	25.4	97.0	23.5	95	NU	Pass
WB	721	1/9/2015	Line 5 Between B to G	315.0	2	94.5	25.2	97.0	23.5	97	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	722	1/9/2015	Line 5 Between B to G	317.0	2	95.4	25.1	97.0	23.5	98	SC	Pass
UT	723	1/9/2015	Sewer Line - Crown Valley	285.0	10	130.1	5.1	134.6	5.5	97	NU	Pass
UT	724	1/9/2015	Sewer Line - Crown Valley	SG	10	126.3	4.8	134.6	5.5	94	NU	Pass
UT	724A	1/9/2015	Sewer Line - Crown Valley	SG	10	131.2	5.4	134.6	5.5	97	NU	Pass
UT	725	1/9/2015	Sewer Line - Crown Valley	284.0	2	91.1	22.0	97.0	23.5	94	NU	Pass
UT	726	1/9/2015	Sewer Line - Crown Valley	285.0	10	128.8	5.1	134.6	5.5	96	NU	Pass
UT	727	1/9/2015	Sewer Line - Crown Valley	SG	10	131.8	4.9	134.6	5.5	98	NU	Pass
UT	728	1/9/2015	Sewer Line - Crown Valley	SG	10	129.4	5.6	134.6	5.5	96	SC	Pass
UT	735	1/29/2015	Southwest Corner of Bldg	290.0	2	89.6	25.1	97.0	23.5	92	NU	Pass
UT	736	1/29/2015	Southwest Corner of Bldg	293.0	2	89.9	25.0	97.0	23.5	93	NU	Pass
UT	737	1/29/2015	Southwest Corner of Bldg	292.0	2	90.9	25.2	97.0	23.5	94	NU	Pass
UT	738	1/30/2015	Southwest Corner of Bldg	292.0	2	89.9	25.2	97.0	23.5	93	NU	Pass
UT	739	1/30/2015	Southwest Corner of Bldg	294.0	2	89.7	25.0	97.0	23.5	92	NU	Pass
UT	740	1/30/2015	Southwest Corner of Bldg	296.0	2	90.5	25.3	97.0	23.5	93	NU	Pass
UT	741	1/30/2015	Southwest Corner of Bldg	297.0	2	90.1	25.1	97.0	23.5	93	SC	Pass
UT	742	2/5/2015	Cabot Rd - Access Road	331.0	2	90.4	24.7	97.0	23.5	93	NU	Pass
UT	743	2/10/2015	Transformer - NW Bldg Corner	328.0	2	90.2	25.9	97.0	23.5	93	NU	Pass
UT	744	2/10/2015	Transformer - NW Bldg Corner	330.0	2	91.1	26.2	97.0	23.5	94	NU	Pass
UT	745	2/10/2015	Electrical - NW Bldg Corner	331.0	2	90.6	25.0	97.0	23.5	93	NU	Pass
UT	746	2/10/2015	Electrical - NW Bldg Corner	334.0	2	88.6	27.2	97.0	23.5	91	NU	Pass
UT	747	2/10/2015	Transformer - NW Bldg Corner	329.0	2	89.0	25.8	97.0	23.5	92	SC	Pass
UT	748	2/11/2015	Electrical - Cabot Rd	337.0	12	129.9	8.0	136.1	7.0	95	NU	Pass
UT	749	2/11/2015	Electrical - Cabot Rd	337.0	12	129.0	7.6	136.1	7.0	95	NU	Pass
UT	750	2/11/2015	Electrical - Cabot Rd	336.0	12	129.7	7.0	136.1	7.0	95	NU	Pass
UT	751	2/11/2015	Electrical - Cabot Rd	335.0	12	132.0	7.2	136.1	7.0	97	NU	Pass
UT	752	2/11/2015	Electrical - Cabot Rd	334.0	12	130.4	7.0	136.1	7.0	96	SC	Pass
UT	753	2/12/2015	Electrical - Cabot Rd	333.0	12	131.2	6.3	136.1	7.0	96	NU	Pass
UT	754	2/12/2015	Electrical - Cabot Rd	333.0	12	129.9	6.9	136.1	7.0	95	NU	Pass
UT	755	2/12/2015	Traffic Control - NW of Bldg	331.0	2	90.5	22.8	97.0	23.5	93	NU	Pass
UT	756	2/12/2015	Traffic Control - NW of Bldg	331.0	2	89.6	19.9	97.0	23.5	92	NU	Pass
UT	757	2/12/2015	Electrical - Cabot Rd	331.0	12	130.6	6.8	136.1	7.0	96	NU	Pass
UT	758	2/12/2015	Traffic Control - NW of Bldg	329.0	2	88.5	20.9	97.0	23.5	91	NU	Pass
UT	759	2/13/2015	Electrical - NW of Bldg	329.0	2	87.6	25.0	97.0	23.5	90	SC	Pass
UT	763	2/13/2015	Electrical - NW of Bldg	328.0	2	89.7	24.2	97.0	23.5	92	NU	Pass
UT	767	2/16/2015	Electrical - Drive Entrance	328.0	2	91.2	26.4	97.0	23.5	94	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	768	2/16/2015	Electrical - NW Bldg Corner	327.0	2	90.3	25.8	97.0	23.5	93	NU	Pass
SG	769	2/17/2015	Curb & Gutter	331.0	1	85.7	30.1	91.5	25.0	94	NU	Pass
SG	770	2/17/2015	Curb & Gutter	334.0	1	86.2	27.4	91.5	25.0	94	NU	Pass
SG	771	2/17/2015	Curb & Gutter	330.0	2	92.0	26.0	97.0	23.5	95	NU	Pass
UT	772	2/17/2015	Electrical - Cabot Road	325.0	12	128.8	6.8	136.1	7.0	95	NU	Pass
UT	773	2/17/2015	Electrical - Cabot Road	325.0	12	132.6	6.2	136.1	7.0	97	NU	Pass
SG	774	2/17/2015	Electrical - Cabot Road	336.0	2	92.4	25.4	97.0	23.5	95	NU	Pass
SG	775	2/17/2015	Picerne Shared Entry	332.0	2	87.0	27.9	97.0	23.5	90	NU	Pass
SG	776	2/17/2015	Picerne Shared Entry	332.0	12	125.4	7.4	136.1	7.0	92	SC	Pass
SG	777	2/17/2015	Picerne Shared Entry	331.0	12	129.6	7.5	136.1	7.0	95	SC	Pass
UT	778	2/18/2015	Storm Drain - West of Bldg	298.0	2	93.0	24.8	97.0	23.5	96	NU	Pass
UT	779	2/18/2015	Storm Drain - West of Bldg	295.0	2	89.6	25.2	97.0	23.5	92	NU	Pass
B	780	2/18/2015	Picerne Shared Entry	333.0	13	117.0	12.9	119.3	11.3	98	NU	Pass
B	781	2/18/2015	Picerne Shared Entry	333.0	13	117.7	13.3	119.3	11.3	99	NU	Pass
UT	782	2/18/2015	Storm Drain - South of Bldg	268.0	2	95.5	21.0	97.0	23.5	98	SC	Pass
UT	783	2/19/2015	Storm Drain - West of Bldg	294.0	2	89.6	22.8	97.0	23.5	92	NU	Pass
UT	784	2/19/2015	Storm Drain - West of Bldg	294.0	2	91.7	18.1	97.0	23.5	95	NU	Pass
UT	785	2/19/2015	Storm Drain - West of Bldg	295.0	2	92.1	20.1	97.0	23.5	95	NU	Pass
UT	786	2/19/2015	Storm Drain - West of Bldg	295.0	2	89.7	22.0	97.0	23.5	92	NU	Pass
UT	787	2/19/2015	Storm Drain - SE of Bldg	272.0	2	94.4	22.8	97.0	23.5	97	NU	Pass
UT	788	2/19/2015	Storm Drain - SE of Bldg	272.0	2	95.8	25.0	97.0	23.5	99	NU	Pass
UT	789	2/19/2015	Storm Drain - SE of Bldg	272.0	2	96.0	24.2	97.0	23.5	99	NU	Pass
UT	790	2/19/2015	Storm Drain - SE of Bldg	272.0	2	93.4	22.4	97.0	23.5	96	SC	Pass
SG	791	2/24/2015	Picerne Shared Entry	333.0	2	94.0	24.8	97.0	23.5	97	NU	Pass
SG	792	2/24/2015	Picerne Shared Entry	331.0	2	91.1	26.7	97.0	23.5	94	NU	Pass
SG	793	2/24/2015	Picerne Shared Entry	329.0	2	93.4	25.8	97.0	23.5	96	SC	Pass
B	794	2/25/2015	Picerne Shared Entry	330.0	13	114.2	12.1	119.3	11.3	96	NU	Pass
B	795	2/25/2015	Picerne Shared Entry	331.0	13	115.0	13.0	119.3	11.3	96	NU	Pass
B	796	2/25/2015	Picerne Shared Entry	330.0	13	114.8	12.5	119.3	11.3	96	NU	Pass
B	797	2/25/2015	Picerne Shared Entry	331.0	13	113.2	12.6	119.3	11.3	95	NU	Pass
B	798	2/25/2015	Picerne Shared Entry	330.0	13	114.6	12.2	119.3	11.3	96	NU	Pass
B	799	2/25/2015	Picerne Shared Entry	331.0	13	113.9	11.6	119.3	11.3	95	NU	Pass
B	800	2/25/2015	Picerne Shared Entry	330.0	13	113.8	11.8	119.3	11.3	95	NU	Pass
B	801	2/25/2015	Picerne Shared Entry	331.0	13	115.5	12.1	119.3	11.3	97	NU	Pass
B	802	2/25/2015	Picerne Shared Entry	330.0	13	115.8	12.2	119.3	11.3	97	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	811	2/27/2015	Electrical Line - Cabot	SG	12	129.1	8.1	136.1	7.0	95	NU	Pass
UT	812	2/27/2015	Electrical Line - Cabot	SG	12	128.9	8.0	136.1	7.0	95	NU	Pass
UT	813	2/27/2015	Electrical Line - Cabot	SG	12	130.1	8.4	136.1	7.0	96	NU	Pass
UT	814	2/27/2015	Electrical Line - Cabot	SG	12	130.5	8.9	136.1	7.0	96	NU	Pass
UT	815	2/27/2015	Electrical Line - Cabot	SG	12	129.8	7.4	136.1	7.0	95	NU	Pass
SG	816	3/3/2015	SDGE - Cabot Road	SG	12	134.0	5.6	136.1	7.0	98	NU	Pass
SG	817	3/4/2015	SDGE - Cabot Road	SG	12	132.2	7.8	136.1	7.0	97	NU	Pass
SG	818	3/4/2015	SDGE - Cabot Road	SG	12	130.5	7.0	136.1	7.0	96	NU	Pass
UT	830	3/13/2015	Electrical Line - Cabot	SG	12	132.5	6.4	136.1	7.0	97	NU	Pass
UT	831	3/13/2015	Electrical Line - Cabot	SG	12	130.1	5.8	136.1	7.0	96	NU	Pass
UT	832	3/13/2015	Water Line - Cabot	SG	12	129.0	7.3	136.1	7.0	95	NU	Pass
UT	833	3/13/2015	Water Line - Cabot	SG	12	129.9	5.8	136.1	7.0	95	NU	Pass
UT	834	3/13/2015	Water Line - Cabot	SG	12	134.0	6.1	136.1	7.0	98	NU	Pass
UT	835	3/13/2015	Water Line - Cabot	SG	12	128.4	6.8	136.1	7.0	94	NU	Pass
UT	836	3/16/2015	Electrical Line - Cabot	330.5	12	133.1	9.3	136.1	7.0	98	NU	Pass
UT	837	3/16/2015	Electrical Line - Cabot	330.5	12	131.8	9.7	136.1	7.0	97	NU	Pass
UT	838	3/19/2015	Electrical Line - Cabot	SG	12	130.6	9.7	136.1	7.0	96	NU	Pass
UT	839	3/19/2015	Electrical Line - Cabot	SG	12	131.6	8.8	136.1	7.0	97	NU	Pass
UT	840	3/19/2015	Electrical Line - Cabot	SG	12	131.0	8.3	136.1	7.0	96	NU	Pass
UT	841	3/19/2015	Electrical Line - Cabot	SG	12	130.8	8.6	136.1	7.0	96	SC	Pass
UT	842	3/20/2015	Electrical Line - Cabot	SG	12	131.4	9.4	136.1	7.0	97	SC	Pass
UT	843	3/20/2015	Electrical Line - Cabot	SG	12	131.7	9.2	136.1	7.0	97	SC	Pass
UT	844	3/22/2015	Electrical Line - Cabot	SG	12	131.6	8.2	136.1	7.0	97	NU	Pass
UT	845	3/22/2015	Electrical Line - Cabot	SG	12	132.2	8.1	136.1	7.0	97	NU	Pass
UT	846	3/22/2015	Electrical Line - Cabot	SG	12	131.8	7.0	136.1	7.0	97	NU	Pass
UT	847	3/25/2015	Gas Line - Cabot	309.0	12	124.1	8.7	136.1	7.0	91	NU	Fail
UT	847A	3/25/2015	Gas Line - Cabot	309.0	12	131.3	7.7	136.1	7.0	96	NU	Pass
UT	848	3/25/2015	Gas Line - Cabot	309.0	12	124.5	9.1	136.1	7.0	91	NU	Fail
UT	848A	3/25/2015	Gas Line - Cabot	309.0	12	132.1	8.3	136.1	7.0	97	NU	Pass
UT	849	3/25/2015	Gas Line - Cabot	311.0	12	131.0	8.0	136.1	7.0	96	NU	Pass
UT	850	3/25/2015	Gas Line - Cabot	312.0	12	130.8	7.7	136.1	7.0	96	NU	Pass
UT	851	3/26/2015	Gas Line - Cabot	305.0	12	131.8	8.6	136.1	7.0	97	NU	Pass
UT	852	3/26/2015	Gas Line - Cabot	303.0	12	132.0	9.1	136.1	7.0	97	NU	Pass
UT	853	3/26/2015	Gas Line - Cabot	301.0	12	131.3	8.3	136.1	7.0	96	NU	Pass
UT	868	4/6/2015	Electrical Line - S. of Bldg.	SG	13	108.5	14.4	119.3	11.3	91	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	869	4/6/2015	Electrical Line - S. of Bldg.	SG	13	111.1	15.6	119.3	11.3	93	NU	Pass
UT	870	4/16/2015	Electrical Line - S. of Bldg.	SG	4	108.4	14.6	122.0	12.0	89	NU	Fail
UT	870A	4/16/2015	Electrical Line - S. of Bldg.	271.0	4	109.8	13.8	122.0	12.0	90	NU	Pass
UT	871	4/16/2015	Electrical Line - S. of Bldg.	274.0	4	111.3	14.5	122.0	12.0	91	NU	Pass
UT	872	4/17/2015	Electrical Line - NW. of Bldg.	-6' SG	2	96.0	21.7	97.0	23.5	99	NU	Pass
UT	873	4/17/2015	Electrical Line - NW. of Bldg.	-4' SG	2	96.3	21.0	97.0	23.5	99	NU	Pass
UT	874	4/17/2015	Electrical Line - NW. of Bldg.	-2' SG	2	94.1	21.9	97.0	23.5	97	NU	Pass
UT	875	4/17/2015	Electrical Line - NW. of Bldg.	SG	2	93.7	22.2	97.0	23.5	97	NU	Pass
UT	876	4/17/2015	Electrical Line - NW. of Bldg.	-6' SG	2	94.1	23.3	97.0	23.5	97	NU	Pass
UT	877	4/17/2015	Electrical Line - NW. of Bldg.	-4' SG	2	94.7	22.1	97.0	23.5	98	NU	Pass
UT	878	4/17/2015	Electrical Line - NW. of Bldg.	-2' SG	2	95.0	23.2	97.0	23.5	98	NU	Pass
UT	879	4/17/2015	Electrical Line - NW. of Bldg.	SG	2	93.3	22.9	97.0	23.5	96	NU	Pass
UT	880	5/5/2015	Electrical Line - NW. of Bldg.	-3' SG	5	133.7	8.5	137.0	10.0	98	NU	Pass
UT	881	5/5/2015	Electrical Line - NW. of Bldg.	-2' SG	5	135.1	8.4	137.0	10.0	99	NU	Pass
UT	886	5/12/2015	Electrical Line - NW. of Bldg.	SG	5	135.5	8.0	137.0	10.0	99	NU	Pass
WB	887	5/16/2015	NW Corner of E1 Room	-4' SG	2	89.6	25.6	97.0	23.5	92	NU	Pass
WB	888	5/16/2015	NW Corner of E1 Room	-3' SG	2	90.2	24.5	97.0	23.5	93	NU	Pass
WB	889	5/16/2015	NW Corner of E1 Room	-2' SG	2	91.3	25.2	97.0	23.5	94	NU	Pass
WB	890	5/16/2015	NW Corner of E1 Room	-2' SG	2	90.6	26.1	97.0	23.5	93	NU	Pass
WB	891	5/16/2015	NW Corner of E1 Room	-3' SG	2	88.7	24.7	97.0	23.5	91	NU	Pass
WB	892	5/16/2015	NW Corner of E1 Room	-2' SG	2	89.2	25.3	97.0	23.5	92	NU	Pass
CG	893	5/18/2015	Cabot Road Entry	SG	2	92.3	24.1	97.0	23.5	95	NU	Pass
CG	894	5/18/2015	Cabot Road Entry	SG	2	92.6	24.3	97.0	23.5	95	NU	Pass
CG	895	5/18/2015	Cabot Road Entry	SG	2	93.1	23.8	97.0	23.5	96	NU	Pass
SG	896	5/22/2015	Sidewalk - East	SG	2	93.6	25.1	97.0	23.5	96	NU	Pass
SG	897	5/22/2015	Sidewalk - East	SG	2	94.1	24.8	97.0	23.5	97	NU	Pass
SG	898	5/22/2015	Sidewalk - East	SG	2	93.1	26.0	97.0	23.5	96	NU	Pass
SG	899	5/22/2015	Sidewalk - East	SG	2	93.5	25.7	97.0	23.5	96	NU	Pass
SG	900	5/22/2015	Sidewalk - East	SG	2	94.0	26.3	97.0	23.5	97	NU	Pass
UT	901	5/29/2015	Storm Drain	330.0	2	90.0	25.4	97.0	23.5	93	NU	Pass
UT	902	5/29/2015	Storm Drain	330.0	2	88.9	25.3	97.0	23.5	92	NU	Pass
UT	903	5/29/2015	Storm Drain	330.0	2	89.3	26.1	97.0	23.5	92	SC	Pass
UT	904	5/29/2015	Storm Drain	330.0	2	91.1	25.3	97.0	23.5	94	SC	Pass
UT	905	5/29/2015	Storm Drain	330.0	2	90.2	26.4	97.0	23.5	93	SC	Pass
SG	906	6/1/2015	Transformer Pad NW of Bldg	SG	3	94.5	23.0	97.0	26.0	97	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	907	6/1/2015	Transformer Pad NW of Bldg	SG	3	96.2	23.5	97.0	26.0	99	NU	Pass
SG	908	6/2/2015	Transformer Pad NW of Bldg	SG	3	95.1	26.0	97.0	26.0	98	NU	Pass
SG	909	6/2/2015	Transformer Pad NW of Bldg	SG	3	95.3	24.1	97.0	26.0	98	SC	Pass
UT	910	6/8/2015	Storm Drain - N Access Road	-3' SG	3	95.5	26.7	97.0	26.0	98	NU	Pass
UT	911	6/8/2015	Storm Drain - N Access Road	-2' SG	3	91.9	27.1	97.0	26.0	95	NU	Pass
UT	912	6/9/2015	Catch Basin NE of Bldg	322.0	3	90.8	28.2	97.0	26.0	94	NU	Pass
UT	913	6/9/2015	Catch Basin NE of Bldg	324.0	3	92.0	27.6	97.0	26.0	95	NU	Pass
UT	914	6/9/2015	Catch Basin NW of Bldg	323.0	3	89.8	27.7	97.0	26.0	93	NU	Pass
UT	915	6/9/2015	Catch Basin NW of Bldg	325.0	3	91.1	28.8	97.0	26.0	94	NU	Pass
UT	916	6/10/2015	Catch Basin NW of Bldg	-6' SG	3	92.3	27.7	97.0	26.0	95	NU	Pass
UT	917	6/10/2015	Catch Basin NW of Bldg	-3' SG	3	91.7	28.1	97.0	26.0	95	NU	Pass
UT	918	6/10/2015	Catch Basin NW of Bldg	-2' SG	3	91.3	27.2	97.0	26.0	94	NU	Pass
UT	919	6/10/2015	Catch Basin NW of Bldg	SG	3	92.1	27.7	97.0	26.0	95	NU	Pass
UT	920	6/10/2015	Catch Basin NW of Bldg	-3' SG	3	90.7	27.8	97.0	26.0	94	NU	Pass
SG	921	6/12/2015	Entrey Between Podiums	SG	6	121.8	11.0	128.0	10.0	95	NU	Pass
SG	922	6/12/2015	Entrey Between Podiums	SG	6	122.3	10.9	128.0	10.0	96	SC	Pass
SG	923	6/17/2015	Crown Valley Pkwy	SG	3	92.6	26.6	97.0	26.0	95	NU	Pass
SG	924	6/17/2015	Crown Valley Pkwy	SG	3	93.5	27.0	97.0	26.0	96	NU	Pass
SG	925	6/17/2015	Crown Valley Pkwy	SG	3	93.2	26.5	97.0	26.0	96	NU	Pass
SG	926	6/17/2015	Crown Valley Pkwy	SG	3	94.2	26.1	97.0	26.0	97	NU	Pass
SG	927	6/17/2015	Crown Valley Pkwy	SG	3	93.9	28.2	97.0	26.0	97	NU	Pass
SG	928	6/17/2015	Crown Valley Pkwy	SG	3	94.9	26.7	97.0	26.0	98	NU	Pass
SG	929	6/18/2015	Crown Valley Pkwy	SG	3	95.2	27.1	97.0	26.0	98	NU	Pass
SG	930	6/18/2015	Crown Valley Pkwy	SG	3	94.3	28.2	97.0	26.0	97	NU	Pass
SG	931	6/18/2015	Crown Valley Pkwy	SG	3	94.2	27.3	97.0	26.0	97	NU	Pass
SG	932	6/18/2015	Crown Valley Pkwy	SG	3	94.7	26.6	97.0	26.0	98	SC	Pass
SG	933	6/22/2015	Crown Valley Pkwy	SG	3	93.4	28.3	97.0	26.0	96	NU	Pass
CB	934	6/22/2015	Fire Access Road	SG	6	120.6	10.1	128.0	10.0	94	NU	Pass
CB	935	6/22/2015	Fire Access Road	SG	6	121.2	10.5	128.0	10.0	95	NU	Pass
CB	936	6/22/2015	Fire Access Road	SG	6	119.9	10.9	128.0	10.0	94	NU	Pass
CB	937	6/22/2015	Fire Access Road	SG	6	118.3	11.3	128.0	10.0	92	NU	Pass
CB	938	6/22/2015	Fire Access Road	SG	6	119.6	11.2	128.0	10.0	93	NU	Pass
CB	939	6/22/2015	Fire Access Road	SG	6	119.3	10.3	128.0	10.0	93	NU	Pass
CB	940	6/22/2015	Fire Access Road	SG	6	120.2	12.1	128.0	10.0	94	NU	Pass
CB	941	6/22/2015	Fire Access Road	SG	6	120.1	11.7	128.0	10.0	94	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	942	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	125.8	8.8	132.0	8.0	95	NU	Pass
B	943	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	124.8	8.1	132.0	8.0	95	NU	Pass
B	944	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	124.0	8.3	132.0	8.0	94	NU	Fail
B	944A	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	126.6	9.2	132.0	8.0	96	NU	Pass
B	945	6/22/2015	Crown Valley Pkwy	-1' SG	11	127.7	8.7	132.0	8.0	97	NU	Pass
B	946	6/22/2015	Crown Valley Pkwy	-1' SG	11	125.8	8.4	132.0	8.0	95	NU	Pass
B	947	6/22/2015	Crown Valley Pkwy	-1' SG	11	125.3	8.8	132.0	8.0	95	NU	Pass
B	948	6/23/2015	Crown Valley Pkwy	-1' SG	11	125.9	8.5	132.0	8.0	95	NU	Pass
B	949	6/23/2015	Crown Valley Pkwy	-1' SG	11	126.2	8.9	132.0	8.0	96	NU	Pass
B	950	6/23/2015	Crown Valley Pkwy	-1' SG	11	126.6	8.4	132.0	8.0	96	NU	Pass
B	951	6/23/2015	Crown Valley Pkwy	-1' SG	11	127.4	8.3	132.0	8.0	97	NU	Pass
B	952	6/23/2015	Crown Valley Pkwy	-1' SG	11	125.9	8.7	132.0	8.0	95	NU	Pass
SG	953	6/23/2015	Cabot Road	SG	2	93.4	23.9	97.0	23.5	96	NU	Pass
SG	954	6/23/2015	Cabot Road	SG	2	92.5	24.1	97.0	23.5	95	NU	Pass
SG	955	6/23/2015	Cabot Road	SG	2	96.1	24.2	97.0	23.5	99	NU	Pass
SG	956	6/23/2015	Cabot Road	SG	2	93.0	25.1	97.0	23.5	96	NU	Pass
SG	957	6/23/2015	Cabot Road	SG	2	95.2	24.2	97.0	23.5	98	NU	Pass
SG	958	6/23/2015	Cabot Road	SG	2	93.8	24.8	97.0	23.5	97	NU	Pass
SG	959	6/23/2015	Cabot Road	SG	2	93.1	24.3	97.0	23.5	96	SC	Pass
SG	960	6/23/2015	Cabot Road	SG	2	92.3	23.8	97.0	23.5	95	SC	Pass
SG	961	6/23/2015	Cabot Road	SG	2	92.6	24.6	97.0	23.5	95	SC	Pass
WB	976	6/29/2015	Garage Ramp Entry	-2' SG	2	91.5	23.8	97.0	23.5	94	NU	Pass
WB	977	6/29/2015	Garage Ramp Entry	-1' SG	2	92.2	25.2	97.0	23.5	95	NU	Pass
WB	978	6/29/2015	Garage Ramp Entry	SG	2	91.7	23.9	97.0	23.5	95	NU	Pass
B	979	6/29/2015	Crown Valley and Cabot Road	SG	11	128.8	8.1	132.0	8.0	98	NU	Pass
B	980	6/29/2015	Crown Valley and Cabot Road	SG	11	127.7	8.4	132.0	8.0	97	NU	Pass
B	981	6/29/2015	Crown Valley and Cabot Road	SG	11	126.5	8.9	132.0	8.0	96	NU	Pass
SG	1015	7/6/2015	Cabot Road Lower Sidewalk	SG	3	92.7	27.1	97.0	26.0	96	NU	Pass
SG	1016	7/6/2015	Cabot Road Lower Sidewalk	SG	3	93.2	26.6	97.0	26.0	96	NU	Pass
SG	1017	7/6/2015	Cabot Road Lower Sidewalk	SG	3	92.9	27.3	97.0	26.0	96	NU	Pass
SG	1018	7/6/2015	Cabot Road Lower Sidewalk	SG	3	93.3	27.5	97.0	26.0	96	NU	Pass
B	1019	7/8/2015	Cabot Road Lower Sidewalk	SG	13	114.2	12.6	119.3	11.3	96	NU	Pass
B	1020	7/8/2015	Cabot Road Lower Sidewalk	SG	13	113.9	13.3	119.3	11.3	95	NU	Pass
B	1021	7/8/2015	Cabot Road Lower Sidewalk	SG	13	109.8	9.2	119.3	11.3	92	NU	Fail
B	1021A	7/8/2015	Cabot Road Lower Sidewalk	SG	13	114.3	12.7	119.3	11.3	96	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	1022	7/8/2015	Cabot Road Lower Sidewalk	SG	13	110.2	13.1	119.3	11.3	92	NU	Fail
B	1022A	7/8/2015	Cabot Road Lower Sidewalk	SG	13	115.1	12.4	119.3	11.3	96	NU	Pass
SG	1023	7/16/2015	Cabot Road Upper Sidewalk	SG	3	90.4	19.3	97.0	26.0	93	NU	Fail
SG	1023A	7/16/2015	Cabot Road Upper Sidewalk	SG	3	94.1	26.6	97.0	26.0	97	NU	Pass
SG	1024	7/16/2015	Cabot Road Upper Sidewalk	SG	3	94.4	27.2	97.0	26.0	97	NU	Pass
SG	1025	7/16/2015	Cabot Road Upper Sidewalk	SG	3	93.2	20.1	97.0	26.0	96	NU	Pass
SG	1026	7/16/2015	Cabot Road Upper Sidewalk	SG	3	88.2	27.8	97.0	26.0	91	NU	Fail
SG	1026A	7/16/2015	Cabot Road Upper Sidewalk	SG	3	93.3	27.2	97.0	26.0	96	SC	Pass
B	1027	7/17/2015	Cabot Road Upper Sidewalk	SG	13	115.1	12.1	119.3	11.3	96	NU	Pass
B	1028	7/17/2015	Cabot Road Upper Sidewalk	SG	13	111.2	13.2	119.3	11.3	93	NU	Fail
B	1028A	7/17/2015	Cabot Road Upper Sidewalk	SG	13	114.1	13.1	119.3	11.3	96	NU	Pass
B	1029	7/17/2015	Cabot Road Upper Sidewalk	SG	13	114.2	12.5	119.3	11.3	96	NU	Pass
B	1030	7/17/2015	Cabot Road Upper Sidewalk	SG	13	111.8	13.3	119.3	11.3	94	NU	Pass
B	1031	7/17/2015	Cabot Road Upper Sidewalk	SG	13	113.7	12.2	119.3	11.3	95	NU	Pass
SG	1032	7/22/2015	Driveway Main Entry	SG	3	94.0	27.6	97.0	26.0	97	NU	Pass
SG	1033	7/22/2015	Driveway Main Entry	SG	3	93.5	26.6	97.0	26.0	96	NU	Pass
SG	1034	7/22/2015	Driveway Main Entry	SG	3	91.9	22.4	97.0	26.0	95	NU	Pass
SG	1035	7/22/2015	Driveway Main Entry	SG	3	92.1	26.1	97.0	26.0	95	NU	Pass
SG	1036	7/22/2015	Driveway Main Entry	SG	3	93.8	27.3	97.0	26.0	97	NU	Pass
SG	1037	7/22/2015	Driveway Main Entry	SG	3	93.0	26.9	97.0	26.0	96	NU	Pass
SG	1038	7/22/2015	Driveway Main Entry	SG	3	93.6	27.4	97.0	26.0	96	SC	Pass
B	1039	7/22/2015	Driveway North Entry	SG	11	125.3	9.6	132.0	8.0	95	NU	Pass
B	1040	7/22/2015	Driveway North Entry	SG	11	125.6	9.2	132.0	8.0	95	NU	Pass
B	1041	7/22/2015	Driveway North Entry	SG	11	127.2	8.4	132.0	8.0	96	NU	Pass
B	1042	7/23/2015	Driveway North Entry	SG	11	125.3	8.8	132.0	8.0	95	NU	Pass
B	1043	7/23/2015	Driveway North Entry	SG	11	126.2	8.9	132.0	8.0	96	NU	Pass
B	1044	7/23/2015	Driveway North Entry	SG	11	127.2	9.1	132.0	8.0	96	NU	Pass
B	1045	7/23/2015	Driveway North Entry	SG	11	125.9	8.7	132.0	8.0	95	NU	Pass
B	1046	7/23/2015	Driveway North Entry	SG	11	126.6	9.3	132.0	8.0	96	NU	Pass
B	1047	7/23/2015	Driveway North Entry	SG	11	127.3	9.2	132.0	8.0	96	NU	Pass
B	1048	7/23/2015	Driveway North Entry	SG	11	125.9	9.7	132.0	8.0	95	NU	Pass
B	1049	7/23/2015	Driveway North Entry	SG	11	126.6	8.9	132.0	8.0	96	NU	Pass
B	1050	7/23/2015	Driveway North Entry	SG	11	127.3	8.5	132.0	8.0	96	NU	Pass
B	1051	7/23/2015	Driveway North Entry	SG	11	125.8	9.2	132.0	8.0	95	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	233		Lateral B	3/4	A	148.0	143.1	97	Pass
AC	234	1/0/1900	Lateral C	3/4	A	148.0	143.4	97	Pass
AC	235	1/0/1900	Lateral F	3/4	A	148.0	142.8	96	Pass
AC	257	1/0/1900	Lateral B	3/4	A	148.0	143.5	97	Pass
AC	258	1/0/1900	Lateral C	3/4	A	148.0	143.9	97	Pass
AC	263	1/0/1900	Cabot Rd	3/4	A	148.0	143.0	97	Pass
AC	264	1/0/1900	Cabot Rd	3/4	A	148.0	143.7	97	Pass
AC	265	1/0/1900	Cabot Rd	3/4	A	148.0	144.0	97	Pass
AC	266	1/0/1900	Cabot Rd	3/4	A	148.0	143.8	97	Pass
AC	267	1/0/1900	Cabot Rd	3/4	A	148.0	144.2	97	Pass
AC	672	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.2	96	Pass
AC	673	10/29/2014	Crown Valley Parkway	3/4	B	152.0	145.8	96	Pass
AC	674	10/29/2014	Crown Valley Parkway	3/4	B	152.0	145.3	96	Pass
AC	675	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.4	96	Pass
AC	676	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.0	96	Pass
AC	677	10/29/2014	Crown Valley Parkway	3/4	B	152.0	147.1	97	Pass
AC	682	10/30/2014	Crown Valley Parkway	3/4	B	152.0	146.6	96	Pass
AC	683	10/30/2014	Crown Valley Parkway	3/4	B	152.0	145.9	96	Pass
AC	702	12/18/2014	Crown Valley Parkway	3/4	C	149.0	145.2	97	Pass
AC	703	12/18/2014	Crown Valley Parkway	3/4	C	149.0	144.8	97	Pass
AC	704	12/18/2014	Crown Valley Parkway	3/4	C	149.0	145.0	97	Pass
AC	705	12/18/2014	Crown Valley Parkway	3/4	C	149.0	143.1	96	Pass
AC	729	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	144.3	97	Pass
AC	730	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	146.6	98	Pass
AC	731	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	147.8	99	Pass
AC	732	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	146.9	99	Pass
AC	733	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	148.2	99	Pass
AC	734	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.2	97	Pass
AC	760	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	148.0	99	Pass
AC	761	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.3	98	Pass
AC	762	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.0	97	Pass
AC	764	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	143.9	97	Pass
AC	765	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	143.3	96	Pass
AC	766	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	144.1	97	Pass
AC	803	2/26/2015	Picerne Shared Entry	3/4	D	146.0	142.1	97	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	804	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.1	97	Pass
AC	805	2/26/2015	Picerne Shared Entry	3/4	D	146.0	140.9	97	Pass
AC	806	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.5	97	Pass
AC	807	2/26/2015	Picerne Shared Entry	3/4	D	146.0	142.7	98	Pass
AC	808	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.6	97	Pass
AC	809	2/26/2015	Picerne Shared Entry	3/4	D	146.0	140.7	96	Pass
AC	810	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.8	97	Pass
AC	819	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.8	96	Pass
AC	820	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.2	96	Pass
AC	821	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	143.0	97	Pass
AC	822	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	140.9	95	Pass
AC	823	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.1	96	Pass
AC	824	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	140.7	95	Pass
AC	825	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.2	96	Pass
AC	826	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	141.5	96	Pass
AC	827	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	140.8	95	Pass
AC	828	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	140.6	95	Pass
AC	829	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	141.4	96	Pass
AC	854	3/26/2015	Cabot Road	3/4	A	148.0	141.6	96	Pass
AC	855	3/26/2015	Cabot Road	3/4	A	148.0	142.3	96	Pass
AC	856	3/26/2015	Cabot Road	3/4	A	148.0	142.4	96	Pass
AC	857	3/26/2015	Cabot Road	3/4	A	148.0	141.8	96	Pass
AC	858	3/26/2015	Cabot Road	3/4	A	148.0	142.0	96	Pass
AC	859	3/26/2015	Cabot Road	3/4	A	148.0	141.6	96	Pass
AC	860	3/26/2015	Cabot Road	3/4	A	148.0	143.1	97	Pass
AC	861	3/26/2015	Cabot Road	3/4	A	148.0	142.0	96	Pass
AC	862	3/26/2015	Cabot Road	3/4	A	148.0	142.6	96	Pass
AC	863	3/26/2015	Cabot Road	3/4	A	148.0	141.0	95	Pass
AC	864	3/26/2015	Cabot Road	3/4	A	148.0	140.8	95	Pass
AC	865	3/26/2015	Cabot Road	3/4	A	148.0	142.3	96	Pass
AC	866	3/26/2015	Cabot Road	3/4	A	148.0	141.2	95	Pass
AC	867	3/26/2015	Cabot Road	3/4	A	148.0	143.1	97	Pass
AC	882	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	142.0	96	Pass
AC	883	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	142.2	96	Pass
AC	884	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	141.4	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	885	5/6/2015	Crown Valley and Cabbot Inter	3/4	A	148.0	143.4	97	Pass
AC	962	6/23/2015	Station 11+05	3/4	D	146.0	140.8	96	Pass
AC	963	6/23/2015	Station 11+50	3/4	D	146.0	141.2	97	Pass
AC	964	6/23/2015	Station 12+20	3/4	D	146.0	139.9	96	Pass
AC	965	6/23/2015	Station 13+00	3/4	D	146.0	140.1	96	Pass
AC	966	6/23/2015	Station 13+60	3/4	D	146.0	139.4	95	Pass
AC	967	6/23/2015	Station 14+30	3/4	D	146.0	140.3	96	Pass
AC	968	6/23/2015	Station 14+10	3/4	D	146.0	141.7	97	Pass
AC	969	6/23/2015	Station 13+90	3/4	D	146.0	140.8	96	Pass
AC	970	6/23/2015	Station 13+50	3/4	D	146.0	142.1	97	Pass
AC	971	6/23/2015	Station 12+80	3/4	D	146.0	141.9	97	Pass
AC	972	6/23/2015	Station 11+95	3/4	D	146.0	142.7	98	Pass
AC	973	6/23/2015	Station 11+60	3/4	D	146.0	140.6	96	Pass
AC	974	6/23/2015	Station 12+40	3/4	D	146.0	140.8	96	Pass
AC	975	6/23/2015	Station 11+30	3/4	D	146.0	141.3	97	Pass
AC	982	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	143.6	96	Pass
AC	983	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	144.1	97	Pass
AC	984	6/30/2015	Cabot Road	3/4	C	149.0	143.8	97	Pass
AC	985	6/30/2015	Cabot Road	3/4	C	149.0	143.6	96	Pass
AC	986	6/30/2015	Cabot Road	3/4	C	149.0	142.9	96	Pass
AC	987	6/30/2015	Cabot Road	3/4	C	149.0	143.9	97	Pass
AC	988	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	143.8	97	Pass
AC	989	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	144.3	97	Pass
AC	990	6/30/2015	Cabot Road	3/4	C	149.0	142.7	96	Pass
AC	991	6/30/2015	Cabot Road	3/4	C	149.0	143.3	96	Pass
AC	992	6/30/2015	Cabot Road	3/4	C	149.0	144.6	97	Pass
AC	993	6/30/2015	Cabot Road	3/4	C	149.0	142.7	96	Pass
AC	994	6/30/2015	Cabot Road	3/4	C	149.0	143.4	96	Pass
AC	995	6/30/2015	Cabot Road	3/4	C	149.0	142.9	96	Pass
AC	996	7/2/2015	Cabot Road	3/4	D	146.0	140.8	96	Pass
AC	997	7/2/2015	Cabot Road	3/4	D	146.0	141.4	97	Pass
AC	998	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	140.2	96	Pass
AC	999	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.1	97	Pass
AC	1000	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	142.2	97	Pass
AC	1001	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	139.8	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	1002	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	140.4	96	Pass
AC	1003	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.2	97	Pass
AC	1004	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.7	97	Pass
AC	1005	7/2/2015	Crown Valley and Cabot	3/4	D	146.0	141.6	97	Pass
AC	1006	7/2/2015	Crown Valley and Cabot	3/4	D	146.0	142.4	98	Pass
AC	1007	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.8	96	Pass
AC	1008	7/2/2015	Cabot Road CAP	3/4	D	146.0	141.2	97	Pass
AC	1009	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.3	96	Pass
AC	1010	7/2/2015	Cabot Road CAP	3/4	D	146.0	139.7	96	Pass
AC	1011	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.8	96	Pass
AC	1012	7/2/2015	Cabot Road CAP	3/4	D	146.0	139.2	95	Pass
AC	1013	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.9	97	Pass
AC	1014	7/2/2015	Cabot Road CAP	3/4	D	146.0	141.6	97	Pass
AC	1052	7/23/2015	Cabot Road CAP	3/4	D	146.0	142.2	97	Pass
AC	1053	7/23/2015	Driveway North Entry	3/4	D	146.0	140.9	97	Pass
AC	1054	7/23/2015	Driveway North Entry	3/4	D	146.0	141.3	97	Pass
AC	1055	7/23/2015	Driveway North Entry	3/4	D	146.0	140.2	96	Pass
AC	1056	7/23/2015	Driveway North Entry	3/4	D	146.0	139.6	96	Pass
AC	1057	7/23/2015	Driveway North Entry	3/4	D	146.0	141.1	97	Pass
AC	1058	7/23/2015	Driveway North Entry	3/4	D	146.0	140.3	96	Pass
AC	1059	7/23/2015	Driveway North Entry	3/4	D	146.0	141.7	97	Pass
AC	1060	7/23/2015	Driveway North Entry	3/4	D	146.0	139.4	95	Pass
AC	1061	7/23/2015	Driveway North Entry	3/4	D	146.0	140.9	97	Pass
AC	1062	7/23/2015	Driveway North Entry	3/4	D	146.0	140.3	96	Pass
AC	1063	7/23/2015	Driveway North Entry	3/4	D	146.0	141.4	97	Pass
AC	1064	7/23/2015	Driveway North Entry	3/4	D	146.0	139.8	96	Pass
AC	1065	7/23/2015	Driveway North Entry	3/4	D	146.0	140.5	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 3
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557-12

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	EXPANSION INDEX	
				UBC*	CBC**
1	Brown Silt	91.5	25.0	HIGH	EXPANSIVE
2	Brown Sandy Clay	97.0	23.5	MEDIUM	EXPANSIVE
3	Brown Silt	97.0	26.0	HIGH	EXPANSIVE
4	Crushed Miscellaneous Base	122.0	12.0	VERY LOW	NON-EXPANSIVE
5	Crushed Aggregate Base	137.0	10.0	VERY LOW	NON-EXPANSIVE
6	Light Brown Silty Sand	128.0	10.0	LOW	EXPANSIVE
7	Light Brown Clayey Sand	126.0	11.0	LOW	EXPANSIVE
8	NOT USED	--	--		
9	Crushed Miscellaneous Base	123.0	10.0	VERY LOW	NON-EXPANSIVE
10	Crushed Aggregate Base	134.6	5.5	VERY LOW	NON-EXPANSIVE
11	Crushed Aggregate Base	132.0	8.0	VERY LOW	NON-EXPANSIVE
12	Crushed Aggregate Base	136.1	7.0	VERY LOW	NON-EXPANSIVE
13	Crushed Miscellaneous Base	119.3	11.3	VERY LOW	NON-EXPANSIVE

*Reference: 1997 Uniform Building Code, Table 18-I-B.

**Reference: 2013 California Building Code, Section 18.02.3.2

TABLE 4
SUMMARY OF LABORATORY ASPHALT TEST RESULTS
ASTM D 2726-05A, CALTRANS 366

CURVE NO.	TEST	
	HVEEM MAX DENSITY	STABILITY
A	148	47
B	152	47
C	149	48
D	146	47



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Subgrade for Walkways and Driveways and
Backfill of Utility Trenches and Retaining walls
(see Site Plan, Figures 1 through 9)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 10/01/2013
DATE FILL WAS COMPLETED: 07/23/2015
DATE OF THIS CERTIFICATE: 09/10/2015

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.*

NEAL D. BERLINER
G.E. 2576



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

GEOCON
WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03

September 15, 2015

Mr. Greg Lucas
CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

Subject: FIELD INSPECTION OF CUT SLOPE - PICERNE SHARED ENTRY
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY, LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

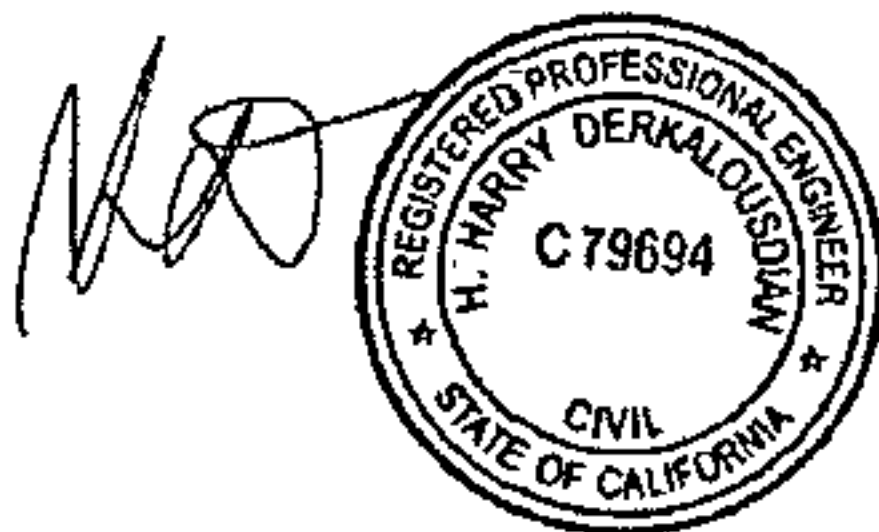
In accordance with your request, this letter provides written approval for the 1.6:1 to 1.7:1 (H:V) Picerne Shared Entry cut slope, located at northern side of the site (see attached Site Plan).

The cut slope was inspected on September 15, 2015, by Jeff Hull, CEG, with Geocon West, Inc. Based on the field inspection of the cut slope, no evidence of gross instability was observed in the cut slope. It is the opinion of this office that, provided our recommendations are followed and properly maintained, the cut slope will be safe for its intended use and will have no adverse effect on the stability of the site or adjoining properties. Proper surface drainage is critical to the future performance of the slope. Positive site drainage should be provided away from the top of the slope to controlled drainage structures. Drainage should not be allowed to flow uncontrolled over any descending slope. Drainage should not be allowed to pond anywhere on the site, particularly not against any proposed foundation or retaining wall.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Harry Derkalousdian
PE 79694

Jeff L. Hull
CEG 2056



(EMAIL) Addressee

Attachments: Site Plan

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Field Inspection of Cut Slope – Northern Property Line*, by Geocon West, Inc. dated August 19, 2013;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013;
- Interim Rough Grading Permit*, by Geocon West, Inc. dated Revised September 27, 2013;
- Report of Observation and Testing Services during Upper MSE Wall Construction and Partial Building Pad Approval*, by Geocon West, Inc., dated October 10, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.10 & Gridlines 2-13*, by Geocon West, Inc., dated Revised October 4, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines G-T & Gridlines 1-8*, by Geocon West, Inc., dated October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.5 & Gridlines 2-14*, by Geocon West, Inc., dated Revised October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-AA & Gridlines 14 & Y10/Y11*, by Geocon West, Inc., dated October 30, 2013;

REFERENCES (CONTD.)

- Partial Building Pad Approval Area Bounded by Gridlines T-J & 14-Y10/Y11 and Gridlines H & 16 & Gridlines J & 11, by Geocon West, Inc., dated November 18, 2013;*
- Deepened Foundations Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, by Geocon West, Inc., dated December 5, 2013;*
- Field Inspection of Temporary Bedrock Cut Slope, by Geocon West, Inc. dated January 22, 2014;*
- Partial Building Pad Approval at Gridline T Bounded By 2-11/12- and at Gridline 11 Bounded by J.2-T, by Geocon West, Inc., dated February 19, 2014;*
- Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, by Geocon West, Inc., dated February 28, 2014;*
- Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, by Geocon West, Inc., dated Revised April 14, 2014;*
- Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines J.2-T.5 & 8-14 by Geocon West, Inc., dated Revised April 14, 2014;*
- Partial Building Pad Approval Area Bounded by Gridlines A-J.2 & Gridlines 3-11, by Geocon West, Inc., dated May 12, 2014;*
- Report of Observation and Testing Services during Grading of Subgrade for the Fire Access Road, by Geocon West, Inc., dated May 29, 2014;*
- Field Inspection of Temporary Cut Slope and Driveway Subgrade – Picerne Shared Entry, by Geocon West, Inc., dated February 3, 2015;*
- Final Report of Observation and Testing Services during Grading of Subgrade for Walkways/Driveways and Backfill of Utility Trenches and Retaining Walls, by Geocon West, Inc., dated September 10, 2015.*

Note: Project address changed from
25891 Crown Valley Parkway to
27960 Cabot Rd.

Final Grading Release

PERMIT NUMBER G13-005 DATE 2/2/16
TRACT PM 2012-124
LOCATION 27960 Cabot Rd - Multi Family Project
LOTS APPROVED Crown Cabot Luxury Apartments
OWNER MCT Investment, LLC
Owner's Address 949 S. Coast Dr., Costa Mesa, Ca 92626
Special requirements _____

Grading
Inspector 

Grading
Supervisor _____

September 24, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

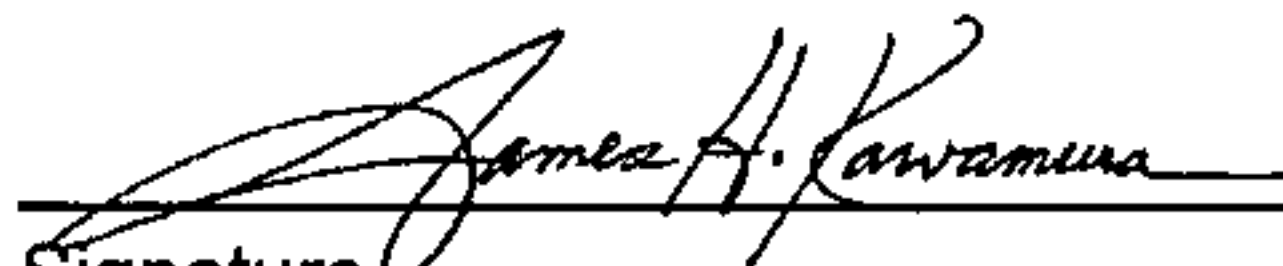
Subject: Civil Engineer's Final Certification of Grading & Drainage Devices

Reference Project: Grading Permit No. G13- 005
Address: 27960 Cabot Road
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby approve the final grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel's Grading and Excavation Code. Final grading has been completed substantially in conformance with the approved Delta 2 precise grading plans dated April 13, 2015, which includes: completion of all engineered drainage devices and retaining walls, setting all monuments in accordance with the recorded parcel map, location and inclination of all manufactured slopes, and construction of earthen berms and positive building pad drainage. I also have verified that the drainage pipes have been constructed to meet or exceed the minimum slopes as shown on the approved grading plans.

All structures constructed on the property corners or property lines, and where monumentation is not required, have been located in compliance with the approved plot plan.


Signature

R.C.E # 30560



September 24, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

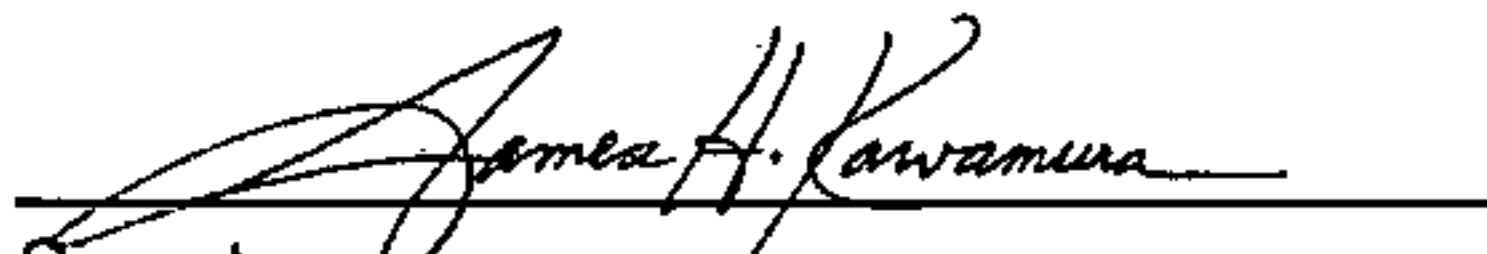
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's Final Certification of Water Quality Features

Reference Project: Grading Permit No. G13- 005
Address: 27960 Cabot Road
Tract No. PM 2012-124 Lot(s) , inclusive

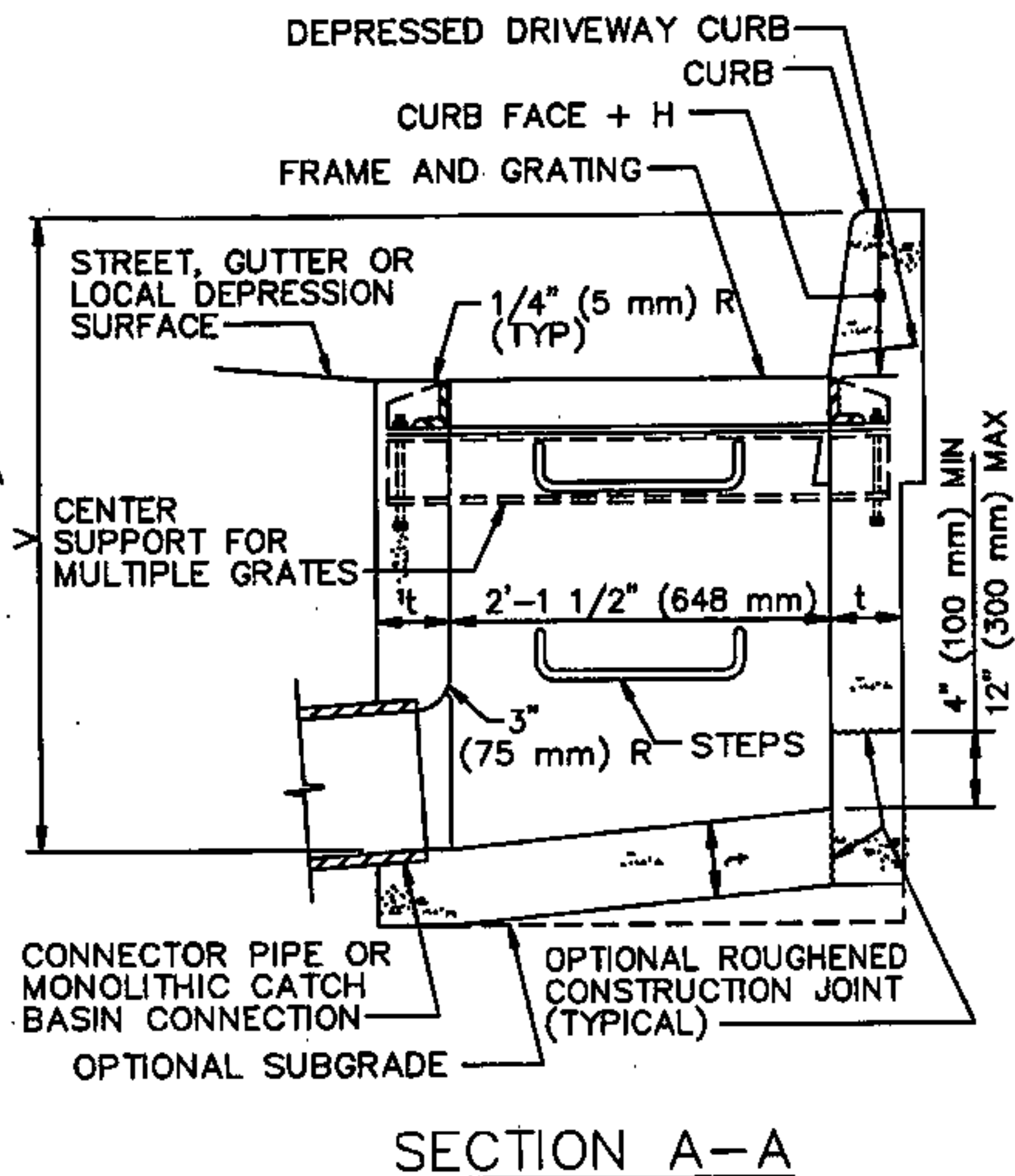
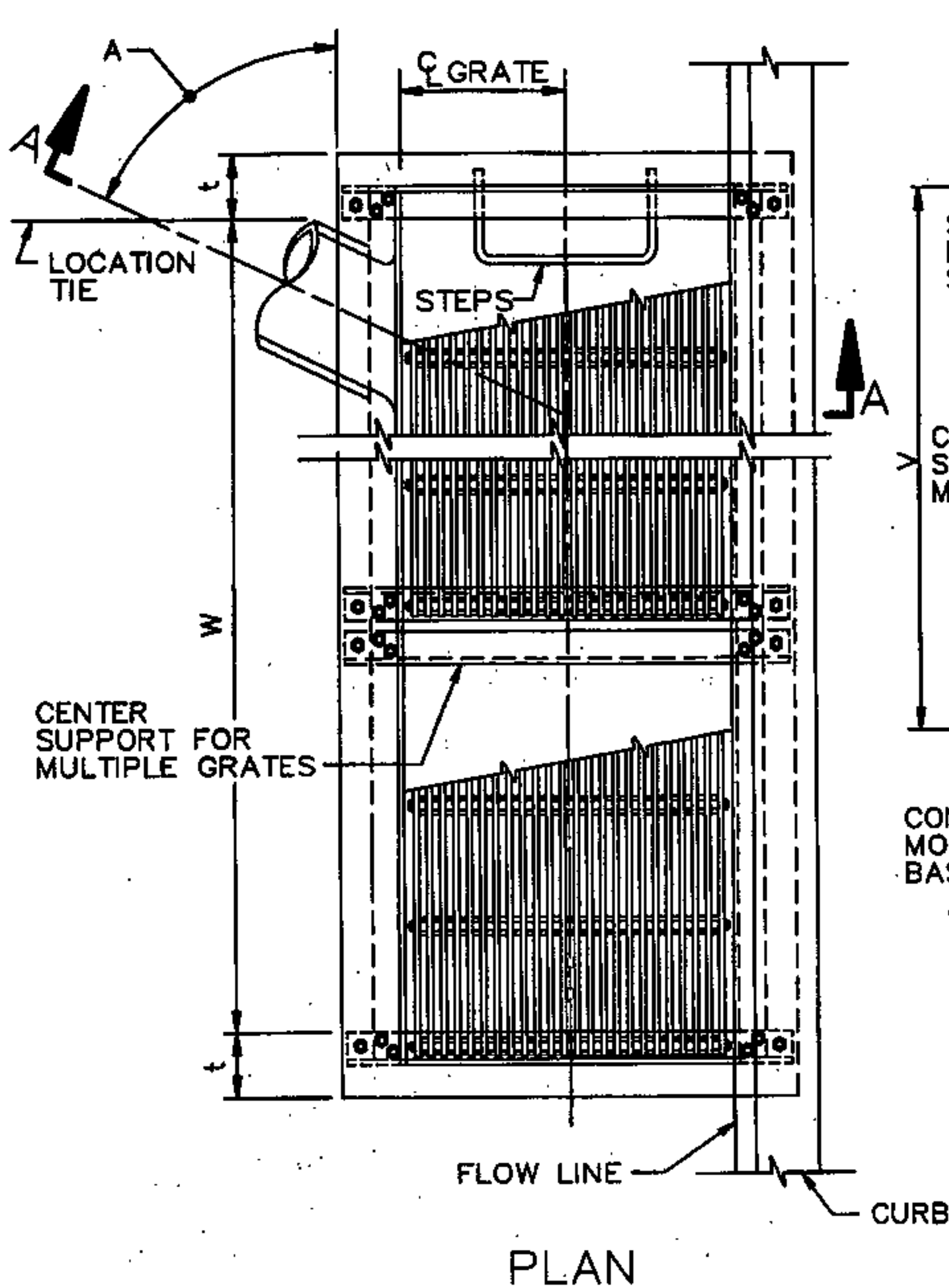
To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that all water quality features including all flow planters (1 through 18) and (4) Filterra boxes have been visually inspected during construction and that they have been properly constructed per the approved plans, and are suitable for the attended use, in addition, I certify that they are in substantial conformance both horizontally and vertically, with the City-approved Delta 2 Precise Grading & Drainage plans dated April 13, 2015 for the project site located at 27960 Cabot Road in the City of Laguna Niguel, California, prepared by **KHR Associates**, Newport Beach, California.


Signature

R.C.E # 30560





STRUCTURAL DATA			
WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS			
NO. OF GRATES	MAX V	t	REINFORCEMENT FOR WALLS AND SLABS
1-2	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
1-2	8' (2.4 m)	8" (200 mm)	
1-2	10' (3.0 m)	10" (250 mm)	
1-2	12' (3.5 m)	10" (250 mm)	REQUIRED
3-4	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
3-4	7' (2.0 m)	8" (200 mm)	
3-4	8' (2.4 m)	8" (200 mm)	
3-4	12' (3.5 m)	10" (250 mm)	REQUIRED
5-6	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
5-6	6' (1.8 m)	8" (200 mm)	
5-6	8' (2.4 m)	8" (200 mm)	
5-6	12' (3.5 m)	8" (200 mm)	REQUIRED
> 6	4' (1.2 m)	6" (150 mm)	
> 6	8' (2.4 m)	8" (200 mm)	
> 6	12' (3.5 m)	10" (250 mm)	

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS, INC.,
GREENBOOK COMMITTEE
1984
REV. 1992, 1998, 2009

CURBSIDE GRATING CATCH BASIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

303-3

SHEET 1 OF 2

NOTES:

1. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE GRADE, COLOR, FINISH, AND SCORING TO THE EXISTING OR PROPOSED CURB ADJACENT TO THE BASIN.
2. ALL CURVED CONCRETE SURFACES SHALL BE FORMED BY CURVED FORMS, AND SHALL NOT BE SHAPED BY PLASTERING.
3. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWEL FINISH AND SHALL HAVE A LONGITUDINAL AND LATERAL SLOPE OF 1:12 MINIMUM AND 1:3 MAXIMUM, EXCEPT WHERE THE GUTTER GRADE EXCEEDS 8%, IN WHICH CASE THE LONGITUDINAL SLOPE OF THE FLOOR SHALL BE THE SAME AS THE GUTTER GRADE. SLOPE FLOOR FROM ALL DIRECTIONS TO THE OUTLET.
4. ONE GRATING IS REQUIRED UNLESS OTHERWISE SHOWN ON THE PLANS.
5. DIMENSIONS:
 - V = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE CATCH BASIN AT THE OUTLET = 4.5' (1.35 m).
 - V_1 = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT AT THE UPSTREAM END OF THE BASIN, AND SHALL BE DETERMINED BY THE REQUIREMENTS OF NOTE 3, BUT SHALL NOT BE LESS THAN CURB FACE PLUS 12" (300 mm).
 - V_U = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT AT THE INLET. NOTED ON THE PLANS.
 - H = NOTED ON THE PLANS.
 - W = 2'-11 3/8" (900 mm) FOR ONE GRATING; ADD 3'-5 3/8" (1051 mm) FOR EACH ADDITIONAL GRATING.
 - A = THE ANGLE, IN DEGREES, INTERCEPTED BY THE CENTERLINE OF THE CONNECTOR PIPE AND THE CATCH BASIN WALL TO WHICH THE CONNECTOR PIPE IS ATTACHED.
6. PLACE CONNECTOR PIPES AS INDICATED ON THE PLANS. UNLESS OTHERWISE SPECIFIED, THE CONNECTOR PIPE SHALL BE LOCATED AT THE DOWNSTREAM END OF THE BASIN. WHERE THE CONNECTOR PIPE IS SHOWN AT A CORNER, THE CENTERLINE OF THE PIPE SHALL INTERSECT THE INSIDE CORNER OF THE BASIN. THE PIPE MAY BE CUT AND TRIMMED AT A SKEW NECESSARY TO INSURE MINIMUM 3" (80 mm) PIPE EMBEDMENT, ALL AROUND, WITHIN THE CATCH BASIN WALL, AND 3" (80 mm) RADIUS OF ROUNDING OF STRUCTURE CONCRETE, ALL AROUND, ADJACENT TO PIPE ENDS. A MONOLITHIC CATCH BASIN CONNECTION SHALL BE USED TO JOIN THE CONNECTOR PIPE TO THE CATCH BASIN WHENEVER ANGLE "A" IS LESS THAN 70° OR GREATER THAN 110°, OR WHENEVER THE CONNECTOR PIPE IS LOCATED IN A CORNER. THE OPTIONAL USE OF A MONOLITHIC CATCH BASIN CONNECTION IN ANY CASE IS PERMITTED. MONOLITHIC CATCH BASIN CONNECTIONS MAY BE CONSTRUCTED TO AVOID CUTTING STANDARD LENGTHS OF PIPE.
7. STEPS SHALL BE LOCATED AS SHOWN. IF THE CONNECTOR PIPE INTERFERES WITH THE STEPS, THEY SHALL BE LOCATED AT THE CENTERLINE OF THE DOWNSTREAM GRATING. STEPS SHALL BE SPACED 12" (300 mm) APART. THE TOP STEP SHALL BE 7" (175 mm) BELOW THE TOP OF THE GRATING AND PROJECT 2 1/2" (65 mm). ALL OTHER STEPS SHALL PROJECT 5" (130 mm).
8. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
 - 308 MONOLITHIC CATCH BASIN CONNECTION
 - 309 CATCH BASIN REINFORCEMENT
 - 311 FRAME AND GRATING FOR CATCH BASINS
 - 635 STEEL STEP
 - 636 POLYPROPYLENE PLASTIC STEP

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CURBSIDE GRATING CATCH BASIN

STANDARD PLAN

303-3

SHEET 2 OF 2

John Peters

From: Mike Thomas <mthomas@khrdesign.com>
Sent: Monday, January 11, 2016 4:17 PM
To: John Peters
Subject: RE: CB 1 clarity

The 3-11 3/8 is to the outside of the box, not the opening.

Mike Thomas || KHR Associates
Senior Vice President, mthomas@khrdesign.com
20411 SW Birch Street, Suite 310
Newport Beach, CA 92660
Office (949) 756-6440

-----Original Message-----

From: John Peters [<mailto:jpeters@mcrtrust.com>]
Sent: Monday, January 11, 2016 4:06 PM
To: Mike Thomas <mthomas@khrdesign.com>
Cc: Greg Lucas <glucas@mcrtrust.com>
Subject: CB 1 clarity

Mike,

See attached pics of CB 1. What we have doesn't match dimensionally. I can't find SPPWC std plan 303-3. Can you please provide it.

Thank you,
John

November 23, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

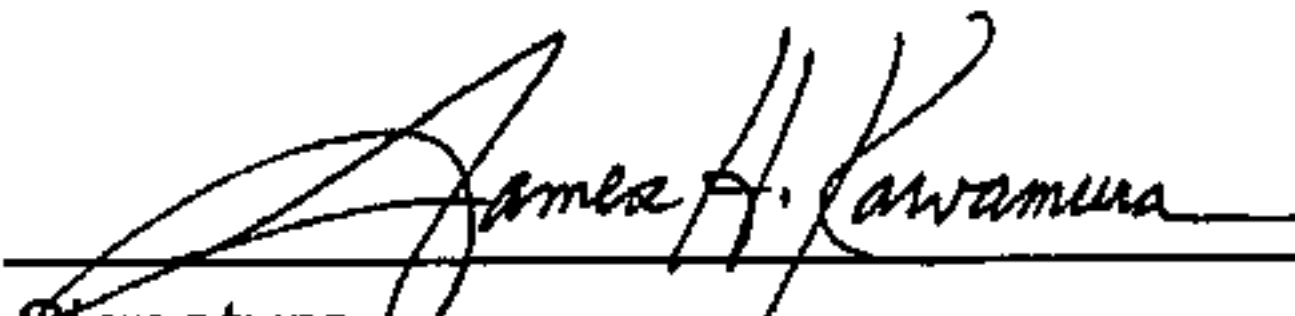
Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's Certification of Temporary grated inlet within
the shared entrance off Cabot Road.

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that on November 6, 2015, at the request of Mill Creek Residential Trust, Costa Mesa, California, a visual inspection and measurements to the existing temporary catch basin (grated inlet) within the shared driveway entrance to the Mill Creek and Picerne properties. The measurements taken of the clear opening in the basin confirmed that the wetted perimeter area of the opening in the basin can except the design flow run-off outline in the approved Hydrology report and subsequently is in substantial conformance with the approved Precise Grading & Drainage Plans for project located at 25891 Crown Valley Parkway in the City of Laguna Niguel, California, prepared by **KHR Associates**, Newport Beach, California.


Signature

(R.C.E # 30560) (AIA #)



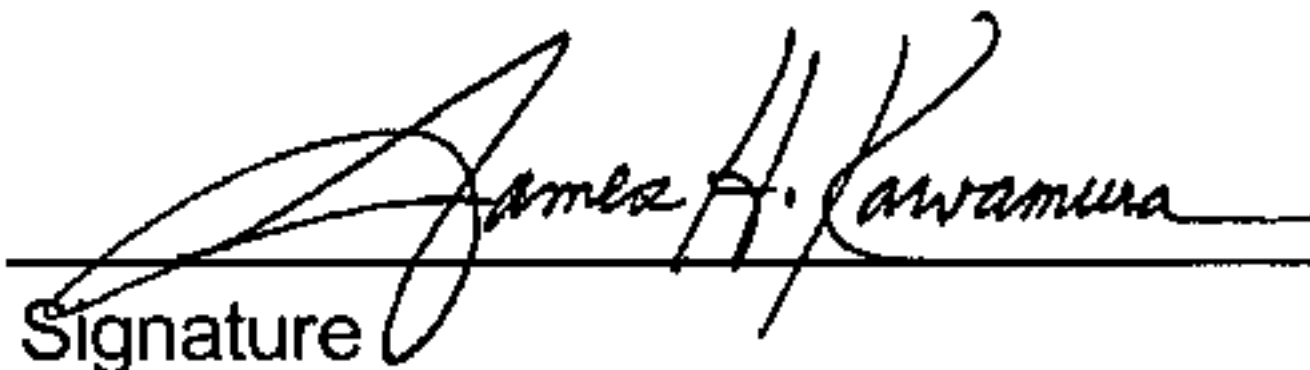
November 23, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

**SUBJECT: CERTIFICATION OF THE DRIVEWAY ENTRANCES ALONG CABOT ROAD,
FOR THE CROWN CABOT LUXURY APARTMENTS AT 27960 CABOT
ROAD, CITY OF LAGUNA NIGUEL, CALIFORNIA**

To whom it may concern:

I, James H. Kawamura, with **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that on November 6, 2015, at the request of Mill Creek Residential Trust, Costa Mesa, California, a visual field observation was conducted on the two driveways constructed along Cabot Road. Based on our field observation of the constructed driveways, I certify that both driveway were constructed in substantial conformance with the approved street improvement plans prepared by **KHR Associates**.


Signature

R.C.E # 30560





CONSULTING ENGINEERS/SURVEYORS/PLANNERS

February 3, 2015

**City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677**

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005.
Address: 25891 Crown Valley Parkway.
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Temporary 1.8:1 slope located along the north side of the project site.

Signature

(R.C.E # 30560) (AIA #)





Project No. A8803-06-03
February 3, 2015

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

Attention: Mr. Greg Lucas

Subject: FIELD INSPECTION OF TEMPORARY CUT SLOPE
AND DRIVEWAY SUBGRADE - PICERNE SHARED ENTRY
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

In accordance with your request, this letter provides written approval for the temporary 1.5:1 (H:V) Picerne Shared Entry bedrock cut slope, as well as the compacted subgrade for the driveway located at northern side of the site (see attached Site Plan).

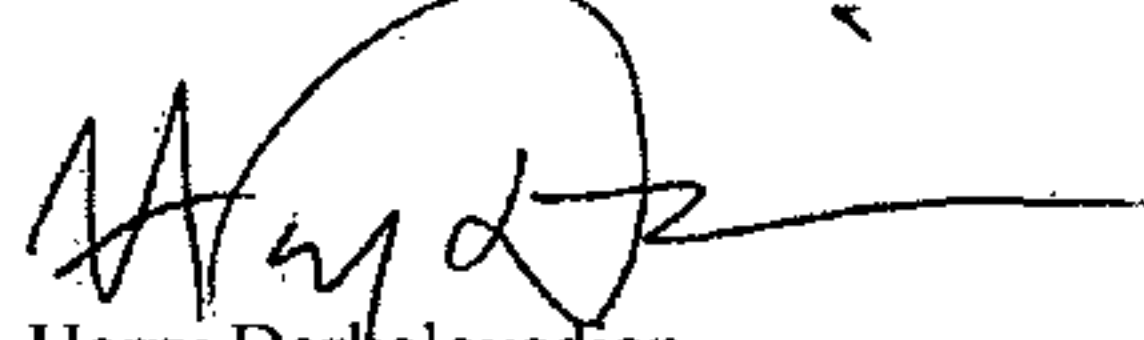
The cut bedrock slope was inspected on February 2, 2015, by Jeff Hull, CEG, with Geocon West, Inc. Based on the field inspection of the temporary cut slope, no evidence of gross or surficial instability were observed in the cut slope. It is the opinion of this office that, provided our recommendations are followed and properly maintained, the temporary cut slope will be safe for its intended use will have no adverse effect on the stability of the site or adjoining properties. Proper surface drainage is critical to the future performance of the slope. Positive site drainage should be provided away from the top of the slope to controlled drainage structures. Drainage should not be allowed to flow uncontrolled over any descending slope. Drainage should not be allowed to pond anywhere on the site, particularly not against any proposed foundation or retaining wall.

In addition, the upper 12 inches of subgrade for the Picerne Shared Entry driveway was scarified and re-compacted under the observation of a Geocon representative. The exposed ground surface was scarified, moistened as required to achieve optimum moisture content, and compacted to a minimum of 92 percent of the maximum density, as required. Based on observations and test results, it is the opinion of Geocon West, Inc. that the placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda. The approximate locations of all in-place density tests are indicated on the Site Plan, attached herein.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Harry Derkalousdian
PE 79694

(3+EMAIL) Addressee

Attachments: Figure 1, Site Plan



Neal D. Berliner
GE 2576



REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013.



CITY OF LAGUNA NIGUEL

30111 Crown Valley Parkway
Laguna Niguel, California 92677
Phone (949) 362-4300 | Fax (949) 362-4340

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380 • email: info@gmugeo.com

Page 1

REFERENCE NO.: G13-005

DATE: October 8, 2015

PROJECT DESCRIPTION: Multi-Family Residential Development – Final Report

LOCATION: ~~25891 Crown Valley Parkway~~ and 27960 Cabot Road

DEVELOPER/OWNER: CAL 1 Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-03

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694; Neal Berliner, GE 2516

ENGINEERING GEOLOGIST: None

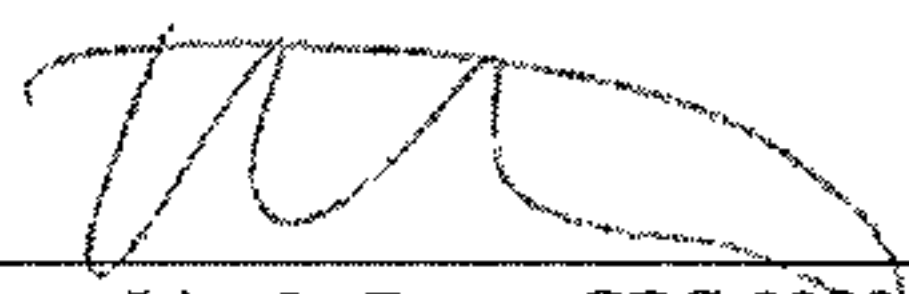
DOCUMENT REVIEWED: "Final Report of Observation and Testing Services during Grading of Subgrade for Walkways/Driveways and Backfill of Utility Trenches and Retaining Walls, Crown Valley Luxury Apartments, ~~25891 Crown Valley Parkway~~, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2015. 27960 Cabot Rd.

REFERENCES: Listed on Pages 2 & 3

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED
☐ REQUEST ADDITIONAL DATA FOR REVIEW

REVIEWED BY:


Lisa L. Bates, CEG 2293
Associate Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL 1 Crown Valley, LLC



CITY OF LAGUNA NIGUEL

30111 Crown Valley Parkway
Laguna Niguel, California 92677
Phone (949) 362-4300 | Fax (949) 362-4340

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.

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Page 2

REFERENCE NO.: G13-005

DATE: October 8, 2015

REFERENCES

(1) "Partial Building Pad Approval, Area Bounded by Gridlines A-J.2 and Gridlines 3-11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 12, 2014; (2) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014; (3) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014; (4) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014; (5) "Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014; (6) "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013; (7) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (8) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (9) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (10) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 - 8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 22, 2013; (11) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 2, 2013; (12) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by



CITY OF LAGUNA NIGUEL

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GEOTECHNICAL REVIEW SHEET

Reviewed by:

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(949) 888-6513 • Fax: (949) 888-1380 • email: info@gmugeo.com

Page 3

REFERENCE NO.: G13-005

DATE: October 8, 2015

KHR Associates, dated October 2, 2013; (13) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (14) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (15) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (16) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (17) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (18) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (19) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (20) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (21) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (22) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (23) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (24) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (25) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.



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GEOTECHNICAL REVIEW FEE SHEET (Page 1 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00



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GEOTECHNICAL REVIEW FEE SHEET (Page 2 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.	1/17/14	APPROVED	\$277.50



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GEOTECHNICAL REVIEW FEE SHEET (Page 3 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014.	3/10/14	APPROVED	\$277.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014.	4/21/14	APPROVED	\$287.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014.	4/22/14	APPROVED	\$287.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-J.2 & Gridlines 3-11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) May 12, 2014.	5/19/14	CONDITIONALLY APPROVED	\$287.50
"Final Report of Observation and Testing Services during Grading of Subgrade for Walkways/Driveways and Backfill of Utility Trenches and Retaining Walls, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2015.	10/8/15	APPROVED	\$ 630.00

extend
~~10/8/15~~
10/12/15

September 24, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

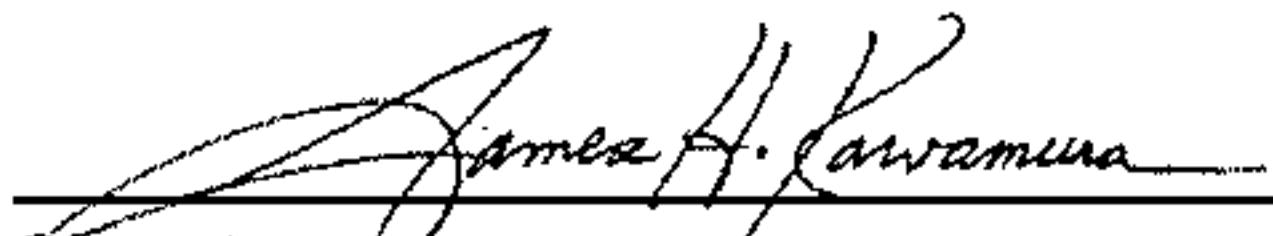
Subject: Civil Engineer's Final Certification of Grading & Drainage Devices

Reference Project: Grading Permit No. G13- 005
Address: 27960 Cabot Road
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby approve the final grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel's Grading and Excavation Code. Final grading has been completed substantially in conformance with the approved Delta 2 precise grading plans dated April 13, 2015, which includes: completion of all engineered drainage devices and retaining walls, setting all monuments in accordance with the recorded parcel map, location and inclination of all manufactured slopes, and construction of earthen berms and positive building pad drainage. I also have verified that the drainage pipes have been constructed to meet or exceed the minimum slopes as shown on the approved grading plans.

All structures constructed on the property corners or property lines, and where monumentation is not required, have been located in compliance with the approved plot plan.


Signature

R.C.E. # 30560



September 24, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

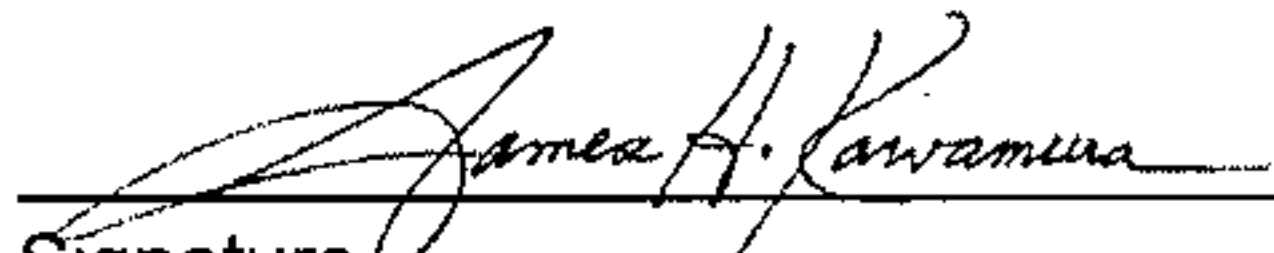
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's Final Certification of Water Quality Features

Reference Project: Grading Permit No. G13- 005
Address: 27960 Cabot Road
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that all water quality features including all flow planters (1 through 18) and (4) Filterra boxes have been visually inspected during construction and that they have been properly constructed per the approved plans, and are suitable for the attended use, in addition, I certify that they are in substantial conformance both horizontally and vertically, with the City-approved Delta 2 Precise Grading & Drainage plans dated April 13, 2015 for the project site located at 27960 Cabot Road in the City of Laguna Niguel, California, prepared by **KHR Associates**, Newport Beach, California.


Signature

R.C.E # 30560



September 23, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

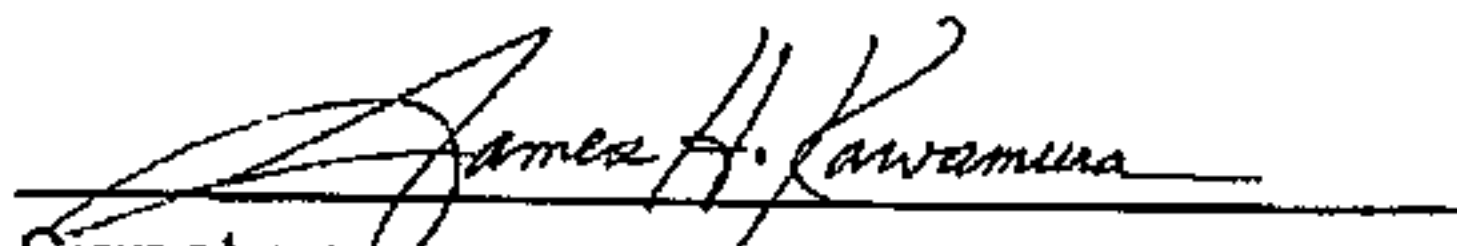
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's Certification of Final Grading & Drainage

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that, a visual inspection of the site grading and drainage, as well as all four (4) Filterra Roofdrain units at 25891 Crown Valley Parkway in the City of Laguna Niguel, California, are in substantial conformance, both horizontally and vertically, with the City-approved Delta 2 Precise Grading & Drainage Plans dated April 13, 2015, prepared by **KHR Associates**, Newport Beach, California.


Signature

(R.C.E # 30560)



August 31, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

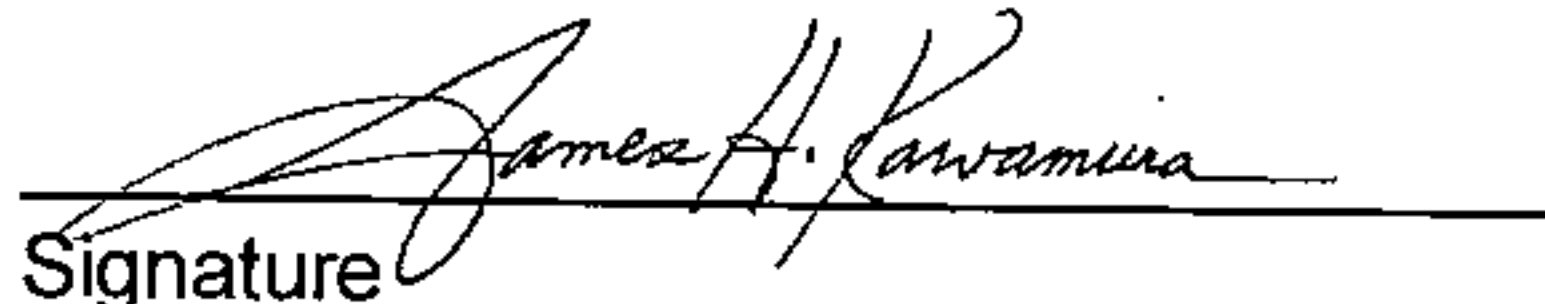
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's Certification of Building "A" Grading & Drainage

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that, the grading and drainage surrounding Building "A" as well as all four (4) Filterra Roofdrain units at 25891 Crown Valley Parkway in the City of Laguna Niguel, California, are in substantial conformance, both horizontally and vertically, with the City-approved Delta 2 Precise Grading & Drainage Plans dated April 13, 2015, prepared by **KHR Associates**, Newport Beach, California.


Signature

(R.C.E # 30560)



August 31, 2015

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's Certification of Flow Through Planters 1 - 11

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that, Flow Through Planters numbered 1 through 11 surrounding Building "A" at 25891 Crown Valley Parkway in the City of Laguna Niguel, California, are in substantial conformance, both horizontally and vertically, with the City-approved Delta 2 Precise Grading & Drainage Plans dated April 13, 2015, prepared by **KHR Associates**, Newport Beach, California.


Signature

(R.C.E # 30560)



April 23, 2015

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

**SUBJECT: FLOW THROUGH PLANTER'S PERFORATED UNDERDRAIN AND PIPE
MATERIAL FOR THE PROPOSED "CROWN VALLEY/CABOT APARTMENTS"
PROJECT LOCATED ON 25891 CROWN VALLEY PARKWAY, LAGUNA
NIGUEL, CALIFORNIA**

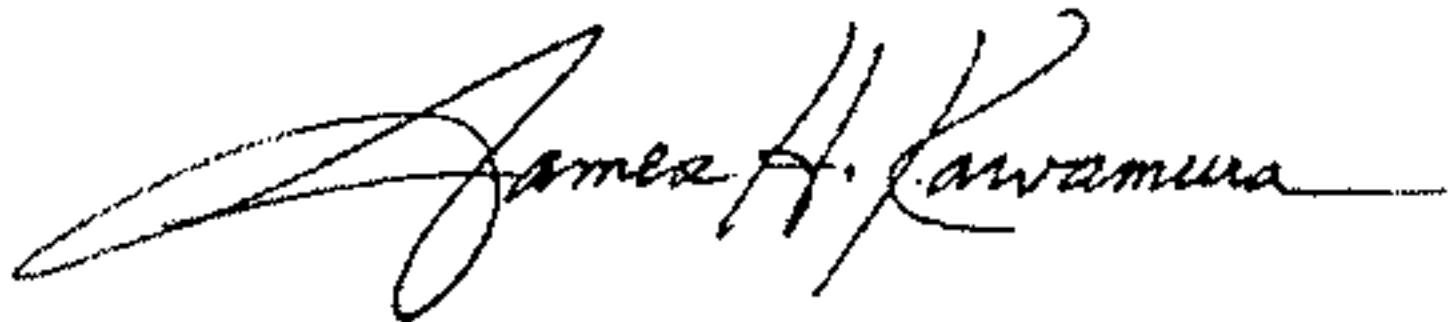
Dear Mr. Sharif,

Per your request, this letter is to confirm that the contractor's material substitution of SDR 35 PVC pipe instead of the SCHEDULE 40 PVC pipe specified within the Precise Grading Plan set is an acceptable material for use in the flow through planters. The contractor's substitution of SDR 35 PVC pipe with perforations around half of the circumference for the SCHEDULE 40 PVC pipe with perforations around the entire circumference called out within the Precise Grading Plan set is an acceptable substitution to be used in the flow through planters.

If there are any other questions, or if additional information is needed, please do not hesitate to call me at your convenience, at 949-756-6440.

Sincerely yours,

KHR Associates



James H. Kawamura, P.E.
President

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03

June 9, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: COMPLETION OF GRADING FOR BUILDING PAD
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the grading for the building pad at the subject site has been completed. All grading work was performed in accordance with project plans, and geotechnical investigation report and addenda.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Harry Derkalousdian
PE 79694

(1) Addressee



REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013.



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: May 19, 2014

PROJECT DESCRIPTION: Multi-Family Residential Development – GRIDLINES A-J.2 AND 3-11

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-03

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Partial Building Pad Approval, Area Bounded by Gridlines A-J.2 and Gridlines 3-11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 12, 2014.

REFERENCES: Listed on Pages 2 & 3

ACTION:

☐ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☒ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED
☐ REQUEST ADDITIONAL DATA FOR REVIEW

COMMENT: After approval of the final portion of the building pad, the consultant should issue a final grading letter confirming all portions of the site have been approved from a geotechnical perspective.

REVIEWED BY:


Lisa L. Bates, CEG 2293
Associate Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL I Crown Valley, LLC



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: May 19, 2014

REFERENCES

(1) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014; (2) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014; (3) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014; (4) "Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014; (5) "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013; (6) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (7) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (8) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (9) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (10) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (11) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (12) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (13) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 3

GMU REFERENCE NO.: G13-005

DATE: May 19, 2014

Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (14) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (15) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (16) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (17) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (18) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (19) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (20) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (21) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (22) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (23) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (24) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.



23241 Arroyo Vista
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web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (Page 1 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00



23241 Arroyo Vista
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web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (Page 2 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.	1/17/14	APPROVED	\$277.50



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GEOTECHNICAL REVIEW FEE SHEET (Page 3 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014.	3/10/14	APPROVED	\$277.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014.	4/21/14	APPROVED	\$287.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014.	4/22/14	APPROVED	\$287.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-J.2 & Gridlines 3-11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) May 12, 2014.	5/19/14	CONDITIONALLY APPROVED	\$287.50

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03
June 9, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: COMPLETION OF GRADING FOR BUILDING PAD
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the grading for the building pad at the subject site has been completed. All grading work was performed in accordance with project plans, and geotechnical investigation report and addenda.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Harry Derkalousdian
PE 79694

(1) Addressee

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013.

last pad

Rough Grading Release

PERMIT NUMBER G13-005

DATE 5/21/14

TRACT _____

LOCATION 25891 Crown Valley Pkwy - Crown Abot Luxury Apts

LOTS APPROVED Area bounded by gridlines A-J.2 &
Gridlines 3-1

OWNER MCR Investments, LLC

Owner's Address 949 S. Coast Dr., Costa Mesa, Ca. 92626

Special requirements See attached civil cost & map

Grading
Inspector 

Grading
Supervisor _____

May 13, 2014

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

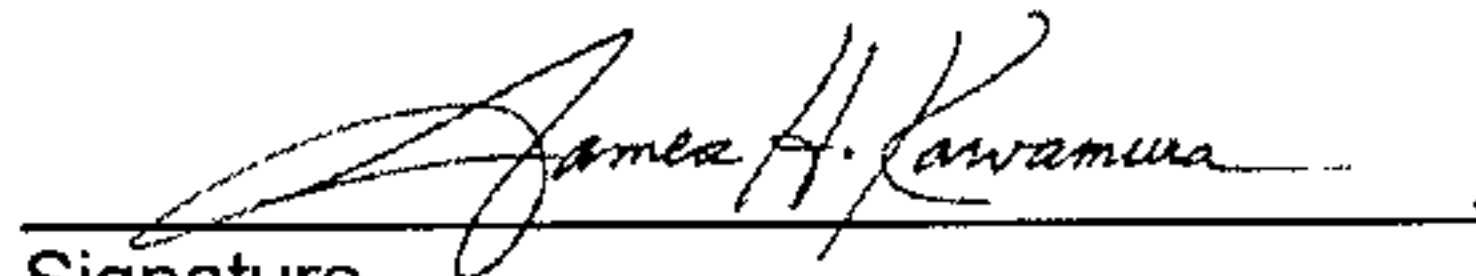
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines A & J.2 (north/south) and 3 & 11 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E #) (AIA #)





Project No. A8803-06-03

May 12, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES A – J.2 & GRIDLINES 3 – 11
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines A – J.2 and Gridlines 3 – 11 as identified on the attached site plan has been prepared as required by Geocon and is approved for the placement of the foundation system. This area has been observed by Geocon and bedrock is exposed throughout this portion of the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The recommendations for foundations provided in the project geotechnical report and addenda remain applicable to the project.

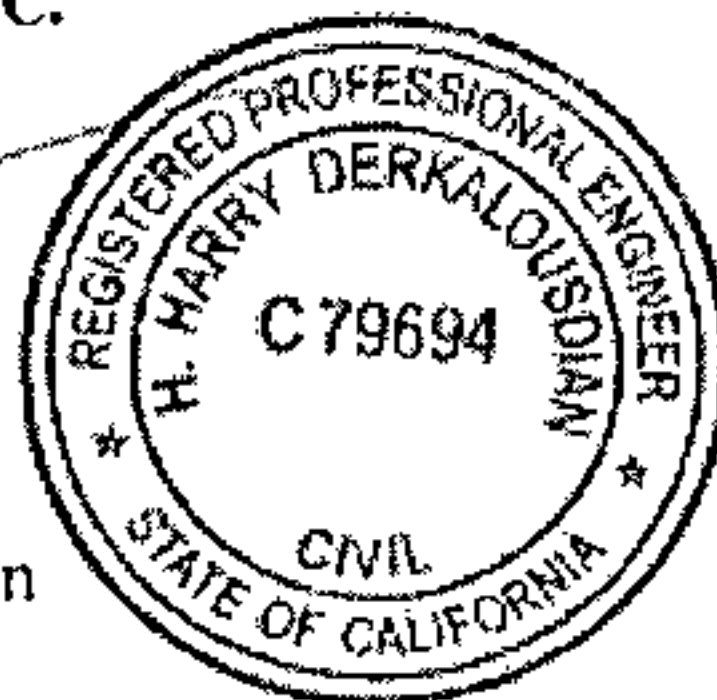
Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

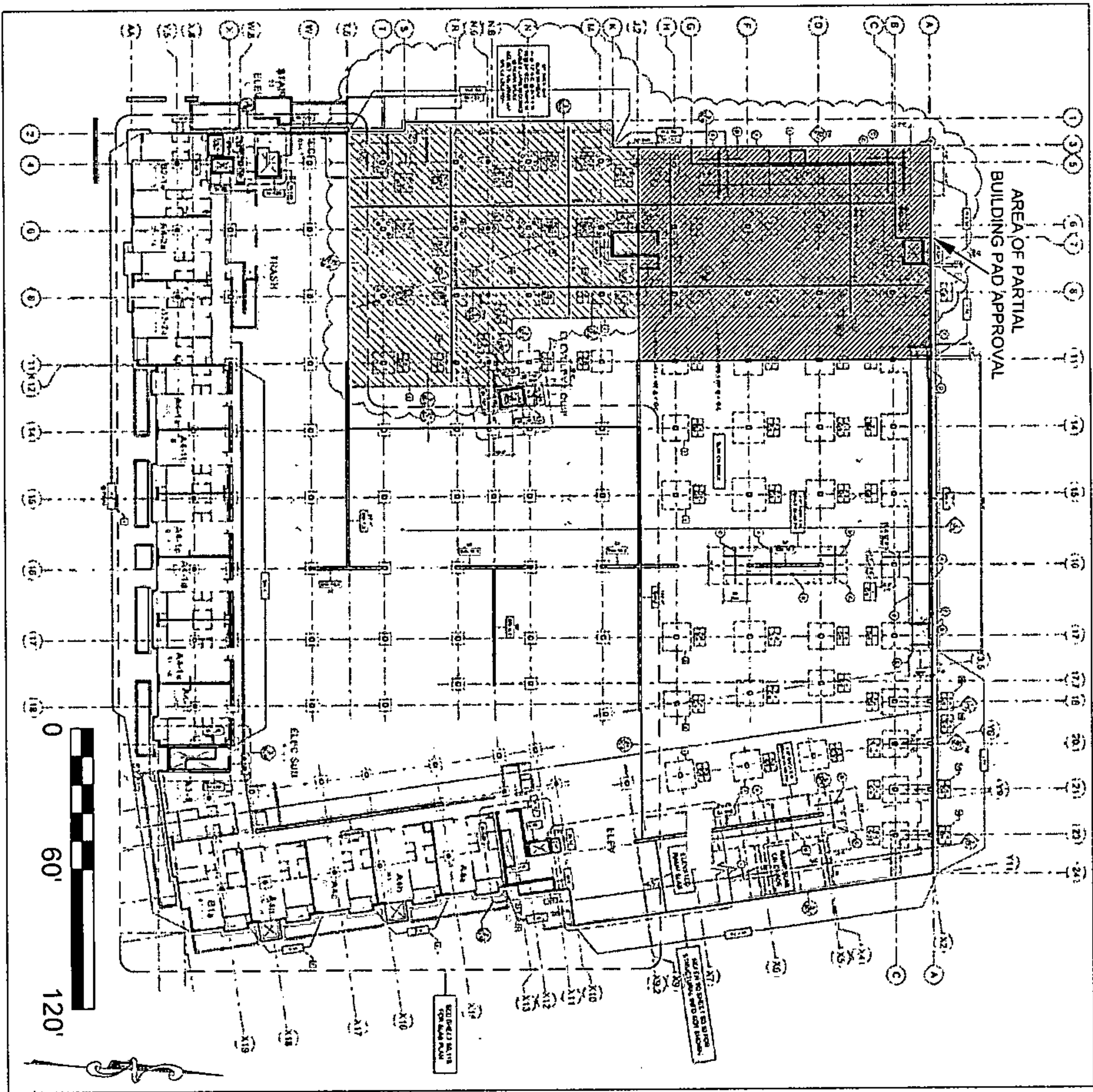
GEOCON WEST, INC.

Harry Derkalousdian
PE 79694



(3) Addressee

AREA OF PARTIAL
BUILDING PAD APPROVAL





CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: May 19, 2014

PROJECT DESCRIPTION: Multi-Family Residential Development – GRIDLINES A-J.2 AND 3-11

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL 1 Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-03

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Partial Building Pad Approval, Area Bounded by Gridlines A-J.2 and Gridlines 3-11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 12, 2014.

REFERENCES: Listed on Pages 2 & 3

ACTION:

☐ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☒ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED
☐ REQUEST ADDITIONAL DATA FOR REVIEW

COMMENT: After approval of the final portion of the building pad, the consultant should issue a final grading letter confirming all portions of the site have been approved from a geotechnical perspective.

REVIEWED BY:


Lisa L. Bates, CEG 2293
Associate Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL 1 Crown Valley, LLC



CITY OF LAGUNA NIGUEL

Public Works/Engineering
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

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Page 2

GMU REFERENCE NO.: G13-005

DATE: May 19, 2014

REFERENCES

(1) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014; (2) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014; (3) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014; (4) "Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014; (5) "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013; (6) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (7) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (8) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (9) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 22, 2013; (10) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 2, 2013; (11) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (12) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (13) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 · Fax: (949) 888-1380

Page 3

GMU REFERENCE NO.: G13-005

DATE: May 19, 2014

Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (14) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (15) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (16) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (17) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (18) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (19) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (20) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (21) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (22) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (23) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (24) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.



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GEOTECHNICAL REVIEW FEE SHEET (Page 1 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00

Plan
Check
↓
Permit



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GEOTECHNICAL REVIEW FEE SHEET (Page 2 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.	1/17/14	APPROVED	\$277.50



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GEOTECHNICAL REVIEW FEE SHEET (Page 3 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014.	3/10/14	APPROVED	\$277.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014.	4/21/14	APPROVED	\$287.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014.	4/22/14	APPROVED	\$287.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-J.2 & Gridlines 3-11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) May 12, 2014.	5/19/14	CONDITIONALLY APPROVED	\$287.50

on lined 8/25/14 $\Sigma = 3,647.5$

Rough Grading Release

PERMIT NUMBER G13-005 DATE 4/23/14
TRACT _____
LOCATION 25891 Crown Valley Pkwy - Crown Cabot Luxury Apts.
LOTS APPROVED Area bounded by grids F.-J-2 & 8-Y9
OWNER MCRT Investments, LLC & D-F & Y6-Y9
Owner's Address 949 S. Coast Drive, Costa Mesa, Ca.
Special requirements See Attached Civil Cost 92626
Grading Inspector  Grading Supervisor _____



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
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Page 1

GMU REFERENCE NO.: G13-005

DATE: April 22, 2014

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development --

GRIDLINES F-J.2 & 8-Y9 AND GRIDLINES D-F & Y6-Y9

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL 1 Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-03

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

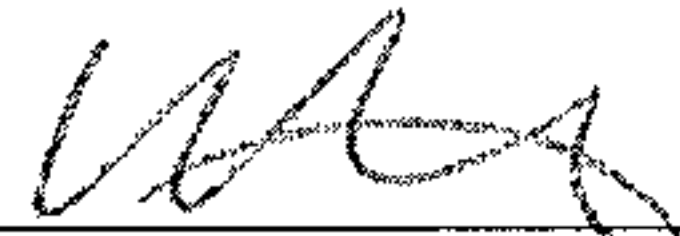
DOCUMENTS REVIEWED: "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014.

REFERENCES: Listed on Pages 2 & 3

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED
☐ REQUEST ADDITIONAL DATA FOR REVIEW

REVIEWED BY:


Lisa L. Bates, CEG 2293
Associate Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL 1 Crown Valley, LLC



CITY OF LAGUNA NIGUEL

Public Works/Engineering
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Reviewed by:

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Page 2

GMU REFERENCE NO.: G13-005

DATE: April 22, 2014

REFERENCES

(1) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014; (2) "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014; (3) "Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014; (4) "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013; (5) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (6) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (7) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (8) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (9) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (10) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (11) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (12) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (13) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel,



CITY OF LAGUNA NIGUEL

Public Works/Engineering
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

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Page 3

GMU REFERENCE NO.: G13-005

DATE: April 22, 2014

California,” prepared by Geocon West, Inc., dated May 22, 2013; (14) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (15) “Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California,” prepared by Geocon West, Inc., dated March 8, 2012; (16) “Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California,” prepared by Geocon West, Inc., dated February 13, 2013; (17) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California,” prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (18) “Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California,” prepared by Geocon West, Inc., dated September 10, 2012; (19) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (20) “Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California,” prepared by Property Solutions, Inc., dated December 15, 2010; (21) “Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California,” prepared by Geocon West, Inc., dated February 17, 2011; (22) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (23) “Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California,” prepared by Geocon West, Inc., dated January 5, 2012.

April 8, 2014

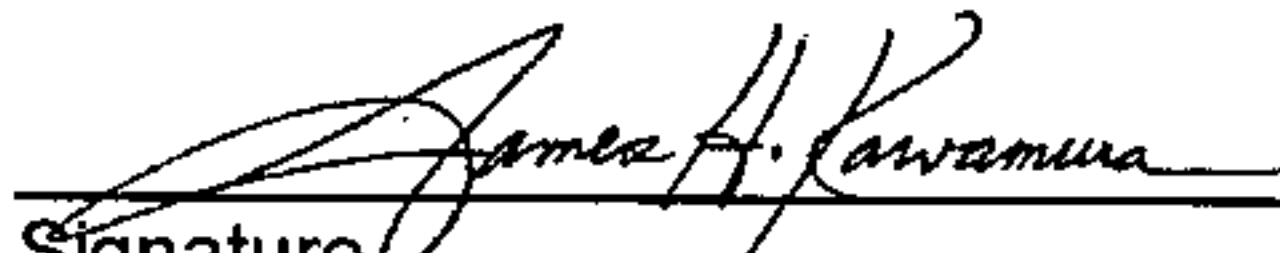
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects)' Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Pad elevation for the area bounded by grids F-J.2 & 8-Y9 and D-F & Y6-Y9.


Signature

(R.C.E # 30560) (AIA #)



GEOCON

WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
REVISED April 14, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING FOR SLAB-ON-GRADE SUBGRADE
AREA BOUNDED BY GRIDLINES F-J.2 & 8-Y9 AND
GRIDLINES D-F & Y6-Y9
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the grading for slab-on-grade subgrade in an area bounded by gridlines F-J.2 & 8-Y9 and gridlines D-F & Y6-Y9 on the subject property. Our services were performed during the period of February 7, 2014 through April 4, 2014. The scope of our services included the following:

- Observing the grading operation, including the proper placement and compaction of import soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the slab-on-grade.

It is important to note that fill was placed and compacted only in a portion of the area within the above mentioned gridlines (see Site Plan, Figure 1). The remainder of the area was cut to prepare rough grade. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported in the underlying competent bedrock. Also, some areas were recompacted (test numbers 333-336) after initial compaction activities due to soil disturbance in the upper approximate 8 inches.

GRADING

Grading consisted of placement and compaction of import soil for the creation of roughly level slab-on-grade subgrade.

Fill was placed by means of a loader and bobcat, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loader, a vibratory drum roller with sheepsfoot wheel, and whackers. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figure 1).

In-place density tests were performed in conformance with ASTM Test Method D1556 (Sand Cone), and ASTM Test Method ASTM D6938 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 92 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figure 1).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed was derived from import. The fill consist primarily of silty sand.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

- 1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines F-J.2 & 8-Y9 and gridlines D-F & Y6-Y9 as indicated on the Site Plan, Figure 1 has been prepared as required by Geocon. This area has been observed by Geocon. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" expansion range. Special considerations for expansive soils are not required.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, April 4, 2014. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Petrina Zen

Petrina Zen
Staff Engineer

[Handwritten Signature]

Harry Derkalousdian
PE 79694

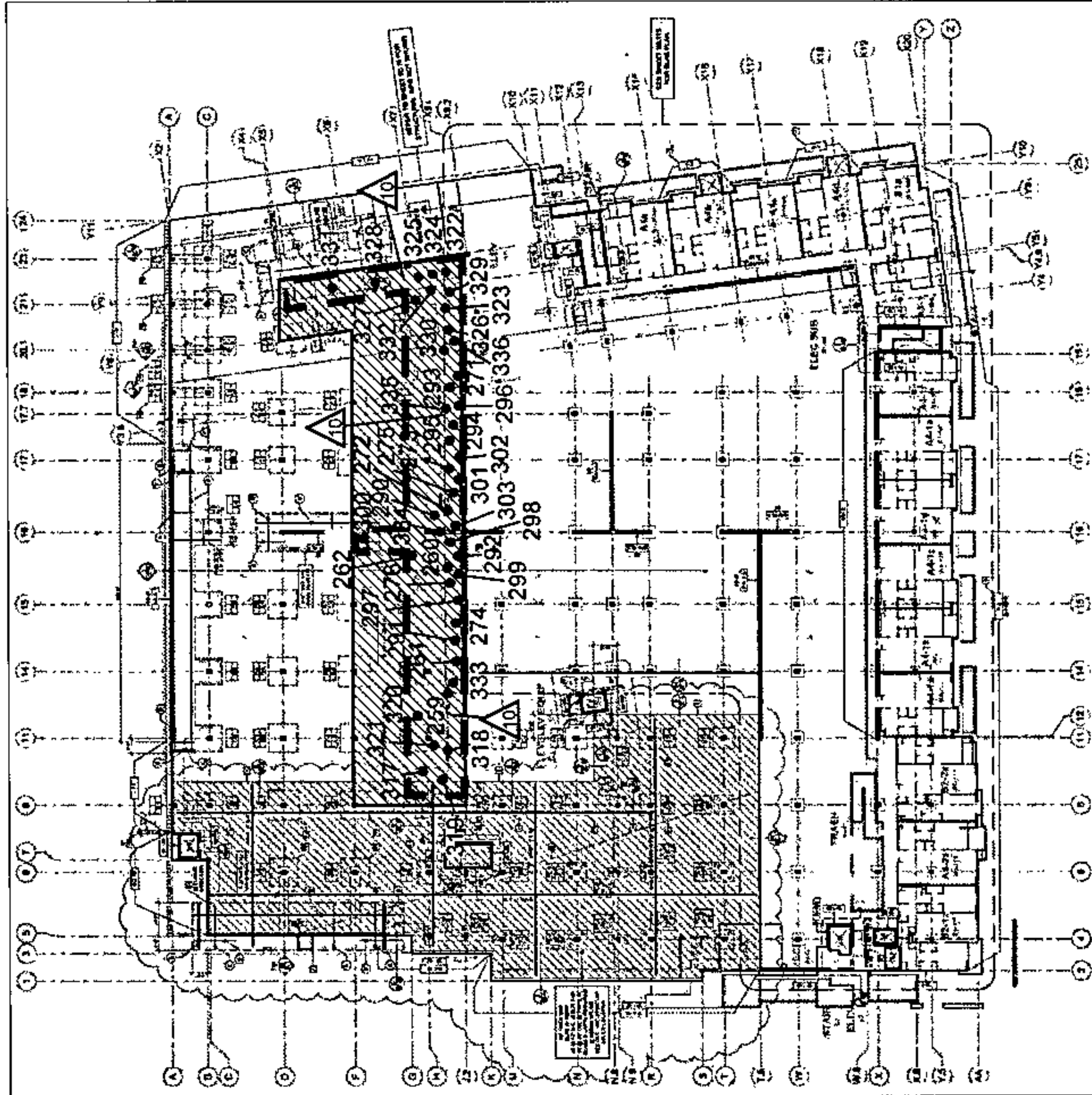


Enclosures: Figure 1 - Site Plan
 Explanation of Coded Terms
 Tables 1 and 2
 Certification

(EMAIL) Addressee

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
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- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013.



LEGEND

- 336 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Δ_{10} Approximate Depth of Engineered Fill (in feet)
-  Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9

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ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

PZ

8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

APRIL 14, 2014

PROJECT NO. A8803-06-03

FIG. 1

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DW - Driveway	PT - Plumbing Trench	SL - Sewer Lateral	SZ - Slope Zone
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
CG - Curb & Gutter	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
CW - Crib Wall	JT - Joint Trench	SG - Subgrade	SW - Sidewalk	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, . . . : Retest of previous density test failure, following moisture conditioning and/or recompaction.
 R : Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

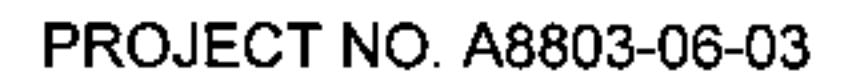
SC: Sand Cone Test
NU: Nuclear Density Test
DC: Drive Cylinder Test



TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	259	2/7/2014	Gridline J.2	291.0	6	118.6	12.6	128.0	10.0	93	NU	Pass
WB	260	2/7/2014	Gridline J.2	291.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	261	2/7/2014	Gridline J.2	292.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	262	2/7/2014	Gridline J.2	292.0	6	118.5	12.9	128.0	10.0	93	SC	Pass
WB	271	2/11/2014	Gridline J.2 - Between 13&19	291.0	6	118.2	12.8	128.0	10.0	92	NU	Pass
WB	272	2/11/2014	Gridline J.2 - Between 13&19	292.0	6	118.5	13.0	128.0	10.0	93	NU	Pass
WB	273	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
WB	274	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.9	12.1	128.0	10.0	94	NU	Pass
WB	275	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.8	13.1	128.0	10.0	93	NU	Pass
WB	276	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.3	13.4	128.0	10.0	92	NU	Pass
WB	290	2/12/2014	Gridline J.2 - Between 13&19	295.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	291	2/13/2014	Gridline J.2 - Between 13&19	295.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	292	2/14/2014	Gridline J.2 - Between 13&19	296.0	6	119.0	12.1	128.0	10.0	93	NU	Pass
WB	293	2/14/2014	Gridline J.2 - Between 13&19	291.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
WB	294	2/14/2014	Gridline J.2 - Between 13&19	292.0	6	118.9	12.3	128.0	10.0	93	NU	Pass
WB	295	2/14/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	296	2/14/2014	Gridline J.2 - Between 13&19	294.0	6	118.6	12.5	128.0	10.0	93	SC	Pass
WB	297	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	298	2/18/2014	Gridline J.2 - Between 14&19	298.0	6	118.3	12.7	128.0	10.0	92	NU	Pass
WB	299	2/18/2014	Gridline J.2 - Between 13&19	299.0	6	118.9	12.2	128.0	10.0	93	NU	Pass
WB	300	2/18/2014	Gridline J.2 - Between 13&19	300.0	6	118.1	12.6	128.0	10.0	92	NU	Pass
WB	301	2/18/2014	Gridline J.2 - Between 13&19	297.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	302	2/18/2014	Gridline J.2 - Between 13&19	298.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	303	2/18/2014	Gridline J.2 - Between 13&19	299.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	317	3/18/2014	Column Backfill	291.0	6	119.0	12.7	128.0	10.0	93	NU	Pass
WB	318	3/18/2014	Column Backfill	293.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	319	3/18/2014	Column Backfill	295.0	6	118.7	12.1	128.0	10.0	93	NU	Pass
WB	320	3/18/2014	Column Backfill	297.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	321	3/18/2014	Column Backfill	299.0	6	118.8	12.0	128.0	10.0	93	SC	Pass
WB	322	3/19/2014	Gridline J.2 - 18	291.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
WB	323	3/19/2014	Gridline J.2 - 18	292.0	6	118.4	12.1	128.0	10.0	93	NU	Pass
WB	324	3/19/2014	Gridline J.2 - 18	292.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	325	3/19/2014	Gridline J.2 - 18	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	326	3/19/2014	Gridline J.2-18	293.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	327	3/20/2014	Gridline J.2-18	294.0	6	119.5	12.3	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"

[illegible]

* - See "Explanation of Coded Terms"



TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
1	Not Used		
2	Not Used		
3	Not Used		
4	Not Used		
5	Not Used		
6	Import - Silty Sand	128.0	10.0

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G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Area Bounded by Gridlines F-J.2 & 8-Y9
and Gridlines D-F & Y6-Y9
(see Site Plan, Figure 1)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

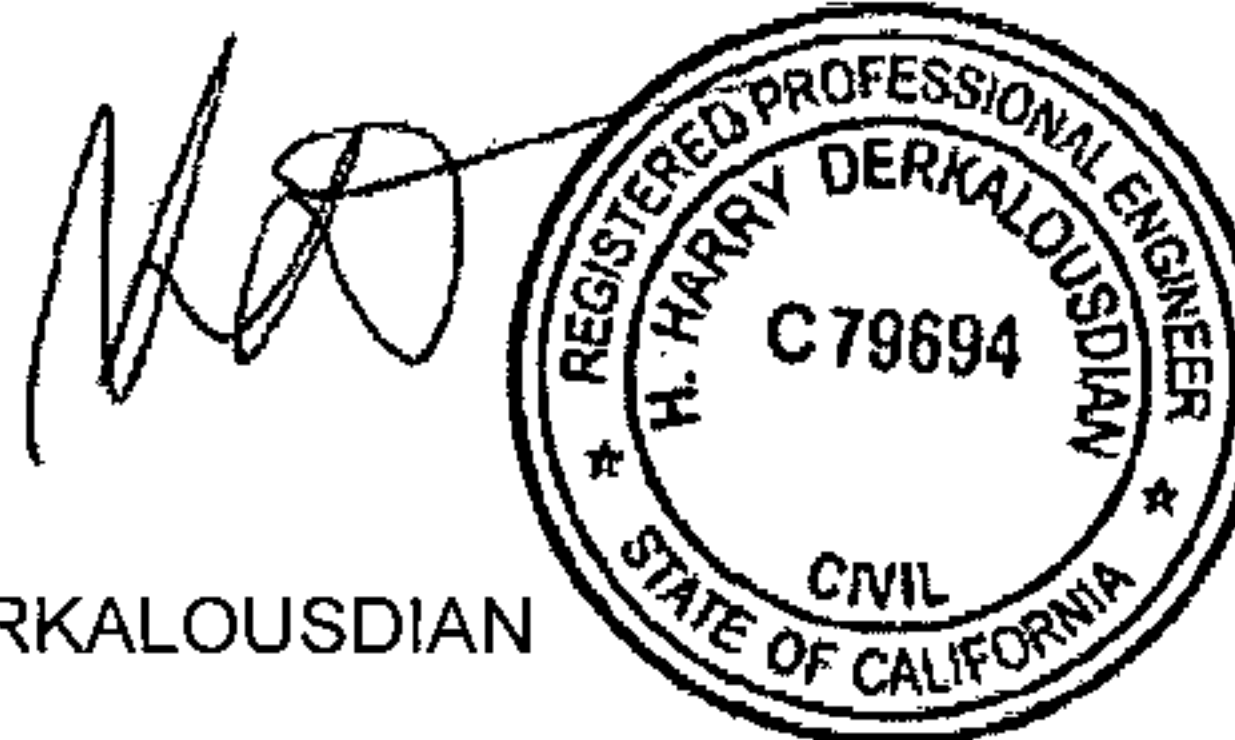
DATE WORK STARTED ON PROJECT: 02/07/2014

DATE FILL WAS COMPLETED: 04/04/2014

DATE OF THIS CERTIFICATE: 04/14/2014

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.



HARRY DERKALOUSDIAN
P.E. 79694

*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

March 25, 2014

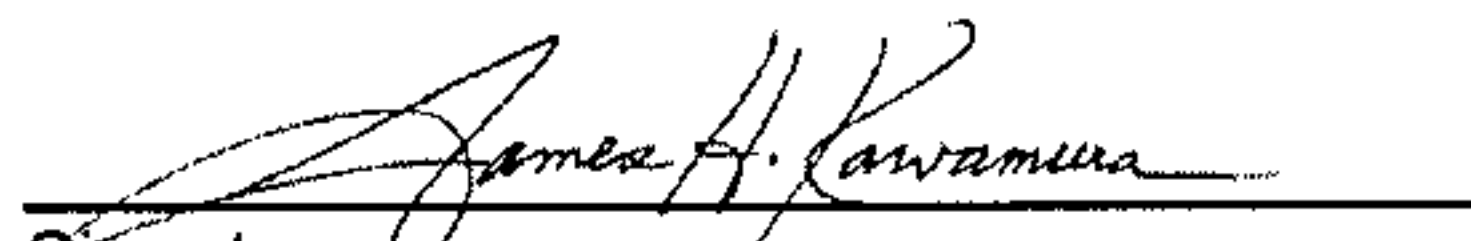
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Pad elevation for the area bounded by grids F-J.2 & 8-Y9 and D-F & Y6-Y9.


Signature

(R.C.E # 30560) (AIA #)



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WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03

March 26, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING FOR SLAB-ON-GRADE SUBGRADE
AREA BOUNDED BY GRIDLINES F-J.2 & 8-Y9 AND
GRIDLINES D-F & Y6-Y9
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARK WAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the grading for slab-on-grade subgrade in an area bounded by gridlines F-J.2 & 8-Y9 and gridlines D-F & Y6-Y9 on the subject property. Our services were performed during the period of February 7, 2014 through March 20, 2014. The scope of our services included the following:

- Observing the grading operation, including the proper placement and compaction of import soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the slab-on-grade.

It is important to note that fill was placed and compacted only in a portion of the area within the above mentioned gridlines (see Site Plan, Figure 1). The remainder of the area was cut to prepare rough grade. Also, the existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported in the underlying competent bedrock.

GRADING

Grading consisted of placement and compaction of import soil for the creation of roughly level slab-on-grade subgrade.

Fill was placed by means of a loader and bobcat, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loader, a vibratory drum roller with sheepfoot wheel, and whackers. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figure 1).

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Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed was derived from import. The fill consist primarily of silty sand.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

- 1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines F-J.2 & 8-Y9 and gridlines D-F & Y6-Y9 as indicated on the Site Plan, Figure 1 has been prepared as required by Geocon. This area has been observed by Geocon. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" expansion range. Special considerations for expansive soils are not required.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 Prior to placing steel or concrete in the footing excavations, a site visit should be made by a representative of Geocon West, Inc. to see that the footings are free of loose and disturbed material and are supported on the properly compacted fill. A 24-hour notice is requested for a site visit.

LIMITATIONS

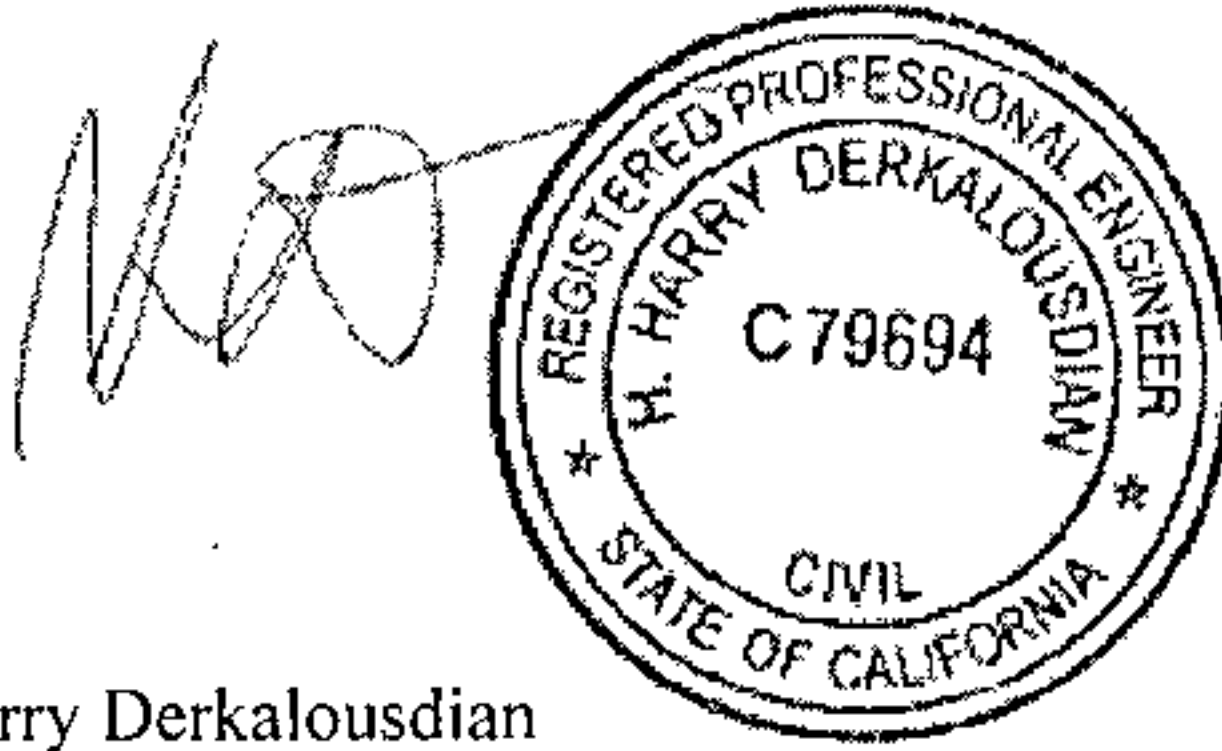
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We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



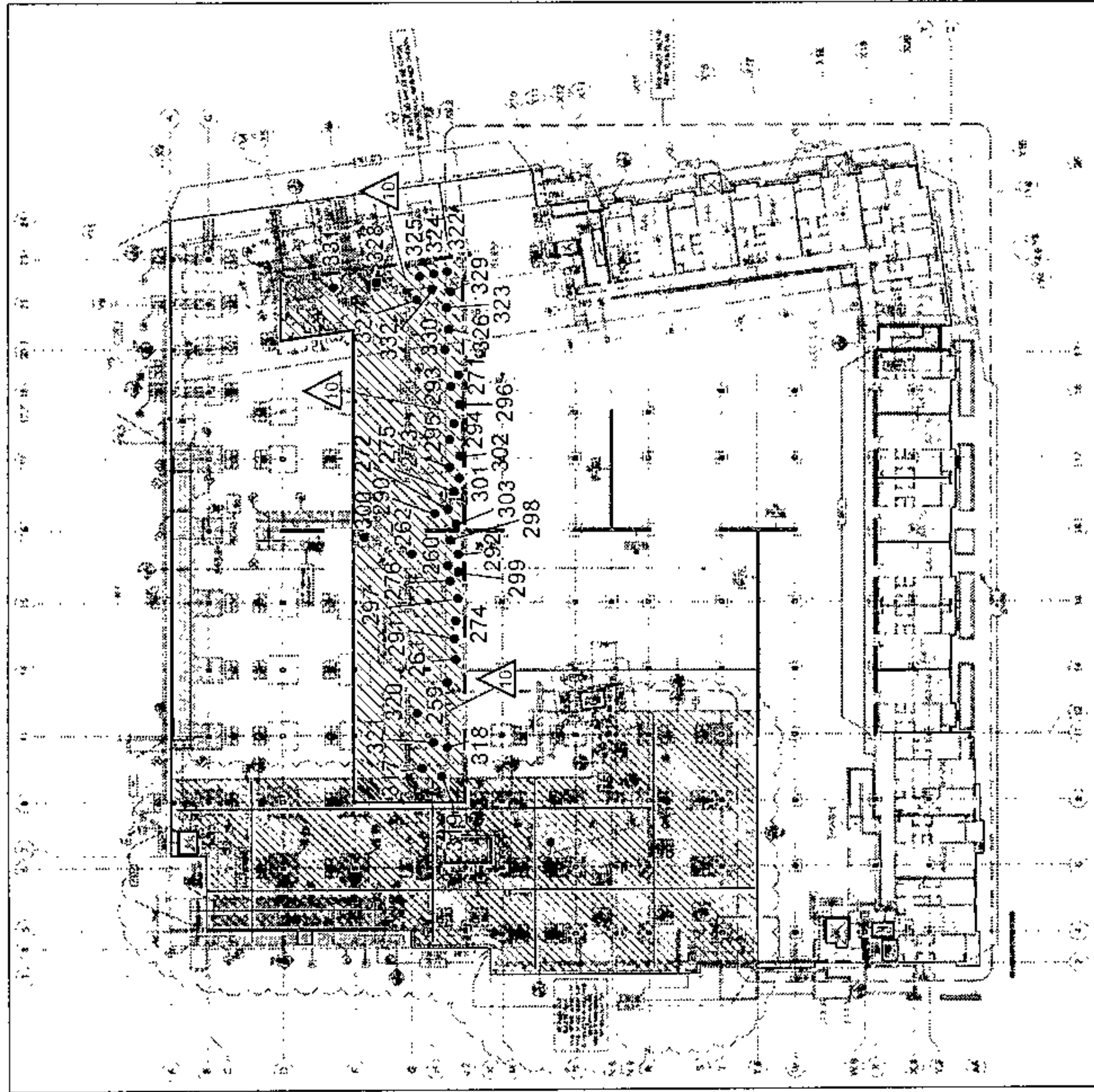
Harry Derkalousdian
PE 79694

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LEGEND

- 332 Approximate Location of Density Test
- △ 10 Approximate Depth of Engineered Fill (in feet)
- ▨ Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9



GEOCON
W E S T, I N C.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD., SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

PZ

8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

MAR. 26, 2014 PROJECT NO. A8803-06-03

FIG. 1

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DT - Drainage Trench	PT - Plumbing Trench	SL - Sewer Lateral	UT - Utility Trench
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
BP - Building Pad	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
CG - Curb & Gutter	PL - Parking Lot	SG - Subgrade	SZ - Slope Zone	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, . . . : Retest of previous density test failure, following moisture conditioning and/or recompaction.
 R : Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test



PROJECT NO. A8803-06-03

TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	259	2/7/2014	Gridline J.2	291.0	6	118.6	12.6	128.0	10.0	93	NU	Pass
WB	260	2/7/2014	Gridline J.2	291.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	261	2/7/2014	Gridline J.2	292.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	262	2/7/2014	Gridline J.2	292.0	6	118.5	12.9	128.0	10.0	93	SC	Pass
WB	271	2/11/2014	Gridline J.2 - Between 13&19	291.0	6	118.2	12.8	128.0	10.0	92	NU	Pass
WB	272	2/11/2014	Gridline J.2 - Between 13&19	292.0	6	118.5	13.0	128.0	10.0	93	NU	Pass
WB	273	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
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WB	290	2/12/2014	Gridline J.2 - Between 13&19	295.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	291	2/13/2014	Gridline J.2 - Between 13&19	295.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	292	2/14/2014	Gridline J.2 - Between 13&19	296.0	6	119.0	12.1	128.0	10.0	93	NU	Pass
WB	293	2/14/2014	Gridline J.2 - Between 13&19	291.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
WB	294	2/14/2014	Gridline J.2 - Between 13&19	292.0	6	118.9	12.3	128.0	10.0	93	NU	Pass
WB	295	2/14/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	296	2/14/2014	Gridline J.2 - Between 13&19	294.0	6	118.6	12.5	128.0	10.0	93	SC	Pass
WB	297	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
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WB	318	3/18/2014	Column Backfill	293.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
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WB	326	3/19/2014	Gridline J.2-18	293.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	327	3/20/2014	Gridline J.2-18	294.0	6	119.5	12.3	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"

[illegible]

* - See "Explanation of Coded Terms"



TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
1	Not Used		
2	Not Used		
3	Not Used		
4	Not Used		
5	Not Used		
6	Import - Silty Sand	128.0	10.0



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Area Bounded by Gridlines F-J.2 & 8-Y9
and Gridlines D-F & Y6-Y9
(see Site Plan, Figure 1)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 02/07/2014
DATE FILL WAS COMPLETED: 03/20/2014
DATE OF THIS CERTIFICATE: 03/26/2014

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.




HARRY DERKALOUSDIAN
P.E. 79694

For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

GEOCON

WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
REVISED April 14, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING FOR SLAB-ON-GRADE SUBGRADE
AREA BOUNDED BY GRIDLINES F-J.2 & 8-Y9 AND
GRIDLINES D-F & Y6-Y9
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the grading for slab-on-grade subgrade in an area bounded by gridlines F-J.2 & 8-Y9 and gridlines D-F & Y6-Y9 on the subject property. Our services were performed during the period of February 7, 2014 through April 4, 2014. The scope of our services included the following:

- Observing the grading operation, including the proper placement and compaction of import soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the slab-on-grade.

It is important to note that fill was placed and compacted only in a portion of the area within the above mentioned gridlines (see Site Plan, Figure 1). The remainder of the area was cut to prepare rough grade. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported in the underlying competent bedrock. Also, some areas were recompacted (test numbers 333-336) after initial compaction activities due to soil disturbance in the upper approximate 8 inches.

GRADING

Grading consisted of placement and compaction of import soil for the creation of roughly level slab-on-grade subgrade.

Fill was placed by means of a loader and bobcat, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loader, a vibratory drum roller with sheepfoot wheel, and whackers. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figure 1).

In-place density tests were performed in conformance with ASTM Test Method D1556 (Sand Cone), and ASTM Test Method ASTM D6938 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 92 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figure 1).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed was derived from import. The fill consist primarily of silty sand.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

- 1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines F-J.2 & 8-Y9 and gridlines D-F & Y6-Y9 as indicated on the Site Plan, Figure 1 has been prepared as required by Geocon. This area has been observed by Geocon. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" expansion range. Special considerations for expansive soils are not required.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, April 4, 2014. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

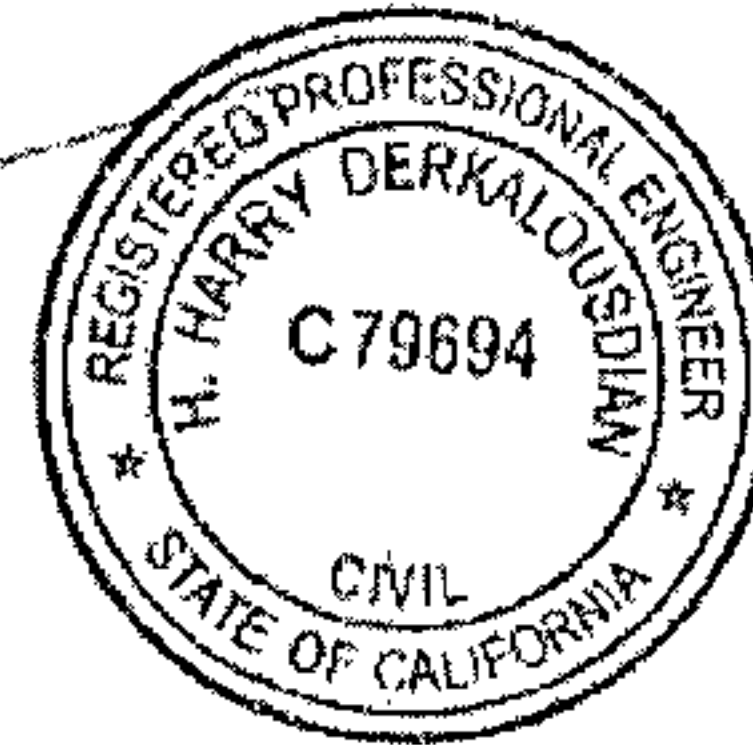
Petrina Zen

Petrina Zen
Staff Engineer

Enclosures: Figure 1 - Site Plan
Explanation of Coded Terms
Tables 1 and 2
Certification

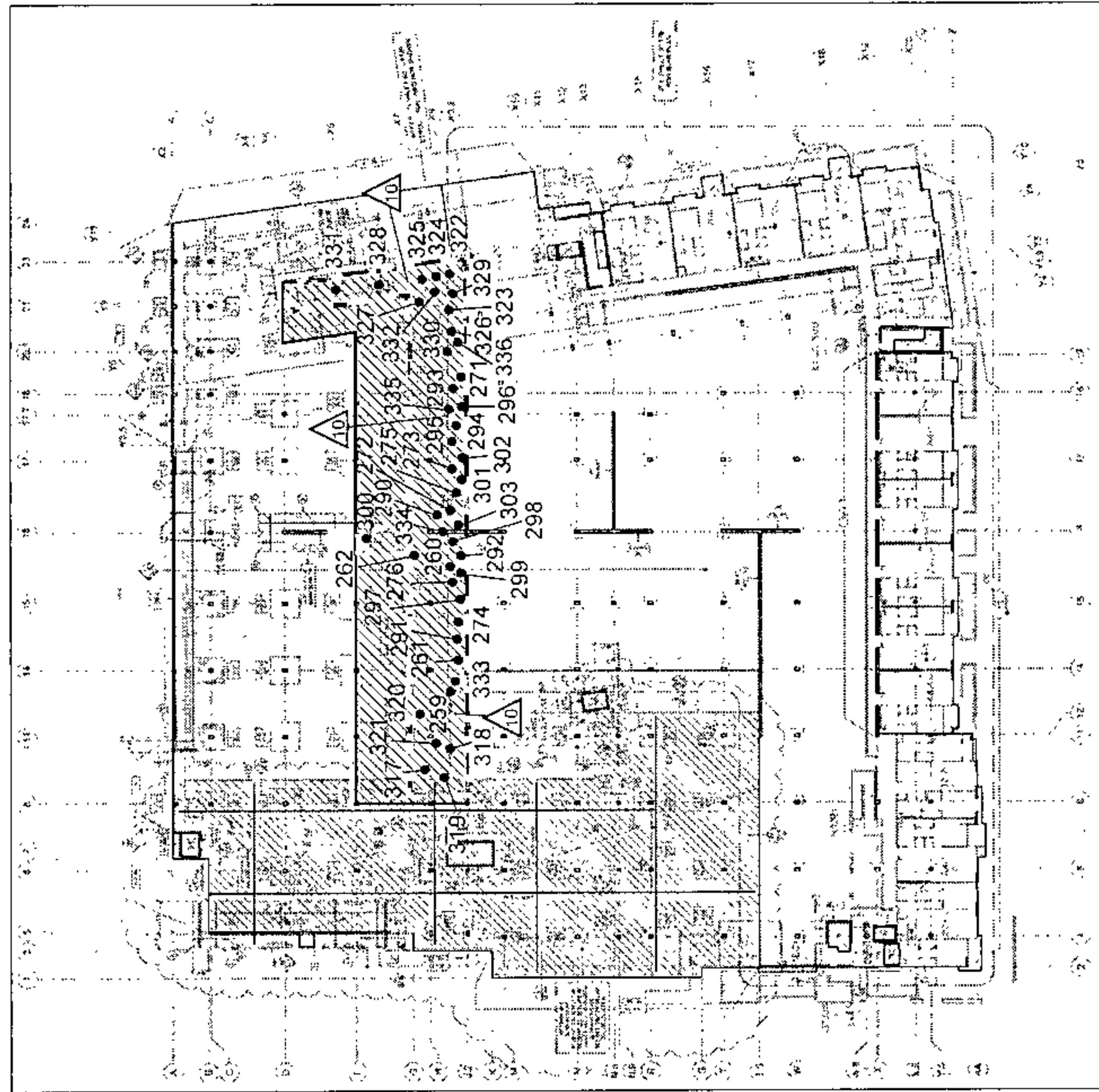
(EMAIL) Addressee

Harry Derkalousdian
PE 79694



REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013.



LEGEND

- 336 Approximate Location of Density Test
- △ 10 Approximate Depth of Engineered Fill (in feet)
- Area Bounded by Gridlines F-J & 8-Y9 and Gridlines D-F & Y6-Y9



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SITE PLAN

CROWN VALLEY LUXURY APARTMENTS

CAL I CROWN VALLEY, LLC

25891 CROWN VALLEY PARKWAY

LAGUNA NIGUEL, CALIFORNIA

APRIL 14, 2014

PROJECT NO. A8803-06-03

FIG. 1

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- PREFIX CODE DESIGNATION FOR TEST NUMBERS

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CG - Curb & Gutter	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
CW - Crib Wall	JT - Joint Trench	SG - Subgrade	SW - Sidewalk	WM - Water Main

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[illegible]

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TABLE 2
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AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
1	Not Used		
2	Not Used		
3	Not Used		
4	Not Used		
5	Not Used		
6	Import - Silty Sand	128.0	10.0



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Area Bounded by Gridlines F-J.2 & 8-Y9
and Gridlines D-F & Y6-Y9
(see Site Plan, Figure 1)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

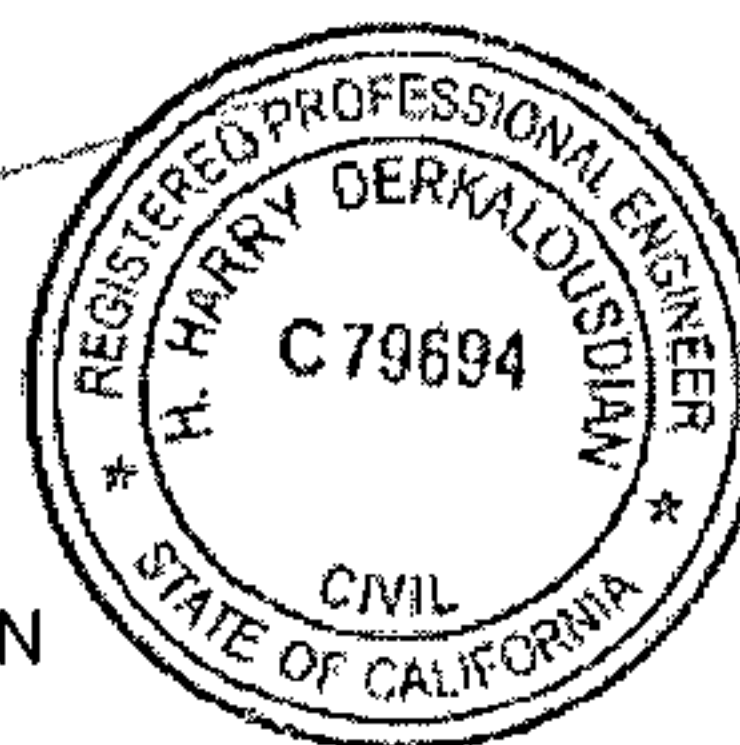
PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 02/07/2014
DATE FILL WAS COMPLETED: 04/04/2014
DATE OF THIS CERTIFICATE: 04/14/2014

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.

HARRY DERKALOUSDIAN
P.E. 79694



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

February 13, 2014

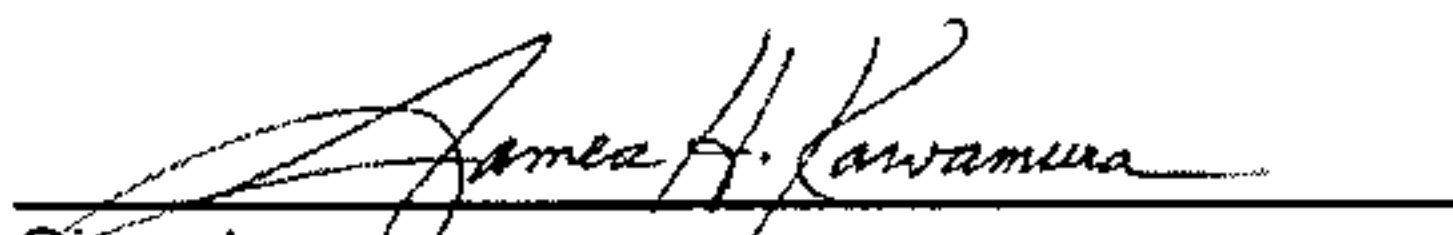
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Line and grade for the temporary v-ditch shown on the interim grading plan.


Signature

(R.C.E # 30560) (AIA #)





GEOCON
WEST, INC.

3303 N. San Fernando Blvd., Suite 100
Burbank, California 91504
Tel. (818) 841-8388
Fax (818) 841-1704
WWW.GEOCONINC.COM

FIELD REPORT

DATE: 2/12/14

DAY: WED

PAGE: 1 OF 1

PROJECT NAME: <u>Crown Valley Apts</u>		PROJECT NO. <u>A8803-06-03</u>	
PROJECT MANAGER/ENGINEER: <u>N. Beeline</u>		REPORT BY: <u>Eric Eggleston</u>	GAUGE # <u>6</u>
SUBJECT: <u>Retaining Wall B/F</u>		INFORMATION/TESTS PLOTTED ON SHEET: <u>TESTS</u>	
TIME IN/OUT	FIELD ACTIVITIES - INDICATE ACTIVITIES YOU DID AND DID NOT OBSERVE, DOCUMENT CONVERSATIONS, OBSERVATIONS, OR OCCURRENCES, DEEMED SIGNIFICANT TO THE PROCESS OF THE WORK. BE SPECIFIC AS TO WHO, WHAT, WHY, WHEN, AND WHERE.		
0700	ON-SITE AS REQUESTED PER Matt Meyer (Supt.)		
	Mill Creek to monitor and test retaining wall		
	backfill gridline 14, from bridge I.R. to bridge		
	to 5. Contractor spent first couple hours mixing		
	and processing material stockpiled from import trucks		
	on Tuesday 2/11/14. Fill being placed in thin		
	6"-8" lifts and compacted with wacker and		
	ride on Rammer. Water added from 2" hose.		
	Contractor (Helix) benching into existing slope		
	as needed to maintain good contact points. Some		
	on-site material mixed in with import. Tests		
	taken indicate that compaction meet		
	project requirements, at test locations		
	* Also check V-ditch on North End of Site		
	V-ditch is established in back and is suitable		
	for intended use.		
1530	Left Site		
LUNCH: <u>O/N / WAIVED</u> <u>1100</u> TO <u>1130</u> <u>2-12-14</u>		TOTAL SITE TIME: <u>8</u>	
REPORT LEFT WITH: <u>Matt Meyer</u>		TRAVEL TIME: <u>1</u>	
PRINT NAME <u>1</u> SIGNATURE		OTHER: <u>---</u>	
		TOTAL HOURS BILLED: <u>9</u>	

February 13, 2014

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Line and grade for the temporary v-ditch shown on the interim grading plan.


Signature

(R.C.E # 30560) (AIA #)





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FIELD REPORT

DATE: 2/12/14

DAY: WED

PAGE: 1 OF 1

D ☐

PROJECT NAME: <u>Crown Valley Apts</u>		PROJECT NO. <u>A8603-06-03</u>	
PROJECT MANAGER/ENGINEER: <u>N. Beelineer</u>		REPORT BY: <u>Eric Eggleston</u>	GAUGE # <u>6</u>
SUBJECT: <u>Retaining Wall B/F</u>		INFORMATION/TESTS PLOTTED ON SHEET: <u>TESTS</u>	
TIME IN/OUT	FIELD ACTIVITIES - INDICATE ACTIVITIES YOU DID AND DID NOT OBSERVE, DOCUMENT CONVERSATIONS, OBSERVATIONS, OR OCCURRENCES, DEEMED SIGNIFICANT TO THE PROCESS OF THE WORK. BE SPECIFIC AS TO WHO, WHAT, WHY, WHEN, AND WHERE.		
0700	ON-SITE AS REQUESTED PER MATT MEYER (Supt.)		
	Mill Creek to monitor and test retaining wall backfill gridline 14, from bridge J.2 to gridline T.5. Contractor spent first couple hours mixing and processing material stockpiled from import trucks on Tuesday 2/11/14. Fill being placed in thin 6'-8" lifts and compacted with walker and rike on Rammer. Water added from 2" hose. Contractor (Helix) benching into existing slope as needed to maintain good contact points. Some on-site material mixed in with import. Tests taken indicate that compaction meet project requirements, at test locations		
	* Also check V-ditch on North End of Site. V-ditch is established in back and is suitable for internal use.		
1530	Left Site		
LUNCH: <u>B/N/WAIVED</u> <u>1100</u> TO <u>1130</u> <u>2-12-14</u>		TOTAL SITE TIME: <u>8</u>	
REPORT LEFT WITH: <u>Matt Meyer</u>		TRAVEL TIME: <u>1</u>	
PRINT NAME / SIGNATURE		OTHER: <u>-</u>	
		TOTAL HOURS BILLED: <u>9</u>	



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: April 21, 2014

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES J.2-T.5 & 8-14

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL 1 Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-03

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

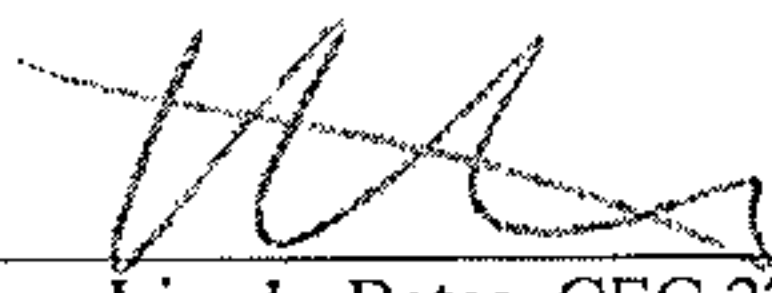
DOCUMENTS REVIEWED: "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014.

REFERENCES: Listed on Pages 2 & 3

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED
☐ REQUEST ADDITIONAL DATA FOR REVIEW

REVIEWED BY:


Lisa L. Bates, CEG 2293
Associate Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL 1 Crown Valley, LLC



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DATE: April 21, 2014

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P.1/1 badeh/11



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GMU REFERENCE NO.: G13-005

DATE: April 21, 2014

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –
GRIDLINES J.2-T.5 & 8-14

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-03

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014.

REFERENCES: Listed on Pages 2 & 3

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED
☐ REQUEST ADDITIONAL DATA FOR REVIEW

REVIEWED BY:


Lisa L. Bates, CEG 2293
Associate Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL I Crown Valley, LLC



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GEOCON
WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
April 14, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING FOR SLAB-ON-GRADE SUBGRADE
AREA BOUNDED BY GRIDLINES J.2-T.5 & 8-14
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the grading for slab-on-grade subgrade in an area bounded by gridlines J.2-T.5 & 8-14 on the subject property which includes placement of backfill over deepened footings within the same area. Our services were performed during the period of April 7, 2014 through April 9, 2014. The scope of our services included the following:

- Observing the grading operation, including the proper placement and compaction of import soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the slab-on-grade.

It is important to note that fill was placed and compacted only in a portion of the area within the above mentioned gridlines to backfill deepened footing excavations (see Site Plan, Figure 1). The remainder of the area was cut to prepare rough grade. Also, the existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported in the underlying competent bedrock.

GRADING

Grading consisted of placement and compaction of import soil for the creation of roughly level slab-on-grade subgrade.

Fill was placed by means of a loader and bobcat, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loader, a vibratory drum roller with sheepsfoot wheel, and whackers. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figure 1).

In-place density tests were performed in conformance with ASTM Test Method D1556 (Sand Cone), and ASTM Test Method ASTM D6938 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 92 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figure 1).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed was derived from import. The fill consist primarily of silty sand.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

- 1.2 It is the opinion of Geocon West, Inc. that the area bounded by gridlines J.2-T.5 & 8-14 as indicated on the Site Plan, Figure 1 has been prepared as required by Geocon. This area has been observed by Geocon. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" expansion range. Special considerations for expansive soils are not required.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, April 9, 2014. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

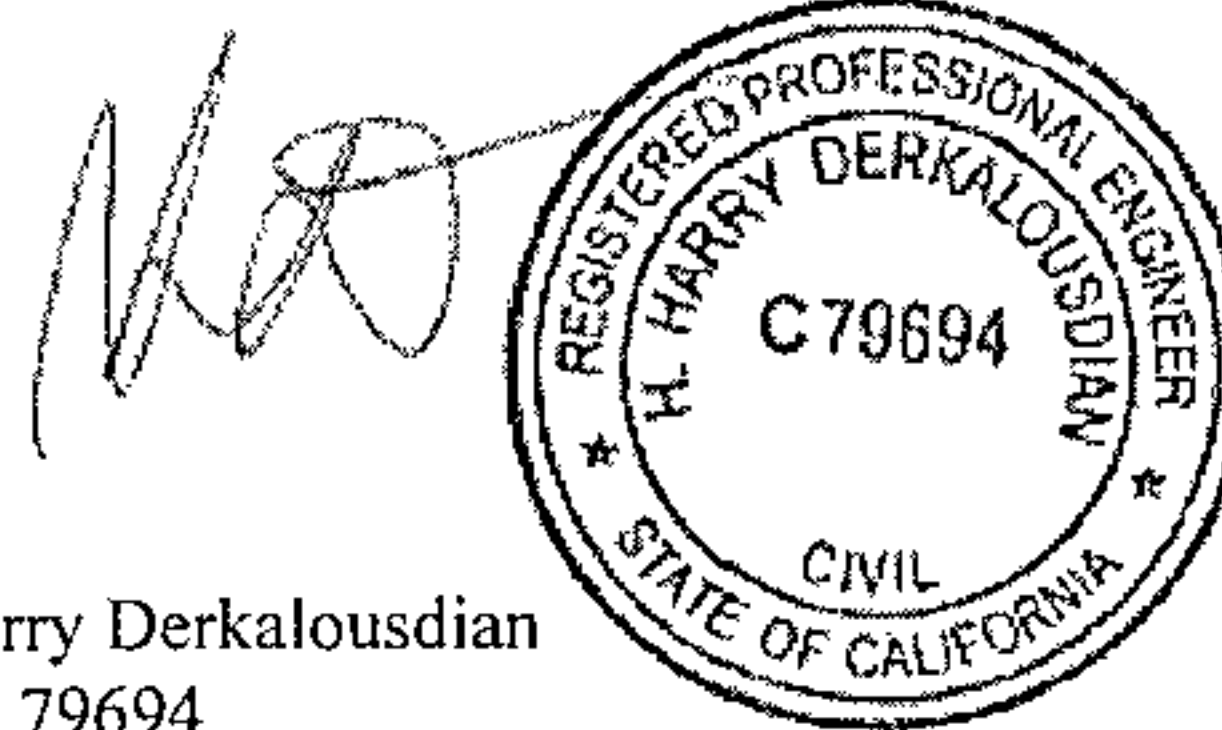
GEOCON WEST, INC.

Petrina Zen

Petrina Zen
Staff Engineer

Enclosures: Figure 1 - Site Plan
 Explanation of Coded Terms
 Tables 1 and 2
 Certification

(EMAIL) Addressee



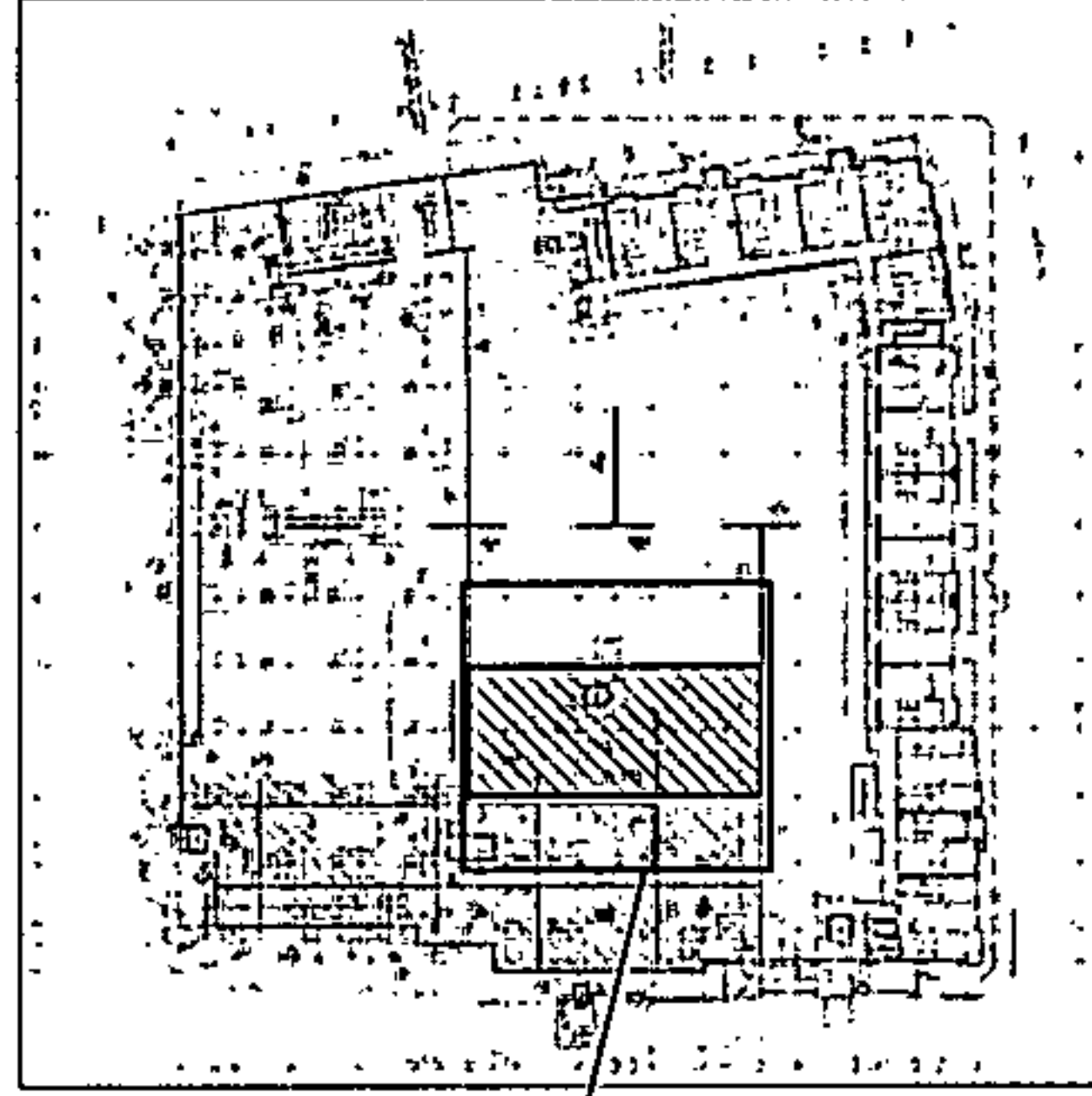
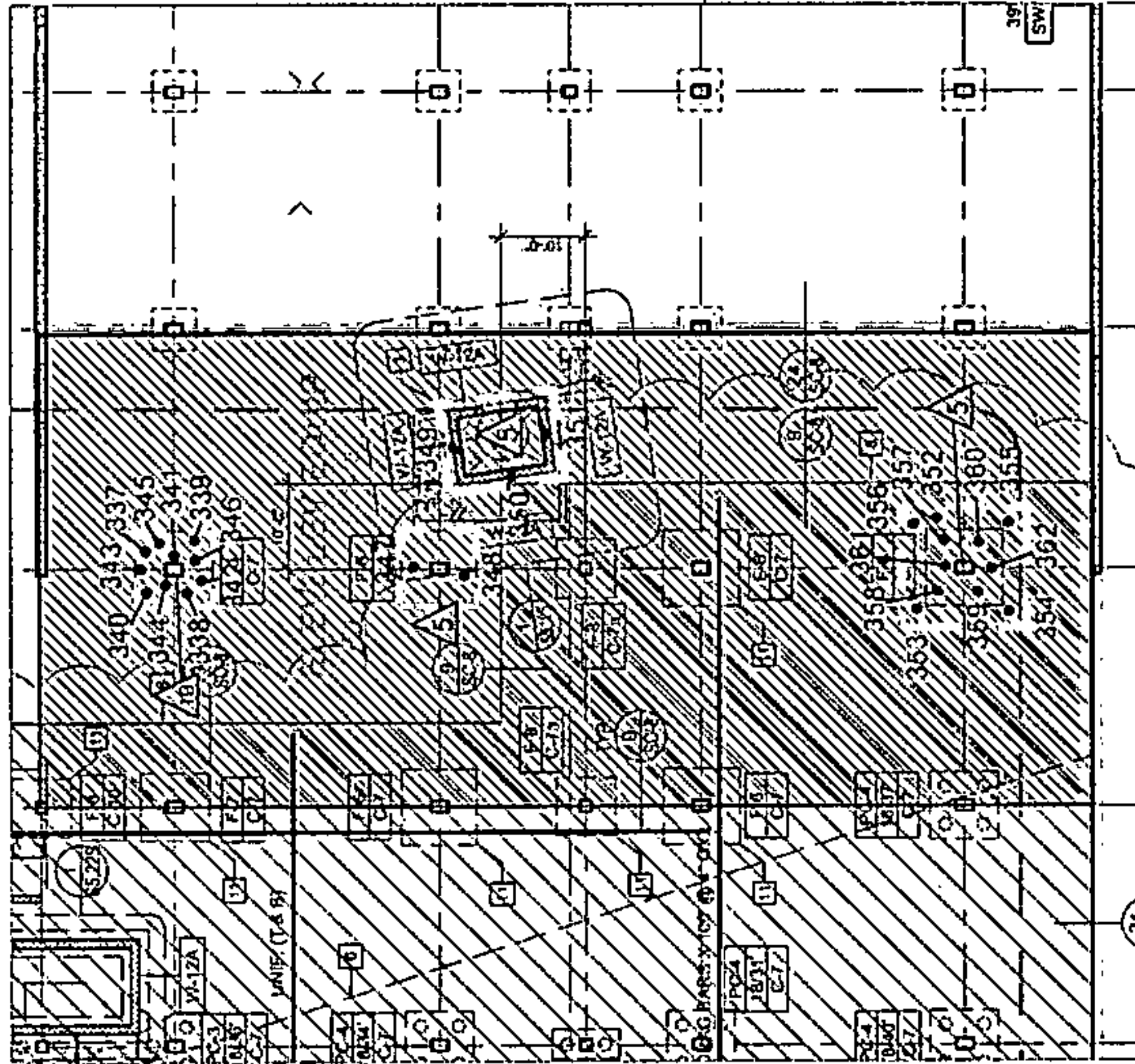
Harry Derkalousdian
PE 79694

REFERENCES

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LEGEND

- 362 Approximate Location of Density Test
- - - Approximate Line
- △ Approximate Depth of Engineered Fill (in feet)
- ▨ Area Bounded by Gridlines J.2 - T.5 and Gridlines 8 - 14



GEOCON
WEST, INC.

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3000 N. SAN FERNANDO BLVD., SUITE 100, BURBANK, CA 91504
PHONE (818) 841-4388 • FAX (818) 841-1704

PZ

8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CALI CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

APRIL 14, 2014

PROJECT NO. A8503-08-03

FIG. 1

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DW - Driveway	PT - Plumbing Trench	SL - Sewer Lateral	SZ - Slope Zone
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
CG - Curb & Gutter	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
CW - Crib Wall	JT - Joint Trench	SG - Subgrade	SW - Sidewalk	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, ... : Retest of previous density test failure, following moisture conditioning and/or recompaction.
R : Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test



PROJECT NO. A8803-06-03

TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	337	4/7/2014	Column Backfill - Gridline M/11	291.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
BF	338	4/7/2014	Column Backfill - Gridline M/11	292.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
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BF	355	4/8/2014	Column Backfill - Gridline T/11	299.0	2	89.4	25.9	97.0	23.5	92	NU	Pass
BF	356	4/8/2014	Column Backfill - Gridline T/11	300.0	2	89.7	25.6	97.0	23.5	92	SC	Pass
BF	357	4/9/2014	Column Backfill - Gridline T/11	295.0	2	90.4	25.7	97.0	23.5	93	NU	Pass
BF	358	4/9/2014	Column Backfill - Gridline T/11	296.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
BF	359	4/9/2014	Column Backfill - Gridline T/11	297.0	2	89.7	26.2	97.0	23.5	92	NU	Pass
BF	360	4/9/2014	Column Backfill - Gridline T/11	298.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	361	4/9/2014	Column Backfill - Gridline T/11	299.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
BF	362	4/9/2014	Column Backfill - Gridline T/11	300.0	2	90.3	25.6	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
1	Not Used		
2	Not Used		
3	Not Used		
4	Not Used		
5	Not Used		
6	Import - Silty Sand	128.0	10.0



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Area Bounded by Gridlines J.2-T.5 & 8-14
(see Site Plan, Figure 1)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 04/07/2014
DATE FILL WAS COMPLETED: 04/09/2014
DATE OF THIS CERTIFICATE: 04/14/2014

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.




HARRY DERKALOUSDIAN
P.E. 79694

For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

Pit Backfill

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03

April 14, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING FOR SLAB-ON-GRADE SUBGRADE
AREA BOUNDED BY GRIDLINES J.2-T.5 & 8-14
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the grading for slab-on-grade subgrade in an area bounded by gridlines J.2-T.5 & 8-14 on the subject property which includes placement of backfill over deepened footings within the same area. Our services were performed during the period of April 7, 2014 through April 9, 2014. The scope of our services included the following:

- Observing the grading operation, including the proper placement and compaction of import soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the slab-on-grade.

It is important to note that fill was placed and compacted only in a portion of the area within the above mentioned gridlines to backfill deepened footing excavations (see Site Plan, Figure 1). The remainder of the area was cut to prepare rough grade. Also, the existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported in the underlying competent bedrock.

GRADING

Grading consisted of placement and compaction of import soil for the creation of roughly level slab-on-grade subgrade.

Fill was placed by means of a loader and bobcat, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loader, a vibratory drum roller with sheepfoot wheel, and whackers. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figure 1).

In-place density tests were performed in conformance with ASTM Test Method D1556 (Sand Cone), and ASTM Test Method ASTM D6938 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 92 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figure 1).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed was derived from import. The fill consist primarily of silty sand.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

- 1.2 It is the opinion of Geocon West, Inc. that the area bounded by gridlines J.2-T.5 & 8-14 as indicated on the Site Plan, Figure 1 has been prepared as required by Geocon. This area has been observed by Geocon. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" expansion range. Special considerations for expansive soils are not required.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, April 9, 2014. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

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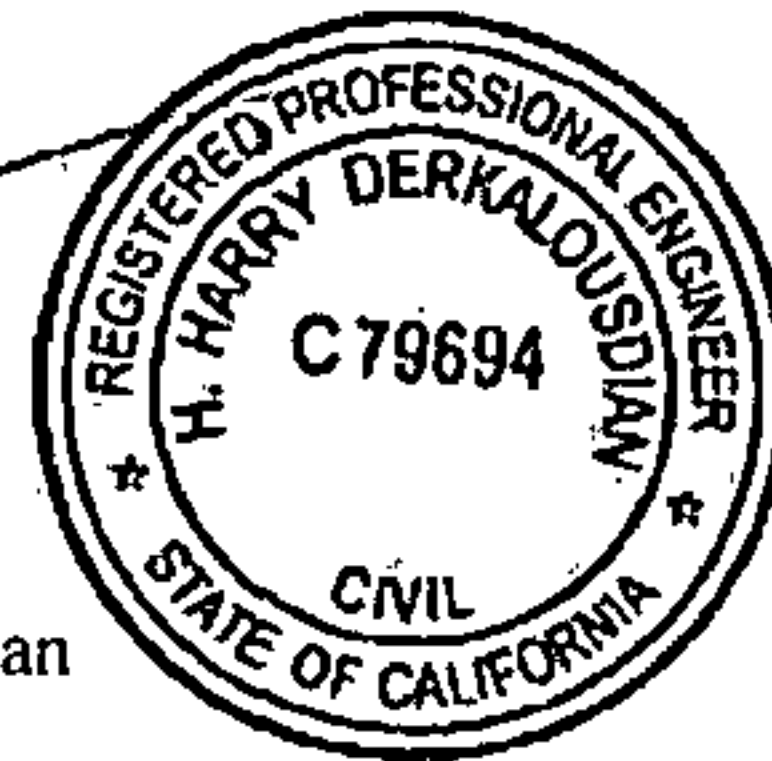
Very truly yours,

GEOCON WEST, INC.

Petrina Zen

Petrina Zen
Staff Engineer

[Handwritten Signature]



Harry Derkalousdian
PE 79694

Enclosures: Figure 1 - Site Plan
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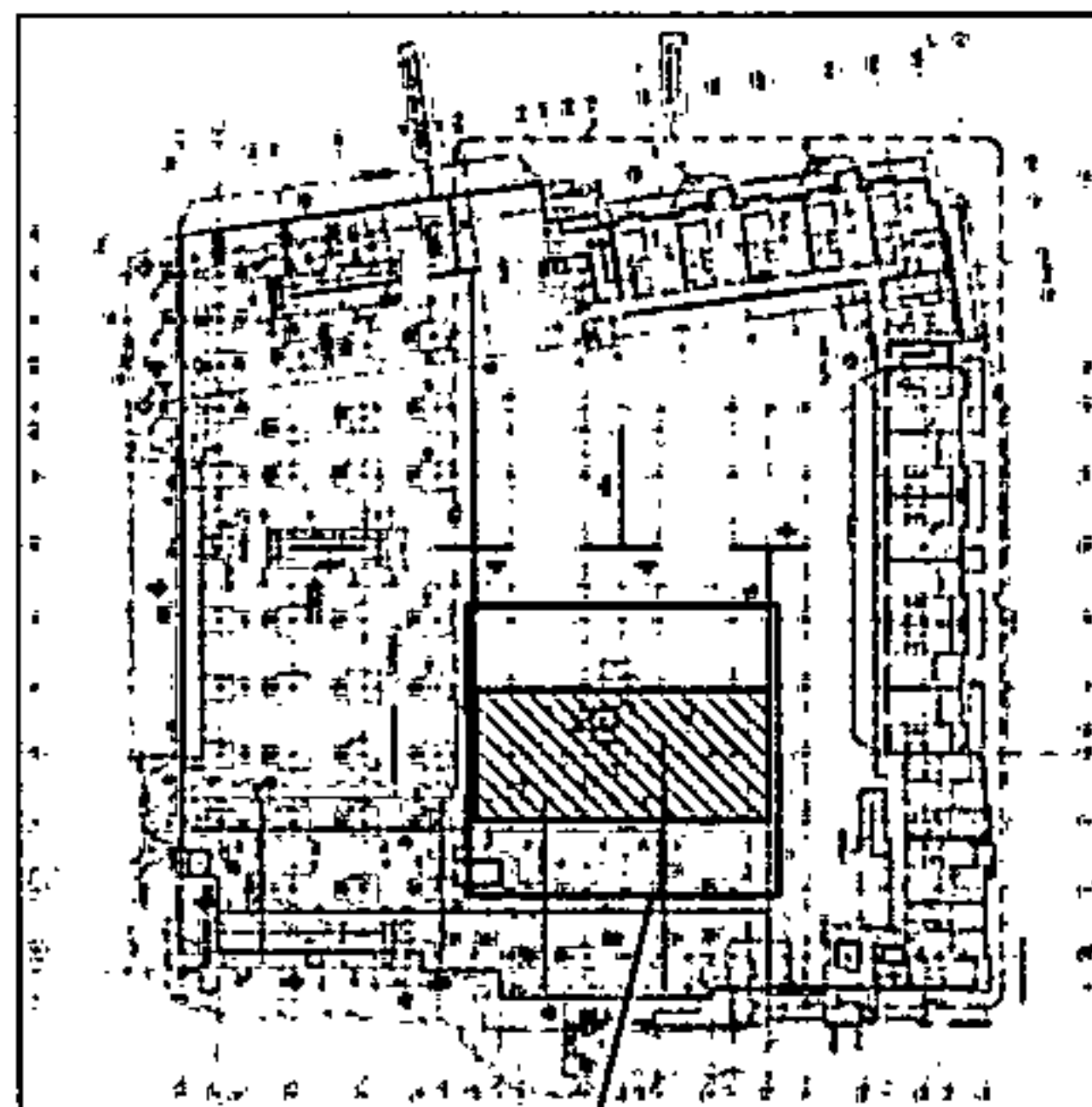
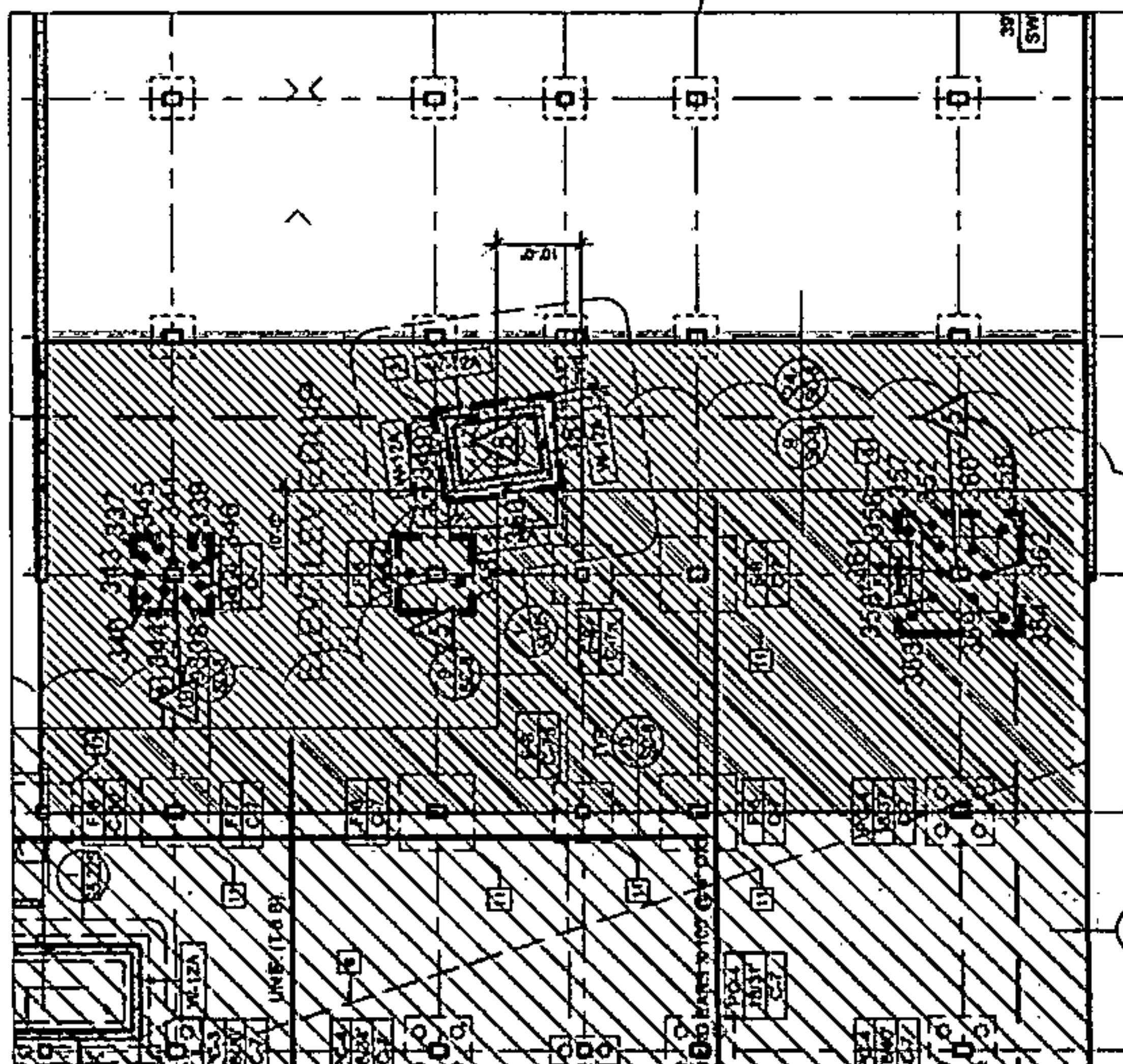
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LEGEND

- 362 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- △ Approximate Depth of Engineered Fill (in feet)
- Area Bounded by Gridlines J.2 - T.5 and Gridlines 8 - 14



GEOCON
W E S T I N C.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 941-8388 - FAX (818) 941-1704

PZ

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SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

APRIL 14, 2014

PROJECT NO. A8803-06-03

FIG. 1

EXPLANATION OF CODED TERMS

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PROJECT NO. A8803-06-03

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BF	352	4/8/2014	Column Backfill - Gridline T/11	296.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
BF	353	4/8/2014	Column Backfill - Gridline T/11	297.0	2	90.3	25.5	97.0	23.5	93	NU	Pass
BF	354	4/8/2014	Column Backfill - Gridline T/11	298.0	2	90.6	25.6	97.0	23.5	93	NU	Pass
BF	355	4/8/2014	Column Backfill - Gridline T/11	299.0	2	89.4	25.9	97.0	23.5	92	NU	Pass
BF	356	4/8/2014	Column Backfill - Gridline T/11	300.0	2	89.7	25.6	97.0	23.5	92	SC	Pass
BF	357	4/9/2014	Column Backfill - Gridline T/11	295.0	2	90.4	25.7	97.0	23.5	93	NU	Pass
BF	358	4/9/2014	Column Backfill - Gridline T/11	296.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
BF	359	4/9/2014	Column Backfill - Gridline T/11	297.0	2	89.7	26.2	97.0	23.5	92	NU	Pass
BF	360	4/9/2014	Column Backfill - Gridline T/11	298.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	361	4/9/2014	Column Backfill - Gridline T/11	299.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
BF	362	4/9/2014	Column Backfill - Gridline T/11	300.0	2	90.3	25.6	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
1	Not Used		
2	Not Used		
3	Not Used		
4	Not Used		
5	Not Used		
6	Import - Silty Sand	128.0	10.0



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Area Bounded by Gridlines J.2-T.5 & 8-14
(see Site Plan, Figure 1)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 04/07/2014
DATE FILL WAS COMPLETED: 04/09/2014
DATE OF THIS CERTIFICATE: 04/14/2014

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.*

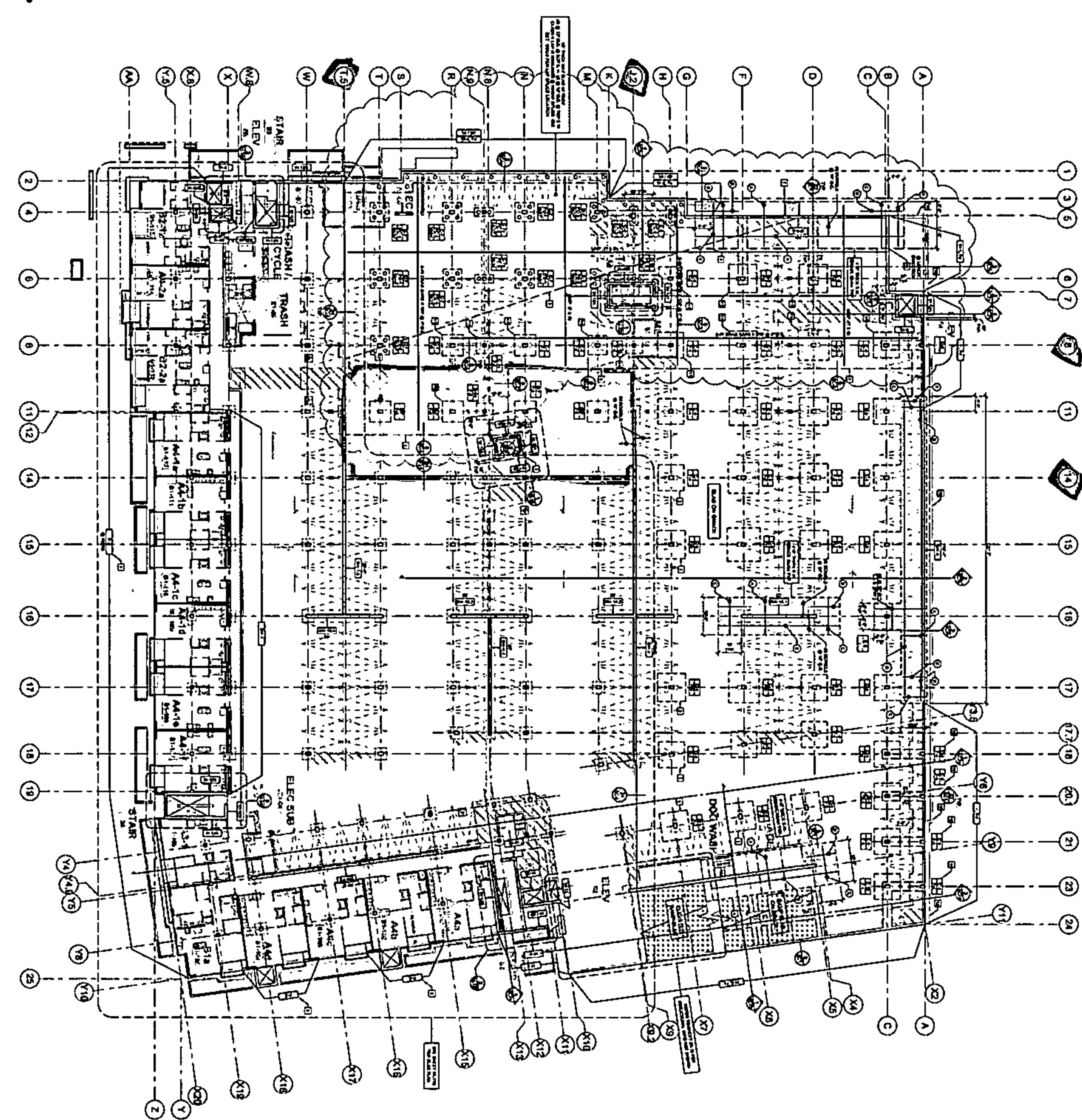



HARRY DERKALOUSDIAN
P.E. 79694

*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

P.T.
BACKFILL



FOUNDATION NOTES

1. FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION DESIGN MANUAL (CDFM).
2. ALL FOUNDATION ELEMENTS SHALL BE CONSTRUCTED WITH 4000 PSI STRENGTH CONCRETE.
3. REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.
4. ALL REINFORCING STEEL SHALL BE LAPPED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CDFM.
5. ALL FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST CORROSION BY AN ANODES-ON-DEMAND SYSTEM.
6. ALL FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST CORROSION BY AN ANODES-ON-DEMAND SYSTEM.
7. ALL FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST CORROSION BY AN ANODES-ON-DEMAND SYSTEM.
8. ALL FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST CORROSION BY AN ANODES-ON-DEMAND SYSTEM.
9. ALL FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST CORROSION BY AN ANODES-ON-DEMAND SYSTEM.
10. ALL FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST CORROSION BY AN ANODES-ON-DEMAND SYSTEM.

LEGEND

1. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

2. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

3. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

4. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

5. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

6. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

7. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

8. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

9. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

10. FOUNDATION WALL: 18" MIN. THICK CONCRETE WALL WITH 4# REINFORCING STEEL @ 12" O.C.

CONSTRUCTION KEY NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION DESIGN MANUAL (CDFM).
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Rough Grading Release

PERMIT NUMBER 613-005

DATE 3/14/14

TRACT _____

LOCATION 25891 Crown Valley Pkwy - Crown Cabot
Living Apts

LOTS APPROVED Area bounded by grids S-T.5 & 2-14
and grids 8-14 & T.2-T.5

OWNER _____

Owner's Address MERT Investment, LLC

949. S. Coast Drive, Costa Mesa, Ca. 92626

Special requirements _____

See attached Civil cert & plan

Grading
Inspector [Signature]

Grading
Supervisor _____

February 27, 2014

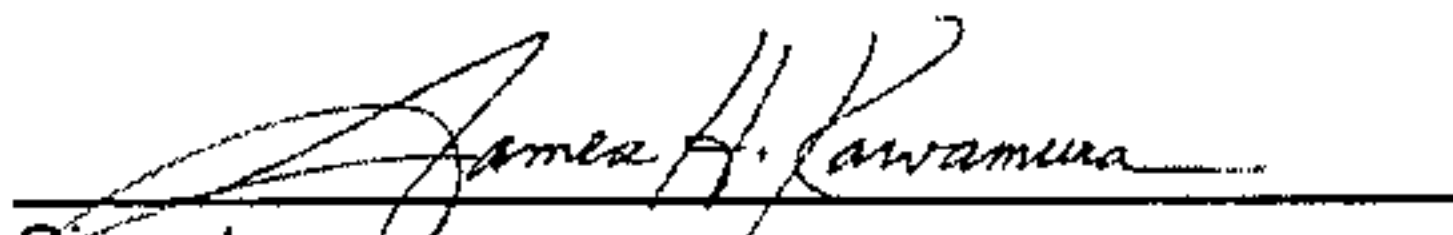
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Pad elevation for the area bounded by grids S-T.5 & 2-14 and grids 8-14 & J.2-T.5.


Signature

(R.C.E # 30560) (AIA #)



February 27, 2014

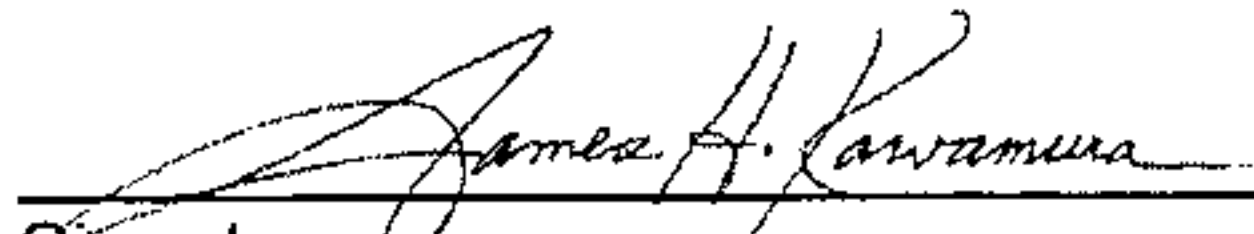
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

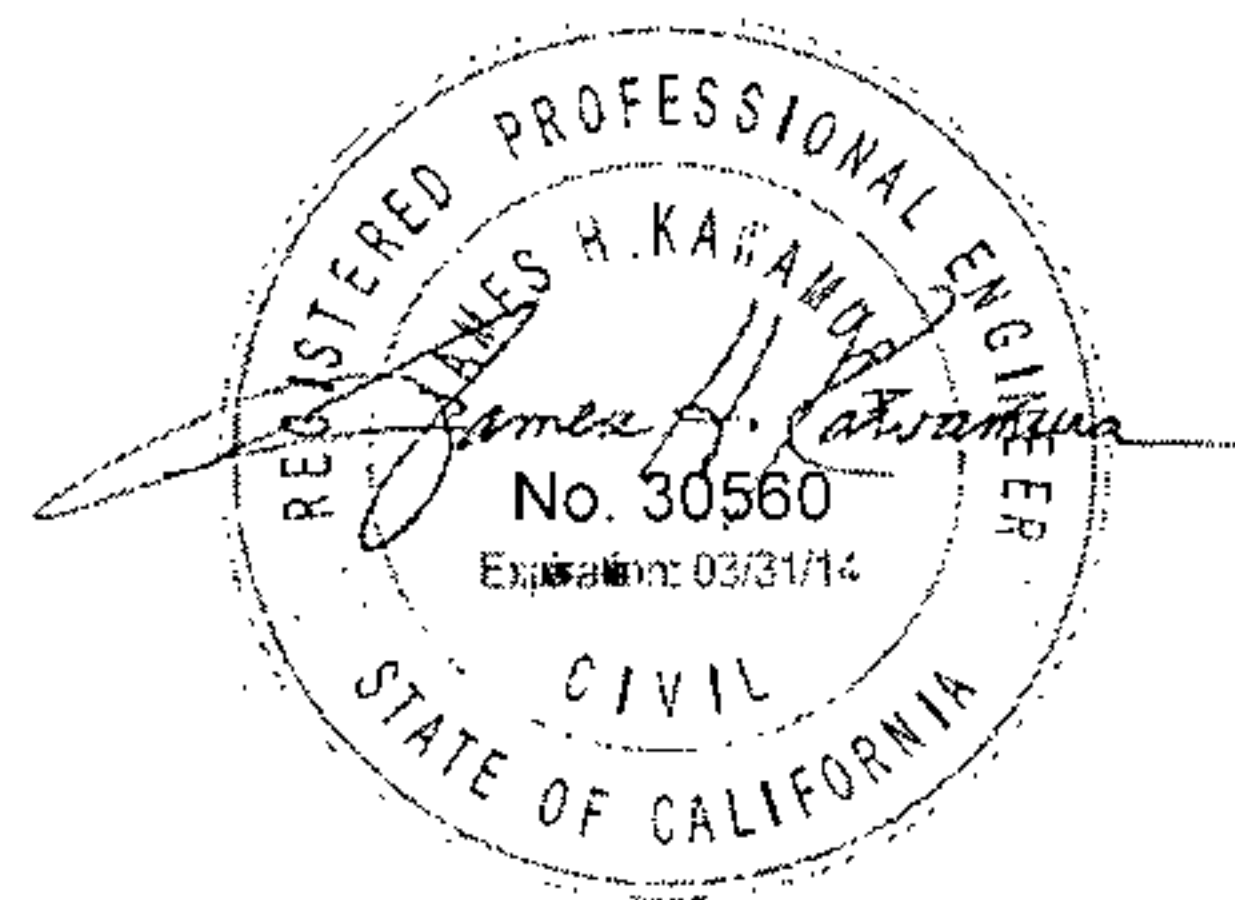
Civil Engineer's (Architects) Certification of Final Grading

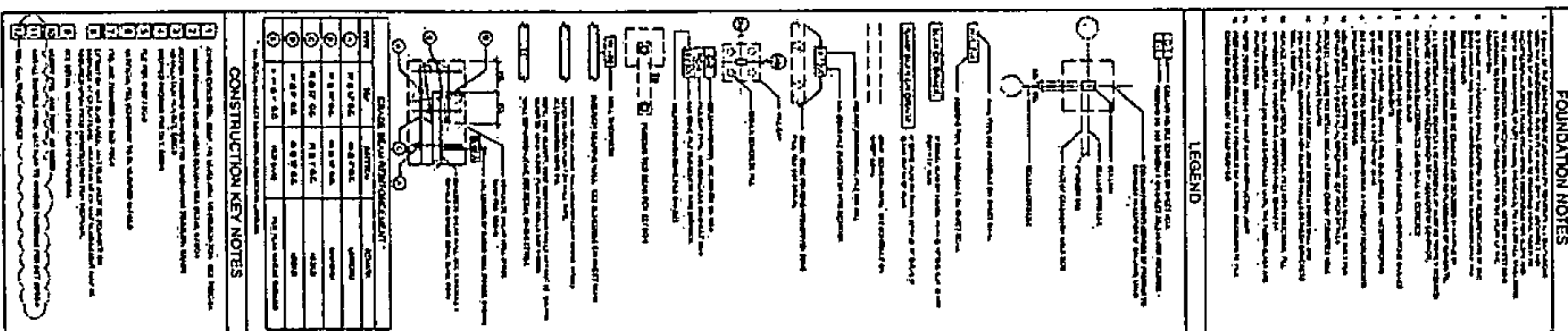
Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Pad elevation for the area bounded by grids S-T.5 & 2-14 and grids 8-14 & J.2-T.5.


Signature

(R.C.E # 30560) (AIA #)





TS



VCA ENGINEERS
2000 N. Kentucky Ave., Suite 200
Bartlett, IL 60010
Phone 312/291-1400
Fax 312/291-1400



**CROWN CABOT
LUXURY APARTMENTS**
1001 CROWN POINT, LAGUNA BEACH, CA
MILL CREEK RESIDENTIAL TRUST LLC

**GARAGE LEVEL B1
FOUNDATION PLAN.**

FOR CONSTRUCTION

SD.11F



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: March 10, 2014

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES S-T.5 & 2-14 AND GRIDLINES 8-14 & J.2-T.5

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014.

REFERENCES: (1) "Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014; (2) "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013; (3) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (4) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (5) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (6) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by



CITY OF LAGUNA NIGUEL

Public Works/Engineering
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

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23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: March 10, 2014

Geocon West, Inc., dated October 22, 2013; (7) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (8) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (9) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (10) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (11) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (12) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (13) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (14) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (15) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (16) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (17) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (18) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (19) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (20) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (21) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.



CITY OF LAGUNA NIGUEL

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Reviewed by:

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Page 3

GMU REFERENCE NO.: G13-005

DATE: March 10, 2014

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Harry Derkalousdian, Geocon West, Inc.
Mr. Greg Lucas, CAL 1 Crown Valley, LLC



23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (Page 1 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00



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GEOTECHNICAL REVIEW FEE SHEET (Page 2 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.	1/17/14	APPROVED	\$277.50



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GEOTECHNICAL REVIEW FEE SHEET (Page 3 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014.	3/10/14	APPROVED	\$277.50

$\Sigma = 2,785.00$

GEOCON
WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
February 28, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING FOR SLAB-ON-GRADE SUBGRADE
AREA BOUNDED BY GRIDLINES S-T.5 & 2-14 AND
GRIDLINES 8-14 & J.2-T.5
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARK WAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the grading for slab-on-grade subgrade in an area bounded by gridlines S-T.5 & 2-14 and gridlines 8-14 & J.2-T.5 on the subject property. Our services were performed during the period of February 4, 2014 through February 20, 2014. The scope of our services included the following:

- Observing the grading operation, including the proper placement and compaction of import soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the slab-on-grade subgrade.

It is important to note that fill was placed and compacted only in a portion of the area within the above mentioned gridlines (see Site Plan, Figure 1). The remainder of the area was cut to prepare rough grade. Also, the existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported in the underlying competent bedrock.

GRADING

Grading consisted of placement and compaction of import soil for the creation of roughly level slab-on-grade subgrade.

Fill was placed by means of a loader and bobcat, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loader, a vibratory drum roller with sheepsfoot wheel, and whackers. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figure 1).

In-place density tests were performed in conformance with ASTM Test Method D1556 (Sand Cone), and ASTM Test Method ASTM D6938 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 92 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figure 1).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed was derived from import. The fill consist primarily of silty sand.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

- 1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines S-T.5 & 2-14 and 8-14 & J.2-T.5 as indicated on the Site Plan, Figure 1 has been prepared as required by Geocon. This area has been observed by Geocon. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" expansion range. Special considerations for expansive soils are not required.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 Prior to placing steel or concrete in the footing excavations, a site visit should be made by a representative of Geocon West, Inc. to see that the footings are free of loose and disturbed material and are supported on the properly compacted fill. A 24-hour notice is requested for a site visit.

LIMITATIONS

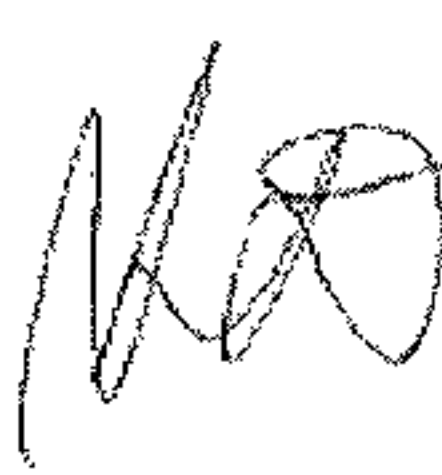
The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, February 20, 2014. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

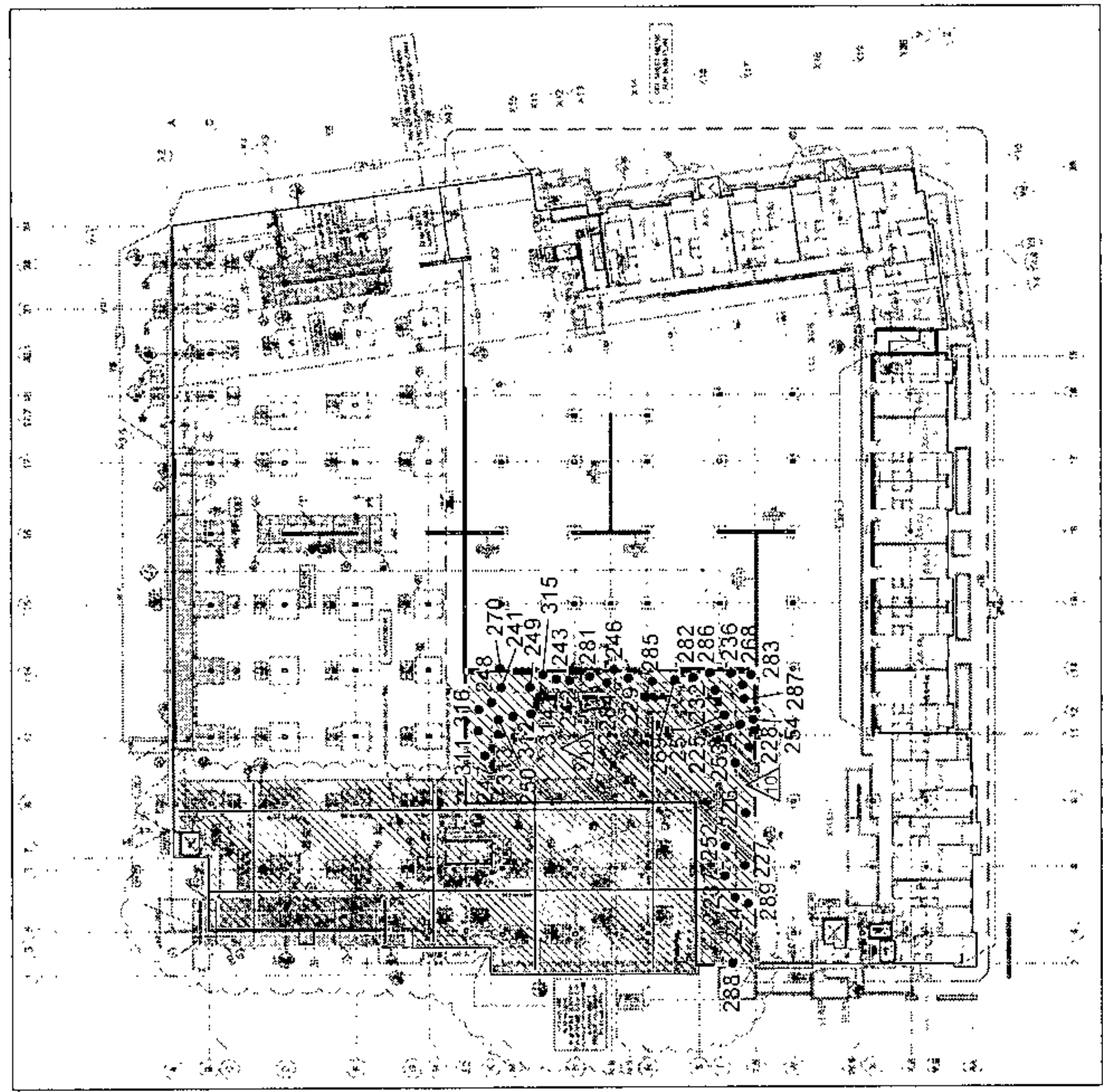
Harry Derkalousdian
PE 79496

Enclosures: Figure 1 - Site Plan
 Explanation of Coded Terms
 Tables 1 and 2
 Certification

(EMAIL) Addressee

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013.



LEGEND

- 316 Approximate Location of Density Test
- △ 10' Approximate Depth of Engineered Fill (in feet)
- Area Bounded by Gridline S-T.5 & 2-14 and Gridline 8-14 & J.2-T.5



GEOCON
W E S T, I N C.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD., SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CALI CROWN VALLEY, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

FEB. 28, 2014 PROJECT NO. A8803-06-03 FIG. 1

PZ 8000

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DT - Drainage Trench	PT - Plumbing Trench	SL - Sewer Lateral	UT - Utility Trench
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
BP - Building Pad	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
CG - Curb & Gutter	PL - Parking Lot	SG - Subgrade	SZ - Slope Zone	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, . . . : Retest of previous density test failure, following moisture conditioning and/or recompaction.
 R : Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test

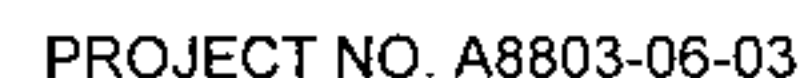


PROJECT NO. A8803-06-03

TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	224	2/4/2014	Gridline T.5	291.0	6	119.3	12.2	128.0	10.0	93	NU	Pass
WB	225	2/4/2014	Gridline T.5	291.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	226	2/4/2014	Gridline T.5	292.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	227	2/4/2014	Gridline T.5	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	228	2/4/2014	Gridline T.5	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	229	2/4/2014	Gridline 14	291.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	232	2/4/2014	Gridline 14	292.0	6	119.1	12.3	128.0	10.0	93	SC	Pass
WB	236	2/5/2014	Gridline T.5	293.0	6	119.2	12.6	128.0	10.0	93	NU	Pass
WB	237	2/5/2014	Gridline T.5	294.0	6	118.7	12.5	128.0	10.0	93	NU	Pass
WB	241	2/5/2014	Gridline 14	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	242	2/5/2014	Gridline 14	292.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	243	2/5/2014	Gridline 14	293.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
WB	246	2/6/2014	Gridline 14	294.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	247	2/6/2014	Gridlines J.2 & 14	291.0	6	117.9	13.1	128.0	10.0	92	NU	Pass
WB	248	2/6/2014	Gridlines J.2 & 14	292.0	6	118.8	12.2	128.0	10.0	93	NU	Pass
WB	249	2/6/2014	Gridlines J.2 & 14	293.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
WB	250	2/6/2014	Gridlines J.2 & 14	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	251	2/6/2014	Gridline T.5	295.0	6	118.2	12.5	128.0	10.0	92	NU	Pass
WB	252	2/6/2014	Gridline T.5	295.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	253	2/6/2014	Gridline T.5	296.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	254	2/6/2014	Gridline T.5	297.0	6	118.5	12.7	128.0	10.0	93	NU	Pass
WB	268	2/10/2014	Gridline 14 - Between T.5&J.2	294.0	6	119.0	12.3	128.0	10.0	93	NU	Pass
WB	269	2/10/2014	Gridline 14 - Between T.5&J.2	295.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	270	2/10/2014	Gridline 14 - Between T.5&J.2	296.0	6	119.9	12.0	128.0	10.0	94	NU	Pass
WB	281	2/12/2014	Gridline 14 - Between T.5&J.2	295.0	6	118.3	12.8	128.0	10.0	92	NU	Pass
WB	282	2/12/2014	Gridline 14 - Between T.5&J.2	296.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	283	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
WB	284	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	119.1	12.2	128.0	10.0	93	SC	Pass
WB	285	2/12/2014	Gridline 14 - Between T.5&J.2	298.0	6	117.8	13.1	128.0	10.0	92	NU	Pass
WB	286	2/12/2014	Gridline 14 - Between T.5&J.2	299.0	6	118.0	12.7	128.0	10.0	92	NU	Pass
WB	287	2/12/2014	Gridline T.5	299.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	288	2/12/2014	Gridline T.5	299.0	6	118.2	12.6	128.0	10.0	92	NU	Pass
WB	289	2/12/2014	Gridline T.5	299.0	6	119.3	12.0	128.0	10.0	93	NU	Pass
WB	311	2/20/2014	Gridline 14	296.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	312	2/20/2014	Gridline 14	296.0	6	118.1	12.9	128.0	10.0	92	NU	Pass

* - See "Explanation of Coded Terms"

[illegible]

* - See "Explanation of Coded Terms"



TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
1	Not Used		
2	Not Used		
3	Not Used		
4	Not Used		
5	Not Used		
6	Import - Silty Sand	128.0	10.0



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Area Bounded by Gridlines S-T.5 & 2-14
and Gridlines 8-14 & J.2-T.5
(see Site Plan, Figure 1)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 02/04/2014
DATE FILL WAS COMPLETED: 02/20/2014
DATE OF THIS CERTIFICATE: 02/28/2014

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.

HARRY DERKALOUSDIAN
P.E. 79496



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

GEOCON

W E S T . I N C .

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
REVISED January 15, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES A-F & 11-24/Y11
AND GRIDLINE Y9 AT GRIDLINES J, H AND G
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines A – F and 11 – 24/Y11, and Gridline Y9 at Gridlines J, H, and G, as identified on Sheet S0.11F (attached herein) has been prepared as required by Geocon and is approved for the placement of the foundation system. This area has been observed by Geocon and bedrock is exposed throughout the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing bedrock is considered suitable for support of the proposed structure. Please note the notch into the pad at Gridline A is part of means and methods to install the soil nail wall. The recommendations for driven pile foundations and conventional shallow spread foundations provided in the project geotechnical report and addenda remain applicable to the project.

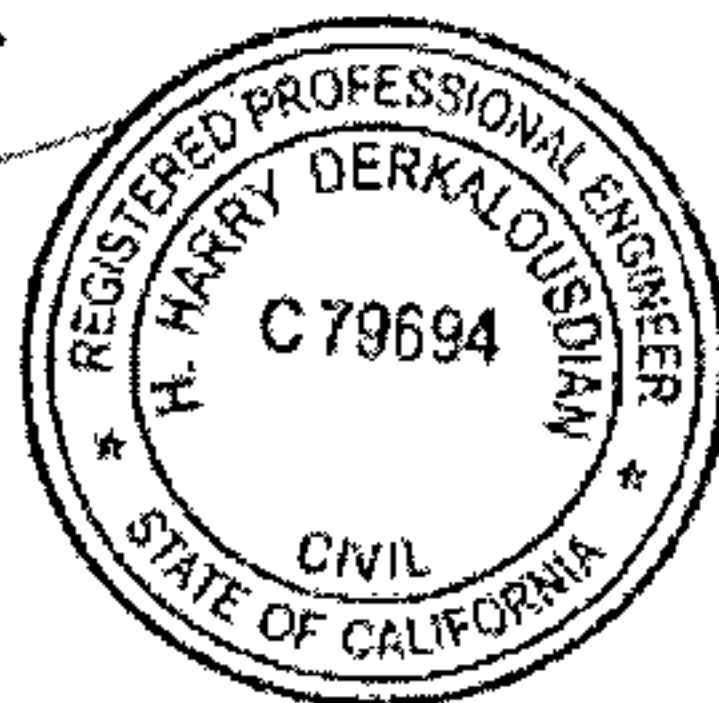
Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

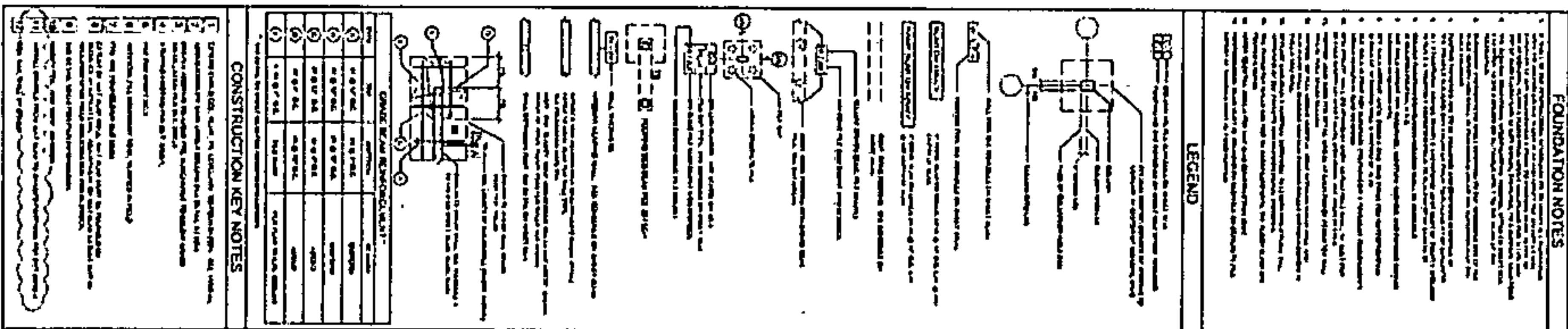
GEOCON WEST, INC.

Harry Derkalousdian
PE 79694



(1) Addressee

Enclosure: Sheet S0.11F



SO.11F

**GARAGE LEVEL B1
FOUNDATION PLAN**

FOR CONSTRUCTION

**CROWN CABOT
LUXURY APARTMENTS**
1800 CROWN VALLEY, DUBLIN, CA
MILL CREEK RESIDENTIAL TRUST LLC



VCA ENGINEERS
 1400 N. 17th St., Suite 100
 Arlington, VA 22209
 (703) 278-1100



पुनः

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03

November 18, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES T-J (N/S) & 14-Y10/Y11 (E/W)
AND GRIDLINES H (N/S) & 16 (E/W)
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

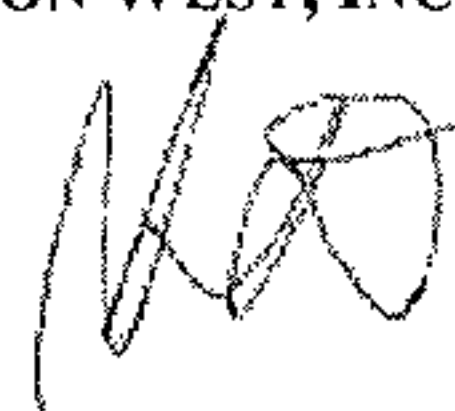
Please accept this letter as formal notification that the area of the pad bounded by Gridlines T – J and 14 – Y10/Y11 and Gridlines H & 16, as identified on Sheet S0.10 (attached herein) has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. This area has been observed by Geocon and artificial fill is exposed throughout this portion of the building pad. Please note that the ramp located at Gridline J-Y9 is not certified at this moment and will be approved in a future letter. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the artificial fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

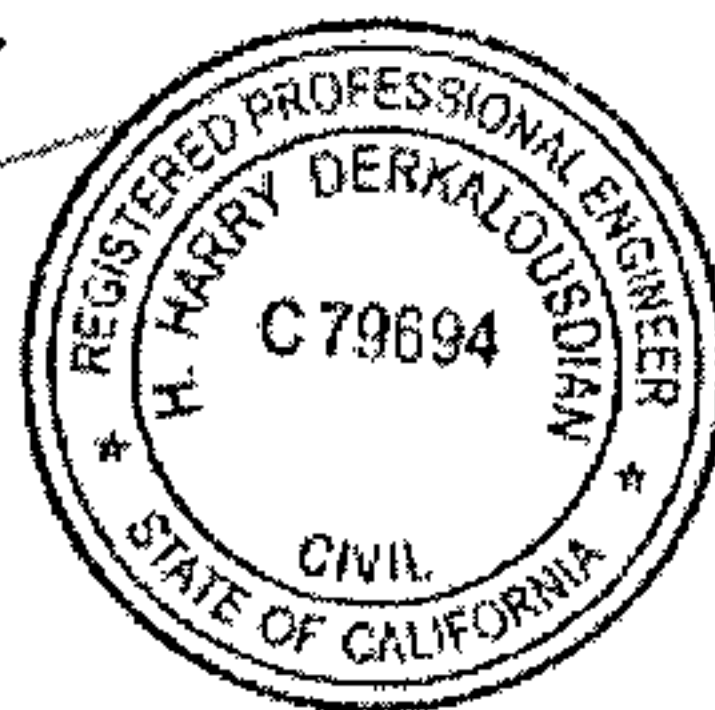
Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

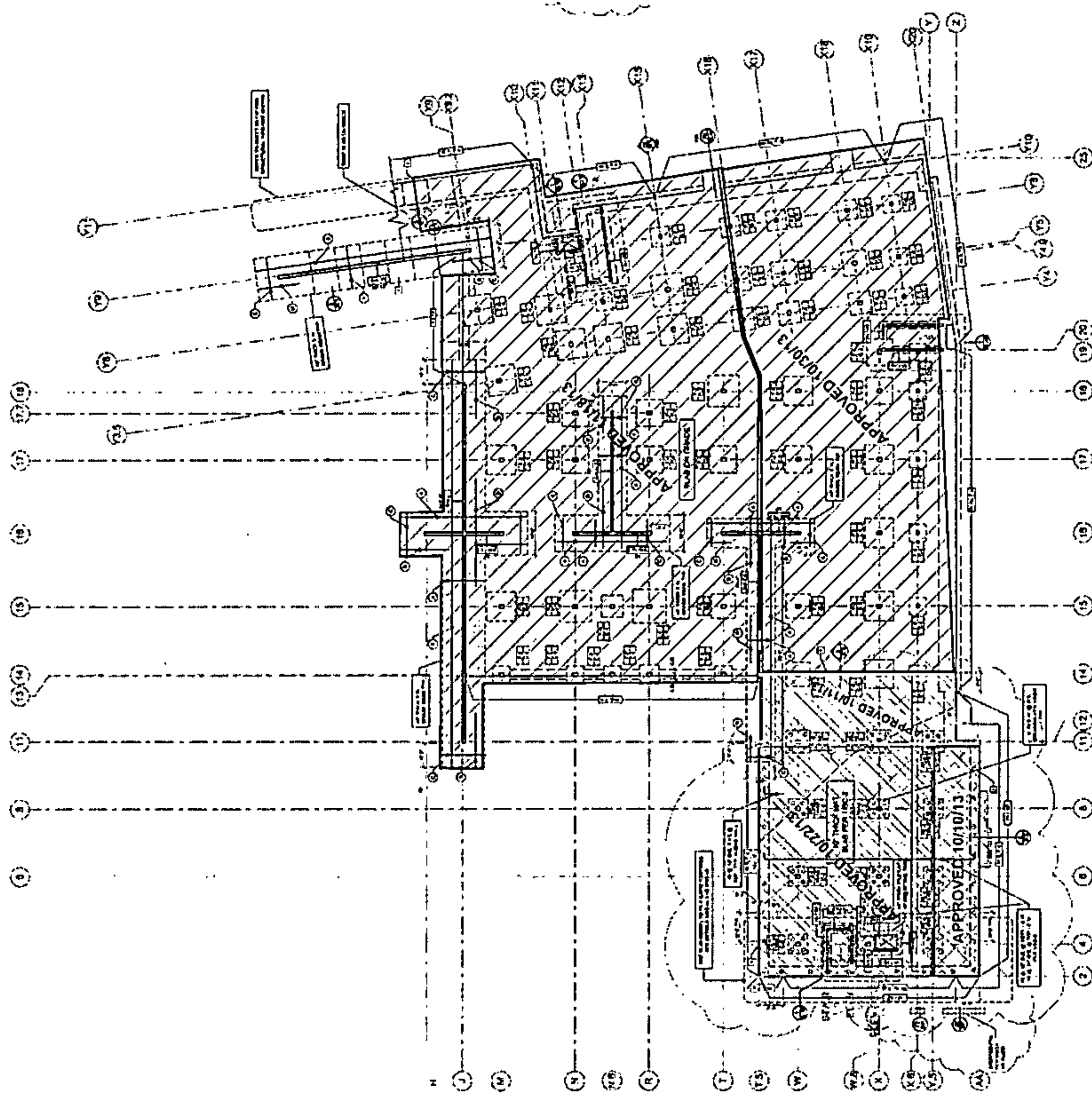
Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694



(1) Addressee



November 18, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

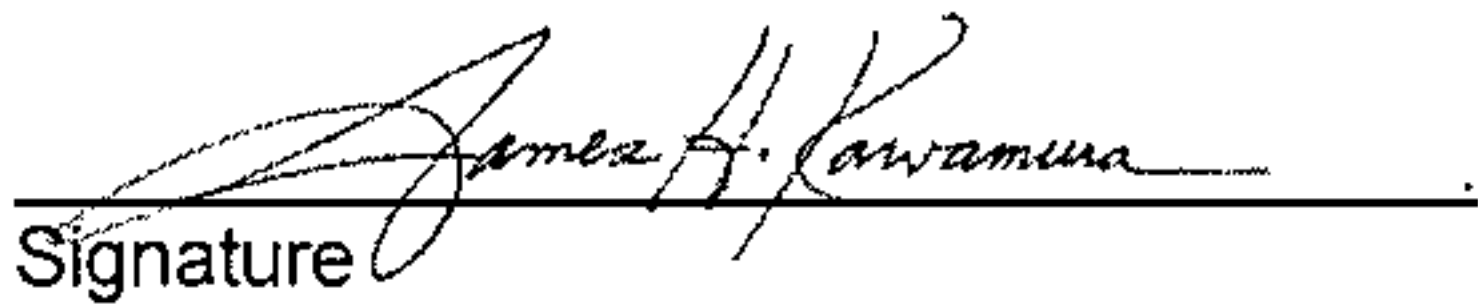
Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines T - J (north/south) and 14 - Y10/11 (east/west), H (north/south) and 16 (east/west). Please note that the ramp at grid line J-Y9 is not certified at this moment and will be approved in a future letter.

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)





23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (continued)

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00

January 14, 2014

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hearby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines A – F & Y11 (north/south) and 11 – 24 (east/west), and Y9 (north/south) & G, H, J (east/west), the notch into the pad at grid line A is part of means and methods to install the soil nail wall.

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)





CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 · Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: November 22, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES T – J (N/S) & 14 – Y10/Y11 (E/W), and GRIDLINES H (N/S) & 16 (E/W)

GRIDLINE J – Y9 (RAMP) IS EXCLUDED

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.

REFERENCES: (1) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (2) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (3) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (4) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (5) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013;



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 · Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: November 22, 2013

(6) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (7) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (8) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (9) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (10) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (11) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (12) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013; (13) Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (14) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (15) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (16) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (17) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (18) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (19) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.



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Page 3

GMU REFERENCE NO.: G13-005

DATE: November 22, 2013

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
 - ☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
 - ☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
- Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.*

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



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GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00



Request for Information 035

Detailed, RFIs Grouped by RFI Number

Crown Valley
25891 Crown Valley Parkway, Laguna Niguel, CA
92677

Project # 55-0010
Tel: Fax:

MCRT California Construction LP

RFI #: 035

Date Created: 9/25/2013

Answer Company

Answered By

Author Company

Authored By

KHR Associates
4100 Newport Place Dr., Ste. 200
Newport Beach, CA 92660

Michael Thomas

MCRT California Construction LP
949 South Coast Dr., Ste. 400
Costa Mesa, CA 92626

Courtney Marshall

Co-Respondent

Author RFI Number

Marc Company

Subject

Discipline

Category

Site - SD Fitting Approval

Civil

Site

Cc: Company Name

Contact Name

Copies Notes

Mark Company

Kenan Alexander

1

Question

Date Required: 9/26/2013

The Storm Drain fittings on Line D and Line C are as per contractors submittal but are not the fittings that are shown on the plans. The city inspector wants KHR's approval for the fittings that are installed. Mark Company provide KHR a detail or picture with information/ text of the assembly installed. Include all fittings and pipe used on Line D." KHR to Provide approval of detail. Pictures are attached.

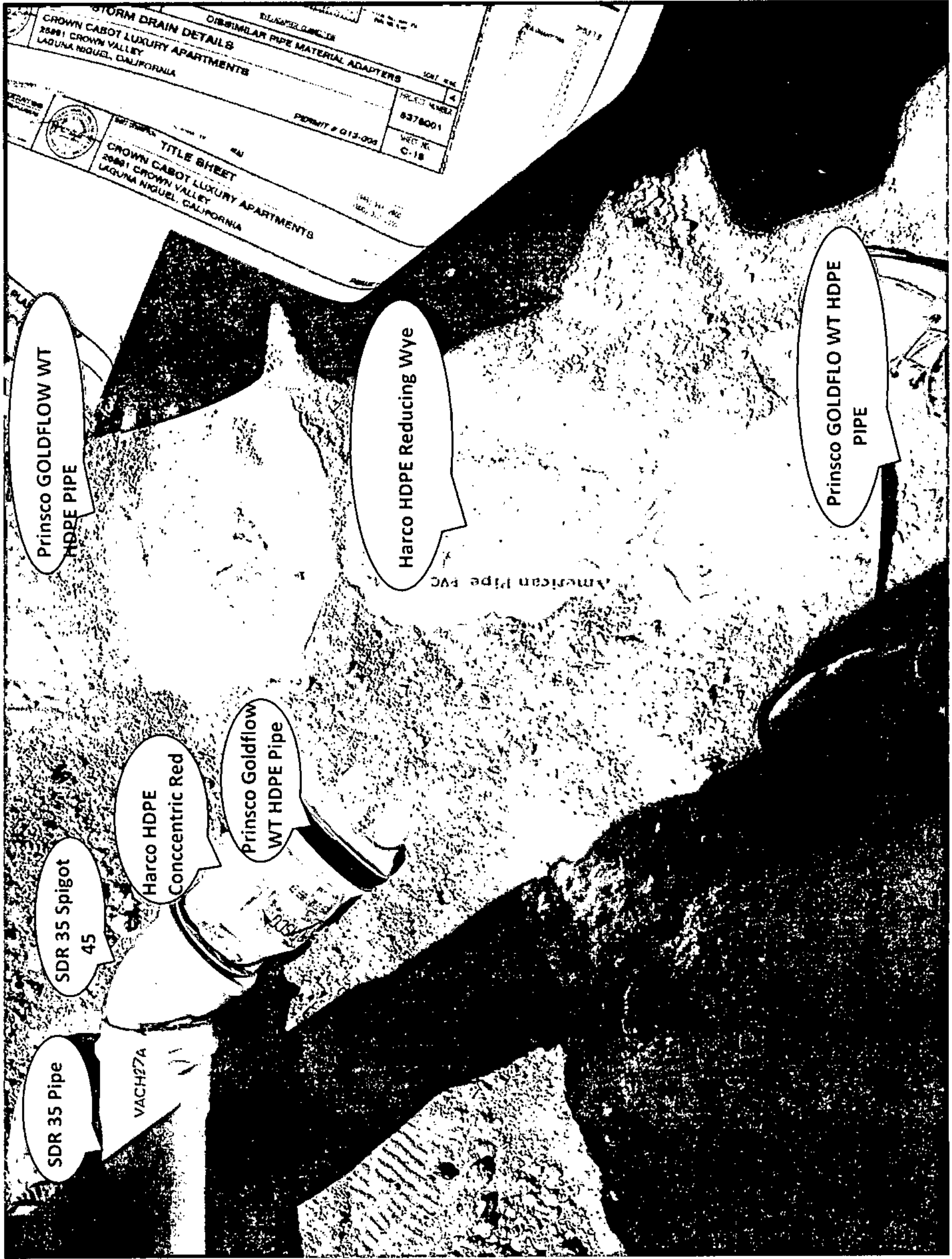
Suggestion

Answer

Date Answered:

After review and field inspection, we do not have any objection to the installed storm drain fittings and transitions, to mitigate dissimilar pipe materials, as shown on the attached detail for Line C and D. It is acceptable for the contractor to continue to use this detail or alternatively use the detail as shown on the final set of Precise Grading Plans.

KHR Associates - Mike Thomas - 09/25/13



Prinsco Goldflow WT
HDPE Pipe

Harco HDPE Reducing Wye

Prinsco Goldflo WT HDPE
Pipe

SDR 35 Spigot
45

Harco HDPE
Concentric Red

Prinsco Goldflow
WT HDPE Pipe

SDR 35 Pipe

VACH27A

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03
November 18, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES T-J (N/S) & 14-Y10/Y11 (E/W)
AND GRIDLINES H (N/S) & 16 (E/W)
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines T – J and 14 – Y10/Y11 and Gridlines H & 16, as identified on Sheet S0.10 (attached herein) has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. This area has been observed by Geocon and artificial fill is exposed throughout this portion of the building pad. Please note that the ramp located at Gridline J-Y9 is not certified at this moment and will be approved in a future letter. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the artificial fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

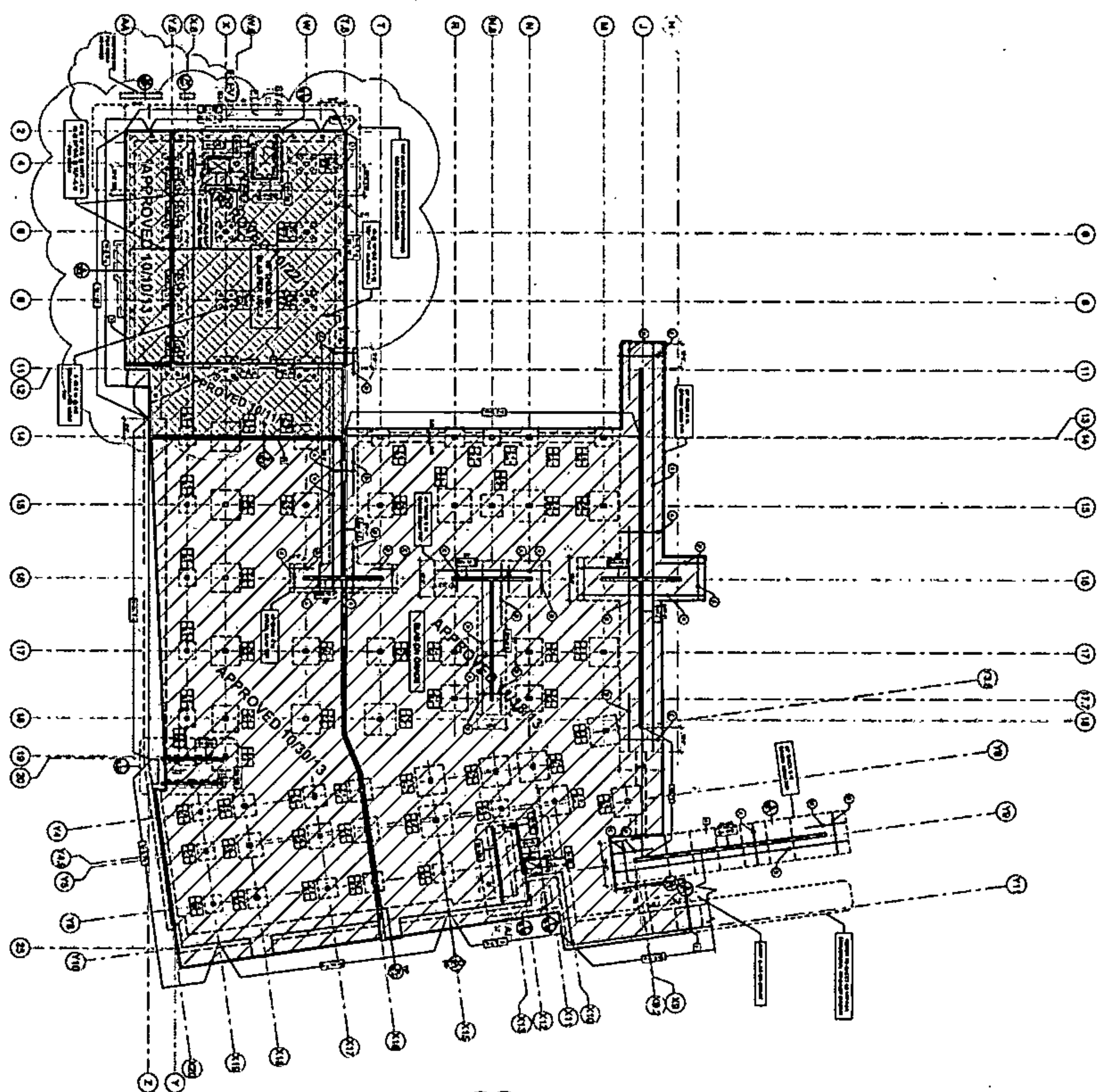
Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694



(1) Addressee



November 18, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines T - J (north/south) and 14 - Y10/11 (east/west), H (north/south) and 16 (east/west). Please note that the ramp at grid line J-Y9 is not certified at this moment and will be approved in a future letter.

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)



GEOCON WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
November 7, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PILE FOUNDATIONS FOR RETAINING WALL
ALONG GRIDLINE T BETWEEN GRIDLINES 2 - 14
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification of observation of the driven pile foundation system located along Gridline T between Gridlines 2 – 14 as illustrated on the attached foundation plan. The installation of the driven piles along Gridline T between Gridlines 2 – 14 were observed by a Geocon representative and were confirmed to have been placed in the recommended bearing materials prior to installation of shotcrete wall. After the shotcrete wall achieves sufficient strength, backfill will be placed and compacted to the finished pad elevation.

Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

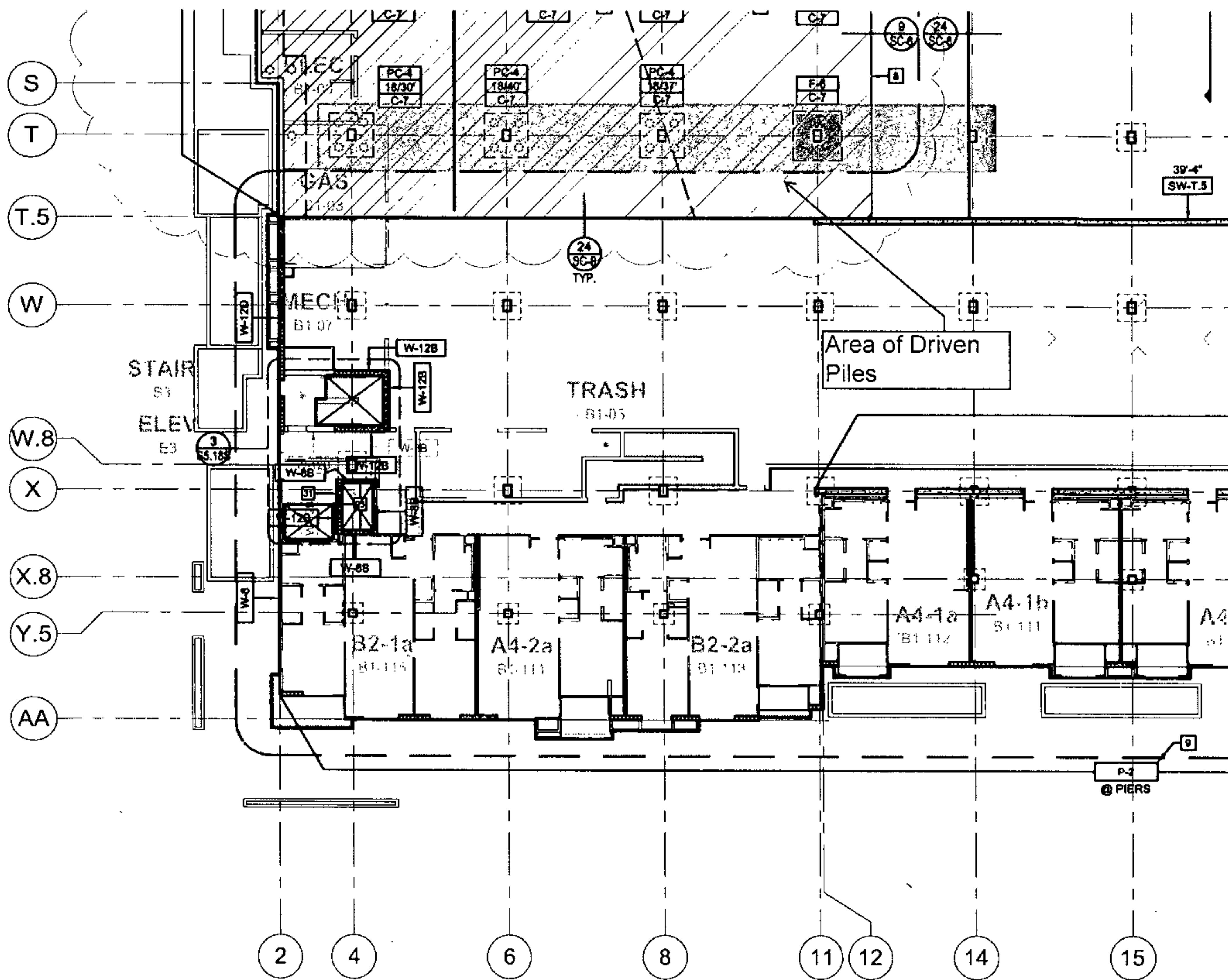
GEOCON WEST, INC.

Neal D. Berliner
GE 2576



Attachments: Foundation Plan

(1) Addressee



November 6, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

Piles driven at gridline T & 2-14 were placed in competent material prior to installation of shotcrete wall to avoid potential damage to the retaining wall. Fill will be placed, compacted to pad grade and certified after shotcrete retaining wall is built.


Signature

(R.C.E # 30560) (AIA #)





CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: January 17, 2014

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES A-F & 11-24/Y11 AND GRIDLINE Y9 AT GRIDLINES J, H AND G

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.

REFERENCES: (1) "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013; (2) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (3) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (4) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (5) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (6) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (7)

Partial Area



CITY OF LAGUNA NIGUEL

Public Works/Engineering
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: January 17, 2014

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GEOTECHNICAL REVIEW SHEET

Reviewed by:

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Page 3

GMU REFERENCE NO.: G13-005

DATE: January 17, 2014

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



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GEOTECHNICAL REVIEW FEE SHEET (Page 1 of 2)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00

↓ permit

5930



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GEOTECHNICAL REVIEW FEE SHEET (Page 2 of 2)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.	1/17/14	APPROVED	\$277.50

Σ 2507.50

Rough Grading Release

PERMIT NUMBER G13-005

DATE 1/22/14

TRACT _____

LOCATION 25891 Crown Valley Pkwy

LOTS APPROVED Grid lines A-F & Y11 (north/south) &

OWNER 11-24 (east/west), and Y9 (North/south) &

Owner's Address G, H, J (east/west)

Special requirements See attached Civil Cert & Soil Letter

Grading
Inspector 

Grading
Supervisor _____

GEOCON
WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
REVISED January 15, 2014

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES A-F & 11-24/Y11
AND GRIDLINE Y9 AT GRIDLINES J, H AND G
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

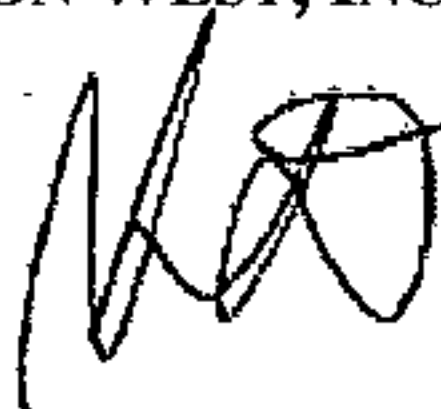
Please accept this letter as formal notification that the area of the pad bounded by Gridlines A – F and 11 – 24/Y11, and Gridline Y9 at Gridlines J, H, and G, as identified on Sheet S0.11F (attached herein) has been prepared as required by Geocon and is approved for the placement of the foundation system. This area has been observed by Geocon and bedrock is exposed throughout the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing bedrock is considered suitable for support of the proposed structure. Please note the notch into the pad at Gridline A is part of means and methods to install the soil nail wall. The recommendations for driven pile foundations and conventional shallow spread foundations provided in the project geotechnical report and addenda remain applicable to the project.

Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694



(1) Addressee

Enclosure: Sheet S0.11F

January 14, 2014

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines A – F & Y11 (north/south) and 11 – 24 (east/west), and Y9 (north/south) & G, H, J (east/west), the notch into the pad at grid line A is part of means and methods to install the soil nail wall.

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)





GARAGE LEVEL B1 FOUNDATION PLAN
FOR CONSTRUCTION
CROWN CABOT LUXURY APARTMENTS
 2800 CROWN VALLEY, MOOREVILLE, GA
MILL CREEK RESIDENTIAL TRUST LLC

3

Rough Grading Release

PERMIT NUMBER G13-005

DATE 12/10/13

TRACT _____

LOCATION 25891 Crown Valley Pkwy

LOTS APPROVED Gridline H & 11-18 and Gridline Y6 & X7

OWNER Cal E Crown Valley, LLC

Owner's Address _____

Special requirements Pile Driving Only

Grading
Inspector 

Grading
Supervisor _____

GEOCON

W E S T, I N C.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03

December 5, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: DEEPENED FOUNDATIONS
GRIDLINE H & GRIDLINES 11-18 AND GRIDLINE Y6 & GRIDLINE X7
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

The deepened foundation system at Gridline H & Gridlines 11 through 18, and Gridline Y6 & X7 need to be installed prior to certifying the pad. These footings are designed to be deepened in order to alleviate surcharge pressures on foundations located below Gridline J. Geocon approves the construction of these footing prior to pad certification. The pad will be certified following completion of the foundations and walls along Gridline J.

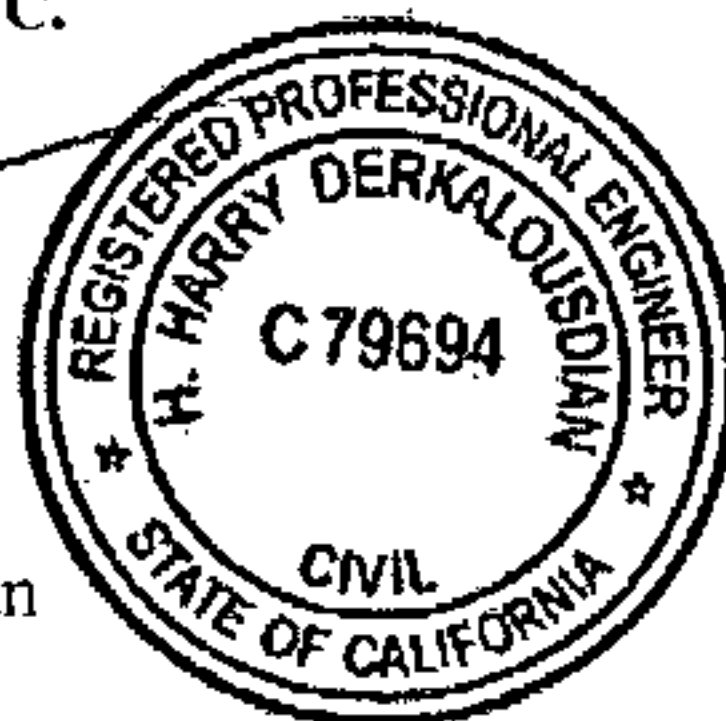
Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Harry Derkalousdian
PE 79694



(1) Addressee

December 6, 2013

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

**SUBJECT: DEEPENED FOUNDATIONS, GRIDLINE H & GRIDLINES 11-18 AND
GRIDLINE Y6 & GRIDLINE X7 "CROWN VALLEY/CABOT
APARTMENTS" PROJECT LOCATED ON 25891 CROWN VALLEY
PARKWAY, LAGUNA NIGUEL, CALIFORNIA**

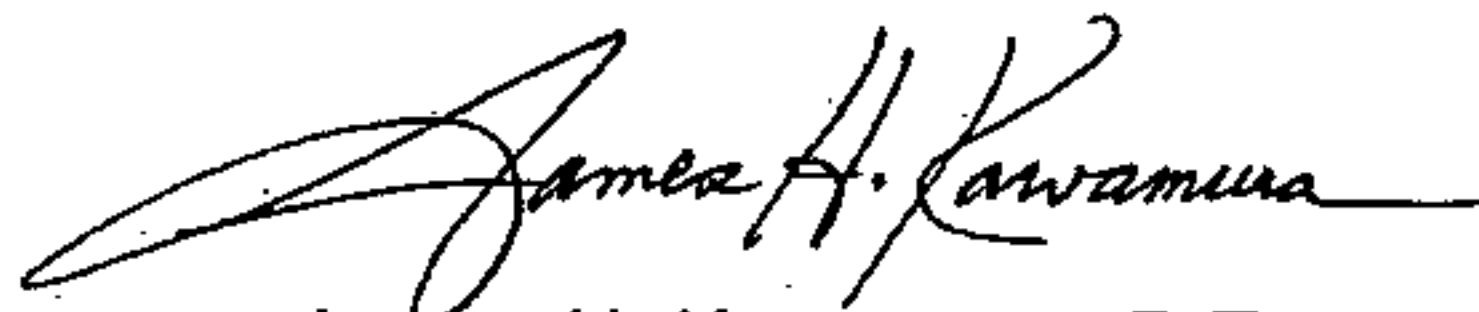
Dear Mr. Sharif,

The deepened foundation system at gridline H & gridlines 11 through 18, and gridlines need to be installed prior to certifying the pad. These footings are designed to be deepened in order to alleviate surcharge pressures on the foundations located below gridline J. **KHR Associates** acknowledges the construction of these footings prior to pad certification. The pad will be certified following completion of the foundation and wall along gridline J.

If there are any other questions, or if additional information is needed, please do not hesitate to call me at your convenience, at 949-756-6440.

Sincerely yours,

KHR Associates



James H. Kawamura, P.E.
President



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: December 10, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development --

GRIDLINE H & GRIDLINES 11-18 & GRIDLINE Y6 & GRIDLINE X7

DEEPEMED FOUNDATIONS ONLY

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.

REFERENCES: (1) "Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 - Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013; (2) "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013; (3) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (4) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (5) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: December 10, 2013

by Geocon West, Inc., dated October 2, 2013; (6) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (7) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (8) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (9) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (10) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (11) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (12) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (13) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (14) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (15) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (16) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (17) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (18) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (19) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.



CITY OF LAGUNA NIGUEL

Public Works/Engineering
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 3

GMU REFERENCE NO.: G13-005

DATE: December 10, 2013

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



GMU
GEOTECHNICAL, INC.

23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00



23241 Arroyo Vista
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CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (continued)

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50

Rough Grading Release

PERMIT NUMBER G13-005

DATE 11/22/13

TRACT PM 2012-124

LOCATION 25891 Crown Valley Pkwy

LOTS APPROVED Grid lines T-3 and 14-Y10/Y11 and

OWNER Grid lines H #16

Owner's Address _____

Special requirements excluding ramp area located at

Gridline J-Y9

Grading Inspector [Signature]

Grading Supervisor _____

GEOCON

W E S T, I N C.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03

November 18, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES T-J (N/S) & 14-Y10/Y11 (E/W)
AND GRIDLINES H (N/S) & 16 (E/W)
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines T – J and 14 – Y10/Y11 and Gridlines H & 16, as identified on Sheet S0.10 (attached herein) has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. This area has been observed by Geocon and artificial fill is exposed throughout this portion of the building pad. Please note that the ramp located at Gridline J-Y9 is not certified at this moment and will be approved in a future letter. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the artificial fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

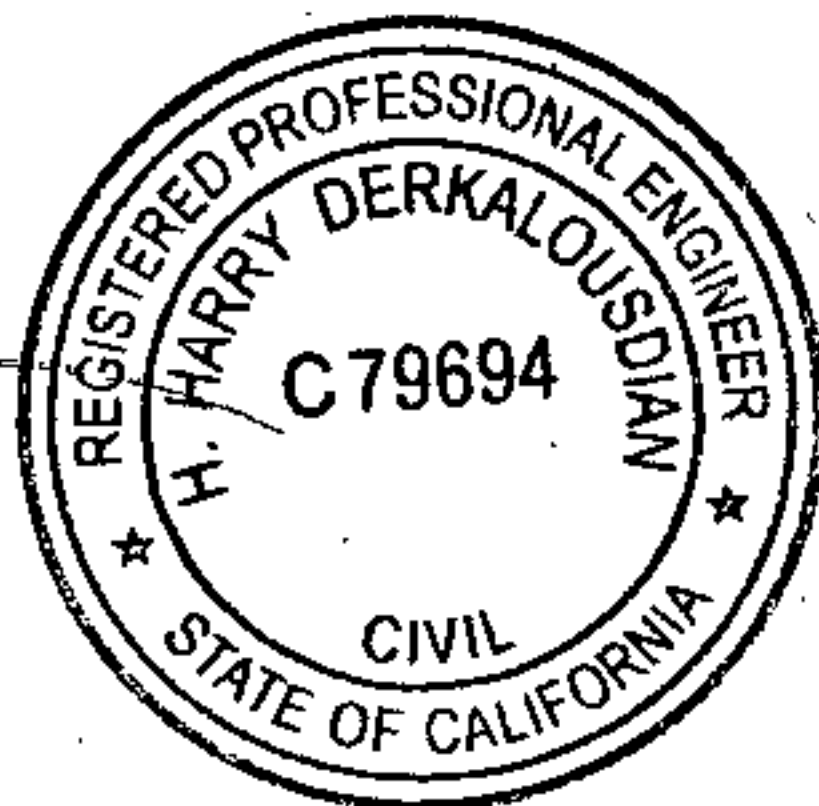
Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

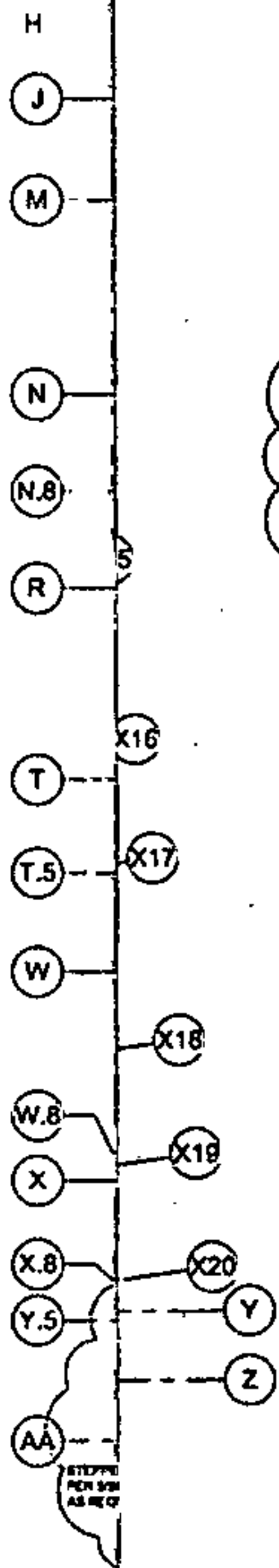
Very truly yours,

GEOCON WEST, INC.

Harry Derkalousdian
PE 79694



(1) Addressee



November 18, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines T - J (north/south) and 14 - Y10/11 (east/west), H (north/south) and 16 (east/west). Please note that the ramp at grid line J-Y9 is not certified at this moment and will be approved in a future letter.

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)



GEOCON WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
November 18, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES T-J (N/S) & 14-Y10/Y11 (E/W)
AND GRIDLINES H (N/S) & 16 (E/W)
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines T – J and 14 – Y10/Y11 and Gridlines H & 16, as identified on Sheet S0.10 (attached herein) has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. This area has been observed by Geocon and artificial fill is exposed throughout this portion of the building pad. Please note that the ramp located at Gridline J-Y9 is not certified at this moment and will be approved in a future letter. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the artificial fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

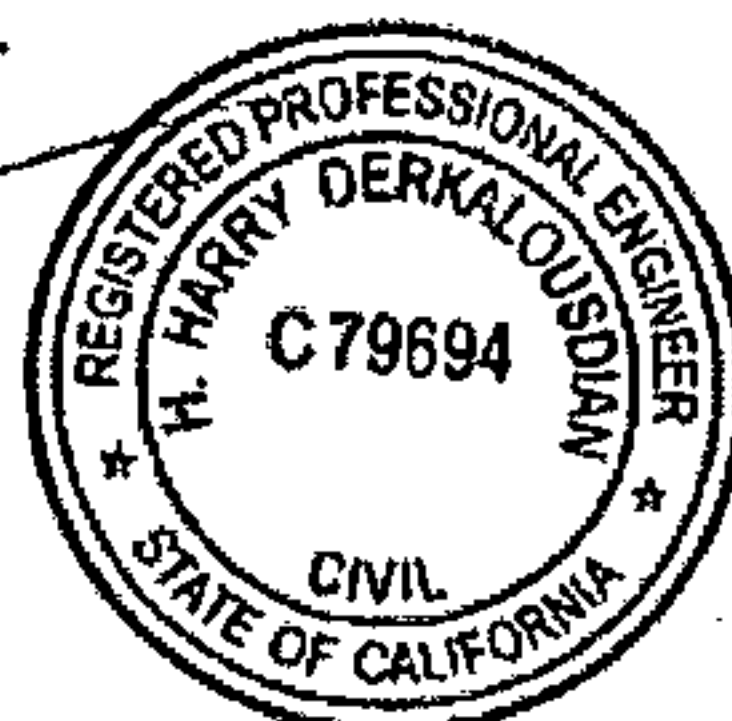
Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

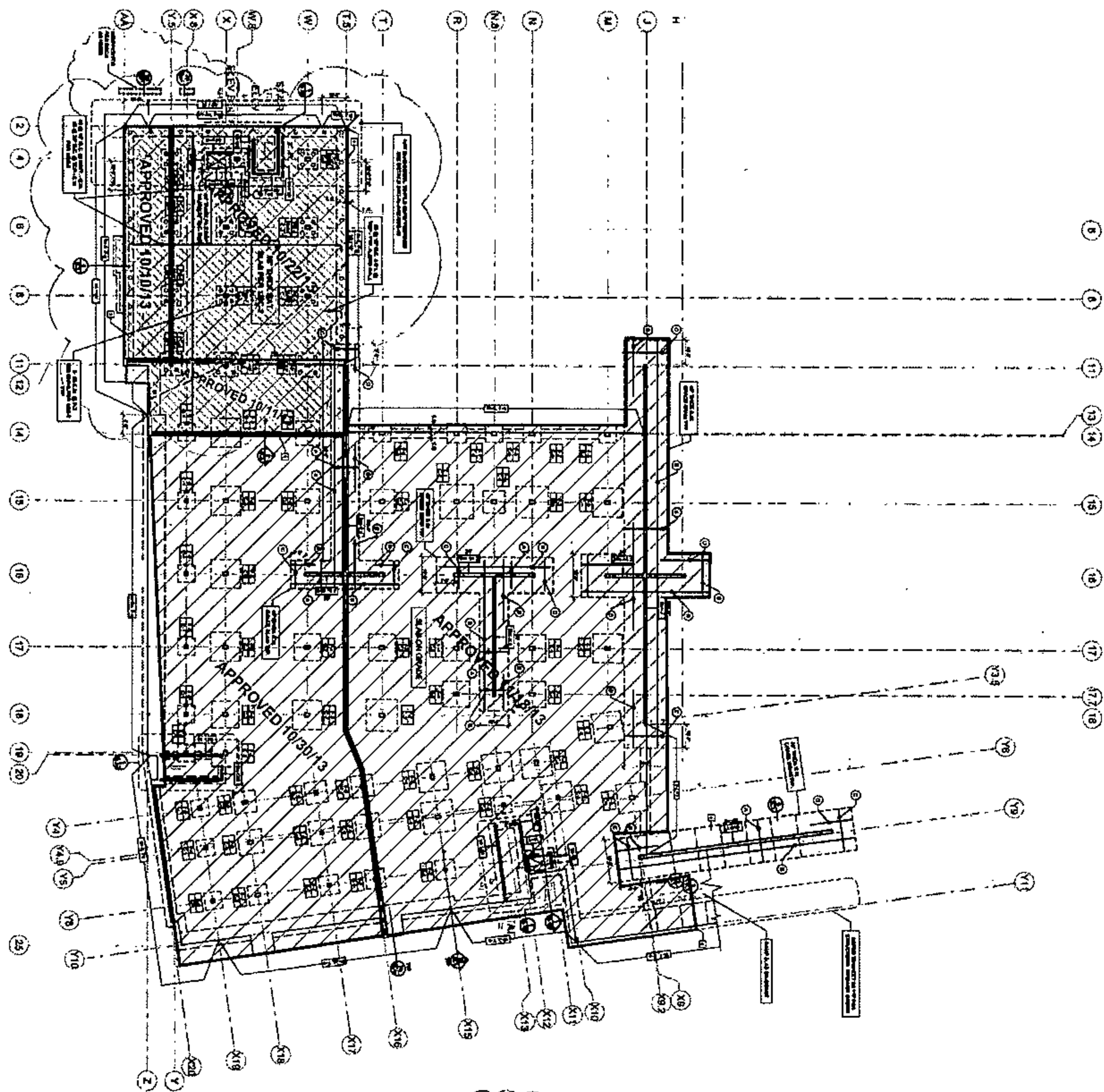
Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694



(1) Addressee



Rough Grading Release

PERMIT NUMBER G13-005 ^{Partial} DATE 11/8/13

TRACT PM 2012-124

LOCATION 25891 Crown Valley Pkwy

LOTS APPROVED Gridlines T.S. & AA & 14 & 10/11

OWNER MERT Investment LLC

Owner's Address _____

Special requirements Partial building and approval

for above Gridlines

Grading Inspector [Signature] Grading Supervisor _____



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: November 6, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES T5 & AA & 14 & Y10/Y11 ONLY

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.

REFERENCES: (1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (2) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (3) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (4) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (5) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (6) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (7) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (8) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (9) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments,



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: November 6, 2013

25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (10) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (11) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (12) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (13) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (14) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (15) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (16) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



Project No. A8803-06-03
October 30, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES T.5 & AA and GRIDLINES 14 & Y10/Y11
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY, LAGUNA NIGUEL, CALIFORNIA

References: *Report of Observation and Testing Services during Upper MSE Wall Construction & Partial Building Pad Approval*, by Geocon West, Inc., dated October 10, 2013.

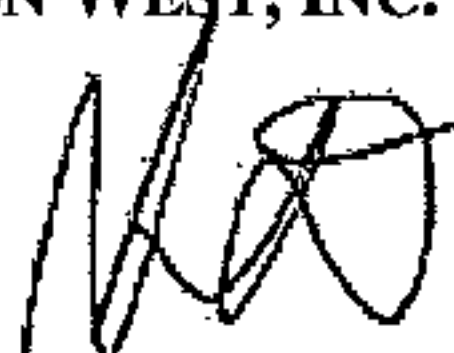
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Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,
GEOCON WEST, INC.


Harry Derkalousdian
PE 79694



(1) Addressee

October 29, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines T.5 - AA (north/south) and 14 - Y10/11 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)



October 29, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

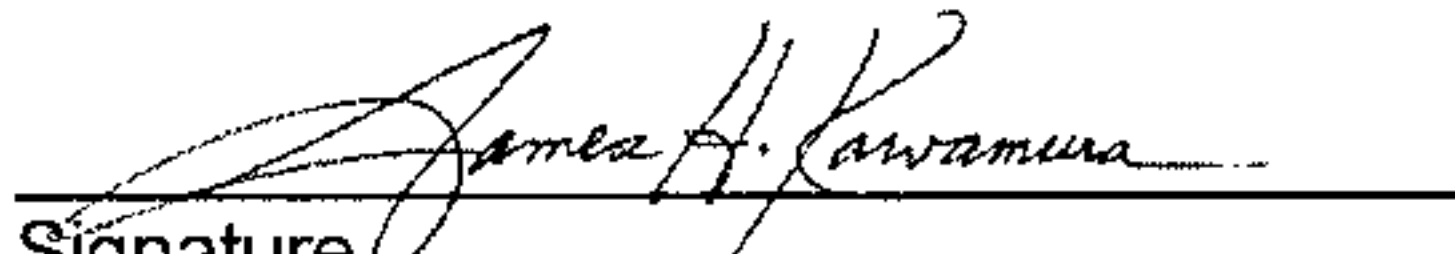
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GEOCON

W E S T, I N C.

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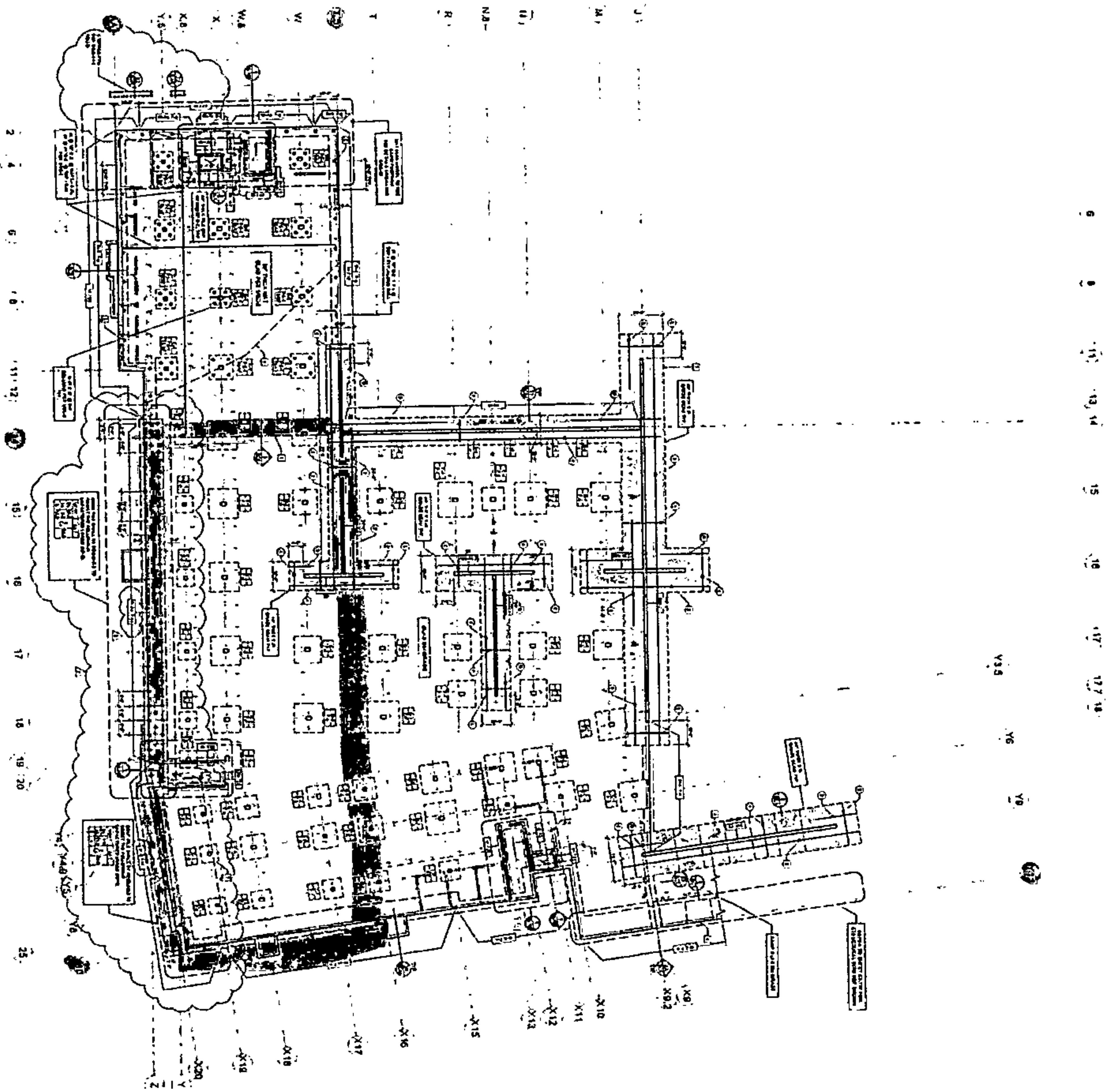
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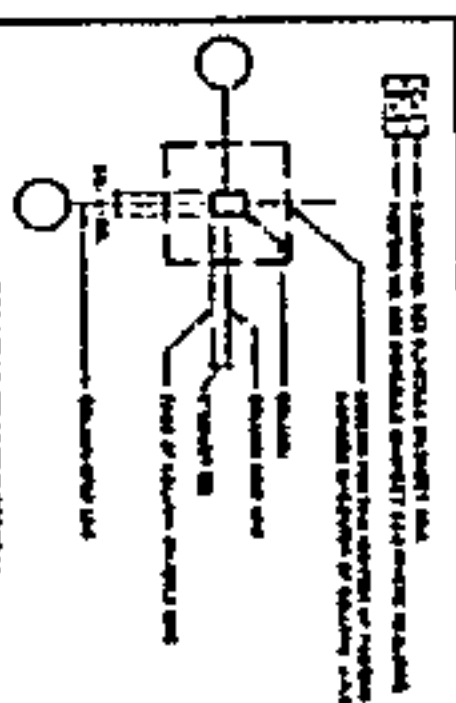
(1) Addressee



FOUNDATION NOTES

1. ALL FOUNDATION ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION CODE (CFC).
2. ALL FOUNDATION ELEMENTS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF SEISMIC FORCES AS SPECIFIED IN THE CFC.
3. ALL FOUNDATION ELEMENTS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF WIND LOADS AS SPECIFIED IN THE CFC.
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LEGEND



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GARAGE LEVEL B2
FOUNDATION PLAN
FOR CONSTRUCTION

CROWN CABOT
LUXURY APARTMENTS
3001 CROWN VALLEY LANE, SUITE 100, MILL CREEK, CA 95021
MILL CREEK RESIDENTIAL TRUST LLC



VCA ENGINEERS
12345 MAIN STREET
MILL CREEK, CA 95021
(916) 123-4567



TR
TRUSTEES OF CROWN VALLEY LUXURY APARTMENTS

S0.10

DATE: 12/31/2024
BY: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]

GEOCON

W E S T, I N C.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



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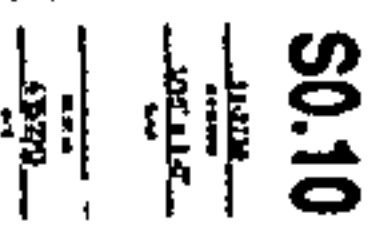
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Harry Derkalousdian
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(1) Addressee



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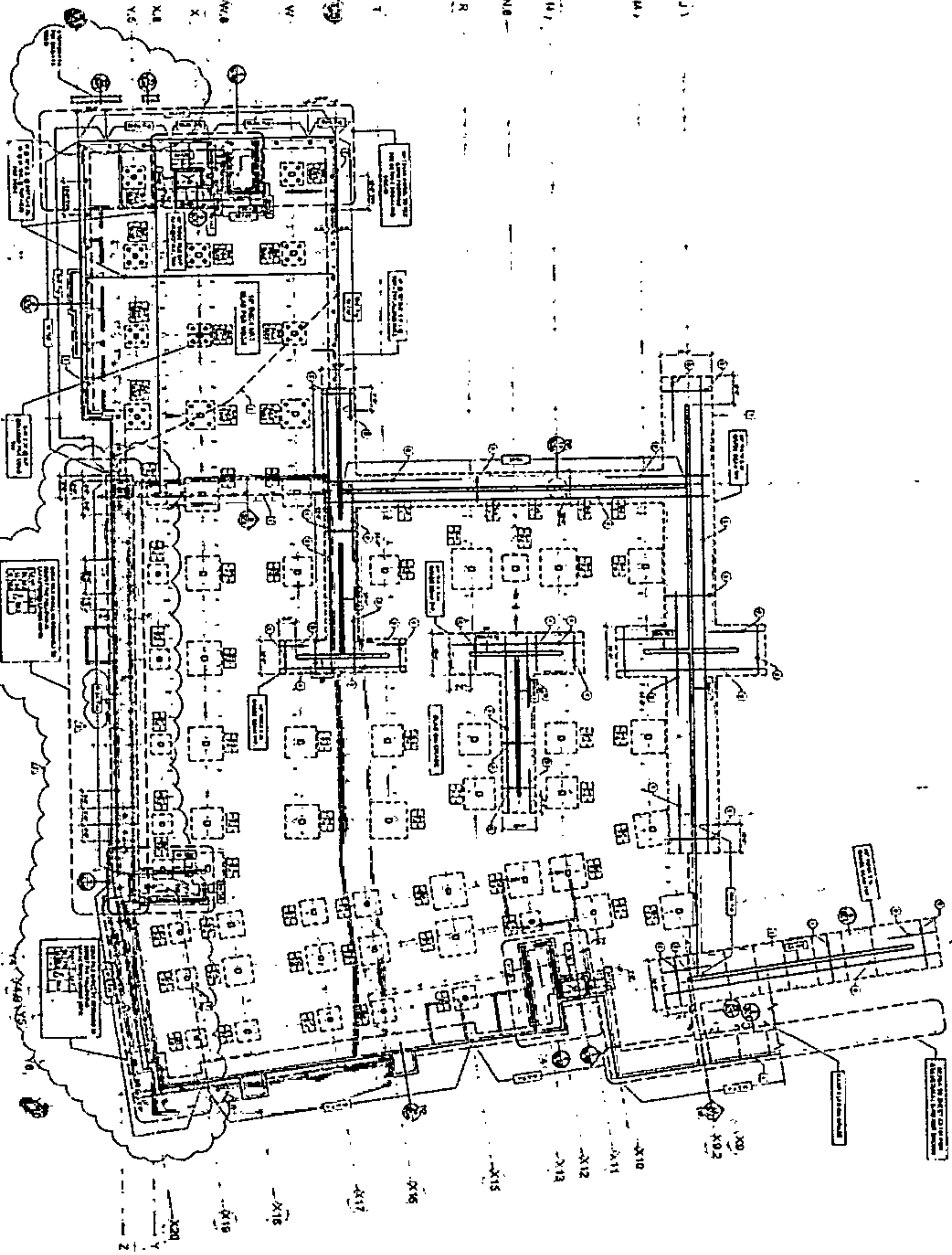
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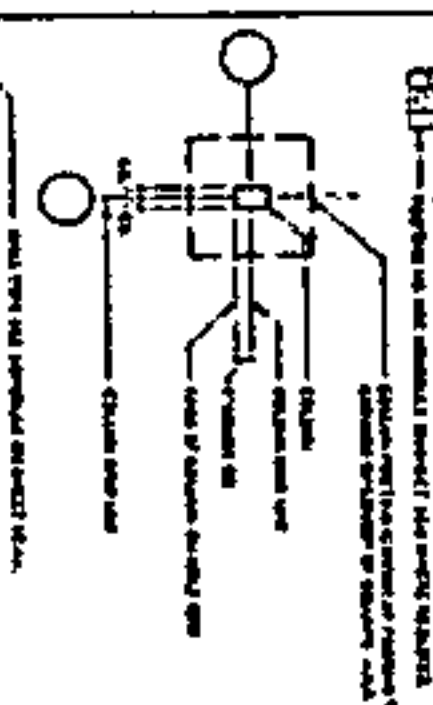
Y3.5
Y6
Y9



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LEGEND



NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1	CONCRETE WALL	10.0	CU YD	
2	CONCRETE COLUMN	5.0	CU YD	
3	FOUNDATION PILE	10.0	CU YD	
4	FOUNDATION BEAM	10.0	CU YD	
5	CONCRETE WALL	10.0	CU YD	
6	CONCRETE COLUMN	5.0	CU YD	
7	FOUNDATION PILE	10.0	CU YD	
8	FOUNDATION BEAM	10.0	CU YD	
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24	FOUNDATION BEAM	10.0	CU YD	
25	CONCRETE WALL	10.0	CU YD	

CONSTRUCTION KEY NOTES

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**GARAGE LEVEL B2
FOUNDATION PLAN**

FOR CONSTRUCTION

**CROWN CABOT
LUXURY APARTMENTS**

2004 CROWN VALLEY, LAKESIDE, CA

MILL CREEK RESIDENTIAL TRUST LLC



S0.10



23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005
PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road
OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00



GMIU
GEOTECHNICAL, INC.

23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	11/5/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: November 7, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINE T BETWEEN 2 -14 ONLY – PILE FOUNDATIONS ONLY

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: "Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.

REFERENCES: (1) Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013; (2) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (3) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (4) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (5) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (6) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (7) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (8) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (9) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (10) "Review of Interim Grading and Drainage Plans and Earth Retention



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Rancho Santa Margarita, CA 92688
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Page 2

GMU REFERENCE NO.: G13-005

DATE: November 7, 2013

Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (11) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (12) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (13) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (14) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (15) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (16) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (17) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.

ACTION:

- ☐ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
- ☒ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
- ☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
- Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.*



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
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GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 3

GMU REFERENCE NO.: G13-005

DATE: November 7, 2013

COMMENT

1. Prior to issuance of the building permit, the geotechnical consultant should submit a report of the wall backfill testing and state whether the wall backfill be be adequate for support of the planned improvments.

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



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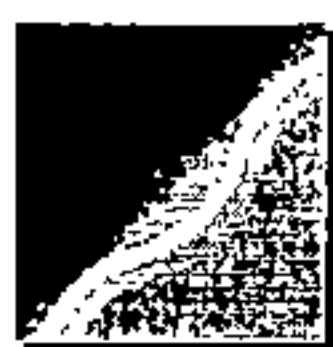
GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005
PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road
OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00



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GEOCON

W E S T, I N C.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03

November 7, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PILE FOUNDATIONS FOR RETAINING WALL
ALONG GRIDLINE T BETWEEN GRIDLINES 2 - 14
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification of observation of the driven pile foundation system located along Gridline T between Gridlines 2 – 14 as illustrated on the attached foundation plan. The installation of the driven piles along Gridline T between Gridlines 2 – 14 were observed by a Geocon representative and were confirmed to have been placed in the recommended bearing materials prior to installation of shotcrete wall. After the shotcrete wall achieves sufficient strength, backfill will be placed and compacted to the finished pad elevation.

Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

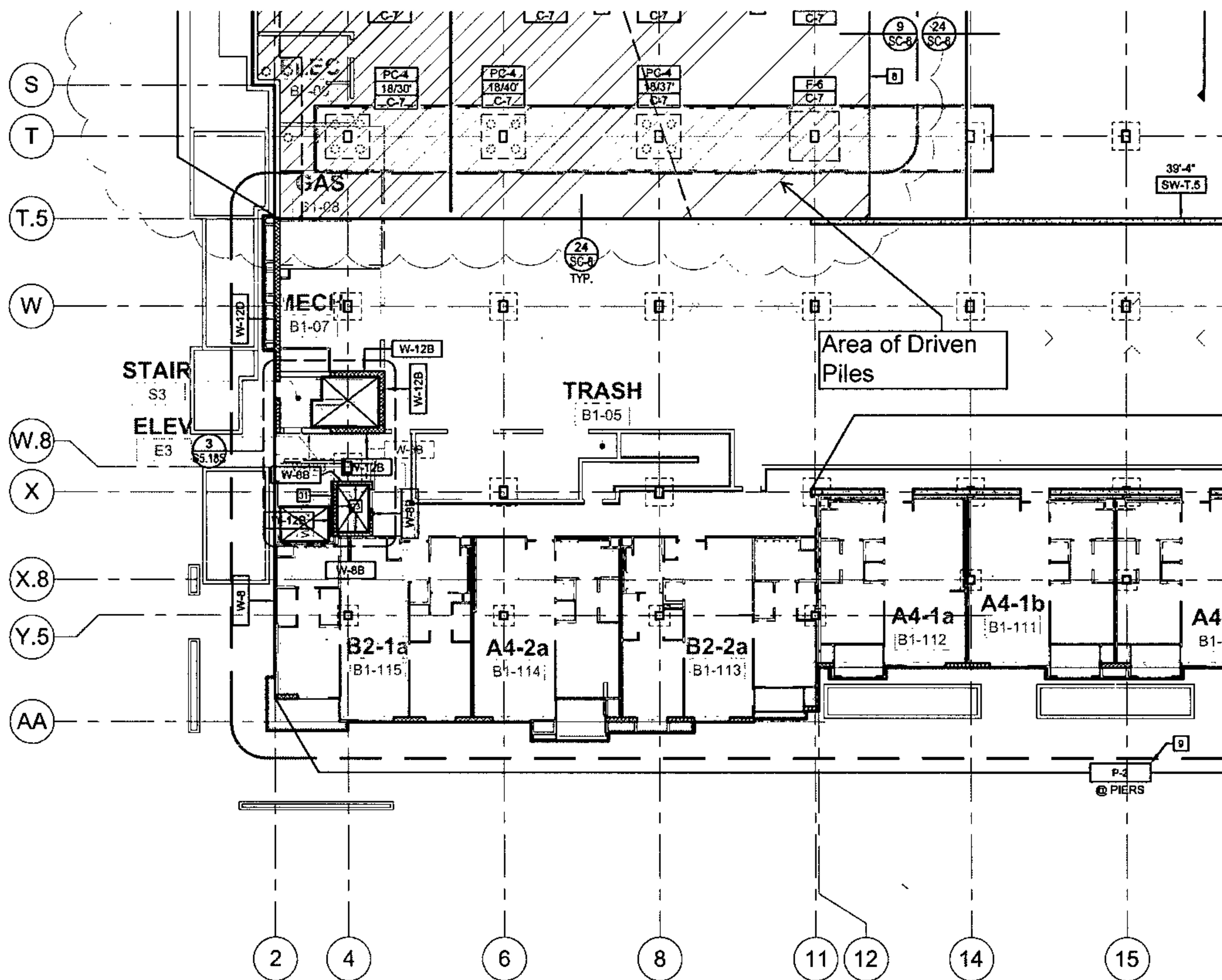
GEOCON WEST, INC.

Neal D. Berliner
GE 2576



Attachments: Foundation Plan

(1) Addressee



November 6, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

Piles driven at gridline T & 2-14 were placed in competent material prior to installation of shotcrete wall to avoid potential damage to the retaining wall. Fill will be placed, compacted to pad grade and certified after shotcrete retaining wall is built.


Signature

(R.C.E # 30560) (AIA #)



GEOCON
WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
October 22, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES J.2 - S GRIDLINES 1 - 8
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines J.2 - S and Gridlines 1 - 8 identified on Sheet S0.11F has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. This area has been observed by Geocon and artificial fill is exposed throughout this portion of the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the artificial fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

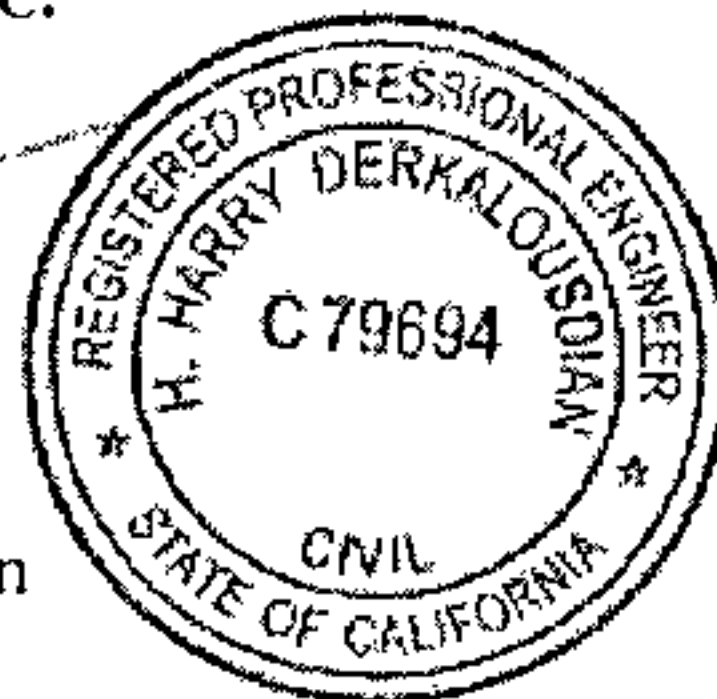
It is our understanding that the remainder of the building pad areas are still being cut and/or prepared and will also be approved by the project civil engineer upon completion. Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Harry Derkalousdian
PE 79694



(1) Addressee

October 22, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

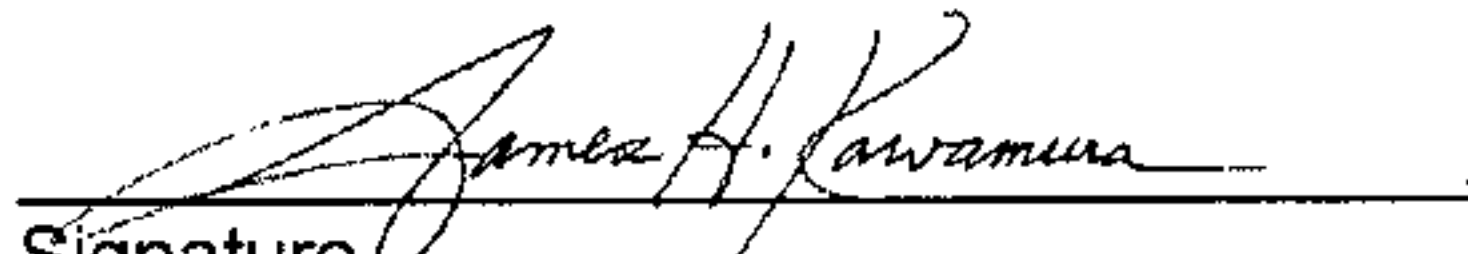
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13-005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

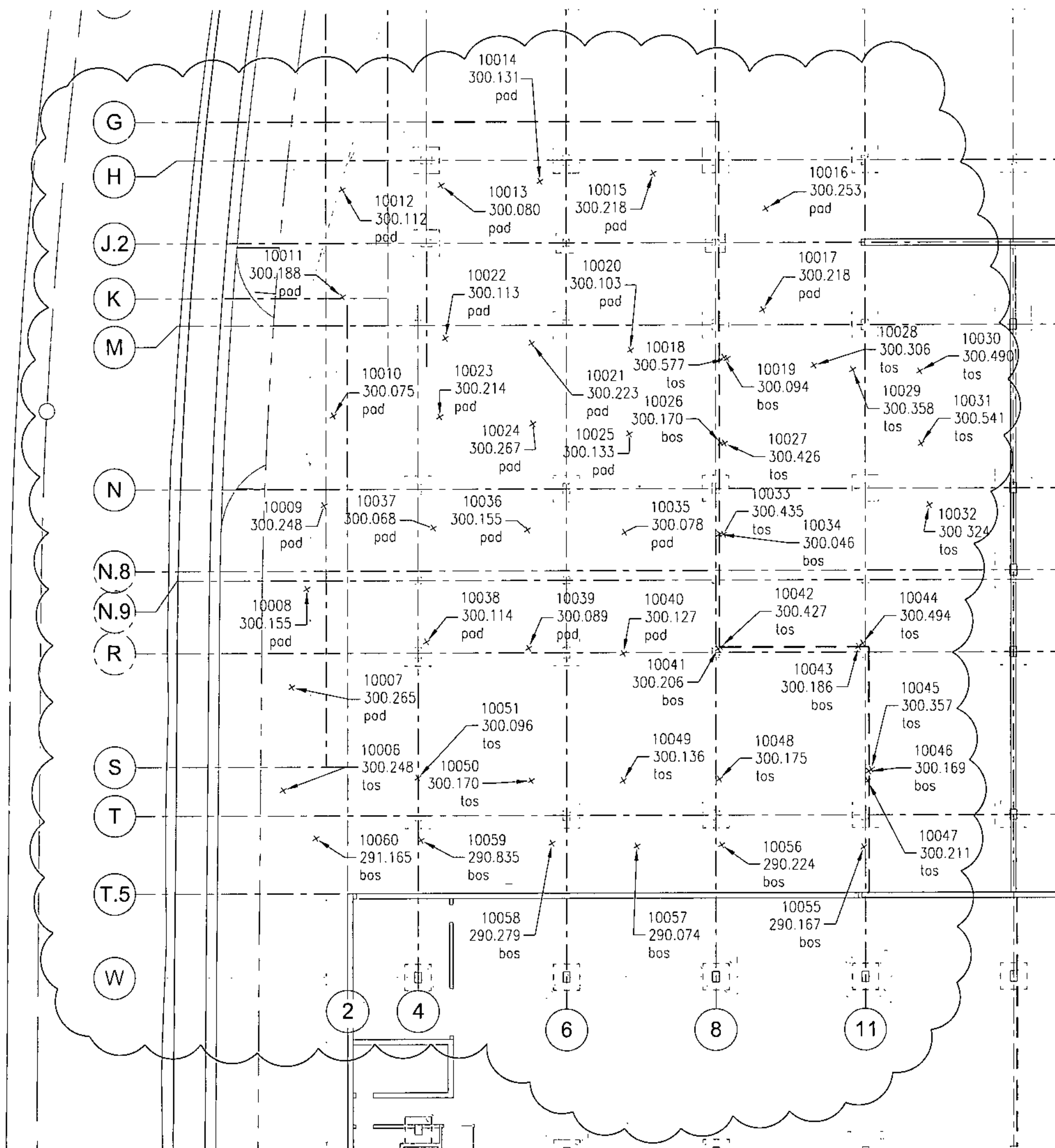
I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines J.2 - S (north/south) and 1 - 8 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)





September 24, 2013

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Mr. John Peters
Mill Creek Residential Trust
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

**SUBJECT: CERTIFICATION OF LINE & GRADE FOR THE PRECISE GRADING STORM
DRAIN, IN THE CITY OF LAGUNA NIGUEL, CALIFORNIA (SENT VIA E-MAIL)**

Gentlemen:

On September 23, 2013, a survey was conducted to check the lines and grades of a portion of the Precise Grading Storm Drain Line.

Storm Drain Line C
±70 L.F. of 10" PVC Drainage Pipe

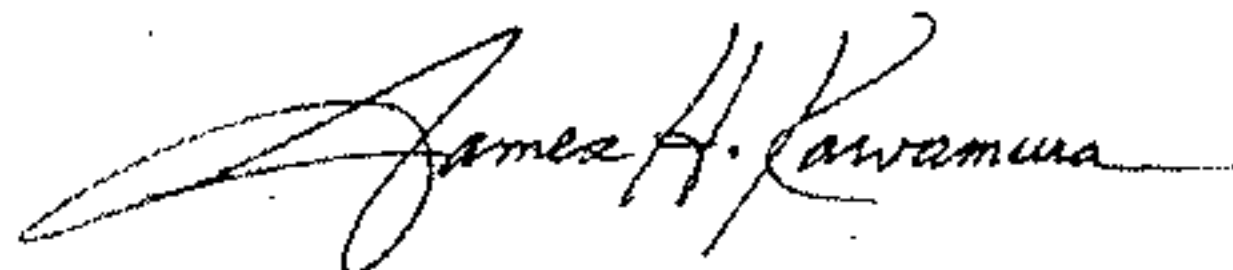
Storm Drain Line C
±3 L.F. of 4" PVC Drainage Pipe

Storm Drain Line C
±73 L.F. of 8 " PVC Drainage Pipe

The survey found said storm drain lines to be in substantial conformance, both horizontally and vertically, with the Interim Grading & Drainage Plans prepared by **KHR Associates**, Newport Beach, California, for said project.

If there are any questions regarding this matter, or if you desire additional information, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,
KHR Associates



James H. Kawamura, P.E.
RCE No. 30560 Exp. 03/31/14





CONSULTING ENGINEERS/SURVEYORS/PLANNERS

September 24, 2013

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Mr. John Peters
Mill Creek Residential Trust
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

SUBJECT: CERTIFICATION OF LINE & GRADE FOR THE PRECISE GRADING STORM DRAIN, IN THE CITY OF LAGUNA NIGUEL, CALIFORNIA (SENT VIA E-MAIL)

Gentlemen:

On September 23, 2013, a survey was conducted to check the lines and grades of a portion of the Precise Grading Storm Drain Line.

Storm Drain Line D
±189 L.F. of 12" HDPE Drainage Pipe

Storm Drain Line D
±57 L.F. of 4" PVC Drainage Pipe

The survey found said storm drain lines to be in substantial conformance, both horizontally and vertically, with the Interim Grading & Drainage Plans prepared by **KHR Associates**, Newport Beach, California, for said project.

If there are any questions regarding this matter, or if you desire additional information, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,
KHR Associates

A handwritten signature in cursive script, reading 'James H. Kawamura'.

James H. Kawamura, P.E.
RCE No. 30560 Exp. 03/31/14



Rough Grading Release

PERMIT NUMBER G13-005 ^{Partial} DATE 10/7/13
TRACT PM 2012-124
LOCATION 25891 Crown Valley Pkwy
LOTS APPROVED See attached map by Civil Engineer
OWNER MCR Investment LLC
Owner's Address Partial building pad approval
Special requirements for placement of driven piles only
See attached conditional approval of soils report
Grading Inspector [Signature] Grading Supervisor _____



KHA ASSOCIATES

CONSULTING ENGINEERS/SURVEYORS/PLANNERS

October 2, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

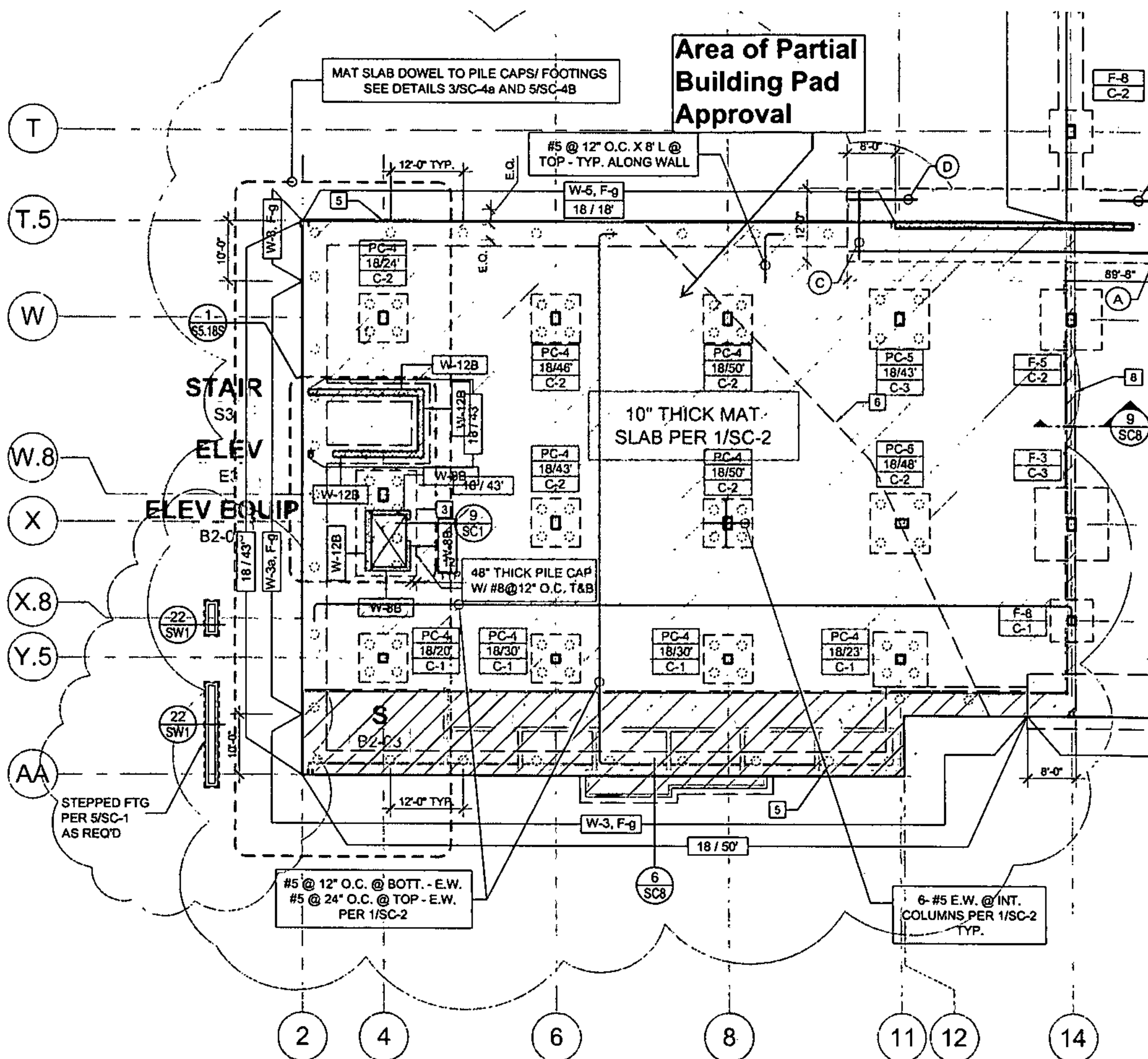
I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines Y.5 & T.5 (north/south) and 2 & 14 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.

Signature James H. Kawamura

(R.C.E # 30560) (AIA #)







CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 · Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: October 4, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

PLACEMENT OF DRIVEN PILES ONLY

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Neal D. Berliner, GE 2576

ENGINEERING GEOLOGIST: None

DOCUMENTS REVIEWED: (1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.

REFERENCES: (1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (4) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (5) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013;

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03
October 22, 2013 - Revised

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: PARTIAL BUILDING PAD APPROVAL
AREA BOUNDED BY GRIDLINES T.5 - Y.5 GRIDLINES 2 - 14
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the area of the pad bounded by Gridlines T.5 - Y.5 and Gridlines 2 - 14 identified on Sheet S0.10 has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. This area has been observed by Geocon and artificial fill is exposed throughout this portion of the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the artificial fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

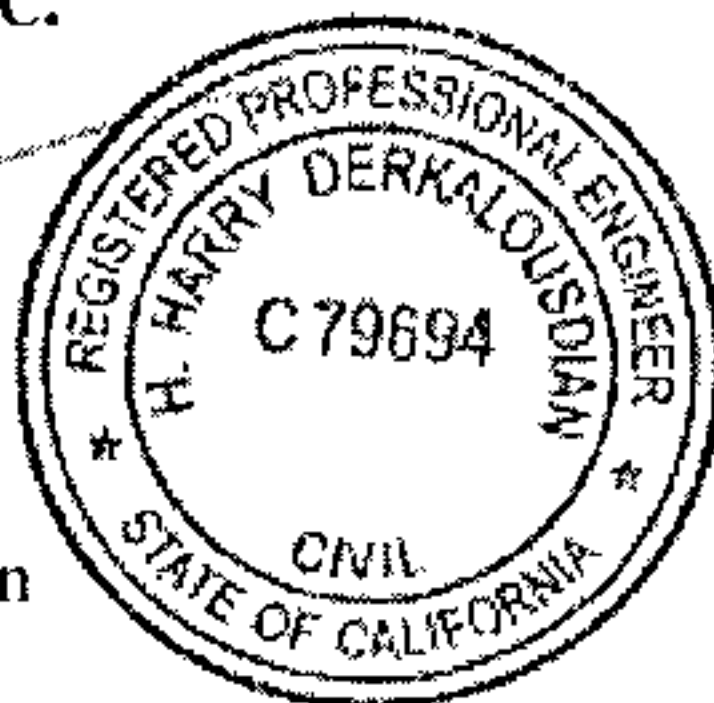
It is our understanding that the remainder of the building pad areas are still being cut and/or prepared and will also be approved by the project civil engineer upon completion. Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

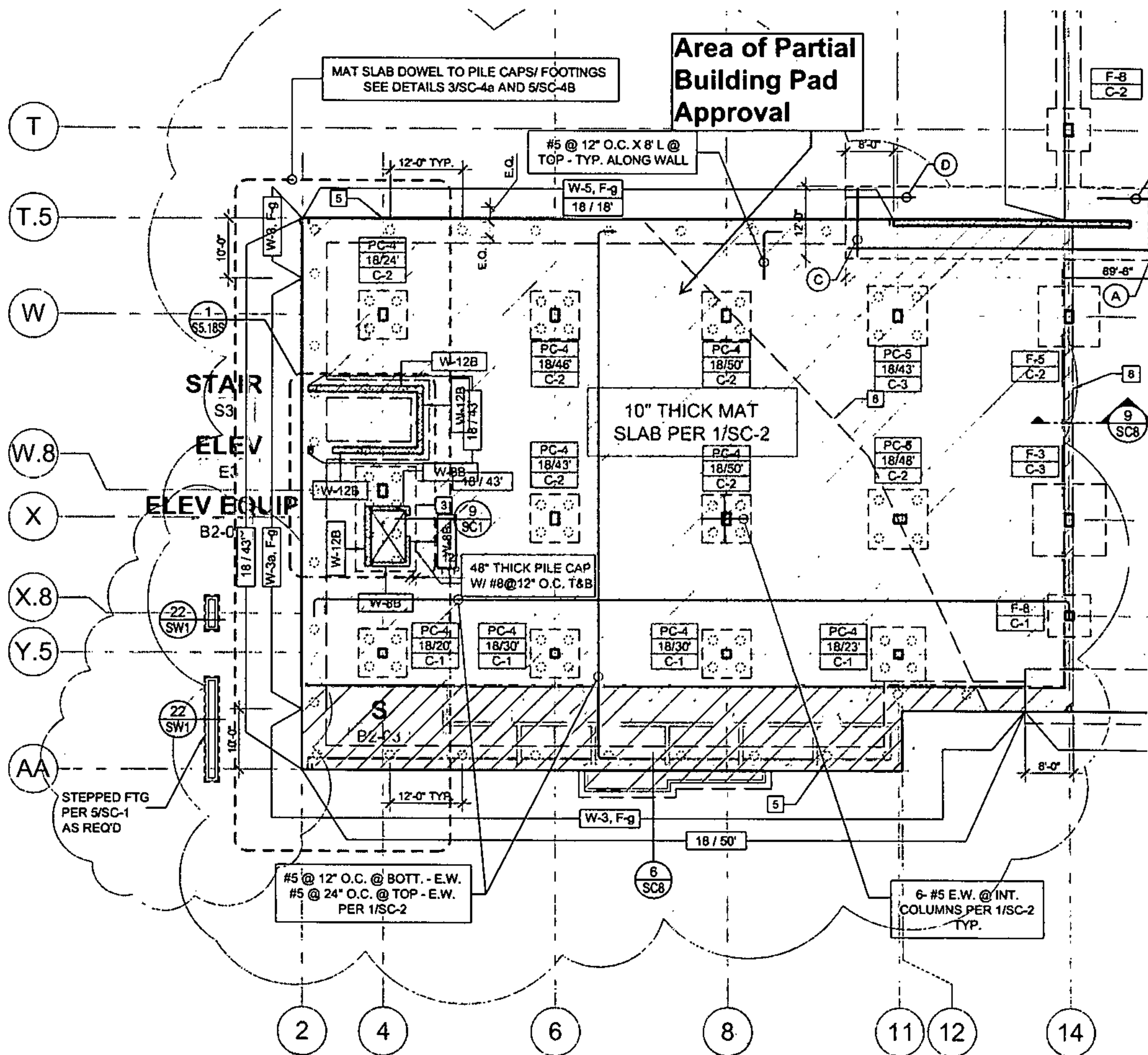
Very truly yours,

GEOCON WEST, INC.

Harry Derkalousdian
PE 79694



(1) Addressee





KHA ASSOCIATES

CONSULTING ENGINEERS/SURVEYORS/PLANNERS

October 2, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hearby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines Y.5 & T.5 (north/south) and 2 & 14 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.

Signature James H. Kawamura
(R.C.E # 30560) (AIA #)





CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: October 24, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES T.5 – Y.5 & 2-14 ONLY (revised review sheet from October 2, gridlines were incorrect)

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Harry Derkalousdian, PE 79694

ENGINEERING GEOLOGIST: None

DOCUMENT REVIEWED: "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.

REFERENCES: (1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 – S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013; (2) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (3) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (4) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible; (5) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (6) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (7) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013; (8) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (9) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments,



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

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Page 2

GMU REFERENCE NO.: G13-005

DATE: October 24, 2013

25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (10) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013 Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (11) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated September 10, 2012; (12) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (13) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (14) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (15) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (16) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.

REVIEWED BY:


Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



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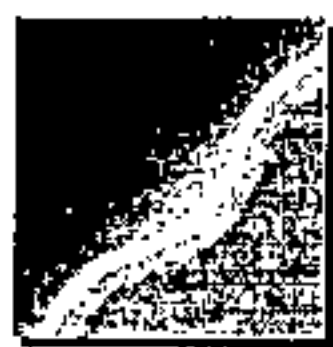
GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005
PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road
OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00



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(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
: "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10-24-13	Approval	\$295.00

TOAL ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
139 Avenida Navarro, San Clemente, CA 92672
Tel: (949) 492-8586 • Fax: (949) 498-8625

RAYMOND R. TOAL, RCE 16889
OLAV S. MEUM, LS 4384
MICHAEL A. ROTH, LS 6211

CALEB O. RIOS, RCE 57587
ADAM L. TOAL, RCE 59275
VIKTOR P. MEUM, LS 8682

November 4, 2013

City of Laguna Niguel
Department of Public Works
Engineering Division
30111 Crown Valley Parkway
Laguna Niguel CA 92677

Attention: Abdullah Sharif, City Grading Engineer

Subject: Drainline Certification
Permit No. 12-24
Pcl. 1A, LLA 06-02
16 Morning Dove
Laguna Niguel, CA

Inspector:

Please be advised that our office field checked the drain lines within the front, rear, and southerly side yard areas of the residence currently under construction at the subject property, excepting the proposed 12-inch drain line in the southerly side yard. We found the drain lines to be installed in substantial accordance with the approved grading and drainage plan.

If you have any questions concerning the foregoing, call us at your convenience.

Very truly yours,


Adam Toal, P.E.



AT/ch
14842Drainline.doc

Rough Grading Release

PERMIT NUMBER G13-005

^{Partial}

DATE 10/22/17

TRACT PM 2012 - 124

LOCATION 25891 Crown Valley Pkwy

LOTS APPROVED Grid lines Y.5 & AA (North/south) and

OWNER 2 & 11 (East/west)

Owner's Address _____

Special requirements _____

Grading
Inspector 

Grading
Supervisor _____



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: October 21, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development –

GRIDLINES Y.5 – AA & 2 - 11 ONLY

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Neal D. Berliner, GE 2576

ENGINEERING GEOLOGIST: Cesar H. Larios, CEG 2578

DOCUMENTS REVIEWED: (1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.

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DATE: October 21, 2013

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ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



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GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005
PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road
OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
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Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.			

October 9, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

CITY LAGUNA NIGUEL
RECEIVED

OCT 21 2013

COMMUNITY DEVELOPMENT

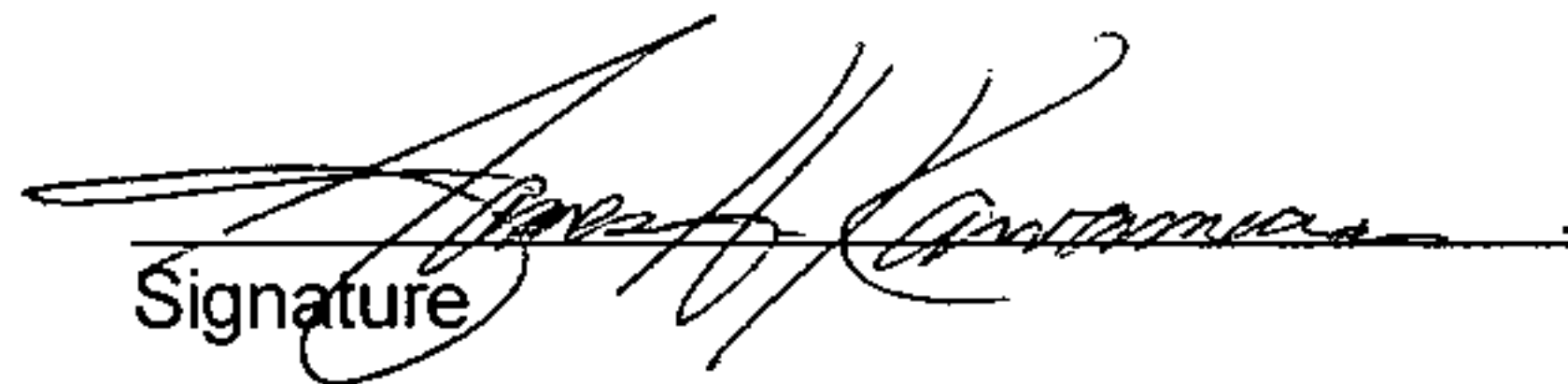
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13-005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines Y.5 & AA (north/south) and 2 & 11 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.


Signature

(R.C.E # 30560) (AIA #)



October 9, 2013

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

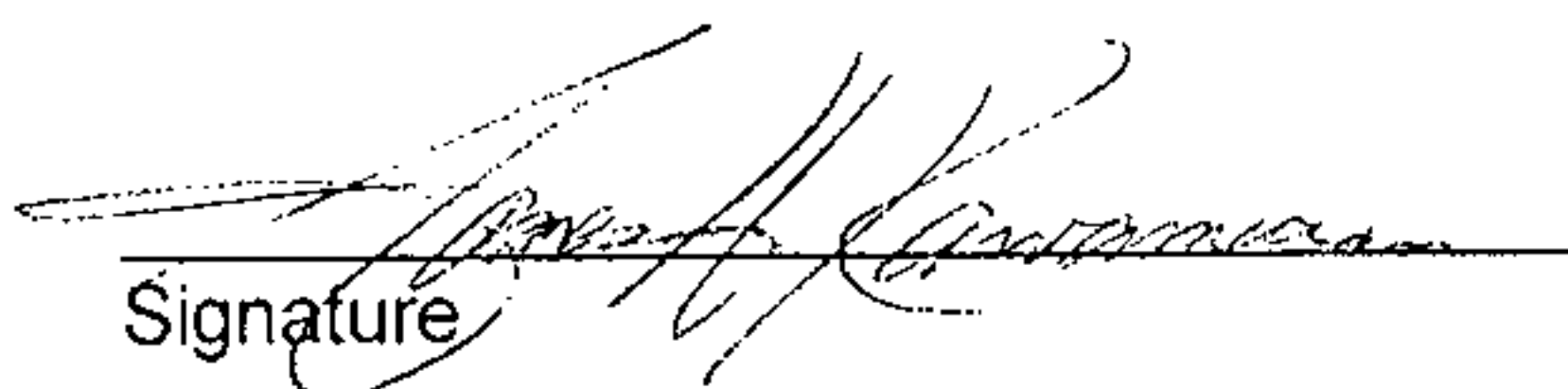
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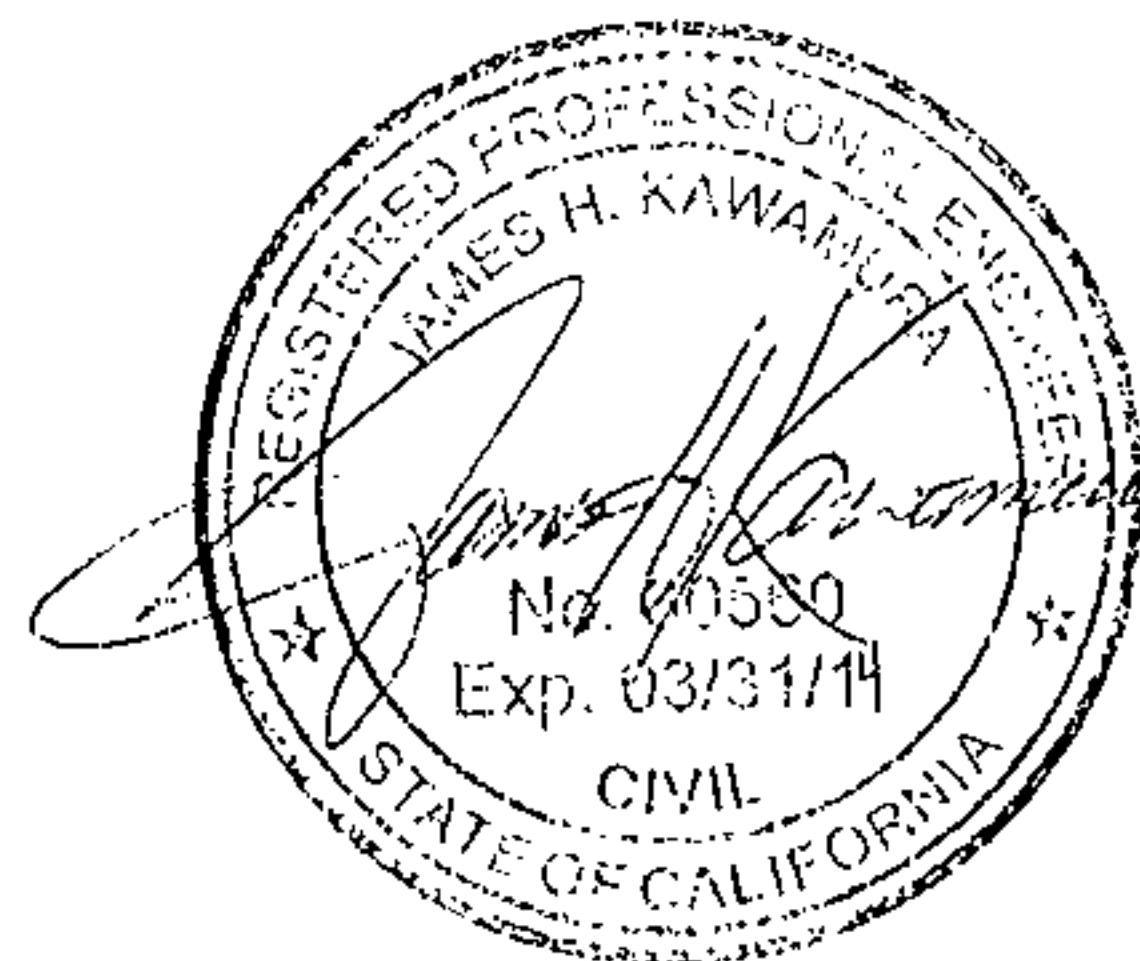
Reference Project: Grading Permit No. G13-005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

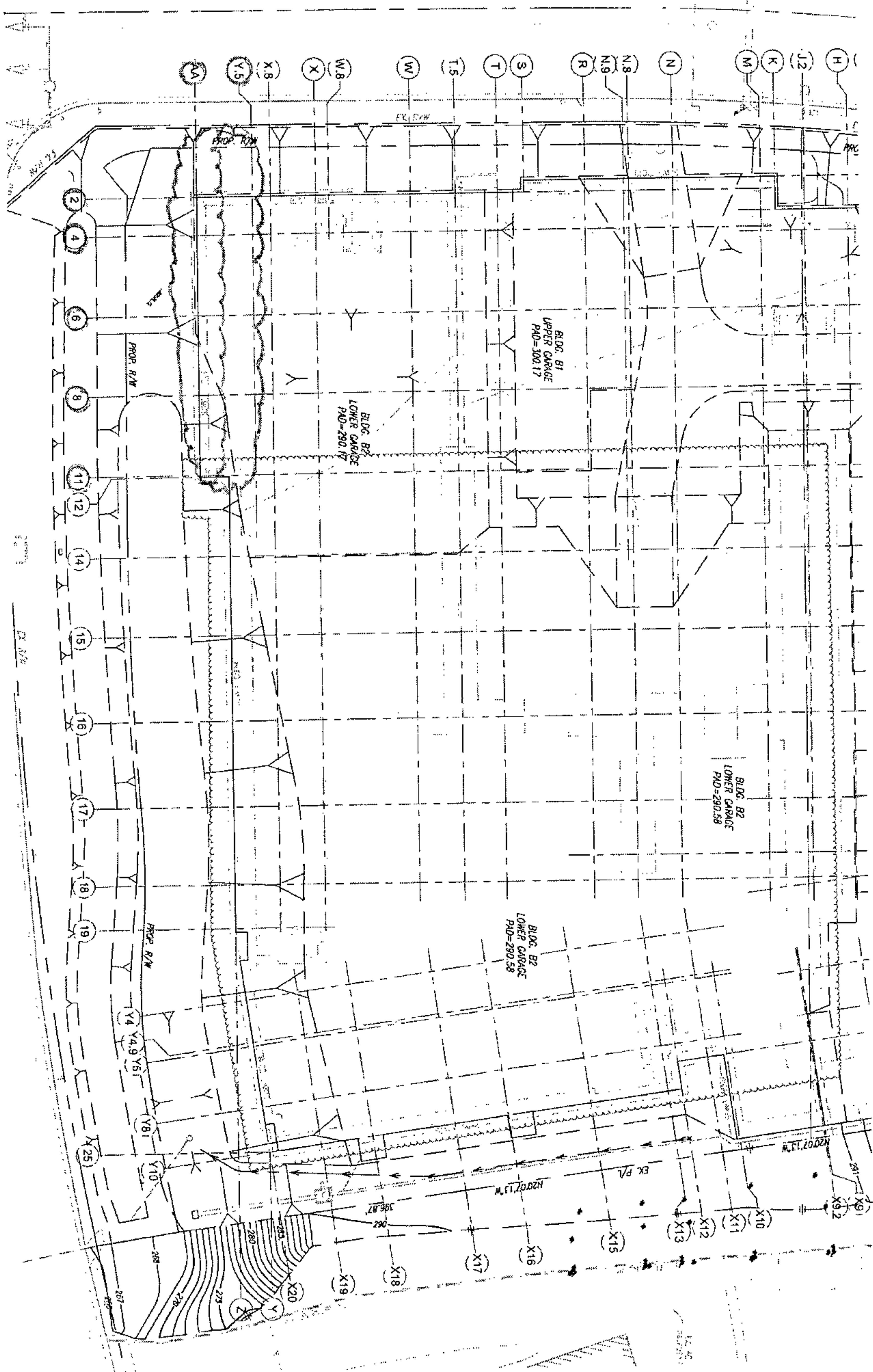
I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan which includes: grading and ready for paving or construction, staking of property corners for proper building locations, location and inclination of all slopes, construction of earthen berms and positive building pad drainage. The certification of pad is between the following grid lines Y.5 & AA (north/south) and 2 & 11 (east/west)

The volumes of earth materials moved by cut or fill grading (agrees) with the permitted yardage stated on the approved grading plan.

Signature 

(R.C.E. # 30560) (AIA #)





GEOCON

WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03

October 10, 2013

VIA OVERNIGHT DELIVERY

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING UPPER MSE WALL CONSTRUCTION &
PARTIAL BUILDING PAD APPROVAL
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARK WAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the placement of backfill for the upper MSE wall and excavation of the building pad on the subject property. Our services were performed during the period of September 12, 2013 through October 1, 2013. The scope of our services included the following:

- Observing the grading operation, including the excavation and proper compaction of existing artificial fill and surficial native soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the proposed retaining wall.

GRADING

Grading consisted of excavation and compaction of existing onsite soil, as well as placement and compaction of retaining wall backfill. The installation of geosynthetic reinforcement for the retaining wall was also observed. The geosynthetic reinforcement was attached to the retaining wall unit and was typically placed in 3-foot vertical intervals extending 16 to 17 feet into the backfill area. In order to facilitate the construction of the MSE wall, the existing ground surface was sloped at a gradient of 1:1 (H:V) behind the MSE wall. The backcut for construction of the upper MSE wall extended into a portion of the building footprint. An illustration depicting the retaining wall, geosynthetic reinforcement, and backcut is provided on the Site Plan (see Figure 2).

Prior to placing any fill, the existing soils were removed to expose competent, undisturbed bedrock throughout the majority of the MSE wall footprint. At the western most side of the MSE wall, the excavation exposed artificial fill which was removed a minimum of 4 feet below the bottom of the MSE wall elevation. The clean bottom of excavated plane was observed and approved by a representative of this firm prior to placement of fill.

Fill was placed by means of CAT 966 loads and 623 scrappers, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loaders, scrapers, and a vibratory drum roller with sheepsfoot wheel. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figures 1 and 2).

In-place density tests were performed in conformance with ASTM Test Method D1556-07 (Sand Cone), and ASTM Test Method ASTM D6938-08A (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 90 percent in accordance with ASTM test method D1557-12 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figures 1 and 2).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed for the upper MSE wall construction was derived from onsite excavations as well as from import. The fill consist primarily of silt and CMB import.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines Y.5 – AA and 2 – 11 identified on Sheet S0.10 has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. The subject building pad area is indicated on the portion of Sheet S0.10, which is appended to this report. This area has been observed by Geocon. Artificial fill and a small area of engineered fill is exposed throughout this portion of the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill and engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

2.1 The soils exposed at the subgrade elevation are considered to have a "medium" to "high" expansive potential based on the 2010 California Building Code (CBC) Section 1803.5.3. Special considerations for expansive soils have been incorporated in the geotechnical recommendations. No additional recommendations are considered necessary at this time.

3.0 Future Grading

3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.

4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed below slabs in parkways, sidewalks, patios, driveways, as retaining wall backfill, in parking lots, around footings, below garden walls, and in utility trenches is the responsibility of the contractor to place in accordance with the approved plans and specifications.

5.2 Prior to placing steel or concrete in the footing excavations, a site visit should be made by a representative of Geocon West, Inc. to see that the footings are free of loose and disturbed material and are supported on the properly compacted fill. A 24-hour notice is requested for a site visit.

LIMITATIONS

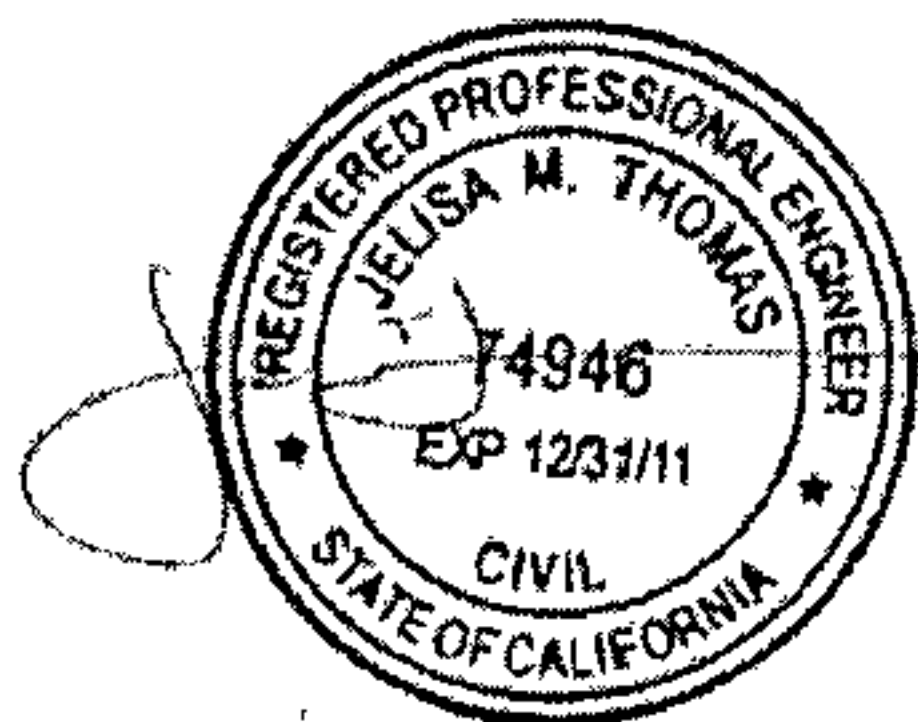
The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, October 1, 2013. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

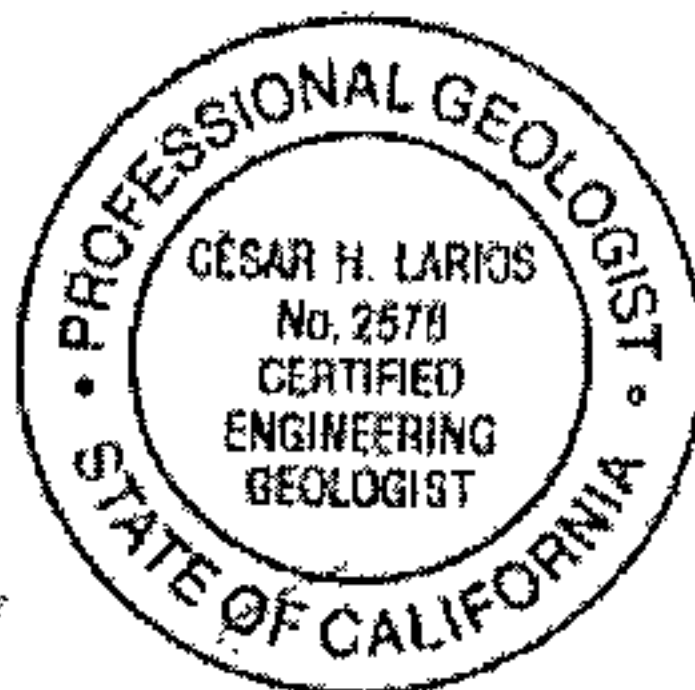
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

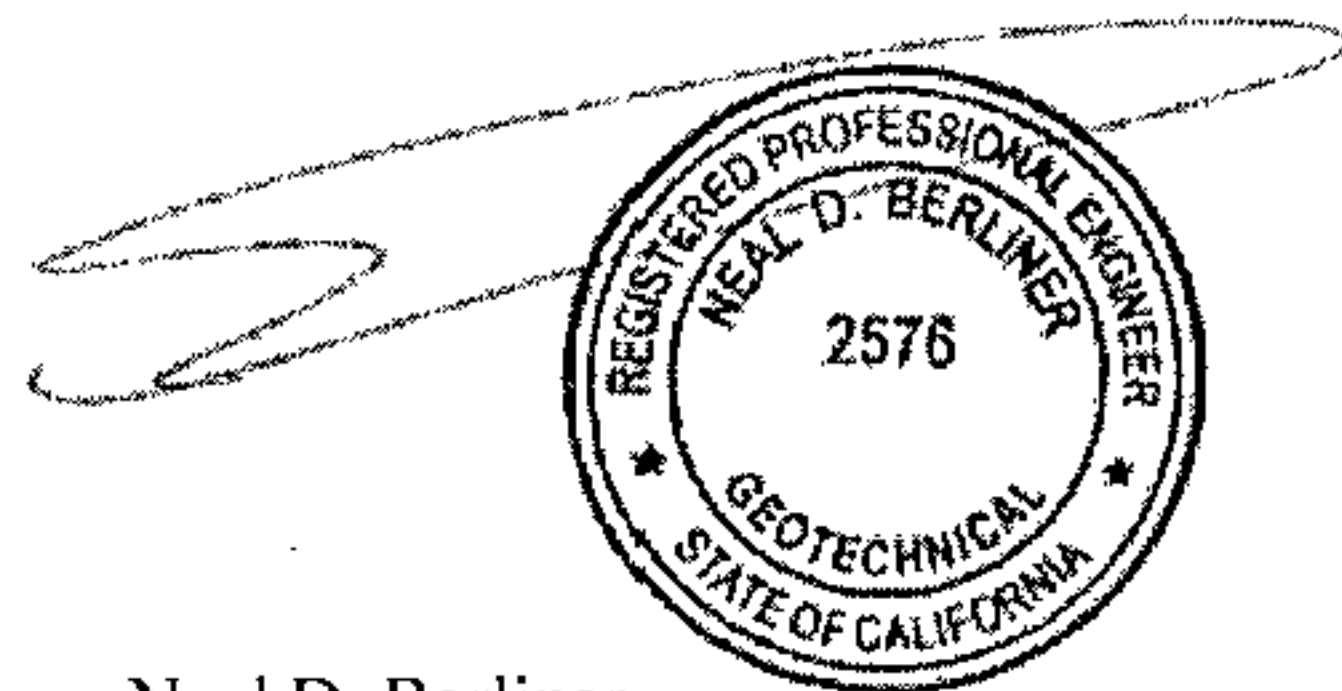
GEOCON WEST, INC.



Jelisa Thomas
PE 74946



César H. Larios
CEG 2578



Neal D. Berliner
G.E. 2576

Enclosures: Figures 1 and 2 - Site Plan
Explanation of Coded Terms
Tables 1 and 2
Portion of Sheet S0.10
Certification

(Email) Addressee

References

Updated Geotechnical Investigation, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc., dated January 5, 2012;

Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls, by Geocon West, Inc. dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

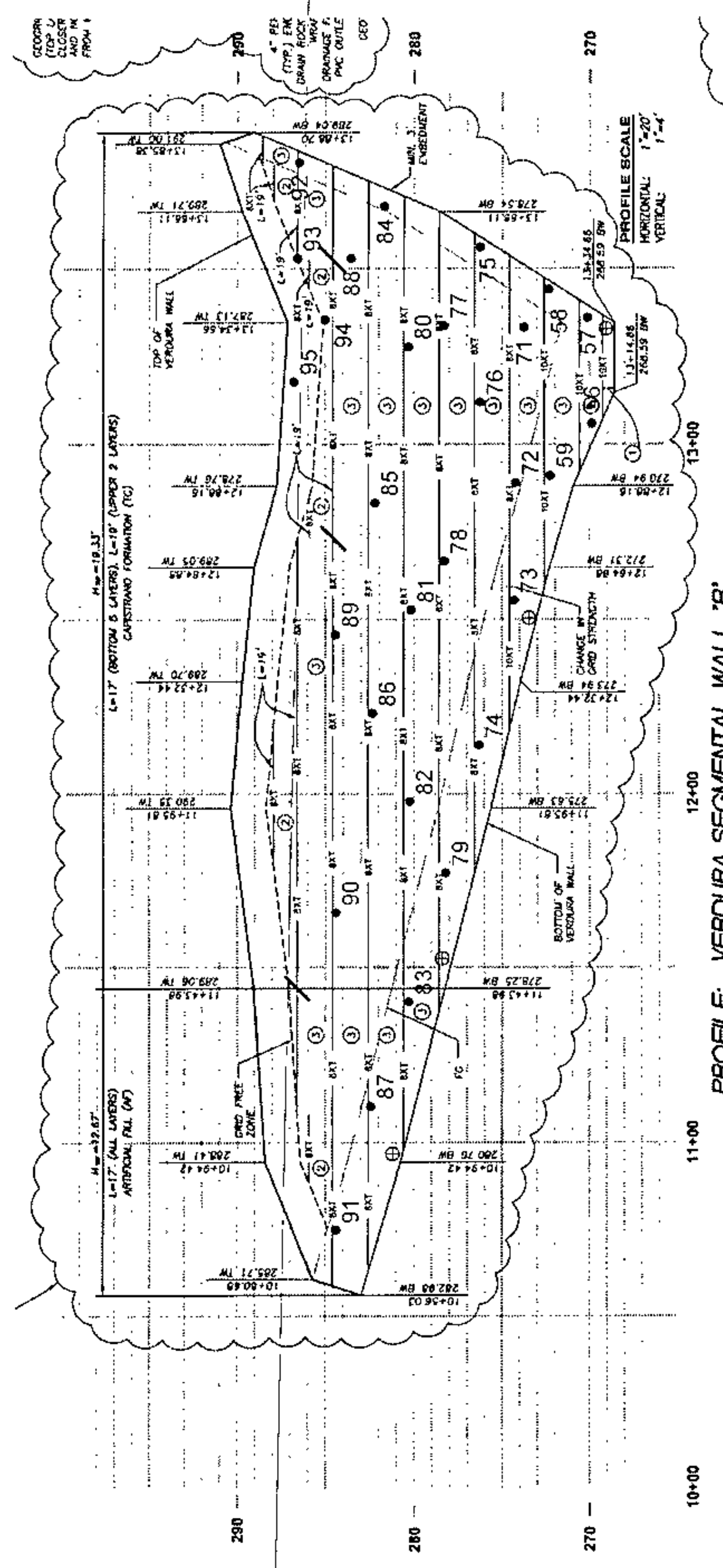
Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls, by Geocon West, Inc. dated March 12, 2013;

Supplemental Geotechnical Recommendations for Deepened Foundations, by Geocon West, Inc. dated August 3, 2012;

Report of Indicator Pile Test Program and Production Pile Recommendations, by Geocon West, Inc. dated August 23, 2012;

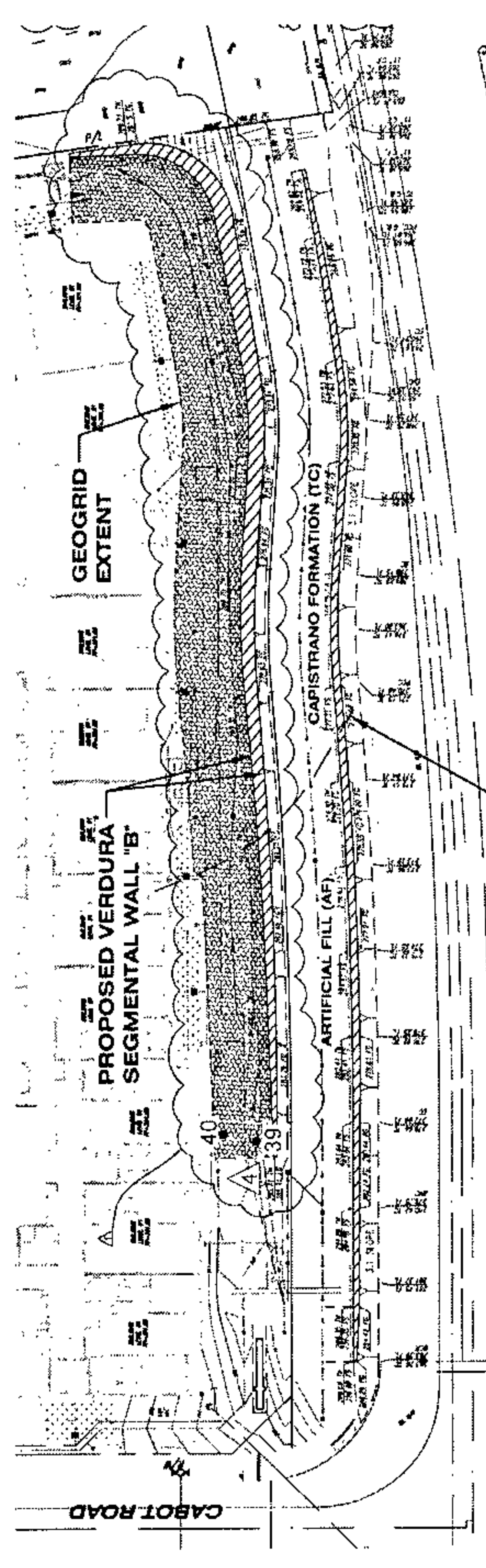
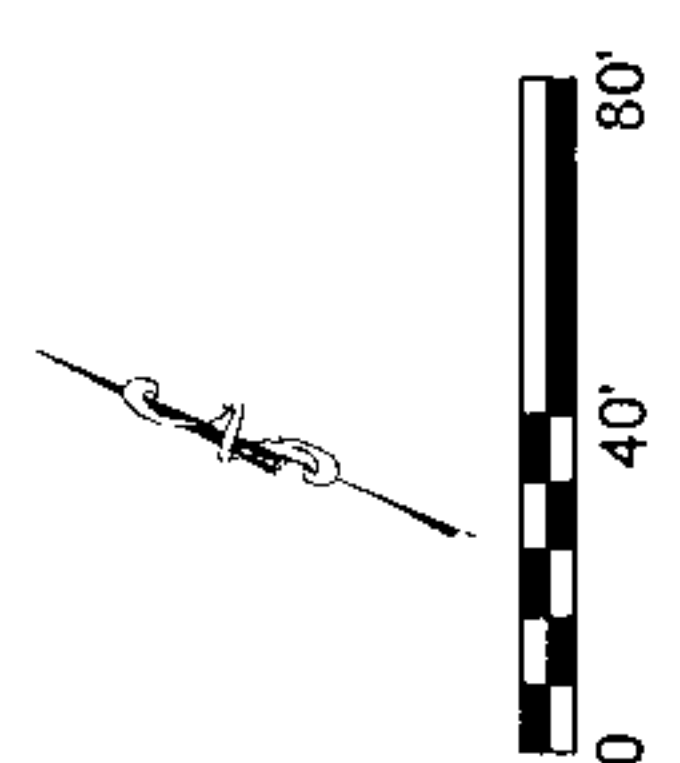
Foundation Underlayment – Upper MSE Wall, by Geocon West, Inc., dated September 17, 2013;

Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10 Gridlines 2 – 13, by Geocon West, Inc., dated October 4, 2013 – Revised.



LEGEND

- 95 Approximate Location of Density Test
- △ 5 Approximate Depth of Engineered Fill (in feet)



GEOCON
W E S T, I N C.

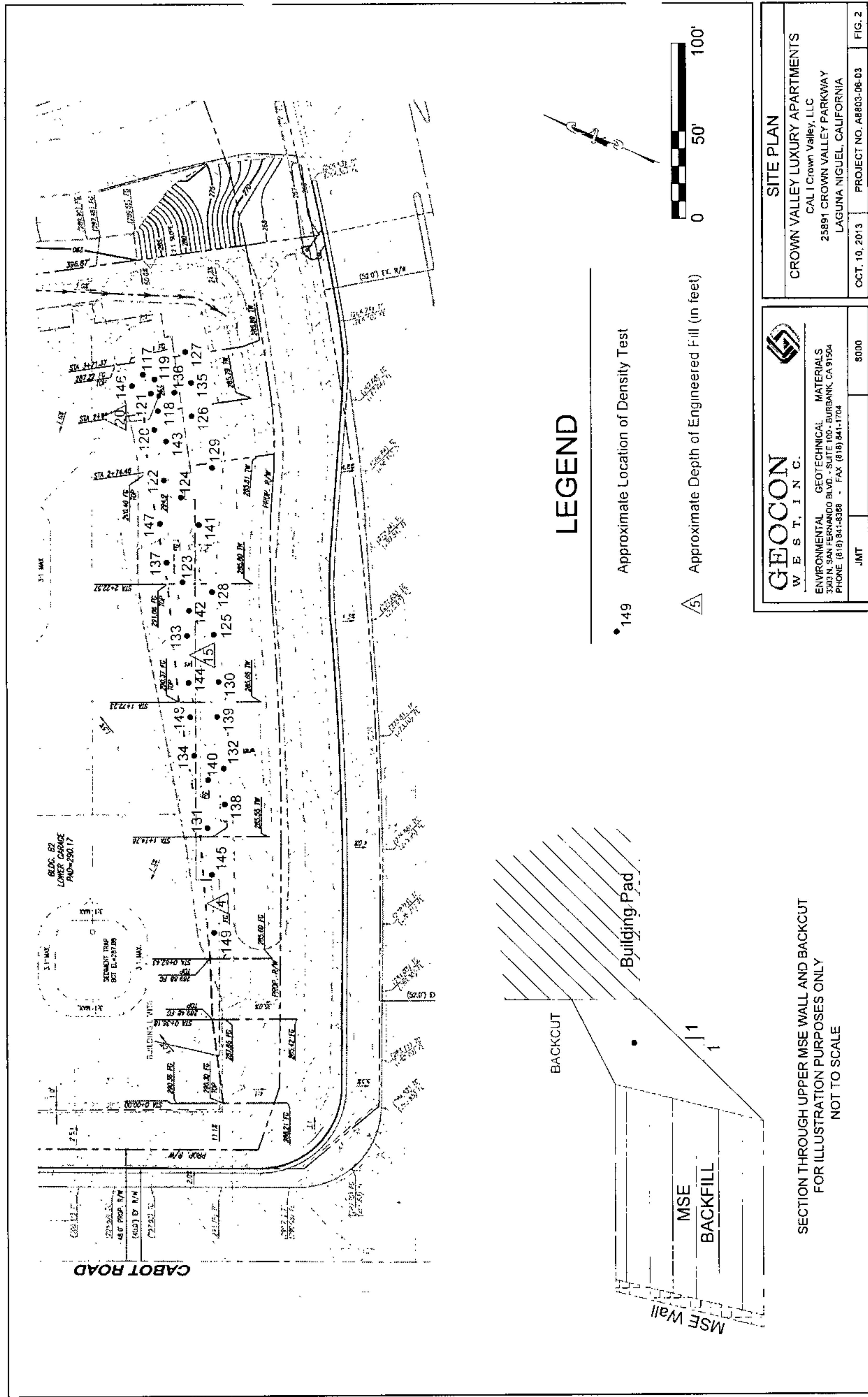
ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD., SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

JMT	8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
CAL I Crown Valley, LLC
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

OCT. 10, 2013	PROJECT NO. A8803-06-03	FIG. 1



GEOCON
W E S T, I N C.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 941-8388 - FAX (818) 941-1704

JMT

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SITE PLAN

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OCT. 10, 2013

PROJECT NO. A8803-06-03

FIG. 2

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DW - Driveway	PT - Plumbing Trench	SL - Sewer Lateral	SZ - Slope Zone
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
BP - Building Pad	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
BF - Backfill	JT - Joint Trench	SG - Subgrade	SW - Sidewalk	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, ...	: Retest of previous density test failure, following moisture conditioning and/or recompaction.
R	: Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test



PROJECT NO. A8803-06-03

TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	39	9/12/2013	Upper MSE Wall	280.0	1	84.2	28.1	91.5	25.0	92	NU	Pass
BF	40	9/12/2013	Upper MSE Wall	282.0	1	84.8	27.5	91.5	25.0	93	SC	Pass
WB	56	9/16/2013	Upper MSE Wall	270.0	4	112.2	14.1	122.0	12.0	92	NU	Pass
WB	57	9/16/2013	Upper MSE Wall	270.0	4	114.0	13.9	122.0	12.0	93	NU	Pass
WB	58	9/16/2013	Upper MSE Wall	272.0	4	111.7	14.6	122.0	12.0	92	NU	Pass
WB	59	9/16/2013	Upper MSE Wall	272.0	4	111.4	13.4	122.0	12.0	91	SC	Pass
WB	71	9/17/2013	Upper MSE Wall	274.0	4	112.6	11.4	122.0	12.0	92	NU	Pass
WB	72	9/17/2013	Upper MSE Wall	274.0	4	112.7	12.1	122.0	12.0	92	NU	Pass
WB	73	9/17/2013	Upper MSE Wall	274.0	4	110.4	10.5	122.0	12.0	90	SC	Pass
WB	74	9/17/2013	Upper MSE Wall	276.0	4	113.4	10.9	122.0	12.0	93	NU	Pass
WB	75	9/17/2013	Upper MSE Wall	276.0	4	113.5	10.9	122.0	12.0	93	NU	Pass
WB	76	9/17/2013	Upper MSE Wall	276.0	4	115.2	11.5	122.0	12.0	94	SC	Pass
WB	77	9/17/2013	Upper MSE Wall	278.0	4	113.3	12.4	122.0	12.0	93	NU	Pass
WB	78	9/17/2013	Upper MSE Wall	278.0	4	111.5	12.1	122.0	12.0	91	NU	Pass
WB	79	9/17/2013	Upper MSE Wall	278.0	4	115.9	11.5	122.0	12.0	95	SC	Pass
WB	80	9/18/2013	Upper MSE Wall	280.0	4	113.9	11.9	122.0	12.0	93	NU	Pass
WB	81	9/18/2013	Upper MSE Wall	280.0	4	114.3	10.6	122.0	12.0	94	NU	Pass
WB	82	9/18/2013	Upper MSE Wall	280.0	4	114.8	10.0	122.0	12.0	94	NU	Pass
WB	83	9/18/2013	Upper MSE Wall	280.0	4	114.5	11.1	122.0	12.0	94	SC	Pass
WB	84	9/18/2013	Upper MSE Wall	282.0	4	115.2	12.2	122.0	12.0	94	NU	Pass
WB	85	9/18/2013	Upper MSE Wall	282.0	4	112.8	10.5	122.0	12.0	92	NU	Pass
WB	86	9/18/2013	Upper MSE Wall	282.0	4	113.3	11.9	122.0	12.0	93	NU	Pass
WB	87	9/18/2013	Upper MSE Wall	282.0	4	111.6	11.5	122.0	12.0	91	SC	Pass
WB	88	9/18/2013	Upper MSE Wall	284.0	4	114.8	13.4	122.0	12.0	94	NU	Pass
WB	89	9/18/2013	Upper MSE Wall	284.0	4	114.0	10.8	122.0	12.0	93	NU	Pass
WB	90	9/18/2013	Upper MSE Wall	284.0	4	113.4	10.5	122.0	12.0	93	NU	Pass
WB	91	9/18/2013	Upper MSE Wall	284.0	4	115.2	11.7	122.0	12.0	94	SC	Pass
WB	92	9/18/2013	Upper MSE Wall	286.0	4	114.8	12.8	122.0	12.0	94	NU	Pass
WB	93	9/18/2013	Upper MSE Wall	286.0	4	113.3	12.5	122.0	12.0	93	NU	Pass
WB	94	9/18/2013	Upper MSE Wall	286.0	4	111.6	13.1	122.0	12.0	91	NU	Pass
WB	95	9/18/2013	Upper MSE Wall	286.0	4	110.4	10.4	122.0	12.0	90	SC	Pass
BF	117	10/1/2013	Upper MSE Wall BackCut	270.0	4	113.5	11.0	122.0	12.0	93	NU	Pass
BF	118	10/1/2013	Upper MSE Wall BackCut	270.0	4	115.0	11.9	122.0	12.0	94	NU	Pass
BF	119	10/1/2013	Upper MSE Wall BackCut	272.0	4	113.3	11.5	122.0	12.0	93	NU	Pass
BF	120	10/1/2013	Upper MSE Wall BackCut	272.0	4	113.4	13.1	122.0	12.0	93	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	121	10/1/2013	Upper MSE Wall BackCut	274.0	4	113.5	13.0	122.0	12.0	93	NU	Pass
BF	122	10/1/2013	Upper MSE Wall BackCut	274.0	4	114.0	12.5	122.0	12.0	93	NU	Pass
BF	123	10/1/2013	Upper MSE Wall BackCut	274.0	4	113.2	11.4	122.0	12.0	93	SC	Pass
BF	124	10/1/2013	Upper MSE Wall BackCut	276.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BF	125	10/1/2013	Upper MSE Wall BackCut	276.0	3	89.2	26.5	97.0	26.0	92	SC	Pass
BF	126	10/1/2013	Upper MSE Wall BackCut	276.0	3	90.1	27.5	97.0	26.0	93	NU	Pass
BF	127	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BF	128	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.2	26.9	97.0	26.0	92	NU	Pass
BF	129	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.2	27.5	97.0	26.0	92	SC	Pass
BF	130	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
BF	131	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.7	27.1	97.0	26.0	92	NU	Pass
BF	132	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.2	28.1	97.0	26.0	92	NU	Pass
BF	133	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.4	26.5	97.0	26.0	92	SC	Pass
BF	134	10/1/2013	Upper MSE Wall BackCut	282.0	3	89.3	26.9	97.0	26.0	92	NU	Pass
BF	135	10/1/2013	Upper MSE Wall BackCut	282.0	3	89.2	27.1	97.0	26.0	92	NU	Pass
BF	136	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.3	26.8	97.0	26.0	92	NU	Pass
BF	137	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BF	138	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.7	27.8	97.0	26.0	92	NU	Pass
BF	139	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.2	28.4	97.0	26.0	92	SC	Pass
BF	140	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.1	26.9	97.0	26.0	92	NU	Pass
BF	141	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.5	27.8	97.0	26.0	92	NU	Pass
BF	142	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.6	2.8	97.0	26.0	92	NU	Pass
BF	143	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.1	26.5	97.0	26.0	91	NU	Pass
BF	144	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.7	28.1	97.0	26.0	91	NU	Pass
BF	145	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.9	27.9	97.0	26.0	92	SC	Pass
BF	146	10/1/2013	Upper MSE Wall BackCut	290.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
BF	147	10/1/2013	Upper MSE Wall BackCut	290.0	3	89.3	27.0	97.0	26.0	92	NU	Pass
BF	148	10/1/2013	Upper MSE Wall BackCut	290.0	3	87.3	27.0	97.0	26.0	90	NU	Pass
BF	149	10/1/2013	Upper MSE Wall BackCut	290.0	3	87.4	27.5	97.0	26.0	90	SC	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557-12

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	EXPANSION INDEX	
				UBC*	CBC**
1	Brown Silt	91.5	25.0		
2	Not Used				
3	Brown Silt	97.0	26.0		
4	CMB Import	122.0	12.0		
5					
6					
7					
8					
9					
10					

*Reference: 1997 Uniform Building Code, Table 18-I-B.

**Reference: 2010 California Building Code, Section 1803.5.3





**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Upper MSE Wall
(see Site Plan, Figures 1 and 2)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

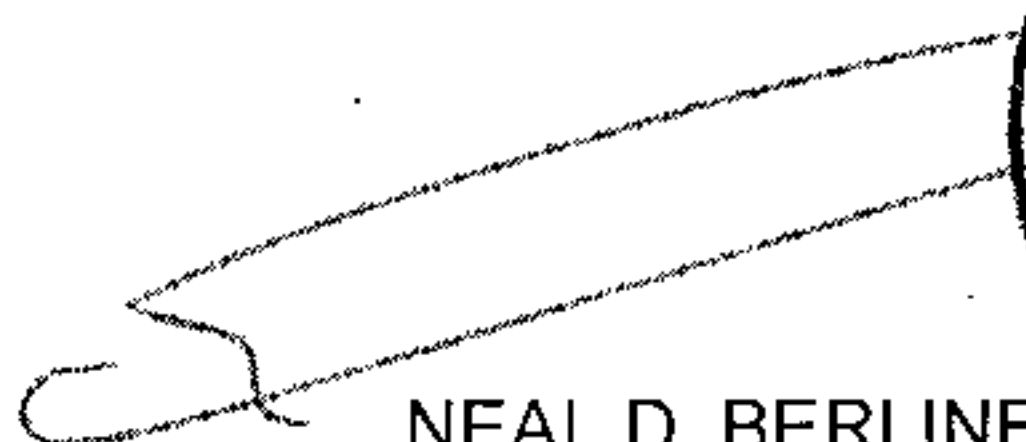
DATE WORK STARTED ON PROJECT: 09/12/2013

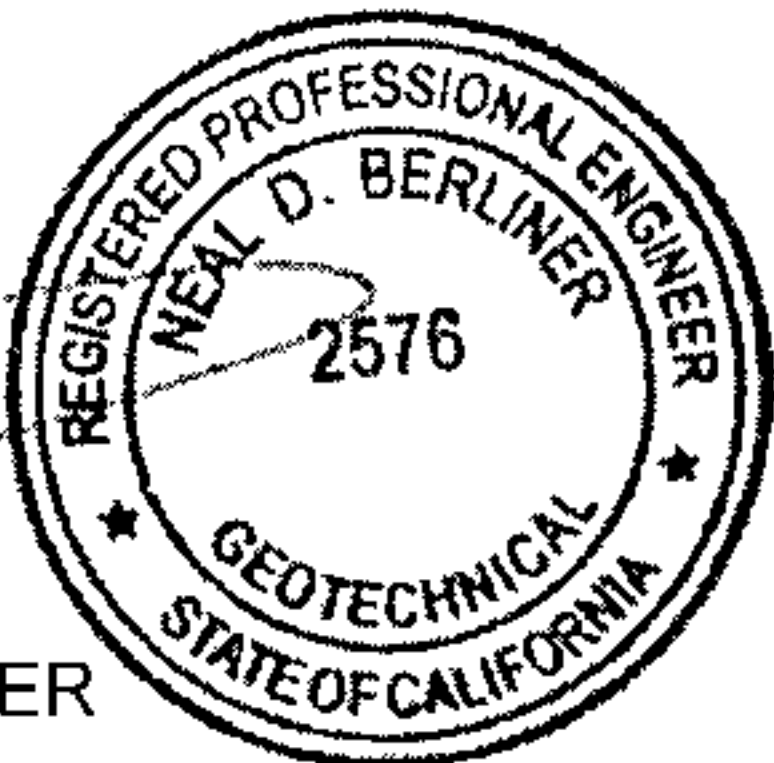
DATE FILL WAS COMPLETED: 10/01/2013

DATE OF THIS CERTIFICATE: 10/10/2013

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.


NEAL D. BERLINER
G.E. 2576



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

March 15, 2016

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

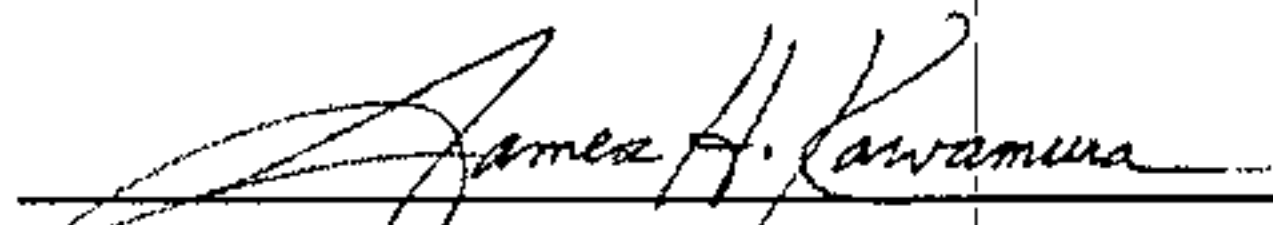
Attention: Abdullah Sharif, City Grading Inspector

Subject: Civil Engineer's Final Certification of Water Quality Features

Reference Project: Grading Permit No. G13- 005
Address: 25891 Cabot Road
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby certify that all water quality features including all flow planters (1 through 18) and (4) Filterra boxes have been visually inspected during construction and that they have been properly constructed per the approved plans, and are suitable for the attended use, in addition, I certify that they are in substantial conformance both horizontally and vertically, with the City-approved Delta 2 Precise Grading & Drainage plans dated April 13, 2015 for the project site located at 27960 Cabot Road in the City of Laguna Niguel, California, prepared by **KHR Associates**, Newport Beach, California.


Signature

R.C.E # 30560



March 15, 2016

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector

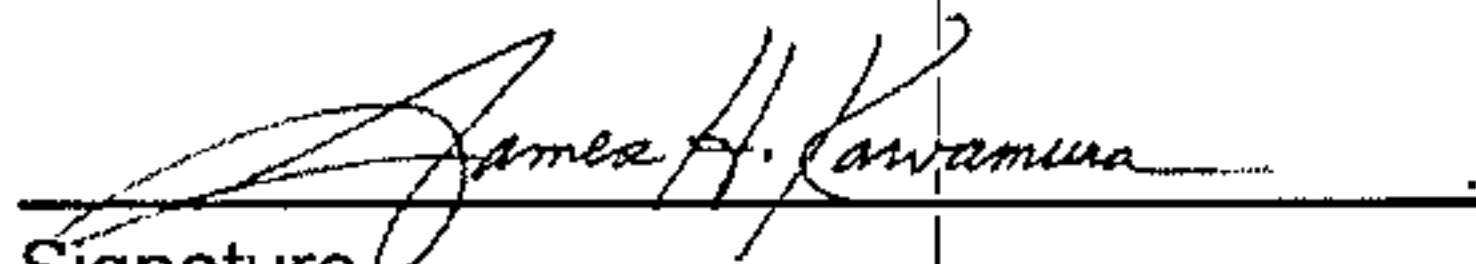
Subject: Civil Engineer's Final Certification of Grading & Drainage Devices

Reference Project: Grading Permit No. G13- 005
Address: 25891 Cabot Road
Tract No. PM 2012-124 Lot(s) , inclusive

To whom it may concern,

I, James H. Kawamura, **KHR Associates**, Newport Beach, California, as the civil engineer of record, hereby approve the final grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel's Grading and Excavation Code. Final grading has been completed substantially in conformance with the approved Delta 2 precise grading plans dated April 13, 2015, which includes: completion of all engineered drainage devices and retaining walls, setting all monuments in accordance with the recorded parcel map, location and inclination of all manufactured slopes, and construction of earthen berms and positive building pad drainage. I also have verified that the drainage pipes have been constructed to meet or exceed the minimum slopes as shown on the approved grading plans.

All structures constructed on the property corners or property lines, and where monumentation is not required, have been located in compliance with the approved plot plan.


Signature

R.C.E # 30560



GEOCON
WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
September 10, 2015

VIA OVERNIGHT DELIVERY

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

Attention: Mr. Greg Lucas

Subject: FINAL REPORT OF OBSERVATION AND TESTING SERVICES
DURING GRADING OF SUBGRADE FOR WALKWAYS/DRIVEWAYS
AND BACKFILL OF UTILITY TRENCHES AND RETAINING WALLS
CROWN VALLEY LUXURY APARTMENTS
~~25891 CROWN VALLEY PARKWAY~~ 27960 Cabot Rd.
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT #G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during grading of subgrade for walkways and driveways, as well as placement of backfill for utility trenches and retaining walls on the subject property. Our services were performed during the period of October 1, 2013 through July 23, 2015. The scope of our services included the following:

- Observing the grading operation, including the excavation/compaction of existing fill and surficial native soils, and excavation of utility trenches.
- Performing inspection and approval of all excavation bottoms, inspection of utility pipe bedding and shading materials prior to placing backfill, and placement and compaction of base materials and asphalt-concrete.
- Performing scarification and proper compaction of the subgrade soil beneath the paving section.
- Performing inspection and approval of all bottoms prior to placing fill.
- Verification of the suitability of earth and base materials used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of earth and base materials used for fill.
- Performing in-place density tests on the earth and base materials placed and compacted.
- Preparing Site Plans and this report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the proposed paving sections for walkways, driveways, and building slab-on-grade.

GRADING

Grading consisted of excavation and compaction of existing unsuitable site soils for the creation of roughly level paving subgrade, placement of utility trench and retaining wall backfill, as well as placement of base materials and asphalt-concrete in paving.

Paving subgrade soils were scarified, moistened to near optimum moisture content, and compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D1557 (Laboratory Compaction Test). Base materials were also placed and compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D1557. Asphalt-concrete was compacted to a minimum of 95 percent of the maximum density in accordance with ASTM test method D2726-11 (HVEEM Density).

Prior to placing any engineered fill or bedding sands, the clean bottom of excavated trenches were observed and approved by a representative of this firm. Subsequent to the approval of the trench excavation bottom, the utility was placed on bedding sand and covered with shading sand prior to placement and compaction of engineered backfill. All backfill soils were placed and compacted to at least 90 percent of the maximum density.

Fill was placed by means of loaders, bobcats, and backhoes in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of water trucks and fire hoses, and compacted by track rolling and wheel rolling with loaders and backhoes, sheepsfoot rollers attached to backhoe arms, walk-behind vibratory rollers, dual-drum vibratory rollers, and mechanical whackers. Where failing tests occurred, additional compaction effort was applied utilizing the above mentioned compaction equipment until passing tests were achieved. Approximate limits and depths of engineered fill are indicated on the enclosed Site Plans (see Figures 1 through 9).

In-place density tests were performed in conformance with ASTM Test Method D1556-15 (Sand Cone), and ASTM Test Method ASTM D6938-10 (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Tables 1 and 2. In general, the in-place density test results indicate that the paving subgrade and base materials placed have achieved a relative compaction of at least 95 percent, utility trench and wall backfills placed have achieved a relative compaction of at least 90 percent in accordance with ASTM test method D1557 (Laboratory Compaction Test), and the asphalt placed have achieved a relative compaction of at least 95 percent in accordance with ASTM test method D2726-05A (Hveem Density). The results of the laboratory tests are summarized in Tables 3 and 4. The approximate locations of all in-place density tests are indicated on the Site Plan (see Figures 1 through 9).

Laboratory tests were performed on the earth, base, and asphalt-concrete materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Tables 3 and 4. Fill soils were derived from onsite excavations and consist primarily of clayey sand and sandy clay. Imported soil consisting of silty sand, crushed miscellaneous base, and crushed aggregate base was also utilized.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a "very low" to "high" expansive potential based on the 2013 California Building Code (CBC) Section 1803.5.3. Special considerations for expansive soils have been incorporated in the geotechnical recommendations. No additional recommendations are considered necessary at this time.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, July 23, 2015. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Harry Derkalousdian
PE 79694




Neal Berliner
GE 2516



Enclosures: Figures 1-9 - Site Plan
 Explanation of Coded Terms
 Tables 1 through 4
 Certification

(Email) Addressee

REFERENCES

- Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;
- City of Laguna Niguel Geotechnical Review Sheet*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;
- Response to City of Laguna Niguel Geotechnical Review Sheet*, by Geocon West, Inc., dated January 5, 2012;
- Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated January 5, 2012;
- City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval)*, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;
- Supplemental Geotechnical Recommendations for Deepened Foundations*, by Geocon West, Inc. dated August 3, 2012;
- Report of Indicator Pile Test Program and Production Pile Recommendations*, by Geocon West, Inc. dated August 23, 2012;
- Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls*, by Geocon West, Inc. dated March 12, 2013;
- Field Inspection of Cut Slope – Northern Property Line*, by Geocon West, Inc. dated August 19, 2013;
- Foundation Underlayment – Upper MSE Wall*, by Geocon West, Inc., dated September 17, 2013;
- Interim Rough Grading Permit*, by Geocon West, Inc. dated Revised September 27, 2013;
- Report of Observation and Testing Services during Upper MSE Wall Construction and Partial Building Pad Approval*, by Geocon West, Inc., dated October 10, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.10 & Gridlines 2-13*, by Geocon West, Inc., dated Revised October 4, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines G-T & Gridlines 1-8*, by Geocon West, Inc., dated October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-Y.5 & Gridlines 2-14*, by Geocon West, Inc., dated Revised October 22, 2013;
- Partial Building Pad Approval Area Bounded by Gridlines T.5-AA & Gridlines 14 & Y10/Y11*, by Geocon West, Inc., dated October 30, 2013;

REFERENCES (CONTD.)

Partial Building Pad Approval Area Bounded by Gridlines T-J & 14-Y10/Y11 and Gridlines H & 16 & Gridlines J & 11, by Geocon West, Inc., dated November 18, 2013;

Deepened Foundations Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, by Geocon West, Inc., dated December 5, 2013;

Field Inspection of Temporary Bedrock Cut Slope, by Geocon West, Inc. dated January 22, 2014;

Partial Building Pad Approval at Gridline T Bounded By 2-11/12- and at Gridline 11 Bounded by J.2-T, by Geocon West, Inc., dated February 19, 2014;

Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, by Geocon West, Inc., dated February 28, 2014;

Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, by Geocon West, Inc., dated Revised April 14, 2014;

Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade Area Bounded by Gridlines J.2-T.5 & 8-14 by Geocon West, Inc., dated Revised April 14, 2014;

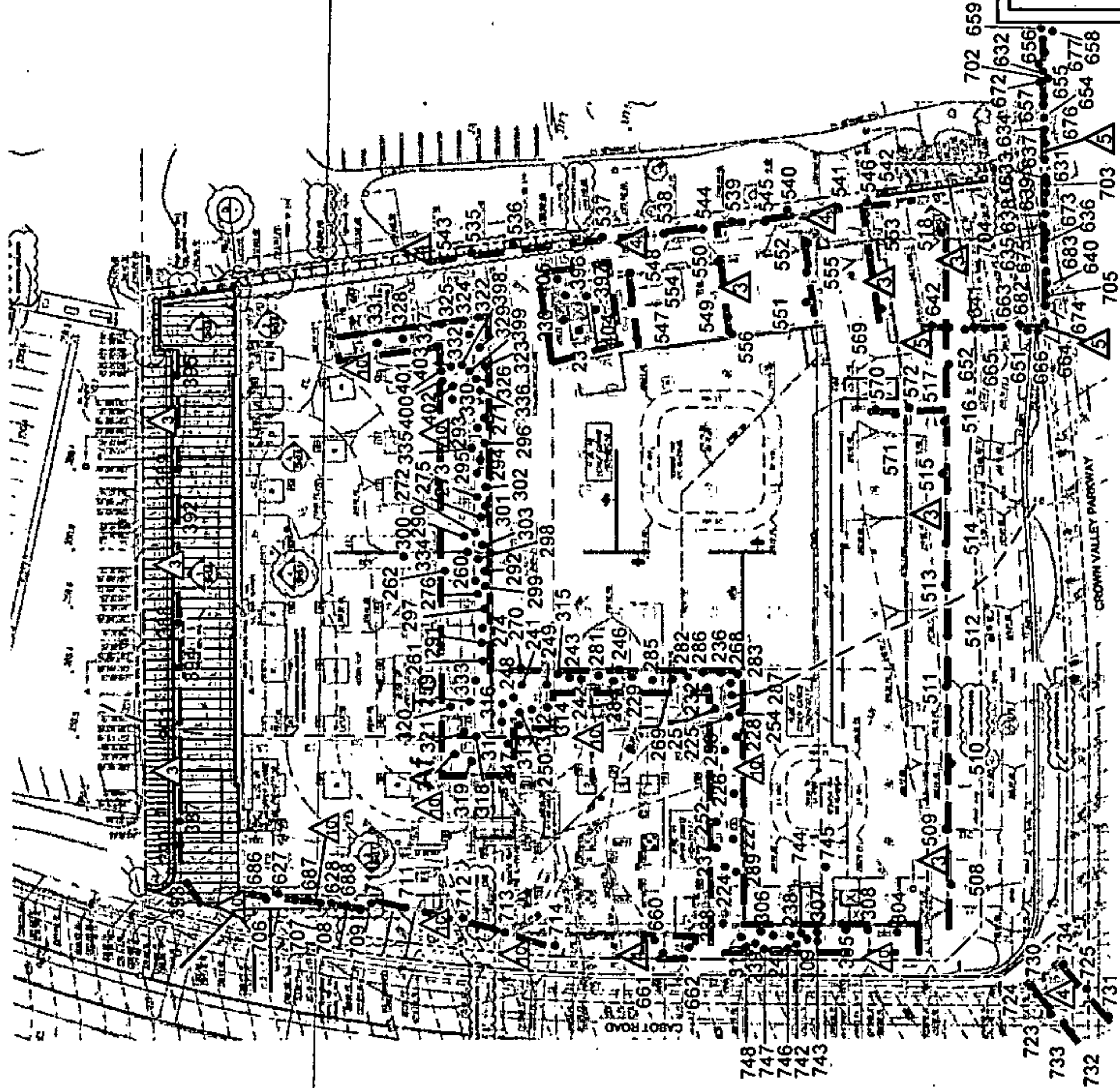
Partial Building Pad Approval Area Bounded by Gridlines A-J.2 & Gridlines 3-11, by Geocon West, Inc., dated May 12, 2014;

Report of Observation and Testing Services during Grading of Subgrade for the Fire Access Road, by Geocon West, Inc., dated May 29, 2014;

Field Inspection of Temporary Cut Slope and Driveway Subgrade – Picerne Shared Entry, by Geocon West, Inc., dated February 3, 2015.

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △△ Approximate Depth of Engineered Fill (in feet)



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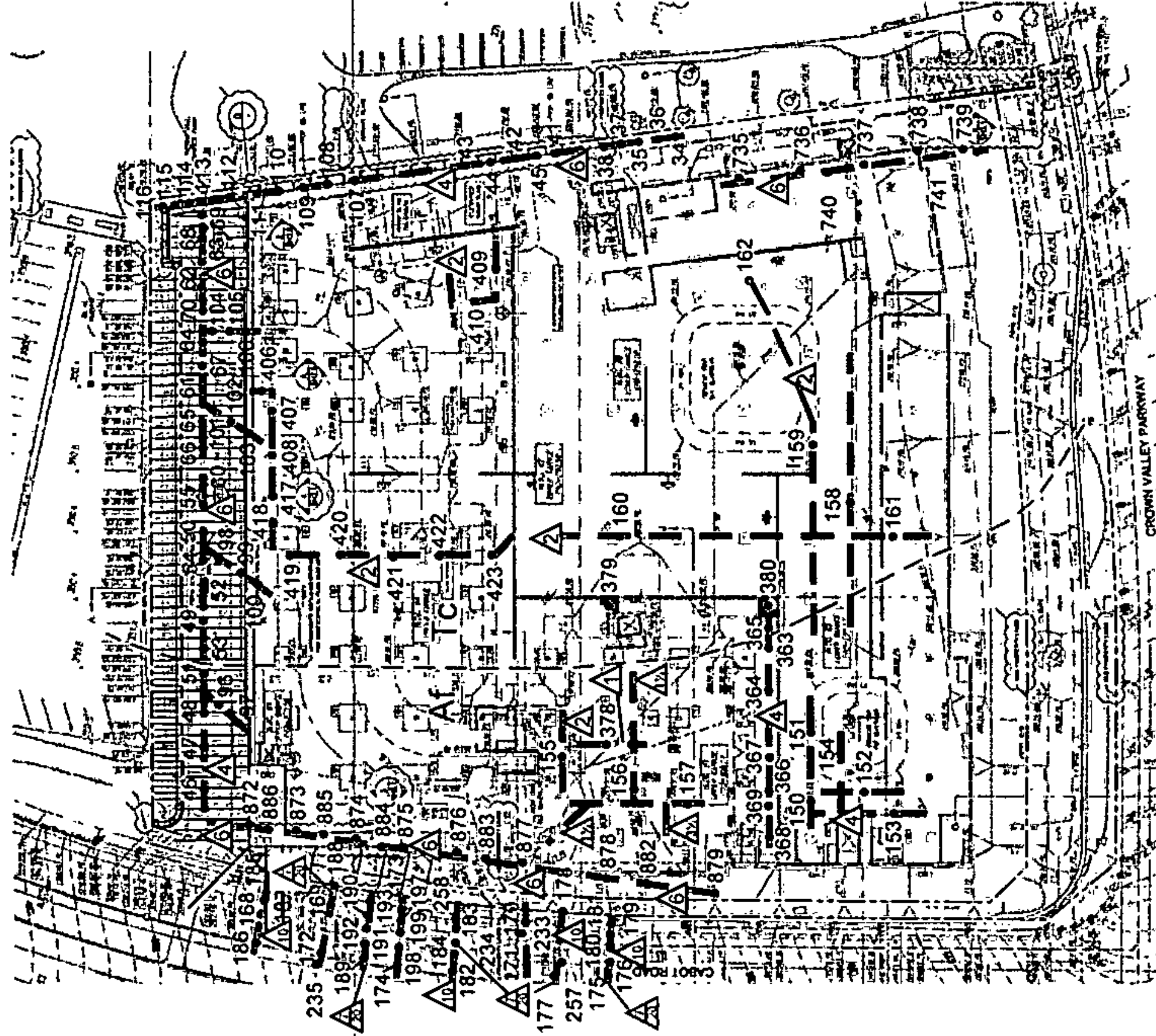
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PZ 8000

LEGEND

- 1065 Approximate Location of Density Test
- Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base
- △ Approximate Thickness of Paving Section (in inches)



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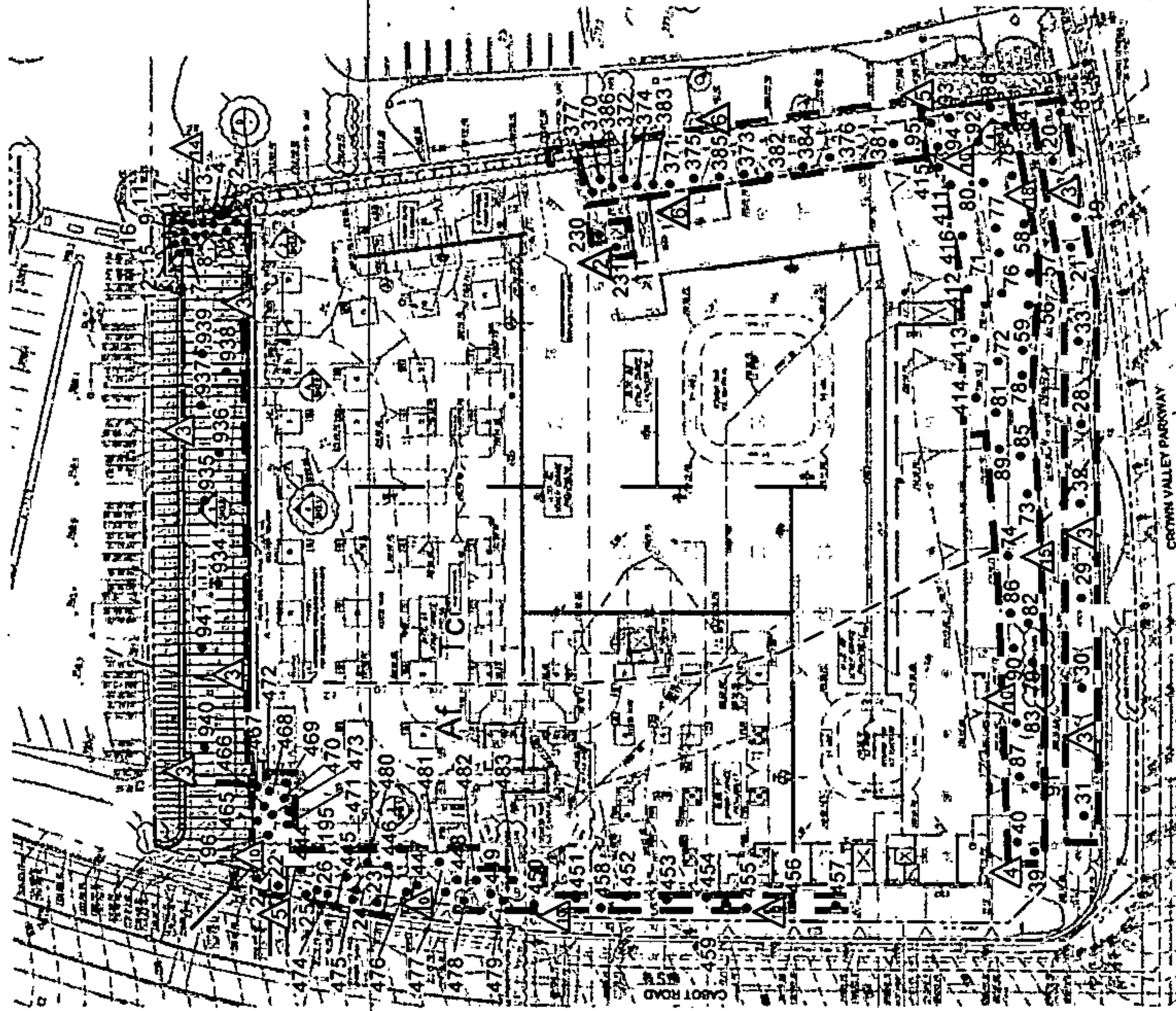
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FIG. 2



LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- △ Approximate Depth of Engineered Fill (in feet)



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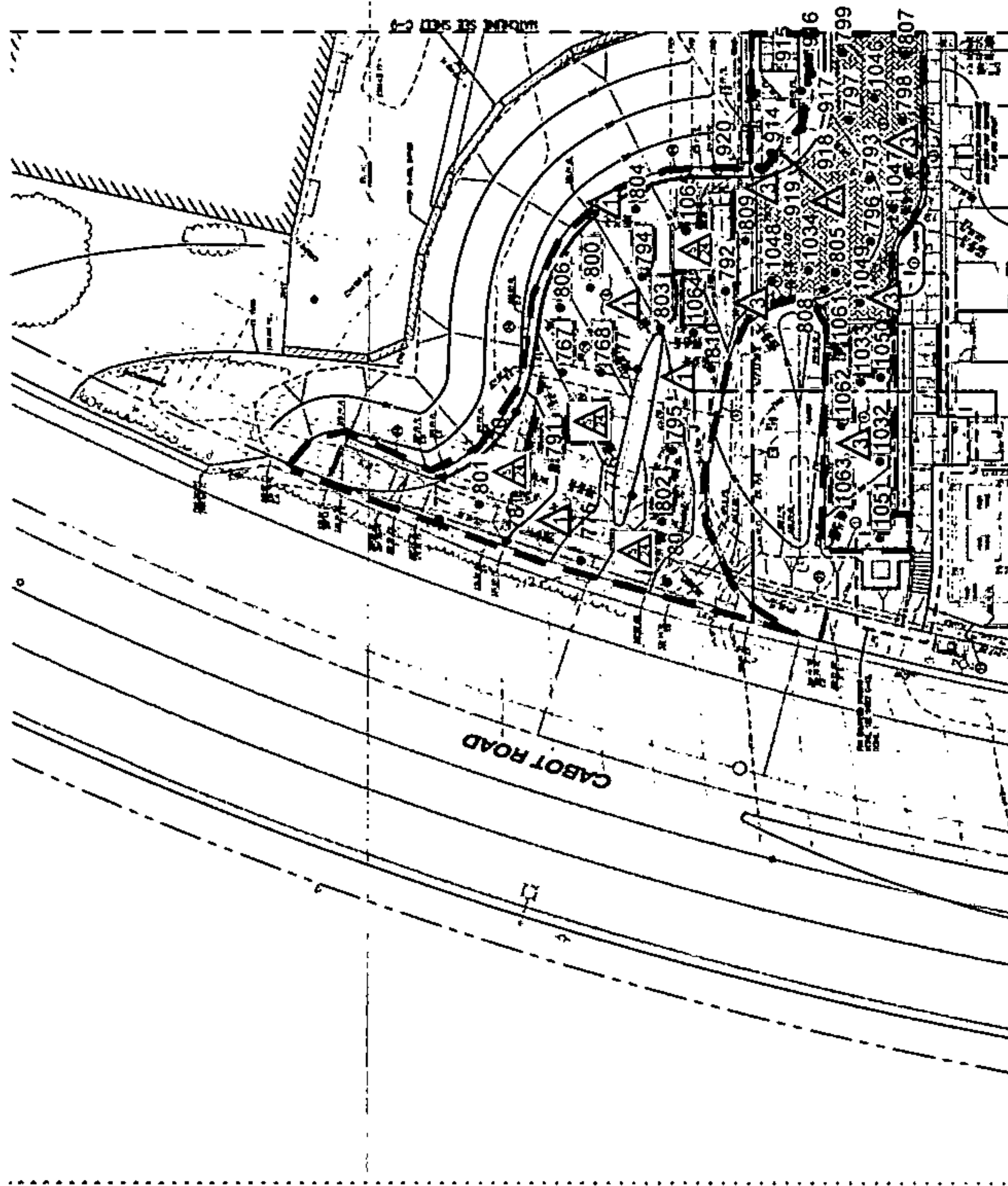
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SITE PLAN

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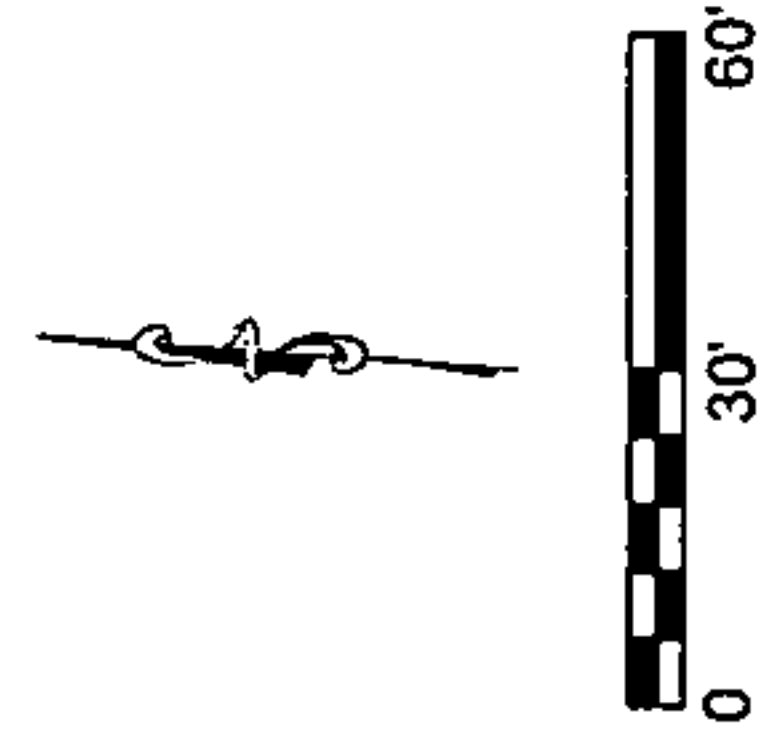
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FIG. 3



LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)
- △ AC Base Approximate Thickness of Paving Section (in inches)



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Drafted By: SB

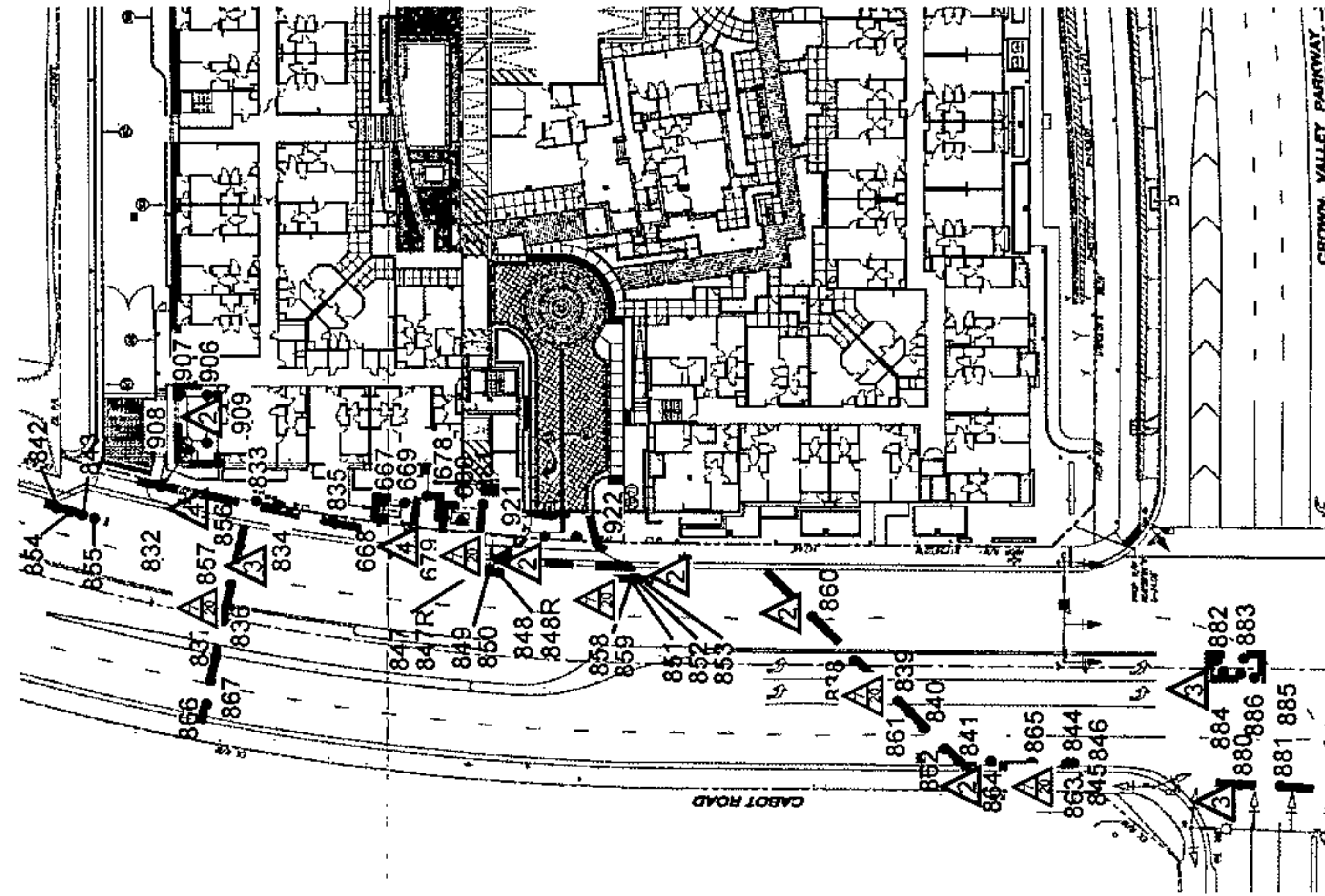
Checked By: GAK/SFK

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FIG. 4



LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base
- △ A.C. Thickness of Paving Section (in inches)



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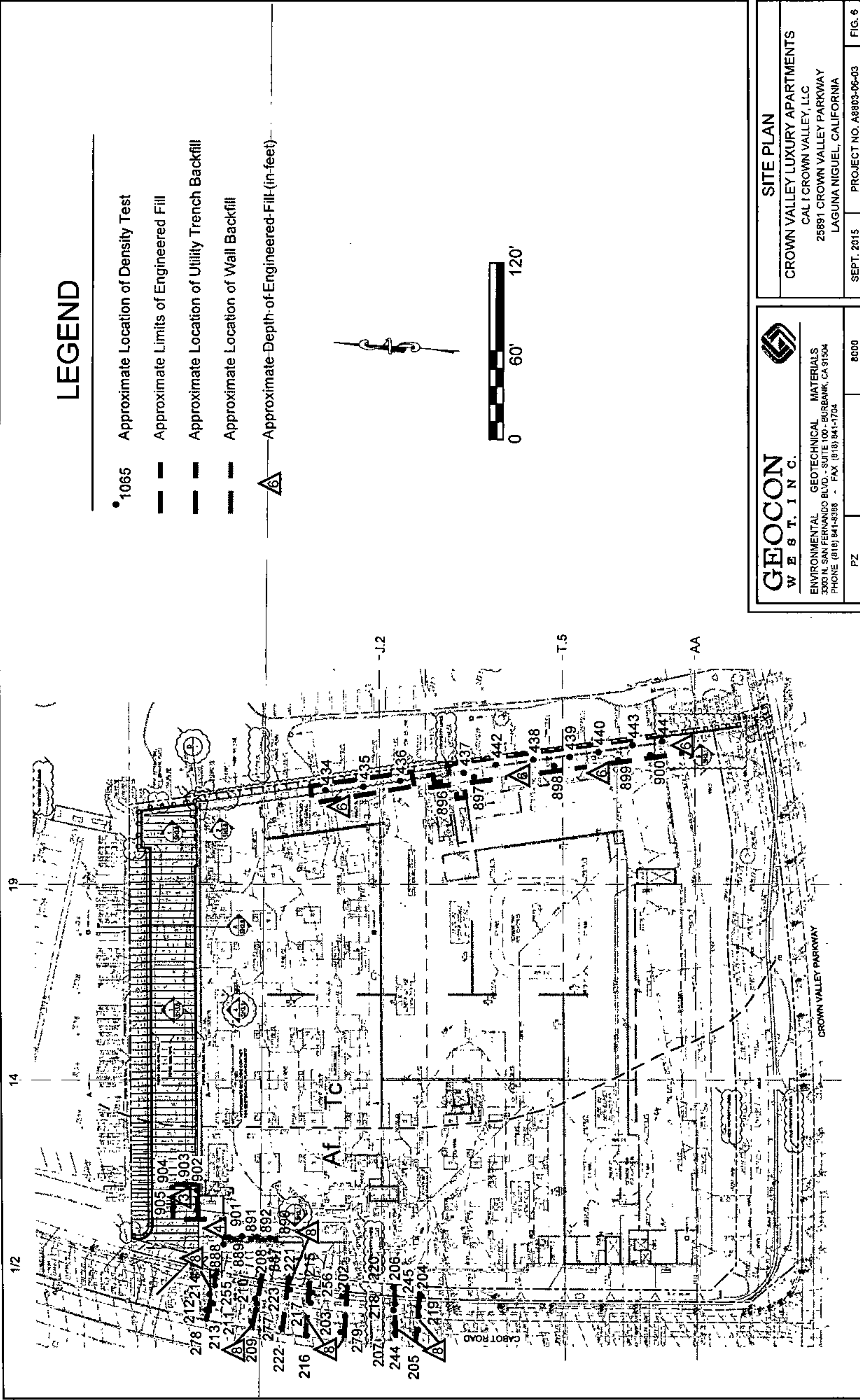
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FIG. 5



LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- Approximate Location of Wall Backfill
- △ Approximate Depth of Engineered Fill (in feet)



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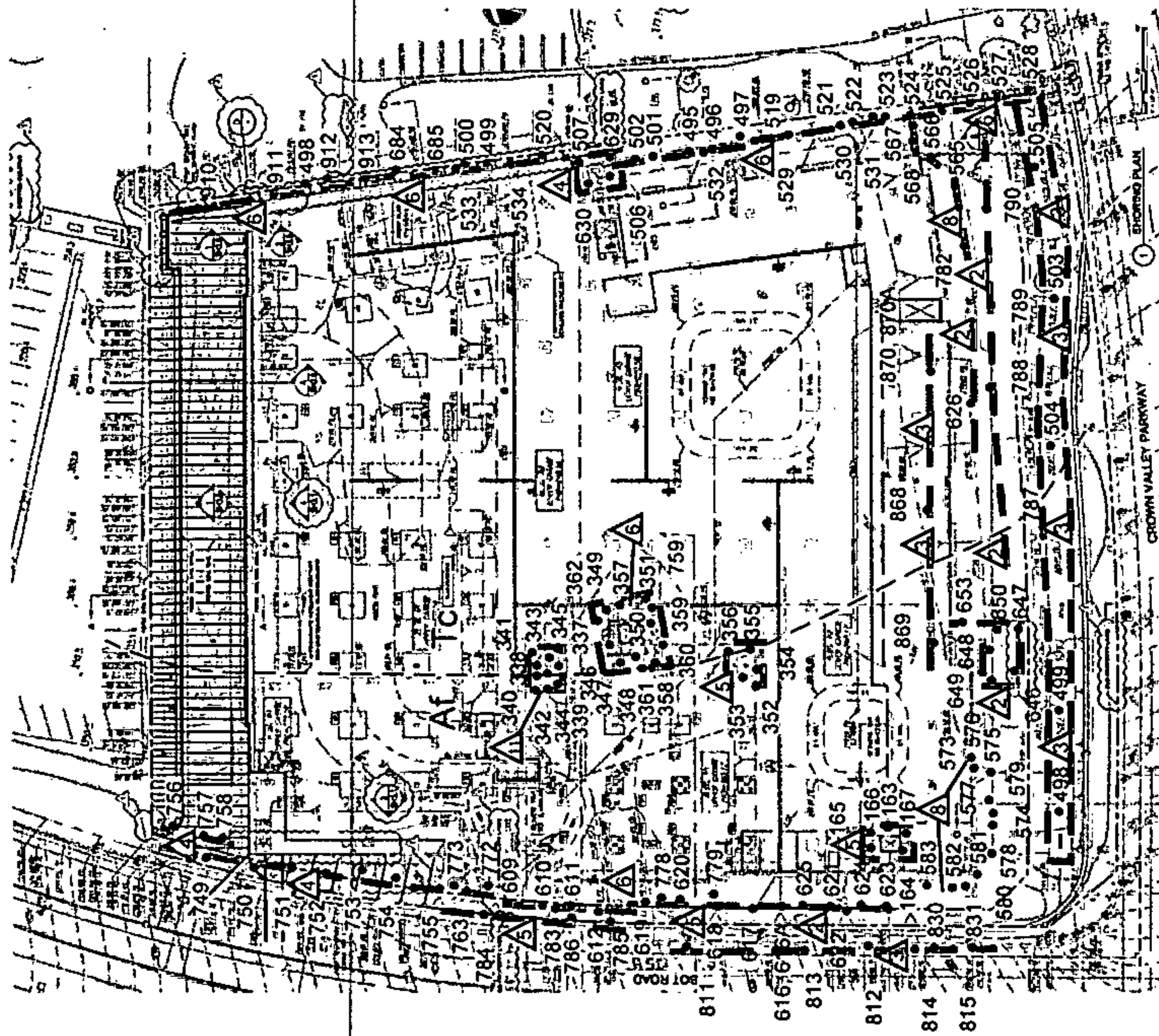
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FIG. 6



LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- Approximate Location of Utility Trench Backfill
- △ Approximate Depth of Engineered Fill (in feet)



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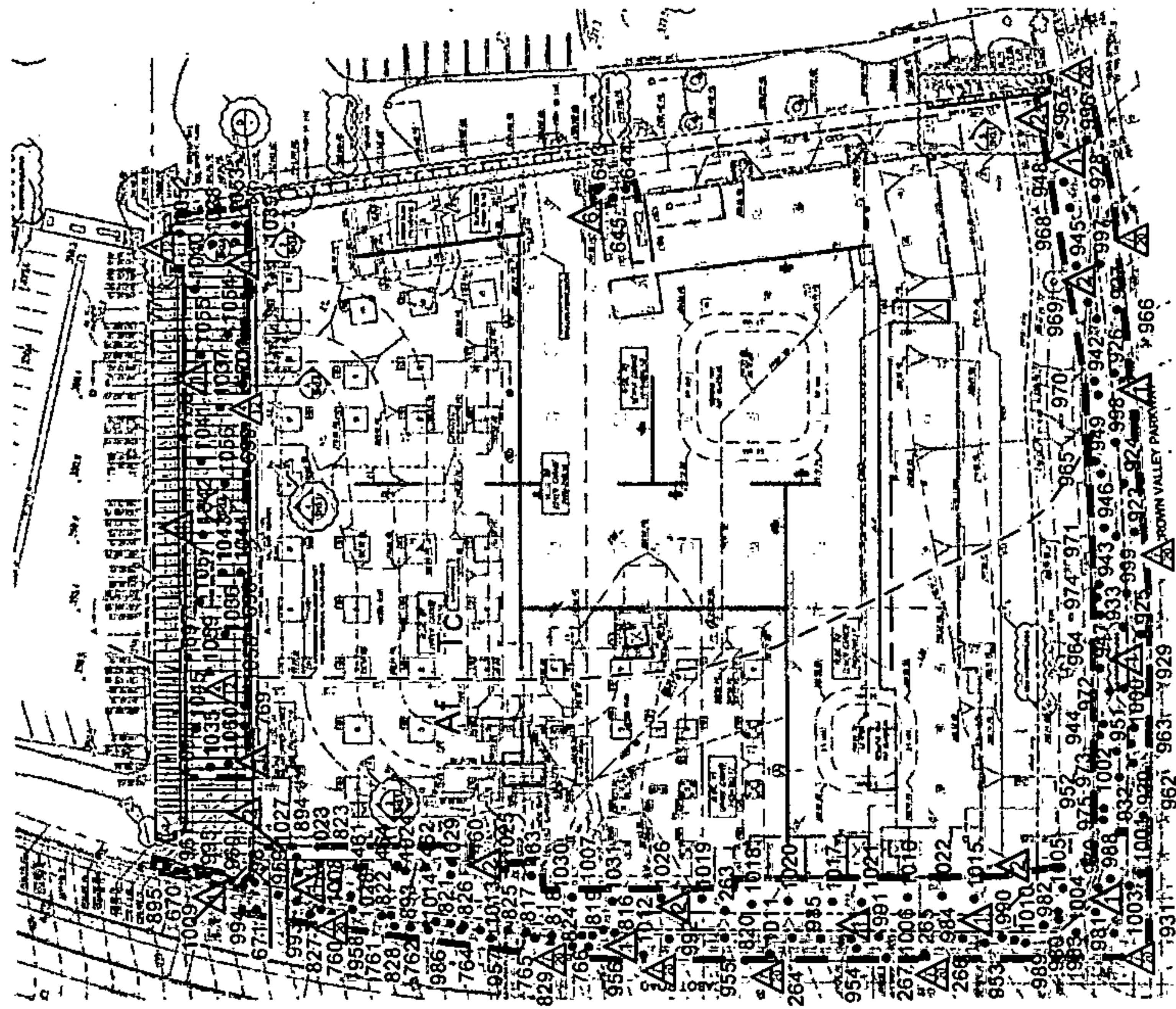
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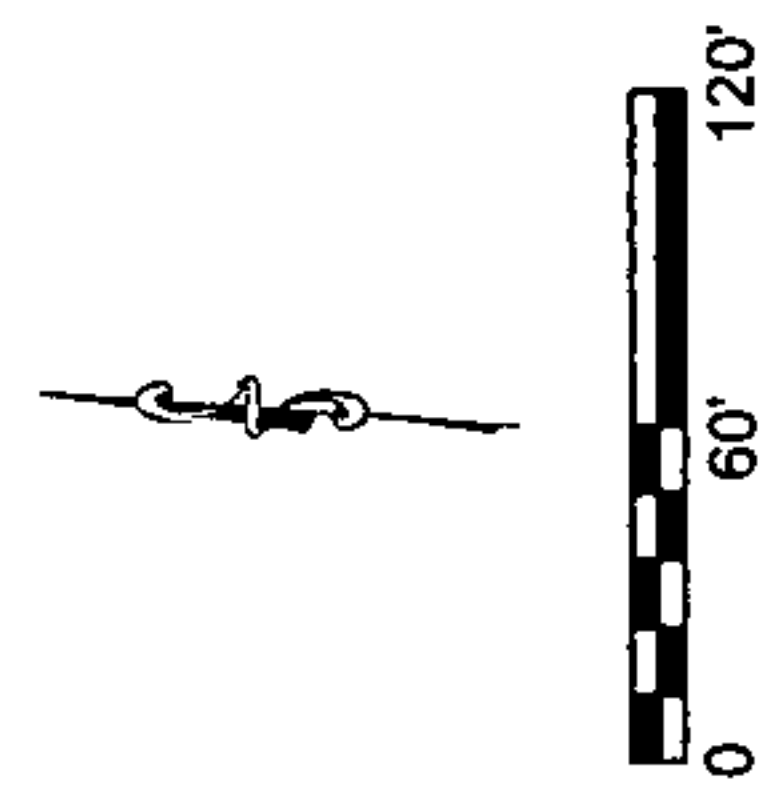
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FIG. 7



LEGEND

- 1065 Approximate Location of Density Test
- Approximate Limits of Engineered Fill
- △ Approximate Depth of Engineered Fill (in feet)
- △ A.C. Base Approximate Thickness of Paving Section (in inches)



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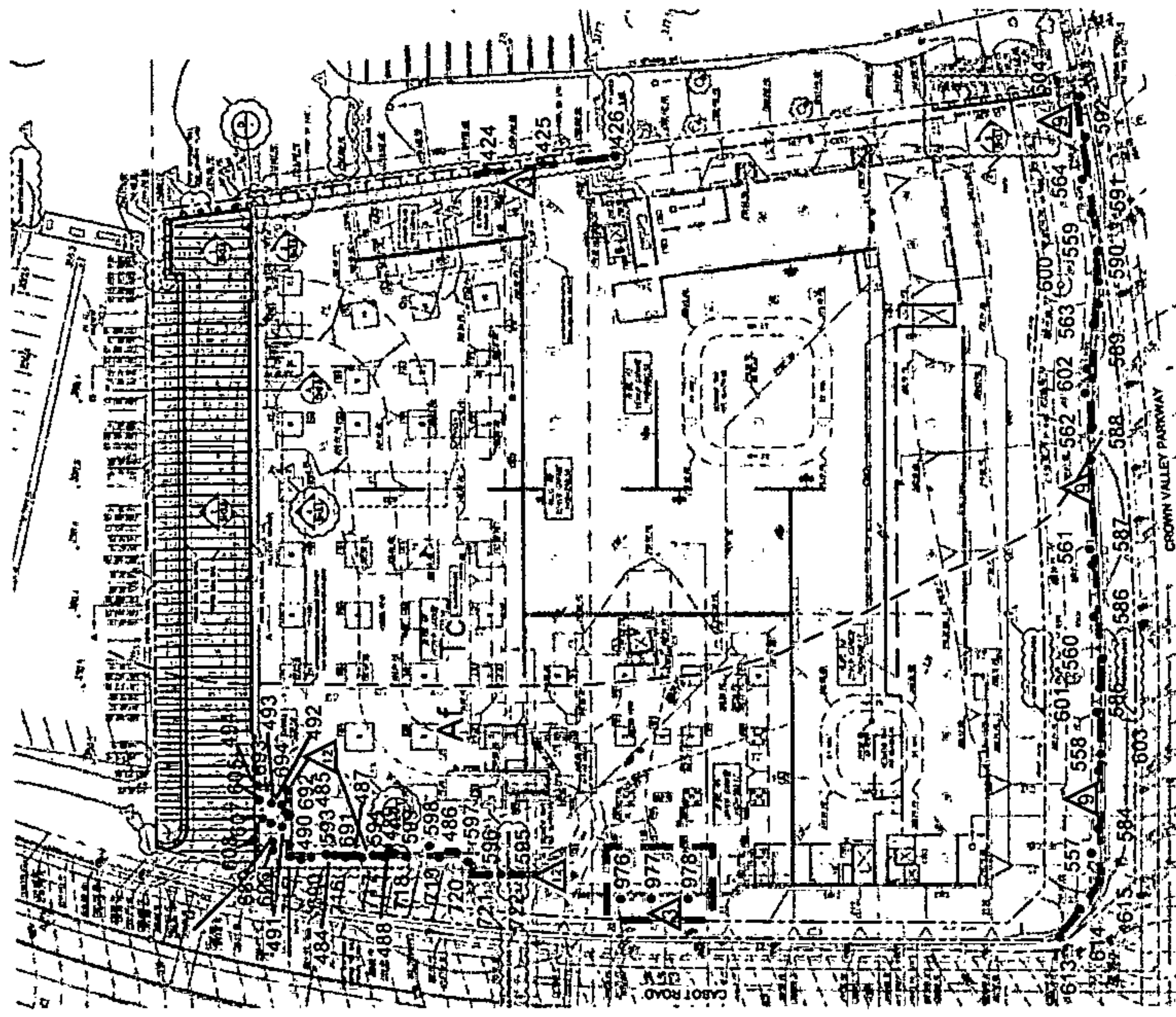
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SEPT. 2015 PROJECT NO. A8803-06-03 FIG. 8

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LEGEND

- 1065 Approximate Location of Density Test
- Approximate Location of Wall Backfill
- △ Approximate Depth of Engineered Fill (in feet)



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FIG. 9

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	CG - Curb & Gutter	PT - Plumbing Trench	SL - Sewer Lateral	UT - Utility Trench
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
BF - Backfill	FL - Fire Line	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
BP - Building Pad	IT - Irrigation Trench	SG - Subgrade	SZ - Slope Zone	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, . . . : Retest of previous density test failure, following moisture conditioning and/or recompaction.
R : Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test



PROJECT NO. A8803-06-03

TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	1	7/12/2013	NE Soil Nail Wall	316.0	2	89.2	24.9	97.0	23.5	92	NU	Pass
BF	2	7/12/2013	NE Soil Nail Wall	316.0	2	89.7	24.1	97.0	23.5	92	NU	Pass
BF	3	7/12/2013	NE Soil Nail Wall	318.0	2	91.2	25.4	97.0	23.5	94	NU	Pass
BF	4	7/12/2013	NE Soil Nail Wall	318.0	2	91.0	25.1	97.0	23.5	94	NU	Pass
BF	5	7/12/2013	NE Soil Nail Wall	320.0	2	91.6	22.9	97.0	23.5	94	NU	Pass
BF	6	7/12/2013	NE Soil Nail Wall	320.0	2	89.7	23.6	97.0	23.5	92	NU	Pass
BF	7	7/17/2013	NE Soil Nail Wall	322.0	2	90.1	24.9	97.0	23.5	93	NU	Pass
BF	8	7/17/2013	NE Soil Nail Wall	322.0	2	90.2	26.4	97.0	23.5	93	NU	Pass
BF	9	7/17/2013	NE Soil Nail Wall	322.0	2	90.6	24.5	97.0	23.5	93	NU	Pass
BF	10	7/17/2013	NE Soil Nail Wall	324.0	2	89.7	24.1	97.0	23.5	92	NU	Pass
BF	11	7/17/2013	NE Soil Nail Wall	324.0	2	89.2	23.9	97.0	23.5	92	NU	Pass
BF	12	7/17/2013	NE Soil Nail Wall	324.0	2	89.5	24.1	97.0	23.5	92	NU	Pass
BF	13	7/17/2013	NE Soil Nail Wall	326.0	2	90.1	23.0	97.0	23.5	93	SC	Pass
BF	14	7/18/2013	NE Soil Nail Wall	328.0	2	89.1	24.9	97.0	23.5	92	NU	Pass
BF	15	7/18/2013	NE Soil Nail Wall	328.0	2	90.3	25.4	97.0	23.5	93	NU	Pass
BF	16	7/18/2013	NE Soil Nail Wall	330.0	2	89.7	25.1	97.0	23.5	92	NU	Pass
BF	17	7/18/2013	NE Soil Nail Wall	330.0	2	89.3	26.4	97.0	23.5	92	NU	Pass
BF	18	8/9/2013	South Lower MSE Wall	264.0	2	89.8	24.4	97.0	23.5	93	NU	Pass
BF	19	8/9/2013	South Lower MSE Wall	264.0	2	89.8	26.9	97.0	23.5	93	NU	Pass
BF	20	8/9/2013	South Lower MSE Wall	265.0	2	89.9	26.5	97.0	23.5	93	NU	Pass
BF	21	8/9/2013	South Lower MSE Wall	265.0	2	88.4	27.6	97.0	23.5	91	SC	Pass
BF	22	8/16/2013	NW Slope	330.0	3	88.9	28.0	97.0	26.0	92	NU	Pass
BF	23	8/16/2013	NW Slope	330.0	3	87.7	29.0	97.0	26.0	90	NU	Pass
BF	24	8/16/2013	NW Slope	332.0	3	88.1	27.6	97.0	26.0	91	NU	Pass
BF	25	8/16/2013	NW Slope	332.0	3	87.3	27.9	97.0	26.0	90	NU	Pass
BF	26	8/16/2013	NW Slope	333.0	3	87.4	28.5	97.0	26.0	90	NU	Pass
BF	27	8/16/2013	NW Slope	333.0	3	88.2	28.9	97.0	26.0	91	NU	Pass
BF	28	8/20/2013	South Lower MSE Wall	266.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BF	29	8/20/2013	South Lower MSE Wall	266.0	3	91.6	27.5	97.0	26.0	94	NU	Pass
BF	30	8/20/2013	South Lower MSE Wall	266.0	3	90.6	27.1	97.0	26.0	93	NU	Pass
BF	31	8/20/2013	South Lower MSE Wall	266.0	3	90.3	28.5	97.0	26.0	93	NU	Pass
BF	32	8/20/2013	South Lower MSE Wall	266.0	3	89.2	29.0	97.0	26.0	92	NU	Pass
BF	33	8/20/2013	South Lower MSE Wall	266.0	3	89.5	27.3	97.0	26.0	92	SC	Pass
SD	34	9/11/2013	Storm Drain - East Side	277.0	3	88.0	28.7	97.0	26.0	91	NU	Pass
SD	35	9/11/2013	Storm Drain - East Side	279.0	3	91.9	26.1	97.0	26.0	95	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SD	36	9/11/2013	Storm Drain - East Side	281.0	3	91.4	26.9	97.0	26.0	94	NU	Pass
SD	37	9/11/2013	Storm Drain - East Side	283.0	3	90.3	28.1	97.0	26.0	93	NU	Pass
SD	38	9/11/2013	Storm Drain - East Side	285.0	3	89.7	28.3	97.0	26.0	92	NU	Pass
BF	39	9/12/2013	South Upper MSE Wall	280.0	1	84.2	28.1	91.5	25.0	92	NU	Pass
BF	40	9/12/2013	South Upper MSE Wall	282.0	1	84.8	27.5	91.5	25.0	93	NU	Pass
SD	41	9/12/2013	Storm Drain - East Side	296.0	3	87.8	27.9	97.0	26.0	91	NU	Pass
SD	42	9/12/2013	Storm Drain - East Side	298.0	3	89.1	29.1	97.0	26.0	92	NU	Pass
SD	43	9/12/2013	Storm Drain - East Side	298.0	3	88.1	28.4	97.0	26.0	91	NU	Pass
SD	44	9/12/2013	Storm Drain - East Side	300.0	3	89.2	27.7	97.0	26.0	92	NU	Pass
SD	45	9/12/2013	Storm Drain - East Side	300.0	3	88.6	29.0	97.0	26.0	91	NU	Pass
SD	46	9/12/2013	Storm Drain - North Side	330.0	3	90.3	28.4	97.0	26.0	93	NU	Pass
SD	47	9/12/2013	Storm Drain - North Side	332.0	3	89.3	28.1	97.0	26.0	92	SC	Pass
SD	48	9/13/2013	Storm Drain - North Side	330.0	3	89.9	28.4	97.0	26.0	93	NU	Pass
SD	49	9/13/2013	Storm Drain - North Side	330.0	3	88.6	28.5	97.0	26.0	91	NU	Pass
SD	50	9/13/2013	Storm Drain - North Side	330.0	3	90.6	27.5	97.0	26.0	93	NU	Pass
SD	51	9/13/2013	Storm Drain - North Side	332.0	3	90.1	28.8	97.0	26.0	93	NU	Pass
SD	52	9/13/2013	Storm Drain - North Side	332.0	3	87.3	29.0	97.0	26.0	90	NU	Pass
SD	53	9/13/2013	Storm Drain - North Side	332.0	3	87.7	27.8	97.0	26.0	90	NU	Pass
SD	54	9/13/2013	Storm Drain - North Side	334.0	3	89.2	28.3	97.0	26.0	92	NU	Pass
SD	55	9/13/2013	Storm Drain - North Side	334.0	3	89.0	28.7	97.0	26.0	92	SC	Pass
BF	56	9/16/2013	South Upper MSE Wall	270.0	4	112.2	14.1	122.0	12.0	92	NU	Pass
BF	57	9/16/2013	South Upper MSE Wall	270.0	4	114.0	13.9	122.0	12.0	93	NU	Pass
BF	58	9/16/2013	South Upper MSE Wall	272.0	4	111.7	14.6	122.0	12.0	92	NU	Pass
BF	59	9/16/2013	South Upper MSE Wall	272.0	4	111.4	13.4	122.0	12.0	91	NU	Pass
SD	60	9/16/2013	Storm Drain - North Side	328.0	3	89.6	27.5	97.0	26.0	92	NU	Pass
SD	61	9/16/2013	Storm Drain - North Side	328.0	1	85.4	26.8	91.5	25.0	93	NU	Pass
SD	62	9/16/2013	Storm Drain - North Side	328.0	1	84.9	26.7	91.5	25.0	93	NU	Pass
SD	63	9/16/2013	Storm Drain - North Side	330.0	1	85.0	27.4	91.5	25.0	93	NU	Pass
SD	64	9/16/2013	Storm Drain - North Side	330.0	1	85.9	27.0	91.5	25.0	94	NU	Pass
SD	65	9/16/2013	Storm Drain - North Side	330.0	1	83.4	28.1	91.5	25.0	91	NU	Pass
SD	66	9/16/2013	Storm Drain - North Side	332.0	3	87.7	27.5	97.0	26.0	90	NU	Pass
SD	67	9/16/2013	Storm Drain - North Side	332.0	3	88.1	28.9	97.0	26.0	91	NU	Pass
SD	68	9/16/2013	Storm Drain - North Side	332.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
SD	69	9/16/2013	Storm Drain - North Side	334.0	3	89.2	27.9	97.0	26.0	92	NU	Pass
SD	70	9/16/2013	Storm Drain - North Side	334.0	3	88.2	28.4	97.0	26.0	91	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	71	9/17/2013	South Upper MSE Wall	274.0	4	112.6	11.4	122.0	12.0	92	NU	Pass
BF	72	9/17/2013	South Upper MSE Wall	274.0	4	112.7	12.1	122.0	12.0	92	NU	Pass
BF	73	9/17/2013	South Upper MSE Wall	274.0	4	110.4	10.5	122.0	12.0	90	NU	Pass
BF	74	9/17/2013	South Upper MSE Wall	276.0	4	113.4	10.7	122.0	12.0	93	NU	Pass
BF	75	9/17/2013	South Upper MSE Wall	276.0	4	113.5	10.9	122.0	12.0	93	NU	Pass
BF	76	9/17/2013	South Upper MSE Wall	276.0	4	115.2	11.5	122.0	12.0	94	NU	Pass
BF	77	9/17/2013	South Upper MSE Wall	278.0	4	113.3	12.4	122.0	12.0	93	SC	Pass
BF	78	9/17/2013	South Upper MSE Wall	278.0	4	111.5	12.1	122.0	12.0	91	SC	Pass
BF	79	9/17/2013	South Upper MSE Wall	278.0	4	115.9	11.5	122.0	12.0	95	SC	Pass
BF	80	9/18/2013	South Upper MSE Wall	280.0	4	113.9	11.9	122.0	12.0	93	NU	Pass
BF	81	9/18/2013	South Upper MSE Wall	280.0	4	114.3	10.6	122.0	12.0	94	NU	Pass
BF	82	9/18/2013	South Upper MSE Wall	280.0	4	114.8	10.0	122.0	12.0	94	NU	Pass
BF	83	9/18/2013	South Upper MSE Wall	280.0	4	114.5	11.1	122.0	12.0	94	NU	Pass
BF	84	9/18/2013	South Upper MSE Wall	282.0	4	115.2	12.2	122.0	12.0	94	NU	Pass
BF	85	9/18/2013	South Upper MSE Wall	282.0	4	112.8	10.5	122.0	12.0	92	NU	Pass
BF	86	9/18/2013	South Upper MSE Wall	282.0	4	113.3	11.9	122.0	12.0	93	NU	Pass
BF	87	9/18/2013	South Upper MSE Wall	282.0	4	111.6	11.5	122.0	12.0	91	NU	Pass
BF	88	9/18/2013	South Upper MSE Wall	284.0	4	114.8	13.4	122.0	12.0	94	NU	Pass
BF	89	9/18/2013	South Upper MSE Wall	284.0	4	114.0	10.8	122.0	12.0	93	NU	Pass
BF	90	9/18/2013	South Upper MSE Wall	284.0	4	113.4	10.5	122.0	12.0	93	NU	Pass
BF	91	9/18/2013	South Upper MSE Wall	284.0	4	115.2	11.7	122.0	12.0	94	SC	Pass
BF	92	9/19/2013	South Upper MSE Wall	286.0	4	114.8	12.8	122.0	12.0	94	NU	Pass
BF	93	9/19/2013	South Upper MSE Wall	286.0	4	113.3	12.5	122.0	12.0	93	NU	Pass
BF	94	9/19/2013	South Upper MSE Wall	286.0	4	111.6	13.1	122.0	12.0	91	NU	Pass
BF	95	9/19/2013	South Upper MSE Wall	286.0	4	110.4	10.4	122.0	12.0	90	NU	Pass
SD	96	9/20/2013	Storm Drain - North Side	330.0	3	88.2	27.1	97.0	26.0	91	NU	Pass
SD	97	9/20/2013	Storm Drain - North Side	332.0	3	88.0	28.4	97.0	26.0	91	NU	Pass
SD	98	9/20/2013	Storm Drain - North Side	330.0	3	88.1	26.9	97.0	26.0	91	NU	Pass
SD	99	9/20/2013	Storm Drain - North Side	332.0	3	87.6	27.5	97.0	26.0	90	NU	Pass
SD	100	9/20/2013	Storm Drain - North Side	334.0	3	88.7	27.9	97.0	26.0	91	NU	Pass
SD	101	9/20/2013	Storm Drain - North Side	330.0	3	88.1	28.4	97.0	26.0	91	NU	Pass
SD	102	9/20/2013	Storm Drain - North Side	332.0	3	88.2	29.0	97.0	26.0	91	NU	Pass
SD	103	9/20/2013	Storm Drain - North Side	334.0	3	88.5	27.9	97.0	26.0	91	NU	Pass
SD	104	9/20/2013	Storm Drain - North Side	330.0	3	87.3	28.5	97.0	26.0	90	NU	Pass
SD	105	9/20/2013	Storm Drain - North Side	332.0	3	87.4	28.9	97.0	26.0	90	SC	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SD	106	9/20/2013	Storm Drain - North Side	334.0	3	87.7	29.1	97.0	26.0	90	SC	Pass
SD	107	9/21/2013	Storm Drain - NE Corner	303.0	2	89.4	26.4	97.0	23.5	92	NU	Pass
SD	108	9/21/2013	Storm Drain - NE Corner	305.0	2	90.4	26.2	97.0	23.5	93	NU	Pass
SD	109	9/21/2013	Storm Drain - NE Corner	310.0	2	89.2	26.4	97.0	23.5	92	NU	Pass
SD	110	9/21/2013	Storm Drain - NE Corner	313.0	2	89.3	25.1	97.0	23.5	92	NU	Pass
SD	111	9/21/2013	Storm Drain - NE Corner	315.0	2	89.7	25.9	97.0	23.5	92	NU	Pass
SD	112	9/21/2013	Storm Drain - NE Corner	320.0	2	89.2	26.4	97.0	23.5	92	NU	Pass
SD	113	9/21/2013	Storm Drain - NE Corner	325.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
SD	114	9/21/2013	Storm Drain - NE Corner	331.0	2	89.2	25.3	97.0	23.5	92	NU	Pass
SD	115	9/21/2013	Storm Drain - NE Corner	333.0	2	88.7	25.1	97.0	23.5	91	NU	Pass
SD	116	9/21/2013	Storm Drain - NE Corner	334.0	2	87.3	26.8	97.0	23.5	90	NU	Pass
BP	117	9/21/2013	Storm Drain - NE Corner	270.0	4	113.5	11.0	122.0	12.0	93	SC	Pass
BP	118	10/1/2013	South Upper MSE Wall	270.0	4	115.0	11.9	122.0	12.0	94	NU	Pass
BP	119	10/1/2013	South Upper MSE Wall	272.0	4	113.3	11.5	122.0	12.0	93	NU	Pass
BP	120	10/1/2013	South Upper MSE Wall	272.0	4	113.4	13.1	122.0	12.0	93	NU	Pass
BP	121	10/1/2013	South Upper MSE Wall	274.0	4	113.5	13.0	122.0	12.0	93	NU	Pass
BP	122	10/1/2013	South Upper MSE Wall	274.0	4	114.0	12.5	122.0	12.0	93	NU	Pass
BP	123	10/1/2013	South Upper MSE Wall	274.0	4	113.2	11.4	122.0	12.0	93	NU	Pass
BP	124	10/1/2013	South Upper MSE Wall	276.0	3	89.3	27.1	97.0	26.0	92	NU	Pass
BP	125	10/1/2013	South Upper MSE Wall	276.0	3	89.2	26.5	97.0	26.0	92	NU	Pass
BP	126	10/1/2013	South Upper MSE Wall	276.0	3	90.1	27.5	97.0	26.0	93	NU	Pass
BP	127	10/1/2013	South Upper MSE Wall	278.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BP	128	10/1/2013	South Upper MSE Wall	278.0	3	89.2	26.9	97.0	26.0	92	NU	Pass
BP	129	10/1/2013	South Upper MSE Wall	278.0	3	89.2	27.5	97.0	26.0	92	NU	Pass
BP	130	10/1/2013	South Upper MSE Wall	280.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
BP	131	10/1/2013	South Upper MSE Wall	280.0	3	89.7	27.1	97.0	26.0	92	NU	Pass
BP	132	10/1/2013	South Upper MSE Wall	280.0	3	89.2	28.1	97.0	26.0	92	NU	Pass
BP	133	10/1/2013	South Upper MSE Wall	280.0	3	89.4	26.5	97.0	26.0	92	NU	Pass
BP	134	10/1/2013	South Upper MSE Wall	282.0	3	89.3	26.9	97.0	26.0	92	NU	Pass
BP	135	10/1/2013	South Upper MSE Wall	282.0	3	89.2	27.1	97.0	26.0	92	NU	Pass
BP	136	10/1/2013	South Upper MSE Wall	284.0	3	89.3	26.8	97.0	26.0	92	NU	Pass
BP	137	10/1/2013	South Upper MSE Wall	284.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BP	138	10/1/2013	South Upper MSE Wall	284.0	3	89.7	27.8	97.0	26.0	92	NU	Pass
BP	139	10/1/2013	South Upper MSE Wall	284.0	3	89.2	28.4	97.0	26.0	92	NU	Pass
BP	140	10/1/2013	South Upper MSE Wall	286.0	3	89.1	26.9	97.0	26.0	92	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BP	141	10/1/2013	South Upper MSE Wall	286.0	3	89.5	27.8	97.0	26.0	92	NU	Pass
BP	142	10/1/2013	South Upper MSE Wall	286.0	3	89.6	27.9	97.0	26.0	92	NU	Pass
BP	143	10/1/2013	South Upper MSE Wall	288.0	3	88.1	26.5	97.0	26.0	91	NU	Pass
BP	144	10/1/2013	South Upper MSE Wall	288.0	3	88.7	28.1	97.0	26.0	91	NU	Pass
BP	145	10/1/2013	South Upper MSE Wall	288.0	3	88.9	27.9	97.0	26.0	92	NU	Pass
BP	146	10/1/2013	South Upper MSE Wall	290.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
BP	147	10/1/2013	South Upper MSE Wall	290.0	3	89.2	27.0	97.0	26.0	92	SC	Pass
BP	148	10/1/2013	South Upper MSE Wall	290.0	3	87.3	27.0	97.0	26.0	90	SC	Pass
BP	149	10/1/2013	South Upper MSE Wall	290.0	3	87.4	27.5	97.0	26.0	90	SC	Pass
SM	150	10/31/2013	Sewer - SW Corner	289.0	3	89.7	27.3	97.0	26.0	92	NU	Pass
SM	151	10/31/2013	Sewer - SW Corner	289.0	3	89.4	27.6	97.0	26.0	92	NU	Pass
SM	152	10/31/2013	Sewer - SW Corner	289.0	3	90.2	28.0	97.0	26.0	93	NU	Pass
SM	153	10/31/2013	Sewer - SW Corner	289.0	3	89.8	27.1	97.0	26.0	93	NU	Pass
SM	154	10/31/2013	Sewer - SW Corner	289.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
SD	155	11/6/2013	Storm Drain - West Side	300.0	3	92.3	25.8	97.0	26.0	95	NU	Pass
SD	156	11/6/2013	Storm Drain - West Side	300.0	3	92.1	26.3	97.0	26.0	95	NU	Pass
SD	157	11/6/2013	Storm Drain - West Side	298.5	3	90.1	26.0	97.0	26.0	93	NU	Pass
SM	158	11/20/2013	Plumbing - SW Corner	290.0	3	93.0	26.9	97.0	26.0	96	NU	Pass
SM	159	11/20/2013	Plumbing - SW Corner	290.0	3	92.2	27.1	97.0	26.0	95	NU	Pass
SM	160	11/26/2013	Plumbing - SW Corner	290.0	2	88.6	26.2	97.0	23.5	91	NU	Pass
SM	161	11/27/2013	Plumbing - SW Corner	290.0	2	90.3	25.9	97.0	23.5	93	SC	Pass
SM	162	11/27/2013	Plumbing - SW Corner	290.0	3	89.4	27.5	97.0	26.0	92	SC	Pass
WB	163	12/3/2013	PIT	287.0	2	89.8	2.0	97.0	23.5	93	NU	Pass
WB	164	12/3/2013	PIT	287.0	2	90.5	25.8	97.0	23.5	93	NU	Pass
WB	165	12/3/2013	PIT	288.0	2	89.4	26.2	97.0	23.5	92	NU	Pass
WB	166	12/3/2013	PIT	289.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
WB	167	12/3/2013	PIT	289.0	2	90.7	25.7	97.0	23.5	94	NU	Pass
WM	168	12/3/2013	Water Line - West Side	324.0	5	134.3	8.1	137.0	10.0	98	NU	Pass
WM	169	12/3/2013	Water Line - West Side	322.0	5	134.7	8.0	137.0	10.0	98	NU	Pass
WM	170	12/17/2013	Water Line - West Side	314.0	5	130.9	9.1	137.0	10.0	96	NU	Pass
WM	171	12/17/2013	Water Line - West Side	315.0	5	131.2	8.7	137.0	10.0	96	NU	Pass
WM	172	12/18/2013	Water Line - West Side	322.0	5	131.5	8.4	137.0	10.0	96	NU	Pass
WM	173	12/18/2013	Water Line - West Side	317.0	5	131.0	8.7	137.0	10.0	96	NU	Pass
WM	174	12/18/2013	Water Line - West Side	318.0	5	131.1	8.5	137.0	10.0	96	SC	Pass
WM	175	1/6/2014	Water Line - West Side	309.0	5	130.4	10.2	137.0	10.0	95	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WM	176	1/6/2014	Water Line - West Side	310.0	5	130.9	10.1	137.0	10.0	96	NU	Pass
WM	177	1/6/2014	Water Line - West Side	314.0	5	131.9	10.0	137.0	10.0	96	NU	Pass
WM	178	1/6/2014	Water Line - West Side	315.0	5	130.6	10.1	137.0	10.0	95	NU	Pass
WM	179	1/8/2014	Water Line - West Side	308.0	5	130.8	10.4	137.0	10.0	95	NU	Pass
WM	180	1/8/2014	Water Line - West Side	309.0	5	131.1	9.8	137.0	10.0	96	NU	Pass
WM	181	1/8/2014	Water Line - West Side	310.0	5	130.7	10.2	137.0	10.0	95	NU	Pass
WM	182	1/10/2014	Water Line - West Side	316.0	5	130.3	10.5	137.0	10.0	95	NU	Pass
WM	183	1/10/2014	Water Line - West Side	316.0	5	130.6	10.4	137.0	10.0	95	NU	Pass
WM	184	1/10/2014	Water Line - West Side	318.0	5	131.8	10.0	137.0	10.0	96	NU	Pass
WM	185	1/10/2014	WL - Lat "G" Retest of #168	324.0	5	130.2	10.4	137.0	10.0	95	NU	Pass
WM	186	1/10/2014	Water Line - Lat "G"	323.0	5	130.5	10.3	137.0	10.0	95	NU	Pass
WM	187	1/10/2014	Water Line - Lat "G"	324.0	5	130.9	10.0	137.0	10.0	96	NU	Pass
WM	188	1/10/2014	WL - Lat "F" Retest of #169	322.0	5	130.7	10.1	137.0	10.0	95	SC	Pass
WM	189	1/13/2014	Lateral "E"	SG	5	130.6	10.5	137.0	10.0	95	NU	Pass
WM	190	1/13/2014	Lateral "E"	SG	5	133.9	10.7	137.0	10.0	98	NU	Pass
WM	191	1/13/2014	Lateral "E"	SG	5	133.2	10.0	137.0	10.0	97	NU	Pass
WM	192	1/13/2014	Lateral "E"	SG	5	132.1	10.3	137.0	10.0	96	NU	Pass
WM	193	1/13/2014	Lateral "E"	SG	5	130.4	10.9	137.0	10.0	95	NU	Pass
WM	94	1/13/2014	Lateral "E"	SG	5	130.3	10.6	137.0	10.0	95	NU	Pass
SG	195	1/15/2014	Cabot Road Slope	SG	2	92.4	24.3	97.0	23.5	95	NU	Pass
SG	196	1/15/2014	Cabot Road Slope	SG	2	94.2	25.5	97.0	23.5	97	NU	Pass
SG	197	1/23/2014	Lateral "D" - Cabot Rd	318.0	5	131.5	8.0	137.0	10.0	96	NU	Pass
SG	198	1/23/2014	Lateral "D" - Cabot Rd	318.0	5	130.1	8.4	137.0	10.0	95	NU	Pass
WM	199	1/23/2014	Lateral "D" - Cabot Rd	317.0	5	130.3	7.9	137.0	10.0	95	NU	Pass
SG	200	1/23/2014	Lateral "D" - Cabot Rd	319.0	5	130.2	7.5	137.0	10.0	95	NU	Pass
SG	201	1/23/2014	Lateral "D" - Cabot Rd	319.0	5	130.1	8.1	137.0	10.0	95	SC	Pass
WM	202	1/24/2014	Lateral "C" - Cabot Rd	311.0	5	131.9	9.9	137.0	10.0	96	NU	Pass
WM	203	1/24/2014	Lateral "C" - Cabot Rd	313.0	5	131.2	10.1	137.0	10.0	96	NU	Pass
WM	204	1/24/2014	Lateral "C" - Cabot Rd	313.0	5	131.7	10.3	137.0	10.0	96	NU	Pass
WM	205	1/24/2014	Lateral "C" - Cabot Rd	315.0	5	131.5	10.4	137.0	10.0	96	NU	Pass
WM	206	1/24/2014	Lateral "B" - Cabot Rd	310.0	5	131.1	9.7	137.0	10.0	96	NU	Pass
WM	207	1/24/2014	Lateral "B" - Cabot Rd	312.0	5	132.2	9.5	137.0	10.0	97	SC	Pass
WM	208	1/28/2014	Water Line - N of Lat "F"	319.0	5	130.2	10.0	137.0	10.0	95	NU	Pass
WM	209	1/28/2014	Water Line - N of Lat "F"	319.0	5	131.7	9.8	137.0	10.0	96	NU	Pass
WM	210	1/28/2014	Water Line - N of Lat "F"	320.0	5	131.1	10.1	137.0	10.0	96	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WM	211	1/28/2014	Water Line - N of Lat "F"	320.0	5	130.8	10.3	137.0	10.0	95	NU	Pass
WM	212	1/29/2014	Water Line - N of Lat "G"	323.0	5	130.5	10.4	137.0	10.0	95	NU	Pass
WM	213	1/29/2014	Water Line - N of Lat "G"	323.0	5	131.0	10.1	137.0	10.0	96	NU	Pass
WM	214	1/29/2014	Water Line - N of Lat "G"	324.0	5	130.6	10.2	137.0	10.0	95	NU	Pass
WM	215	1/30/2014	Water Line - N of Lat "D"	316.0	5	131.3	10.1	137.0	10.0	96	NU	Pass
WM	216	1/30/2014	Water Line - N of Lat "D"	317.0	5	130.7	10.3	137.0	10.0	95	NU	Pass
WM	217	1/30/2014	Water Line - N of Lat "D"	317.0	5	131.0	9.9	137.0	10.0	96	SC	Pass
WM	218	1/31/2014	Water Line - N of Lat "B"	306.0	5	130.9	10.0	137.0	10.0	96	NU	Pass
WM	219	1/31/2014	Water Line - N of Lat "B"	302.0	5	131.4	9.8	137.0	10.0	96	NU	Pass
WM	220	1/31/2014	Water Line - N of Lat "B"	308.0	5	131.7	10.1	137.0	10.0	96	NU	Pass
WM	221	1/31/2014	Water Line - S of Lat "F"	319.0	5	131.0	10.0	137.0	10.0	96	NU	Pass
WM	222	1/31/2014	Water Line - S of Lat "F"	320.0	5	130.8	10.2	137.0	10.0	95	NU	Pass
WM	223	1/31/2014	Water Line - S of Lat "F"	321.0	5	130.5	10.4	137.0	10.0	95	NU	Pass
WB	224	2/4/2014	Gridline T.5	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	225	2/4/2014	Gridline T.5	291.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	226	2/4/2014	Gridline T.5	292.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	227	2/4/2014	Gridline T.5	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	228	2/4/2014	Gridline T.5	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	229	2/4/2014	Gridline 14	291.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	230	2/4/2014	Elevator Pit - East Side	287.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
WB	231	2/4/2014	Elevator Pit - East Side	289.0	2	90.3	25.7	97.0	23.5	93	SC	Pass
WB	232	2/4/2014	Gridline 14	292.0	6	119.1	12.3	128.0	10.0	93	SC	Pass
WB	236	2/5/2014	Gridline T.5	293.0	6	119.2	12.6	128.0	10.0	93	NU	Pass
WB	237	2/5/2014	Gridline T.5	294.0	6	118.7	12.5	128.0	10.0	93	NU	Pass
WB	238	2/5/2014	Gridline 1	291.0	6	119.5	12.1	128.0	10.0	93	NU	Pass
WB	239	2/5/2014	Gridline 1	292.0	6	120.3	12.0	128.0	10.0	94	NU	Pass
WB	240	2/5/2014	Gridline 1	293.0	6	118.2	12.7	128.0	10.0	92	NU	Pass
WB	241	2/5/2014	Gridline 14	291.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	242	2/5/2014	Gridline 14	292.0	6	118.5	12.6	128.0	10.0	93	NU	Pass
WB	243	2/5/2014	Gridline 14	293.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
SG	244	2/5/2014	North of Sewer Lateral	318.0	6	126.2	11.4	128.0	10.0	99	NU	Pass
SG	245	2/5/2014	North of Sewer Lateral	320.0	6	125.0	11.7	128.0	10.0	98	SC	Pass
WB	246	2/6/2014	Gridline 14	294.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	247	2/6/2014	Gridlines J.2 & 14	291.0	6	117.9	13.1	128.0	10.0	92	NU	Pass
WB	248	2/6/2014	Gridlines J.2 & 14	292.0	6	118.8	12.2	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	249	2/6/2014	Gridlines J.2 & 14	293.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
WB	250	2/6/2014	Gridlines J.2 & 14	294.0	6	119.4	12.1	128.0	10.0	93	NU	Pass
WB	251	2/6/2014	Gridline T.5	295.0	6	118.2	12.5	128.0	10.0	92	NU	Pass
WB	252	2/6/2014	Gridline T.5	295.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	253	2/6/2014	Gridline T.5	296.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	254	2/6/2014	Gridline T.5	297.0	6	118.5	12.7	128.0	10.0	93	NU	Pass
B	255	2/6/2014	Between Laterals	316.0	5	131.6	10.7	137.0	10.0	96	NU	Pass
B	256	2/6/2014	Between Laterals	318.0	5	131.0	11.1	137.0	10.0	96	NU	Pass
WB	259	2/7/2014	Gridline J.2	291.0	6	118.6	12.6	128.0	10.0	93	NU	Pass
WB	260	2/7/2014	Gridline J.2	291.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	261	2/7/2014	Gridline J.2	292.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	262	2/7/2014	Gridline J.2	292.0	6	118.5	12.9	128.0	10.0	93	SC	Pass
WB	268	2/10/2014	Gridline 14 - Between T.5&J.2	294.0	6	119.0	12.3	128.0	10.0	93	NU	Pass
WB	269	2/10/2014	Gridline 14 - Between T.5&J.2	295.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	270	2/10/2014	Gridline 14 - Between T.5&J.2	296.0	6	119.9	12.0	128.0	10.0	94	NU	Pass
WB	271	2/11/2014	Gridline J.2 - Between 13&19	291.0	6	118.2	12.8	128.0	10.0	92	NU	Pass
WB	272	2/11/2014	Gridline J.2 - Between 13&19	292.0	6	118.5	13.0	128.0	10.0	93	NU	Pass
WB	273	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
WB	274	2/11/2014	Gridline J.2 - Between 13&19	293.0	6	119.9	12.1	128.0	10.0	94	NU	Pass
WB	275	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.8	13.1	128.0	10.0	93	NU	Pass
WB	276	2/11/2014	Gridline J.2 - Between 13&19	294.0	6	118.3	13.4	128.0	10.0	92	NU	Pass
WM	277	2/11/2014	Lateral "F"	325.0	2	87.9	25.8	97.0	23.5	91	NU	Pass
WM	278	2/11/2014	Lateral "G"	323.0	2	87.8	26.0	97.0	23.5	91	NU	Pass
WM	279	2/11/2014	Fire Hydrant	291.0	2	87.8	25.9	97.0	23.5	91	NU	Pass
WM	280	2/11/2014	Fire Hydrant	292.0	2	88.0	26.9	97.0	23.5	91	NU	Pass
WB	281	2/12/2014	Gridline 14 - Between T.5&J.2	295.0	2	88.3	12.8	97.0	23.5	91	NU	Pass
WB	282	2/12/2014	Gridline 14 - Between T.5&J.2	296.0	6	118.9	12.4	128.0	10.0	93	NU	Pass
WB	283	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
WB	284	2/12/2014	Gridline 14 - Between T.5&J.2	297.0	6	119.1	12.2	128.0	10.0	93	SC	Pass
WB	285	2/12/2014	Gridline 14 - Between T.5&J.2	298.0	6	117.8	13.1	128.0	10.0	92	NU	Pass
WB	286	2/12/2014	Gridline 14 - Between T.5&J.2	299.0	6	118.0	12.7	128.0	10.0	92	NU	Pass
WB	287	2/12/2014	Gridline T.5	299.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	288	2/12/2014	Gridline T.5	299.0	6	118.2	12.6	128.0	10.0	92	NU	Pass
WB	289	2/12/2014	Gridline T.5	299.0	6	119.3	12.0	128.0	10.0	93	NU	Pass
WB	290	2/12/2014	Gridline J.2 - Between 13&19	295.0	6	118.7	12.4	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	291	2/13/2014	Gridline J.2 - Between 13&19	295.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	292	2/14/2014	Gridline J.2 - Between 13&19	296.0	6	119.0	12.1	128.0	10.0	93	NU	Pass
WB	293	2/14/2014	Gridline J.2 - Between 13&19	291.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
WB	294	2/14/2014	Gridline J.2 - Between 13&19	292.0	6	118.9	12.3	128.0	10.0	93	NU	Pass
WB	295	2/14/2014	Gridline J.2 - Between 13&19	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	296	2/14/2014	Gridline J.2 - Between 13&19	294.0	6	118.6	12.5	128.0	10.0	93	SC	Pass
WB	297	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	298	2/18/2014	Gridline J.2 - Between 14&18	298.0	6	118.3	12.7	128.0	10.0	92	NU	Pass
WB	299	2/18/2014	Gridline J.2 - Between 14&18	299.0	6	118.9	12.2	128.0	10.0	93	NU	Pass
WB	300	2/18/2014	Gridline J.2 - Between 14&18	300.0	6	118.1	12.6	128.0	10.0	92	NU	Pass
WB	301	2/18/2014	Gridline J.2 - Between 14&18	297.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	302	2/18/2014	Gridline J.2 - Between 14&18	298.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	303	2/18/2014	Gridline J.2 - Between 14&18	299.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	304	2/19/2014	Gridline 1/2 - Between AA-T.5	292.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	305	2/19/2014	Gridline 1/2 - Between AA-T.5	295.0	6	118.0	12.8	128.0	10.0	92	NU	Pass
WB	306	2/19/2014	Gridline 1/2 - Between AA-T.5	294.0	6	118.5	12.3	128.0	10.0	93	NU	Pass
WB	307	2/19/2014	Gridline 1/2 - Between AA-T.5	296.0	6	118.8	12.1	128.0	10.0	93	NU	Pass
WB	308	2/19/2014	Gridline 1/2 - Between AA-T.5	296.0	6	118.1	13.0	128.0	10.0	92	SC	Pass
WB	309	2/20/2014	Gridline 1/2 - Between AA-T.5	299.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
WB	310	2/20/2014	Gridline 1/2 - Between AA-T.5	300.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	311	2/20/2014	Gridline 14	296.0	6	118.4	12.6	128.0	10.0	93	NU	Pass
WB	312	2/20/2014	Gridline 14	296.0	6	118.1	12.9	128.0	10.0	92	NU	Pass
WB	313	2/20/2014	Gridline 14	297.0	6	118.3	12.6	128.0	10.0	92	NU	Pass
WB	314	2/20/2014	Gridline 14	298.0	6	118.9	12.1	128.0	10.0	93	NU	Pass
WB	315	2/20/2014	Gridline 14	299.0	6	118.6	12.5	128.0	10.0	93	NU	Pass
WB	316	2/20/2014	Gridline 14	300.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	317	3/18/2014	Column Backfill	291.0	2	90.2	25.7	97.0	23.5	93	NU	Pass
WB	318	3/18/2014	Column Backfill	293.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	319	3/18/2014	Column Backfill	295.0	6	118.7	12.1	128.0	10.0	93	NU	Pass
WB	320	3/18/2014	Column Backfill	297.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	321	3/18/2014	Column Backfill	299.0	6	118.8	12.0	128.0	10.0	93	SC	Pass
WB	322	3/19/2014	Gridline J.2 - 18	291.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
WB	323	3/19/2014	Gridline J.2 - 18	292.0	6	118.4	12.1	128.0	10.0	93	NU	Pass
WB	324	3/19/2014	Gridline J.2 - 18	292.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	325	3/19/2014	Gridline J.2 - 18	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	326	3/19/2014	Gridline J.2-18	293.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	327	3/20/2014	Gridline J.2-18	294.0	6	119.5	12.3	128.0	10.0	93	NU	Pass
WB	328	3/20/2014	Gridline J.2-18	295.0	6	118.9	13.0	128.0	10.0	93	NU	Pass
WB	329	3/20/2014	Gridline J.2-18	296.0	6	119.2	12.5	128.0	10.0	93	NU	Pass
WB	330	3/20/2014	Gridline J.2-18	297.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
WB	331	3/20/2014	Gridline J.2-18	298.0	6	118.6	12.9	128.0	10.0	93	NU	Pass
WB	332	3/20/2014	Gridline J.2-18	299.0	6	118.3	13.1	128.0	10.0	92	SC	Pass
WB	333	4/4/2014	Along J.2	300.0	6	118.8	12.2	128.0	10.0	93	NU	Pass
WB	334	4/4/2014	Along J.2	300.0	6	118.5	12.5	128.0	10.0	93	NU	Pass
WB	335	4/4/2014	Along J.2	300.0	6	119.0	12.0	128.0	10.0	93	NU	Pass
WB	336	4/4/2014	Along J.2	300.0	6	118.1	12.7	128.0	10.0	92	NU	Pass
BF	337	4/7/2014	Column Backfill - Gridline M/11	291.0	2	89.5	25.7	97.0	23.5	92	NU	Pass
BF	338	4/7/2014	Column Backfill - Gridline M/11	292.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
BF	339	4/7/2014	Column Backfill - Gridline M/11	293.0	2	90.3	25.6	97.0	23.5	93	NU	Pass
BF	340	4/7/2014	Column Backfill - Gridline M/11	294.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	341	4/7/2014	Column Backfill - Gridline M/11	295.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
BF	342	4/7/2014	Column Backfill - Gridline M/11	296.0	2	89.5	26.3	97.0	23.5	92	NU	Pass
BF	343	4/7/2014	Column Backfill - Gridline M/11	297.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
BF	344	4/7/2014	Column Backfill - Gridline M/11	298.0	2	90.4	25.6	97.0	23.5	93	NU	Pass
BF	345	4/7/2014	Column Backfill - Gridline M/11	299.0	2	89.9	25.8	97.0	23.5	93	NU	Pass
BF	346	4/7/2014	Column Backfill - Gridline M/11	300.0	2	89.5	26.1	97.0	23.5	92	NU	Pass
BF	347	4/7/2014	Column/Elevator Backfill - N/11	296.0	2	89.3	26.8	97.0	23.5	92	NU	Pass
BF	348	4/7/2014	Column/Elevator Backfill - N/11	297.0	2	90.6	25.6	97.0	23.5	93	SC	Pass
BF	349	4/8/2014	Column/Elevator Backfill - N/11	298.0	2	90.9	25.4	97.0	23.5	94	NU	Pass
BF	350	4/8/2014	Column/Elevator Backfill - N/11	299.0	2	89.4	26.1	97.0	23.5	92	NU	Pass
BF	351	4/8/2014	Column/Elevator Backfill - N/11	300.0	2	89.8	24.3	97.0	23.5	93	NU	Pass
BF	352	4/8/2014	Column Backfill - Gridline T/11	296.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
BF	353	4/8/2014	Column Backfill - Gridline T/11	297.0	2	90.3	25.5	97.0	23.5	93	NU	Pass
BF	354	4/8/2014	Column Backfill - Gridline T/11	298.0	2	90.6	25.6	97.0	23.5	93	NU	Pass
BF	355	4/8/2014	Column Backfill - Gridline T/11	299.0	2	89.4	25.9	97.0	23.5	92	NU	Pass
BF	356	4/8/2014	Column Backfill - Gridline T/11	300.0	2	89.7	25.6	97.0	23.5	92	SC	Pass
BF	357	4/9/2014	Column Backfill - Gridline T/11	295.0	2	90.4	25.7	97.0	23.5	93	NU	Pass
BF	358	4/9/2014	Column Backfill - Gridline T/11	296.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
BF	359	4/9/2014	Column Backfill - Gridline T/11	297.0	2	89.7	26.2	97.0	23.5	92	NU	Pass
BF	360	4/9/2014	Column Backfill - Gridline T/11	298.0	2	89.4	26.1	97.0	23.5	92	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
W E S T, I N C.

PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	361	4/9/2014	Column Backfill - Gridline T/11	299.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
BF	362	4/9/2014	Column Backfill - Gridline T/11	300.0	2	90.3	25.6	97.0	23.5	93	SC	Pass
SM	363	4/12/2014	Sewer Line - Gridline T East	297.0	2	90.7	25.5	97.0	23.5	94	NU	Pass
SM	364	4/12/2014	Sewer Line - Gridline T East	298.0	2	89.9	25.8	97.0	23.5	93	NU	Pass
SM	365	4/12/2014	Sewer Line - Gridline T East	300.0	2	89.5	26.0	97.0	23.5	92	NU	Pass
SM	366	4/14/2014	Gridline T.5	297.0	2	89.8	26.4	97.0	23.5	93	NU	Pass
SM	367	4/14/2014	Gridline T.5	298.0	2	90.2	26.1	97.0	23.5	93	NU	Pass
SM	368	4/14/2014	Gridline T.5	299.0	2	89.5	26.7	97.0	23.5	92	NU	Pass
SM	369	4/14/2014	Gridline T.5	300.0	2	89.7	26.3	97.0	23.5	92	NU	Pass
WB	370	4/14/2014	Wall - East Side of Bldg	292.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
WB	371	4/14/2014	Wall - East Side of Bldg	292.0	6	118.9	12.1	128.0	10.0	93	NU	Pass
WB	372	4/14/2014	Wall - East Side of Bldg	293.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
WB	373	4/14/2014	Wall - East Side of Bldg	293.0	6	118.7	12.3	128.0	10.0	93	NU	Pass
WB	374	4/14/2014	Wall - East Side of Bldg	294.0	6	119.3	12.2	128.0	10.0	93	NU	Pass
WB	375	4/14/2014	Wall - East Side of Bldg	294.0	6	118.5	12.8	128.0	10.0	93	NU	Pass
WB	376	4/14/2014	Wall - East Side of Bldg	295.0	6	118.2	12.9	128.0	10.0	92	NU	Pass
WB	377	4/14/2014	Wall - East Side of Bldg	295.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
SD	378	4/15/2014	Gridlines M/N - 7/8	300.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
SM	379	4/15/2014	Gridline N/14	299.0	2	90.5	25.8	97.0	23.5	93	NU	Pass
SM	380	4/15/2014	Gridline T.5/14	299.0	2	89.9	26.5	97.0	23.5	93	NU	Pass
WB	381	4/15/2014	Wall - East Side of Bldg	296.0	6	119.0	12.4	128.0	10.0	93	NU	Pass
WB	382	4/15/2014	Wall - East Side of Bldg	296.0	6	118.8	12.7	128.0	10.0	93	NU	Pass
WB	383	4/15/2014	Wall - East Side of Bldg	296.0	6	119.2	12.1	128.0	10.0	93	NU	Pass
WB	384	4/15/2014	Wall - East Side of Bldg	297.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
WB	385	4/15/2014	Wall - East Side of Bldg	297.0	6	118.7	12.4	128.0	10.0	93	SC	Pass
WB	386	4/15/2014	Wall - East Side of Bldg	297.0	6	118.9	12.2	128.0	10.0	93	SC	Pass
FL	387	4/16/2014	North Access Road	329.0	2	90.4	25.5	97.0	23.5	93	NU	Pass
FL	388	4/16/2014	North Access Road	329.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
FL	389	4/16/2014	North Access Road	329.0	2	89.5	26.9	97.0	23.5	92	NU	Pass
FL	390	4/16/2014	North Access Road	330.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
FL	391	4/16/2014	North Access Road	330.0	2	90.7	25.6	97.0	23.5	94	NU	Pass
FL	392	4/16/2014	North Access Road	330.0	2	90.0	26.1	97.0	23.5	93	NU	Pass
FL	393	4/16/2014	North Access Road	331.0	2	89.6	26.4	97.0	23.5	92	NU	Pass
FL	394	4/16/2014	North Access Road	331.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
FL	395	4/16/2014	North Access Road	331.0	2	90.3	25.7	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



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TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	396	4/21/2014	East Side of Bldg	298.0	2	91.1	25.7	97.0	23.5	94	NU	Pass
SG	397	4/21/2014	East Side of Bldg	299.0	2	90.5	26.0	97.0	23.5	93	SC	Pass
SG	398	4/22/2014	Column Backfill	291.0	2	89.6	26.3	97.0	23.5	92	NU	Pass
SG	399	4/22/2014	Column Backfill	293.0	2	90.0	26.1	97.0	23.5	93	NU	Pass
SG	400	4/22/2014	Column Backfill	295.0	2	90.7	25.9	97.0	23.5	94	NU	Pass
SG	401	4/22/2014	Column Backfill	297.0	2	89.4	26.6	97.0	23.5	92	NU	Pass
SG	402	4/22/2014	Column Backfill	299.0	2	89.9	26.0	97.0	23.5	93	NU	Pass
SG	403	4/22/2014	Column Backfill	300.0	2	89.5	26.4	97.0	23.5	92	NU	Pass
SG	404	4/22/2014	East Side of Bldg	300.0	2	89.8	26.0	97.0	23.5	93	NU	Pass
SG	405	4/22/2014	East Side of Bldg	301.0	2	89.5	26.2	97.0	23.5	92	SC	Pass
UT	406	4/24/2014	Storm Drain - Line B	299.0	2	89.6	26.4	97.0	23.5	92	NU	Pass
UT	407	4/24/2014	Storm Drain - Line B	300.0	2	90.1	26.0	97.0	23.5	93	NU	Pass
UT	408	4/24/2014	Storm Drain - Line B	299.0	2	90.6	25.7	97.0	23.5	93	NU	Pass
UT	409	4/24/2014	Sewer Line - Line G	300.0	2	89.7	26.1	97.0	23.5	92	NU	Pass
UT	410	4/24/2014	Sewer Line - Line G	300.0	2	90.3	26.0	97.0	23.5	93	NU	Pass
SG	411	4/24/2014	South of Bldg	290.0	2	90.6	26.2	97.0	23.5	93	NU	Pass
SG	412	4/24/2014	South of Bldg	290.0	2	90.8	26.0	97.0	23.5	94	NU	Pass
SG	413	4/24/2014	South of Bldg	290.0	2	90.7	26.4	97.0	23.5	94	NU	Pass
SG	414	4/24/2014	South of Bldg	291.0	2	91.3	25.6	97.0	23.5	94	NU	Pass
SG	415	4/24/2014	South of Bldg	291.0	2	89.5	25.9	97.0	23.5	92	SC	Pass
SG	416	4/24/2014	South of Bldg	300.0	2	90.2	26.2	97.0	23.5	93	SC	Pass
UT	417	4/25/2014	Storm Drain - Line B	300.0	2	90.8	26.0	97.0	23.5	94	NU	Pass
UT	418	4/25/2014	Storm Drain - Line B	299.0	2	89.5	25.8	97.0	23.5	92	NU	Pass
UT	419	4/25/2014	Storm Drain - Line 14-15	300.0	2	89.9	26.3	97.0	23.5	93	NU	Pass
UT	420	4/25/2014	Storm Drain - Line 14-15	299.0	2	90.5	26.1	97.0	23.5	93	NU	Pass
UT	421	4/25/2014	Storm Drain - Line 14-15	300.0	2	90.0	25.8	97.0	23.5	93	NU	Pass
UT	422	4/25/2014	Storm Drain - Line 14-15	299.0	2	91.1	25.5	97.0	23.5	94	NU	Pass
UT	423	4/25/2014	Storm Drain - Line 14-15	300.0	2	89.9	26.2	97.0	23.5	93	SC	Pass
WB	424	5/6/2014	East Side - Grid Line X6 to X9	288.0	2	90.1	25.8	97.0	23.5	93	NU	Pass
WB	425	5/6/2014	East Side - Grid Line X6 to X9	289.0	2	89.7	25.5	97.0	23.5	92	NU	Pass
WB	426	5/6/2014	East Side - Grid Line X6 to X9	290.0	2	90.3	26.1	97.0	23.5	93	NU	Pass
SG	427	5/20/2014	Fire Road - East to West	334.0	2	92.9	24.1	97.0	23.5	96	NU	Pass
SG	428	5/20/2014	Fire Road - East to West	334.0	2	93.1	23.8	97.0	23.5	96	NU	Pass
SG	429	5/20/2014	Fire Road - East to West	332.0	2	92.4	24.3	97.0	23.5	95	NU	Pass
SG	430	5/20/2014	Fire Road - East to West	331.0	2	92.7	24.0	97.0	23.5	96	SC	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	431	5/23/2014	Fire Access Road	332.0	9	120.4	8.6	123.0	10.0	98	NU	Pass
B	432	5/23/2014	Fire Access Road	332.0	9	118.2	7.3	123.0	10.0	96	NU	Pass
B	433	5/23/2014	Fire Access Road	332.0	9	117.6	8.1	123.0	10.0	96	NU	Pass
SG	434	6/3/2014	Gridline Y11 - X6 to X10	290.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
SG	435	6/3/2014	Gridline Y11 - X6 to X10	292.0	2	89.8	26.0	97.0	23.5	93	NU	Pass
SG	436	6/3/2014	Gridline Y11 - X6 to X10	294.0	2	90.3	25.5	97.0	23.5	93	SC	Pass
SG	437	7/1/2014	Gridline Y10 - X10 to X16	300.0	2	90.6	25.3	97.0	23.5	93	NU	Pass
SG	438	7/1/2014	Gridline Y10 - X10 to X16	301.0	2	90.9	25.0	97.0	23.5	94	NU	Pass
SG	439	7/1/2014	Gridline Y10 - X10 to X16	302.0	2	89.7	26.0	97.0	23.5	92	SC	Pass
SG	440	7/2/2014	Gridline Y10 - X10 to X16	303.0	2	90.1	25.8	97.0	23.5	93	NU	Pass
SG	441	7/2/2014	Gridline Y10 - X10 to X16	304.0	2	90.4	25.6	97.0	23.5	93	NU	Pass
SG	442	7/2/2014	Gridline Y10 to X6 to X10	296.0	2	89.9	26.1	97.0	23.5	93	NU	Pass
SG	443	7/2/2014	Gridline Y10 to X6 to X10	298.0	2	90.0	25.8	97.0	23.5	93	SC	Pass
SG	444	7/8/2014	Gridlines 1-3s and D.5-G	292.0	2	90.1	25.3	97.0	23.5	93	NU	Pass
SG	445	7/8/2014	Gridlines 1-3s and D.5-G	293.0	2	90.5	25.0	97.0	23.5	93	NU	Pass
SG	446	7/8/2014	Gridlines 1-3s and D.5-G	295.0	2	89.8	25.5	97.0	23.5	93	NU	Pass
SG	447	7/8/2014	Gridlines 1-3s and D.5-G	296.0	2	90.0	25.1	97.0	23.5	93	NU	Pass
SG	448	7/8/2014	Gridlines 1-3s and D.5-G	297.0	2	90.3	25.0	97.0	23.5	93	SC	Pass
SG	449	7/15/2014	Gridlines 1-3 between D.5 to N.8	293.0	2	90.1	25.7	97.0	23.5	93	NU	Pass
SG	450	7/15/2014	Gridlines 1-3 between D.5 to N.8	295.0	2	90.4	25.8	97.0	23.5	93	NU	Pass
SG	451	7/15/2014	Gridlines 1-3 between D.5 to N.8	297.0	2	90.8	25.5	97.0	23.5	94	NU	Pass
SG	452	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	90.0	25.9	97.0	23.5	93	NU	Pass
SG	453	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	90.3	25.6	97.0	23.5	93	NU	Pass
SG	454	7/15/2014	Gridlines 1-3 between D.5 to N.8	299.0	2	89.9	26.1	97.0	23.5	93	SC	Pass
SG	455	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	118.0	12.5	128.0	10.0	92	NU	Pass
SG	456	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	117.9	12.8	128.0	10.0	92	NU	Pass
SG	457	7/21/2015	Gridlines 1-3 between D.5 to N.8	308.0	6	118.4	12.3	128.0	10.0	93	NU	Pass
SG	458	7/21/2015	Gridlines 1-3 between D.5 to N.8	309.0	6	118.7	12.0	128.0	10.0	93	NU	Pass
SG	459	7/21/2015	Gridlines 1-3 between D.5 to N.8	310.0	6	118.5	12.1	128.0	10.0	93	SC	Pass
SG	460	7/22/2015	West of Building	301.0	6	118.4	12.5	128.0	10.0	93	NU	Pass
SG	461	7/22/2015	West of Building	303.0	6	118.9	12.0	128.0	10.0	93	NU	Pass
SG	462	7/22/2015	West of Building	305.0	6	118.3	12.2	128.0	10.0	92	NU	Pass
SG	463	7/22/2015	West of Building	307.0	6	118.0	12.7	128.0	10.0	92	SC	Pass
SG	464	7/23/2015	Gridline 3-7 and A-B	302.0	6	118.7	12.6	128.0	10.0	93	NU	Pass
SG	465	7/23/2015	Gridline 3-7 and A-B	303.0	6	118.4	13.1	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	466	7/23/2014	Gridlines 3-7 and A-B	304.0	6	119.2	12.0	128.0	10.0	93	NU	Pass
SG	467	7/23/2014	Gridlines 3-7 and A-B	305.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
SG	468	7/23/2014	Gridlines 3-7 and A-B	306.0	6	119.1	12.0	128.0	10.0	93	NU	Pass
SG	469	7/23/2014	Gridlines 3-7 and A-B	307.0	6	118.3	12.8	128.0	10.0	92	SC	Pass
SG	470	7/24/2014	Gridlines 3-7 and A-B	309.0	6	120.1	12.3	128.0	10.0	94	NU	Pass
SG	471	7/24/2014	Gridlines 3-7 and A-B	310.0	6	118.7	12.2	128.0	10.0	93	NU	Pass
SG	472	7/24/2014	Gridlines 3-7 and A-B	311.0	6	118.4	12.8	128.0	10.0	93	NU	Pass
SG	473	7/24/2014	Gridlines 3-7 and A-B	312.0	6	118.0	13.1	128.0	10.0	92	SC	Pass
SG	474	7/28/2014	Gridlines 1-3 and D-K	311.0	6	118.8	12.3	128.0	10.0	93	NU	Pass
SG	475	7/28/2014	Gridlines 1-3 and D-K	312.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
SG	476	7/28/2014	Gridlines 1-3 and D-K	313.0	6	119.0	12.2	128.0	10.0	93	NU	Pass
SG	477	7/28/2014	Gridlines 1-3 and D-K	314.0	6	118.6	12.9	128.0	10.0	93	NU	Pass
SG	478	7/28/2014	Gridlines 1-3 and D-K	315.0	6	118.9	12.3	128.0	10.0	93	SC	Pass
SG	479	7/29/2014	Gridlines 3-7 and A-B	313.0	6	118.5	13.1	128.0	10.0	93	NU	Pass
SG	480	7/29/2014	Gridlines 3-7 and A-B	314.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
SG	481	7/29/2014	Gridlines 3-7 and A-B	317.0	6	118.6	12.7	128.0	10.0	93	NU	Pass
SG	482	7/29/2014	Gridlines 3-7 and A-B	315.0	6	118.2	12.4	128.0	10.0	92	NU	Pass
SG	483	7/29/2014	Gridlines 3-7 and A-B	315.0	6	119.0	12.1	128.0	10.0	93	SC	Pass
WB	484	8/14/2014	Gridlines 5-9 and C-K	316.0	6	119.4	12.2	128.0	10.0	93	NU	Pass
WB	485	8/14/2014	Gridlines 5-9 and C-K	317.0	6	118.9	12.7	128.0	10.0	93	NU	Pass
WB	486	8/14/2014	Gridlines 5-9 and C-K	318.0	6	118.4	13.3	128.0	10.0	93	NU	Pass
WB	487	8/14/2014	Gridlines 5-9 and C-K	319.0	6	118.7	13.1	128.0	10.0	93	NU	Pass
WB	488	8/14/2014	Gridlines 5-9 and C-K	320.0	6	119.5	12.0	128.0	10.0	93	NU	Pass
WB	489	8/14/2014	Gridlines 5-9 and C-K	320.0	6	118.3	13.6	128.0	10.0	92	SC	Pass
WB	490	8/15/2015	Gridlines 3-7 and A-B	316.0	6	118.8	12.5	128.0	10.0	93	NU	Pass
WB	491	8/15/2015	Gridlines 3-7 and A-B	317.0	6	119.1	12.2	128.0	10.0	93	NU	Pass
WB	492	8/15/2015	Gridlines 3-7 and A-B	318.0	6	119.4	12.0	128.0	10.0	93	NU	Pass
WB	493	8/15/2015	Gridlines 3-7 and A-B	319.0	6	118.6	13.0	128.0	10.0	93	NU	Pass
WB	494	8/15/2015	Gridlines 3-7 and A-B	320.0	6	119.0	12.1	128.0	10.0	93	SC	Pass
UT	495	8/20/2014	Storm Drain - East of Bldg	295.0	6	118.5	13.1	128.0	10.0	93	NU	Pass
UT	496	8/20/2014	Storm Drain - East of Bldg	296.0	6	119.7	12.0	128.0	10.0	94	NU	Pass
UT	497	8/20/2014	Storm Drain - East of Bldg	297.0	6	118.0	12.6	128.0	10.0	92	NU	Pass
UT	498	8/21/2014	Storm Drain - NE Side Bldg	304.0	6	118.3	12.9	128.0	10.0	92	NU	Pass
UT	499	8/21/2014	Storm Drain - NE Side Bldg	300.0	6	119.1	12.3	128.0	10.0	93	NU	Pass
UT	500	8/21/2014	Storm Drain - NE Side Bldg	302.0	6	119.4	12.0	128.0	10.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	501	8/22/2014	Storm Drain - NE Side Bldg	296.0	6	118.7	12.4	128.0	10.0	93	NU	Pass
UT	502	8/22/2014	Storm Drain - NE Side Bldg	297.0	6	118.2	13.1	128.0	10.0	92	NU	Pass
UT	503	8/26/2014	Storm Drain - Filter Unit	291.0	4	114.1	12.3	122.0	12.0	94	NU	Pass
UT	504	8/26/2014	Storm Drain - Filter Unit	290.0	4	112.8	11.4	122.0	12.0	92	NU	Pass
UT	505	8/26/2014	Storm Drain - Filter Unit	291.0	4	113.0	10.7	122.0	12.0	93	NU	Pass
UT	506	8/26/2014	Storm Drain - Filter Unit	290.0	4	112.7	11.1	122.0	12.0	92	NU	Pass
UT	507	8/26/2014	Storm Drain - Filter Unit	291.0	4	114.4	12.1	122.0	12.0	94	SC	Pass
UT	508	8/29/2014	Storm Drain - South of Bldg.	289.0	4	115.1	11.6	122.0	12.0	94	NU	Pass
UT	509	8/29/2014	Storm Drain - South of Bldg.	290.0	4	114.8	12.5	122.0	12.0	94	NU	Pass
UT	510	8/29/2014	Storm Drain - South of Bldg.	291.0	4	113.8	12.0	122.0	12.0	93	NU	Pass
UT	511	8/29/2014	Storm Drain - South of Bldg.	290.0	4	114.0	11.4	122.0	12.0	93	NU	Pass
UT	512	8/29/2014	Storm Drain - South of Bldg.	291.0	4	113.5	10.9	122.0	12.0	93	SC	Pass
UT	513	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.4	12.8	122.0	12.0	94	NU	Pass
UT	514	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.5	11.9	122.0	12.0	94	NU	Pass
UT	515	9/2/2014	Storm Drain - South of Bldg.	290.0	4	114.0	13.2	122.0	12.0	93	NU	Pass
UT	516	9/2/2014	Storm Drain - South of Bldg.	291.0	4	113.6	12.1	122.0	12.0	93	NU	Pass
UT	517	9/2/2014	Storm Drain - South of Bldg.	291.0	4	114.6	11.3	122.0	12.0	94	NU	Pass
UT	518	9/2/2014	Storm Drain - South of Bldg.	291.0	4	113.7	12.4	122.0	12.0	93	NU	Pass
UT	519	9/2/2014	Storm Drain - East of Bldg	292.0	3	91.6	26.8	97.0	26.0	94	NU	Pass
UT	520	9/2/2014	Storm Drain - East of Bldg	294.0	3	90.0	26.4	97.0	26.0	93	SC	Pass
UT	521	9/2/2014	Storm Drain - East of Bldg	297.0	3	90.6	27.1	97.0	26.0	93	SC	Pass
UT	522	9/3/2014	Storm Drain	296.0	3	91.1	26.8	97.0	26.0	94	NU	Pass
UT	523	9/3/2014	Storm Drain	298.0	3	91.3	27.5	97.0	26.0	94	NU	Pass
UT	524	9/3/2014	Storm Drain	297.0	3	90.5	26.8	97.0	26.0	93	NU	Pass
UT	525	9/3/2014	Storm Drain	299.0	3	90.2	27.2	97.0	26.0	93	SC	Pass
UT	526	9/10/2014	Storm Drain	287.0	3	90.8	26.3	97.0	26.0	94	NU	Pass
UT	527	9/10/2014	Storm Drain	289.0	3	91.0	28.1	97.0	26.0	94	NU	Pass
UT	528	9/10/2014	Storm Drain	292.0	3	92.3	26.5	97.0	26.0	95	NU	Pass
UT	529	9/10/2014	Storm Drain	294.0	3	90.6	27.7	97.0	26.0	93	NU	Pass
UT	530	9/10/2014	Storm Drain	295.0	3	90.5	27.1	97.0	26.0	93	NU	Pass
UT	531	9/10/2014	Storm Drain	290.0	3	91.3	26.6	97.0	26.0	94	NU	Pass
UT	532	9/10/2014	Storm Drain	293.0	3	91.6	26.8	97.0	26.0	94	NU	Pass
UT	533	9/10/2014	Storm Drain	294.0	3	90.8	27.4	97.0	26.0	94	SC	Pass
UT	534	9/10/2014	Storm Drain	295.0	3	91.6	27.8	97.0	26.0	94	SC	Pass
UT	535	9/11/2014	Storm Drain Main - Slope East	325.0	2	90.3	24.3	97.0	23.5	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	536	9/11/2014	Storm Drain Main - Slope East	327.0	2	89.7	25.1	97.0	23.5	92	NU	Pass
UT	537	9/11/2014	Storm Drain Main - Slope East	329.0	2	91.1	23.8	97.0	23.5	94	NU	Pass
UT	538	9/11/2014	Storm Drain Main - Slope East	330.0	2	90.5	24.4	97.0	23.5	93	NU	Pass
UT	539	9/11/2014	Storm Drain Main - Slope East	331.0	2	89.8	24.0	97.0	23.5	93	NU	Pass
UT	540	9/11/2014	Storm Drain Main - Slope East	328.0	2	91.6	25.3	97.0	23.5	94	NU	Pass
UT	541	9/11/2014	Storm Drain Main - Slope East	327.0	2	90.4	25.8	97.0	23.5	93	NU	Pass
UT	542	9/11/2014	Storm Drain Main - Slope East	325.0	2	90.0	24.2	97.0	23.5	93	SC	Pass
UT	543	9/16/2014	Storm Drain - East Side	285.0	3	89.8	27.1	97.0	26.0	93	NU	Pass
UT	544	9/16/2014	Storm Drain - East Side	284.0	3	91.3	26.9	97.0	26.0	94	NU	Pass
UT	545	9/16/2014	Storm Drain - East Side	290.0	3	90.6	28.1	97.0	26.0	93	NU	Pass
UT	546	9/16/2014	Storm Drain - East Side	292.0	3	89.6	27.4	97.0	26.0	92	SC	Pass
UT	547	9/17/2014	Storm Drain	290.0	3	89.8	26.6	97.0	26.0	93	NU	Pass
UT	548	9/17/2014	Storm Drain	292.0	3	91.1	27.3	97.0	26.0	94	NU	Pass
UT	549	9/17/2014	Storm Drain	286.0	3	90.3	27.2	97.0	26.0	93	NU	Pass
UT	550	9/17/2014	Storm Drain	288.0	3	90.0	26.8	97.0	26.0	93	NU	Pass
UT	551	9/17/2014	Storm Drain	290.0	3	90.4	27.5	97.0	26.0	93	SC	Pass
UT	552	9/18/2014	Storm Drain	292.0	3	89.5	27.2	97.0	26.0	92	NU	Pass
UT	553	9/18/2014	Storm Drain	292.0	3	91.3	26.6	97.0	26.0	94	NU	Pass
UT	554	9/18/2014	Storm Drain	288.0	3	90.6	28.1	97.0	26.0	93	NU	Pass
UT	555	9/18/2014	Storm Drain	290.0	3	89.8	27.7	97.0	26.0	93	NU	Pass
UT	556	9/18/2014	Storm Drain	292.0	3	90.1	27.3	97.0	26.0	93	NU	Pass
WB	557	9/18/2014	Loffel Wall - Verdura A	273.0	3	90.6	25.7	97.0	26.0	93	NU	Pass
WB	558	9/18/2014	Loffel Wall - Verdura A	268.0	3	91.2	26.0	97.0	26.0	94	NU	Pass
WB	559	9/18/2014	Loffel Wall - Verdura A	266.0	3	89.4	24.3	97.0	26.0	92	SC	Pass
WB	560	9/18/2014	Loffel Wall - Verdura A	264.0	3	89.2	25.0	97.0	26.0	92	SC	Pass
WB	561	9/19/2014	Loffel Wall - Verdura A	276.0	3	91.8	24.1	97.0	26.0	95	NU	Pass
WB	562	9/19/2014	Loffel Wall - Verdura A	271.0	3	92.1	24.8	97.0	26.0	95	NU	Pass
WB	563	9/19/2014	Loffel Wall - Verdura A	269.0	3	92.4	23.7	97.0	26.0	95	NU	Pass
WB	564	9/19/2014	Loffel Wall - Verdura A	266.0	3	91.3	24.6	97.0	26.0	94	SC	Pass
UT	565	9/19/2014	Storm Drain - Lateral 14-15	285.0	3	91.3	27.3	97.0	26.0	94	NU	Pass
UT	566	9/19/2014	Storm Drain - Lateral 14-15	287.0	3	90.8	26.4	97.0	26.0	94	NU	Pass
UT	567	9/19/2014	Storm Drain - Lateral 14-15	291.0	3	89.8	26.8	97.0	26.0	93	NU	Pass
UT	568	9/19/2014	Storm Drain - Lateral 14-15	286.0	3	91.2	27.0	97.0	26.0	94	SC	Pass
UT	569	9/23/2015	Storm Drain - Lateral	288.0	3	90.3	26.6	97.0	26.0	93	NU	Pass
UT	570	9/23/2015	Storm Drain - Lateral	290.0	3	89.9	27.3	97.0	26.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	571	9/23/2014	Storm Drain - Lateral	290.0	3	92.1	26.3	97.0	26.0	95	NU	Pass
UT	572	9/23/2014	Storm Drain - Lateral	291.0	3	91.3	28.2	97.0	26.0	94	SC	Pass
UT	573	9/25/2014	Storm Drain - South West	286.0	3	89.8	27.8	97.0	26.0	93	NU	Pass
UT	574	9/25/2014	Storm Drain - South West	288.0	3	90.2	28.1	97.0	26.0	93	NU	Pass
UT	575	9/25/2014	Storm Drain - South West	287.0	3	90.0	27.5	97.0	26.0	93	NU	Pass
UT	576	9/25/2014	Storm Drain - South West	290.0	3	91.3	28.3	97.0	26.0	94	NU	Pass
UT	577	9/25/2014	Storm Drain - South West	287.0	3	91.4	26.9	97.0	26.0	94	NU	Pass
UT	578	9/25/2014	Storm Drain - South West	289.0	3	90.6	27.5	97.0	26.0	93	NU	Pass
UT	579	9/25/2014	Storm Drain - South West	290.0	3	90.5	27.7	97.0	26.0	93	SC	Pass
UT	580	9/26/2014	Storm Drain - South West	288.0	3	90.0	28.9	97.0	26.0	93	NU	Pass
UT	581	9/26/2014	Storm Drain - South West	290.0	3	91.1	27.9	97.0	26.0	94	NU	Pass
UT	582	9/26/2014	Storm Drain - South West	291.0	3	90.8	28.7	97.0	26.0	94	NU	Pass
UT	583	9/26/2014	Storm Drain - South West	292.0	3	90.3	28.4	97.0	26.0	93	SC	Pass
WB	584	9/29/2014	Loffel Wall - Verdura A	268.0	9	115.2	12.8	123.0	10.0	94	NU	Pass
WB	585	9/29/2014	Loffel Wall - Verdura A	269.0	9	114.8	13.3	123.0	10.0	93	NU	Pass
WB	586	9/29/2014	Loffel Wall - Verdura A	272.0	9	114.5	12.6	123.0	10.0	93	NU	Pass
WB	587	9/29/2014	Loffel Wall - Verdura A	273.0	9	115.7	14.1	123.0	10.0	94	SC	Pass
WB	588	9/30/2014	Loffel Wall - Verdura A	273.0	9	114.8	11.9	123.0	10.0	93	NU	Pass
WB	589	9/30/2014	Loffel Wall - Verdura A	272.0	9	115.6	12.4	123.0	10.0	94	NU	Pass
WB	590	9/30/2014	Loffel Wall - Verdura A	273.0	9	116.2	13.1	123.0	10.0	94	NU	Pass
WB	591	9/30/2014	Loffel Wall - Verdura A	272.0	9	116.0	12.6	123.0	10.0	94	NU	Pass
WB	592	9/30/2014	Loffel Wall - Verdura A	271.0	9	115.3	12.0	123.0	10.0	94	NU	Pass
WB	593	9/30/2014	Loffel Wall - Verdura A	323.0	2	89.8	26.8	97.0	23.5	93	NU	Pass
WB	594	9/30/2014	Loffel Wall - Verdura A	324.0	2	90.0	27.1	97.0	23.5	93	NU	Pass
WB	595	9/30/2014	Loffel Wall - Verdura A	322.0	2	90.3	26.7	97.0	23.5	93	NU	Pass
WB	596	9/30/2014	Loffel Wall - Verdura A	325.0	2	89.6	27.4	97.0	23.5	92	NU	Pass
WB	597	9/30/2014	Loffel Wall - Verdura A	324.0	2	90.2	27.8	97.0	23.5	93	SC	Pass
WB	598	9/30/2014	Loffel Wall - Verdura A	325.0	2	89.6	26.5	97.0	23.5	92	SC	Pass
WB	599	10/1/2014	Loffel Wall - Verdura A	271.0	9	114.0	12.5	123.0	10.0	93	NU	Pass
WB	600	10/1/2014	Loffel Wall - Verdura A	275.0	9	115.1	13.4	123.0	10.0	94	NU	Pass
WB	601	10/1/2014	Loffel Wall - Verdura A	276.0	9	114.8	14.1	123.0	10.0	93	NU	Pass
WB	602	10/1/2014	Loffel Wall - Verdura A	279.0	9	115.3	13.3	123.0	10.0	94	NU	Pass
WB	603	10/1/2014	Loffel Wall - Verdura A	278.0	9	116.2	12.9	123.0	10.0	94	NU	Pass
WB	604	10/1/2014	Loffel Wall - Verdura A	278.0	9	115.1	12.7	123.0	10.0	94	NU	Pass
WB	605	10/1/2014	Loffel Wall - Verdura A	319.0	2	91.3	25.8	97.0	23.5	94	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	606	10/1/2014	Northwest - Adjacent Cabot Rd	320.0	2	91.8	26.2	97.0	23.5	95	NU	Pass
WB	607	10/1/2014	Northwest - Adjacent Cabot Rd	321.0	2	90.7	26.4	97.0	23.5	94	NU	Pass
WB	608	10/1/2014	Northwest - Adjacent Cabot Rd	323.0	2	89.8	25.9	97.0	23.5	93	NU	Pass
UT	609	10/3/2014	Storm Drain - West	SG	3	87.9	29.4	97.0	26.0	91	NU	Pass
UT	610	10/3/2014	Storm Drain - West	SG	3	90.1	30.8	97.0	26.0	93	NU	Pass
UT	611	10/3/2014	Storm Drain - West	SG	3	88.5	29.7	97.0	26.0	91	NU	Pass
UT	612	10/3/2014	Storm Drain - West	SG	3	88.9	29.4	97.0	26.0	92	NU	Pass
WB	613	10/3/2014	Segment Wall A	SG	9	117.8	12.1	123.0	10.0	96	NU	Pass
WB	614	10/3/2014	Segment Wall A	SG	9	114.2	10.1	123.0	10.0	93	NU	Pass
WB	615	10/3/2014	Segment Wall A	SG	9	115.9	10.4	123.0	10.0	94	SC	Pass
UT	616	10/7/2014	Storm Drain - West of Bldg	311.0	3	85.5	24.2	97.0	26.0	88	NU	Fail
UT	616A	10/7/2014	Storm Drain - West of Bldg	311.0	3	88.5	29.3	97.0	26.0	91	NU	Pass
UT	617	10/7/2014	Storm Drain - West of Bldg	313.0	3	89.6	29.5	97.0	26.0	92	NU	Pass
UT	618	10/7/2014	Storm Drain - West of Bldg	315.0	3	88.9	29.1	97.0	26.0	92	NU	Pass
UT	619	10/7/2014	Storm Drain - West of Bldg	318.0	3	88.1	29.7	97.0	26.0	91	NU	Pass
UT	620	10/7/2014	Storm Drain - West of Bldg	319.0	3	89.8	30.1	97.0	26.0	93	NU	Pass
UT	621	10/8/2014	Storm Drain - West of Bldg	311.0	3	89.5	21.8	97.0	26.0	92	NU	Pass
UT	622	10/8/2014	Storm Drain - West of Bldg	311.0	3	96.5	17.4	97.0	26.0	99	NU	Pass
UT	623	10/8/2014	Storm Drain - West of Bldg	313.0	3	95.3	13.2	97.0	26.0	98	NU	Pass
UT	624	10/8/2014	Storm Drain - West of Bldg	313.0	3	90.3	19.3	97.0	26.0	93	NU	Pass
UT	625	10/8/2014	Storm Drain - West of Bldg	313.0	3	88.2	18.2	97.0	26.0	91	NU	Pass
UT	626	10/13/2014	Storm Drain - S of Bldg	291.0	7	114.4	14.5	126.0	11.0	91	NU	Pass
UT	627	10/13/2014	Storm Drain - S of Bldg	321.0	7	114.8	13.2	126.0	11.0	91	NU	Pass
UT	628	10/13/2014	Storm Drain - S of Bldg	321.0	7	114.9	13.5	126.0	11.0	91	SC	Pass
WB	629	10/13/2014	East of Bldg	305.0	7	113.7	14.3	126.0	11.0	90	SC	Pass
WB	630	10/13/2014	East of Bldg	308.0	7	113.8	14.6	126.0	11.0	90	SC	Pass
UT	631	10/13/2014	Storm Drain - Crown Valley	261.0	10	128.9	7.8	134.6	5.5	96	NU	Pass
UT	632	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.1	9.1	134.6	5.5	97	NU	Pass
UT	633	10/13/2014	Storm Drain - Crown Valley	264.0	10	129.7	6.8	134.6	5.5	96	NU	Pass
UT	634	10/13/2014	Storm Drain - Crown Valley	262.0	10	128.8	7.7	134.6	5.5	96	NU	Pass
UT	635	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.0	8.6	134.6	5.5	97	NU	Pass
UT	636	10/13/2014	Storm Drain - Crown Valley	264.0	10	128.7	8.5	134.6	5.5	96	SC	Pass
UT	637	10/13/2014	Storm Drain - Crown Valley	261.0	10	129.1	8.4	134.6	5.5	96	NU	Pass
UT	638	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.2	9.1	134.6	5.5	97	NU	Pass
UT	639	10/13/2014	Storm Drain - Crown Valley	264.0	10	128.8	6.9	134.6	5.5	96	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	640	10/13/2014	Storm Drain - Crown Valley	262.0	10	131.2	7.7	134.6	5.5	97	NU	Pass
UT	641	10/13/2014	Storm Drain - Crown Valley	263.0	10	130.3	8.6	134.6	5.5	97	NU	Pass
UT	642	10/13/2014	Storm Drain - Crown Valley	264.0	10	129.4	8.3	134.6	5.5	96	NU	Pass
SG	643	10/14/2014	Stairs - East Side	293.0	2	92.2	24.1	97.0	23.5	95	NU	Pass
SG	644	10/14/2014	Stairs - East Side	295.0	2	93.2	25.1	97.0	23.5	96	NU	Pass
SG	645	10/14/2014	Stairs - East Side	297.0	2	90.2	23.7	97.0	23.5	93	SC	Pass
UT	646	10/16/2014	Storm Drain - Storage Tank	283.0	3	89.7	28.7	97.0	26.0	92	NU	Pass
UT	647	10/16/2014	Storm Drain - Storage Tank	284.0	3	90.3	29.1	97.0	26.0	93	NU	Pass
UT	648	10/16/2014	Storm Drain - Storage Tank	285.0	3	89.8	27.8	97.0	26.0	93	NU	Pass
UT	649	10/16/2014	Storm Drain - Storage Tank	284.0	3	91.2	28.0	97.0	26.0	94	NU	Pass
UT	650	10/16/2014	Storm Drain - Storage Tank	286.0	3	90.8	28.6	97.0	26.0	94	SC	Pass
UT	651	10/17/2014	Storm Drain - Storage Tank	316.5	3	90.5	28.8	97.0	26.0	93	NU	Pass
UT	652	10/17/2014	Storm Drain - Storage Tank	319.0	3	89.9	29.4	97.0	26.0	93	NU	Pass
UT	653	10/17/2014	Storm Drain - Storage Tank	284.5	3	90.1	27.2	97.0	26.0	93	SC	Pass
UT	654	10/21/2014	Storm Drain - Crown Valley	261.0	10	130.0	6.8	134.6	5.5	97	NU	Pass
UT	655	10/21/2014	Storm Drain - Crown Valley	262.0	10	129.8	7.3	134.6	5.5	96	NU	Pass
UT	656	10/21/2014	Storm Drain - Crown Valley	263.0	10	129.3	8.5	134.6	5.5	96	NU	Pass
UT	657	10/21/2014	Storm Drain - Crown Valley	264.0	10	128.8	8.3	134.6	5.5	96	NU	Pass
UT	658	10/21/2014	Storm Drain - Crown Valley	263.0	10	129.8	7.7	134.6	5.5	96	NU	Pass
UT	659	10/21/2014	Storm Drain - Crown Valley	264.0	10	130.2	8.2	134.6	5.5	97	SC	Pass
UT	660	10/24/2014	Domestic Water Vault	312.0	2	89.6	22.0	97.0	23.5	92	NU	Pass
UT	661	10/24/2014	Domestic Water Vault	314.0	2	88.2	23.0	97.0	23.5	91	NU	Pass
UT	662	10/24/2014	Domestic Water Vault	314.0	2	87.3	23.4	97.0	23.5	90	NU	Pass
UT	663	10/24/2014	Storm Drain - Crown Valley	263.0	10	129.5	6.8	134.6	5.5	96	NU	Pass
UT	664	10/24/2014	Storm Drain - Crown Valley	264.0	10	130.3	7.7	134.6	5.5	97	NU	Pass
UT	665	10/24/2014	Storm Drain - Crown Valley	264.0	10	128.8	8.1	134.6	5.5	96	NU	Pass
UT	666	10/24/2014	Storm Drain - Crown Valley	264.0	10	129.4	6.9	134.6	5.5	96	SC	Pass
UT	667	10/27/2014	Domestic - Water Vault	314.0	2	90.1	19.0	97.0	23.5	93	NU	Pass
UT	668	10/27/2014	Domestic - Water Vault	314.0	2	89.4	22.2	97.0	23.5	92	NU	Pass
UT	669	10/27/2014	Domestic - Water Vault	314.0	2	88.6	21.3	97.0	23.5	91	NU	Pass
UT	670	10/27/2014	Storm Drain - Man Hole Area	264.0	10	129.8	6.8	134.6	5.5	96	NU	Pass
UT	671	10/27/2014	Storm Drain - Man Hole Area	264.0	10	129.1	7.7	134.6	5.5	96	SC	Pass
UT	678	10/30/2014	Domestic Water Vault	314.0	2	92.6	21.8	97.0	23.5	95	NU	Pass
UT	679	10/30/2014	Domestic Water Vault	310.0	2	93.4	23.1	97.0	23.5	96	NU	Pass
UT	680	10/30/2014	Domestic Water Vault	312.0	2	94.1	20.9	97.0	23.5	97	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	681	10/30/2014	Domestic Water Vault	309.0	2	95.2	24.1	97.0	23.5	98	NU	Pass
UT	684	10/30/2014	Storm Drain	270.0	3	89.8	28.8	97.0	26.0	93	NU	Pass
UT	685	10/30/2014	Storm Drain	271.0	3	90.1	28.3	97.0	26.0	93	SC	Pass
UT	686	11/14/2014	Flow Line - NW End of Bldg	319.0	2	90.4	23.7	97.0	23.5	93	NU	Pass
UT	687	11/17/2014	Storm Drain - West of Bldg	325.0	2	90.5	24.1	97.0	23.5	93	NU	Pass
UT	688	11/17/2014	Storm Drain - West of Bldg	327.0	2	91.6	23.9	97.0	23.5	94	NU	Pass
WB	689	11/18/2014	Northwest corner of Bldg	324.0	2	92.7	23.0	97.0	23.5	96	NU	Pass
WB	690	11/18/2014	Northwest corner of Bldg	325.0	2	89.4	23.6	97.0	23.5	92	NU	Pass
WB	691	11/18/2014	Northwest corner of Bldg	326.0	2	91.7	24.0	97.0	23.5	95	SC	Pass
WB	692	11/19/2014	Northwest corner of Bldg	328.0	2	94.0	22.8	97.0	23.5	97	NU	Pass
WB	693	11/19/2014	Northwest corner of Bldg	329.0	2	90.6	24.1	97.0	23.5	93	NU	Pass
WB	694	11/19/2014	Northwest corner of Bldg	331.0	2	92.7	21.7	97.0	23.5	96	SC	Pass
CG	695	11/25/2014	Curb & Gutter	299.0	2	90.6	20.8	97.0	23.5	93	NU	Pass
CG	696	11/25/2014	Curb & Gutter	303.0	2	92.8	19.7	97.0	23.5	96	NU	Pass
CG	697	11/25/2014	Curb & Gutter	314.0	2	91.5	18.7	97.0	23.5	94	SC	Pass
CG	698	12/16/2014	Curb & Gutter	320.0	2	93.5	21.0	97.0	23.5	96	NU	Pass
CG	699	12/16/2014	Curb & Gutter	317.0	2	91.5	18.9	97.0	23.5	94	NU	Pass
CG	700	12/16/2014	Curb & Gutter	305.0	2	95.5	22.2	97.0	23.5	98	NU	Pass
CG	701	12/16/2014	Curb & Gutter	298.0	2	95.2	18.7	97.0	23.5	98	SC	Pass
UT	706	1/7/2015	Water Line - NW of Bldg	290.0	2	96.1	18.8	97.0	23.5	99	NU	Pass
UT	707	1/7/2015	Water Line - NW of Bldg	290.0	2	94.7	18.5	97.0	23.5	98	NU	Pass
UT	708	1/7/2015	Water Line - NW of Bldg	290.0	2	95.4	18.9	97.0	23.5	98	NU	Pass
UT	709	1/7/2015	Water Line - NW of Bldg	290.0	2	96.2	16.2	97.0	23.5	99	NU	Pass
UT	710	1/7/2015	Water Line - NW of Bldg	290.0	2	95.6	18.4	97.0	23.5	99	NU	Pass
UT	711	1/7/2015	Water Line - NW of Bldg	290.0	2	94.2	18.9	97.0	23.5	97	SC	Pass
UT	712	1/8/2015	Water Line - NW of Bldg	292.0	2	95.6	17.4	97.0	23.5	99	NU	Pass
UT	713	1/8/2015	Water Line - NW of Bldg	295.0	2	94.8	18.6	97.0	23.5	98	NU	Pass
UT	714	1/8/2015	Water Line - NW of Bldg	298.0	2	95.6	18.2	97.0	23.5	99	NU	Pass
WB	715	1/9/2015	Line 5 Between B to G	320.5	2	93.8	25.1	97.0	23.5	97	NU	Pass
WB	716	1/9/2015	Line 5 Between B to G	322.5	2	92.2	25.3	97.0	23.5	95	NU	Pass
WB	717	1/9/2015	Line 5 Between B to G	323.5	2	92.4	25.0	97.0	23.5	95	NU	Pass
WB	718	1/9/2015	Line 5 Between B to G	317.0	2	91.9	25.2	97.0	23.5	95	NU	Pass
WB	719	1/9/2015	Line 5 Between B to G	320.0	2	92.4	25.0	97.0	23.5	95	NU	Pass
WB	720	1/9/2015	Line 5 Between B to G	320.0	2	92.2	25.4	97.0	23.5	95	NU	Pass
WB	721	1/9/2015	Line 5 Between B to G	315.0	2	94.5	25.2	97.0	23.5	97	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
WB	722	1/9/2015	Line 5 Between B to G	317.0	2	95.4	25.1	97.0	23.5	98	SC	Pass
UT	723	1/9/2015	Sewer Line - Crown Valley	285.0	10	130.1	5.1	134.6	5.5	97	NU	Pass
UT	724	1/9/2015	Sewer Line - Crown Valley	SG	10	126.3	4.8	134.6	5.5	94	NU	Pass
UT	724A	1/9/2015	Sewer Line - Crown Valley	SG	10	131.2	5.4	134.6	5.5	97	NU	Pass
UT	725	1/9/2015	Sewer Line - Crown Valley	284.0	2	91.1	22.0	97.0	23.5	94	NU	Pass
UT	726	1/9/2015	Sewer Line - Crown Valley	285.0	10	128.8	5.1	134.6	5.5	96	NU	Pass
UT	727	1/9/2015	Sewer Line - Crown Valley	SG	10	131.8	4.9	134.6	5.5	98	NU	Pass
UT	728	1/9/2015	Sewer Line - Crown Valley	SG	10	129.4	5.6	134.6	5.5	96	SC	Pass
UT	735	1/29/2015	Southwest Corner of Bldg	290.0	2	89.6	25.1	97.0	23.5	92	NU	Pass
UT	736	1/29/2015	Southwest Corner of Bldg	293.0	2	89.9	25.0	97.0	23.5	93	NU	Pass
UT	737	1/29/2015	Southwest Corner of Bldg	292.0	2	90.9	25.2	97.0	23.5	94	NU	Pass
UT	738	1/30/2015	Southwest Corner of Bldg	292.0	2	89.9	25.2	97.0	23.5	93	NU	Pass
UT	739	1/30/2015	Southwest Corner of Bldg	294.0	2	89.7	25.0	97.0	23.5	92	NU	Pass
UT	740	1/30/2015	Southwest Corner of Bldg	296.0	2	90.5	25.3	97.0	23.5	93	NU	Pass
UT	741	1/30/2015	Southwest Corner of Bldg	297.0	2	90.1	25.1	97.0	23.5	93	SC	Pass
UT	742	2/5/2015	Cabot Rd - Access Road	331.0	2	90.4	24.7	97.0	23.5	93	NU	Pass
UT	743	2/10/2015	Transformer - NW Bldg Corner	328.0	2	90.2	25.9	97.0	23.5	93	NU	Pass
UT	744	2/10/2015	Transformer - NW Bldg Corner	330.0	2	91.1	26.2	97.0	23.5	94	NU	Pass
UT	745	2/10/2015	Electrical - NW Bldg Corner	331.0	2	90.6	25.0	97.0	23.5	93	NU	Pass
UT	746	2/10/2015	Electrical - NW Bldg Corner	334.0	2	88.6	27.2	97.0	23.5	91	NU	Pass
UT	747	2/10/2015	Transformer - NW Bldg Corner	329.0	2	89.0	25.8	97.0	23.5	92	SC	Pass
UT	748	2/11/2015	Electrical - Cabot Rd	337.0	12	129.9	8.0	136.1	7.0	95	NU	Pass
UT	749	2/11/2015	Electrical - Cabot Rd	337.0	12	129.0	7.6	136.1	7.0	95	NU	Pass
UT	750	2/11/2015	Electrical - Cabot Rd	336.0	12	129.7	7.0	136.1	7.0	95	NU	Pass
UT	751	2/11/2015	Electrical - Cabot Rd	335.0	12	132.0	7.2	136.1	7.0	97	NU	Pass
UT	752	2/11/2015	Electrical - Cabot Rd	334.0	12	130.4	7.0	136.1	7.0	96	SC	Pass
UT	753	2/12/2015	Electrical - Cabot Rd	333.0	12	131.2	6.3	136.1	7.0	96	NU	Pass
UT	754	2/12/2015	Electrical - Cabot Rd	333.0	12	129.9	6.9	136.1	7.0	95	NU	Pass
UT	755	2/12/2015	Traffic Control - NW of Bldg	331.0	2	90.5	22.8	97.0	23.5	93	NU	Pass
UT	756	2/12/2015	Traffic Control - NW of Bldg	331.0	2	89.6	19.9	97.0	23.5	92	NU	Pass
UT	757	2/12/2015	Electrical - Cabot Rd	331.0	12	130.6	6.8	136.1	7.0	96	NU	Pass
UT	758	2/12/2015	Traffic Control - NW of Bldg	329.0	2	88.5	20.9	97.0	23.5	91	NU	Pass
UT	759	2/13/2015	Electrical - NW of Bldg	329.0	2	87.6	25.0	97.0	23.5	90	SC	Pass
UT	763	2/13/2015	Electrical - NW of Bldg	328.0	2	89.7	24.2	97.0	23.5	92	NU	Pass
UT	767	2/16/2015	Electrical - Drive Entrance	328.0	2	91.2	26.4	97.0	23.5	94	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	768	2/16/2015	Electrical - NW Bldg Corner	327.0	2	90.3	25.8	97.0	23.5	93	NU	Pass
SG	769	2/17/2015	Curb & Gutter	331.0	1	85.7	30.1	91.5	25.0	94	NU	Pass
SG	770	2/17/2015	Curb & Gutter	334.0	1	86.2	27.4	91.5	25.0	94	NU	Pass
SG	771	2/17/2015	Curb & Gutter	330.0	2	92.0	26.0	97.0	23.5	95	NU	Pass
UT	772	2/17/2015	Electrical - Cabot Road	325.0	12	128.8	6.8	136.1	7.0	95	NU	Pass
UT	773	2/17/2015	Electrical - Cabot Road	325.0	12	132.6	6.2	136.1	7.0	97	NU	Pass
SG	774	2/17/2015	Electrical - Cabot Road	336.0	2	92.4	25.4	97.0	23.5	95	NU	Pass
SG	775	2/17/2015	Picerne Shared Entry	332.0	2	87.0	27.9	97.0	23.5	90	NU	Pass
SG	776	2/17/2015	Picerne Shared Entry	332.0	12	125.4	7.4	136.1	7.0	92	SC	Pass
SG	777	2/17/2015	Picerne Shared Entry	331.0	12	129.6	7.5	136.1	7.0	95	SC	Pass
UT	778	2/18/2015	Storm Drain - West of Bldg	298.0	2	93.0	24.8	97.0	23.5	96	NU	Pass
UT	779	2/18/2015	Storm Drain - West of Bldg	295.0	2	89.6	25.2	97.0	23.5	92	NU	Pass
B	780	2/18/2015	Picerne Shared Entry	333.0	13	117.0	12.9	119.3	11.3	98	NU	Pass
B	781	2/18/2015	Picerne Shared Entry	333.0	13	117.7	13.3	119.3	11.3	99	NU	Pass
UT	782	2/18/2015	Storm Drain - South of Bldg	268.0	2	95.5	21.0	97.0	23.5	98	SC	Pass
UT	783	2/19/2015	Storm Drain - West of Bldg	294.0	2	89.6	22.8	97.0	23.5	92	NU	Pass
UT	784	2/19/2015	Storm Drain - West of Bldg	294.0	2	91.7	18.1	97.0	23.5	95	NU	Pass
UT	785	2/19/2015	Storm Drain - West of Bldg	295.0	2	92.1	20.1	97.0	23.5	95	NU	Pass
UT	786	2/19/2015	Storm Drain - West of Bldg	295.0	2	89.7	22.0	97.0	23.5	92	NU	Pass
UT	787	2/19/2015	Storm Drain - SE of Bldg	272.0	2	94.4	22.8	97.0	23.5	97	NU	Pass
UT	788	2/19/2015	Storm Drain - SE of Bldg	272.0	2	95.8	25.0	97.0	23.5	99	NU	Pass
UT	789	2/19/2015	Storm Drain - SE of Bldg	272.0	2	96.0	24.2	97.0	23.5	99	NU	Pass
UT	790	2/19/2015	Storm Drain - SE of Bldg	272.0	2	93.4	22.4	97.0	23.5	96	SC	Pass
SG	791	2/24/2015	Picerne Shared Entry	333.0	2	94.0	24.8	97.0	23.5	97	NU	Pass
SG	792	2/24/2015	Picerne Shared Entry	331.0	2	91.1	26.7	97.0	23.5	94	NU	Pass
SG	793	2/24/2015	Picerne Shared Entry	329.0	2	93.4	25.8	97.0	23.5	96	SC	Pass
B	794	2/25/2015	Picerne Shared Entry	330.0	13	114.2	12.1	119.3	11.3	96	NU	Pass
B	795	2/25/2015	Picerne Shared Entry	331.0	13	115.0	13.0	119.3	11.3	96	NU	Pass
B	796	2/25/2015	Picerne Shared Entry	330.0	13	114.8	12.5	119.3	11.3	96	NU	Pass
B	797	2/25/2015	Picerne Shared Entry	331.0	13	113.2	12.6	119.3	11.3	95	NU	Pass
B	798	2/25/2015	Picerne Shared Entry	330.0	13	114.6	12.2	119.3	11.3	96	NU	Pass
B	799	2/25/2015	Picerne Shared Entry	331.0	13	113.9	11.6	119.3	11.3	95	NU	Pass
B	800	2/25/2015	Picerne Shared Entry	330.0	13	113.8	11.8	119.3	11.3	95	NU	Pass
B	801	2/25/2015	Picerne Shared Entry	331.0	13	115.5	12.1	119.3	11.3	97	NU	Pass
B	802	2/25/2015	Picerne Shared Entry	330.0	13	115.8	12.2	119.3	11.3	97	NU	Pass

* - See "Explanation of Coded Terms"



GEOCON
WEST, INC.

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	811	2/27/2015	Electrical Line - Cabot	SG	12	129.1	8.1	136.1	7.0	95	NU	Pass
UT	812	2/27/2015	Electrical Line - Cabot	SG	12	128.9	8.0	136.1	7.0	95	NU	Pass
UT	813	2/27/2015	Electrical Line - Cabot	SG	12	130.1	8.4	136.1	7.0	96	NU	Pass
UT	814	2/27/2015	Electrical Line - Cabot	SG	12	130.5	8.9	136.1	7.0	96	NU	Pass
UT	815	2/27/2015	Electrical Line - Cabot	SG	12	129.8	7.4	136.1	7.0	95	NU	Pass
SG	816	3/3/2015	SDGE - Cabot Road	SG	12	134.0	5.6	136.1	7.0	98	NU	Pass
SG	817	3/4/2015	SDGE - Cabot Road	SG	12	132.2	7.8	136.1	7.0	97	NU	Pass
SG	818	3/4/2015	SDGE - Cabot Road	SG	12	130.5	7.0	136.1	7.0	96	NU	Pass
UT	830	3/13/2015	Electrical Line - Cabot	SG	12	132.5	6.4	136.1	7.0	97	NU	Pass
UT	831	3/13/2015	Electrical Line - Cabot	SG	12	130.1	5.8	136.1	7.0	96	NU	Pass
UT	832	3/13/2015	Water Line - Cabot	SG	12	129.0	7.3	136.1	7.0	95	NU	Pass
UT	833	3/13/2015	Water Line - Cabot	SG	12	129.9	5.8	136.1	7.0	95	NU	Pass
UT	834	3/13/2015	Water Line - Cabot	SG	12	134.0	6.1	136.1	7.0	98	NU	Pass
UT	835	3/13/2015	Water Line - Cabot	SG	12	128.4	6.8	136.1	7.0	94	NU	Pass
UT	836	3/16/2015	Electrical Line - Cabot	330.5	12	133.1	9.3	136.1	7.0	98	NU	Pass
UT	837	3/16/2015	Electrical Line - Cabot	330.5	12	131.8	9.7	136.1	7.0	97	NU	Pass
UT	838	3/19/2015	Electrical Line - Cabot	SG	12	130.6	9.7	136.1	7.0	96	NU	Pass
UT	839	3/19/2015	Electrical Line - Cabot	SG	12	131.6	8.8	136.1	7.0	97	NU	Pass
UT	840	3/19/2015	Electrical Line - Cabot	SG	12	131.0	8.3	136.1	7.0	96	NU	Pass
UT	841	3/19/2015	Electrical Line - Cabot	SG	12	130.8	8.6	136.1	7.0	96	SC	Pass
UT	842	3/20/2015	Electrical Line - Cabot	SG	12	131.4	9.4	136.1	7.0	97	SC	Pass
UT	843	3/20/2015	Electrical Line - Cabot	SG	12	131.7	9.2	136.1	7.0	97	SC	Pass
UT	844	3/22/2015	Electrical Line - Cabot	SG	12	131.6	8.2	136.1	7.0	97	NU	Pass
UT	845	3/22/2015	Electrical Line - Cabot	SG	12	132.2	8.1	136.1	7.0	97	NU	Pass
UT	846	3/22/2015	Electrical Line - Cabot	SG	12	131.8	7.0	136.1	7.0	97	NU	Pass
UT	847	3/25/2015	Gas Line - Cabot	309.0	12	124.1	8.7	136.1	7.0	91	NU	Fail
UT	847A	3/25/2015	Gas Line - Cabot	309.0	12	131.3	7.7	136.1	7.0	96	NU	Pass
UT	848	3/25/2015	Gas Line - Cabot	309.0	12	124.5	9.1	136.1	7.0	91	NU	Fail
UT	848A	3/25/2015	Gas Line - Cabot	309.0	12	132.1	8.3	136.1	7.0	97	NU	Pass
UT	849	3/25/2015	Gas Line - Cabot	311.0	12	131.0	8.0	136.1	7.0	96	NU	Pass
UT	850	3/25/2015	Gas Line - Cabot	312.0	12	130.8	7.7	136.1	7.0	96	NU	Pass
UT	851	3/26/2015	Gas Line - Cabot	305.0	12	131.8	8.6	136.1	7.0	97	NU	Pass
UT	852	3/26/2015	Gas Line - Cabot	303.0	12	132.0	9.1	136.1	7.0	97	NU	Pass
UT	853	3/26/2015	Gas Line - Cabot	301.0	12	131.3	8.3	136.1	7.0	96	NU	Pass
UT	868	4/6/2015	Electrical Line - S. of Bldg.	SG	13	108.5	14.4	119.3	11.3	91	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
UT	869	4/6/2015	Electrical Line - S. of Bldg.	SG	13	111.1	15.6	119.3	11.3	93	NU	Pass
UT	870	4/16/2015	Electrical Line - S. of Bldg.	SG	4	108.4	14.6	122.0	12.0	89	NU	Fail
UT	870A	4/16/2015	Electrical Line - S. of Bldg.	271.0	4	109.8	13.8	122.0	12.0	90	NU	Pass
UT	871	4/16/2015	Electrical Line - S. of Bldg.	274.0	4	111.3	14.5	122.0	12.0	91	NU	Pass
UT	872	4/17/2015	Electrical Line - NW. of Bldg.	-6' SG	2	96.0	21.7	97.0	23.5	99	NU	Pass
UT	873	4/17/2015	Electrical Line - NW. of Bldg.	-4' SG	2	96.3	21.0	97.0	23.5	99	NU	Pass
UT	874	4/17/2015	Electrical Line - NW. of Bldg.	-2' SG	2	94.1	21.9	97.0	23.5	97	NU	Pass
UT	875	4/17/2015	Electrical Line - NW. of Bldg.	SG	2	93.7	22.2	97.0	23.5	97	NU	Pass
UT	876	4/17/2015	Electrical Line - NW. of Bldg.	-6' SG	2	94.1	23.3	97.0	23.5	97	NU	Pass
UT	877	4/17/2015	Electrical Line - NW. of Bldg.	-4' SG	2	94.7	22.1	97.0	23.5	98	NU	Pass
UT	878	4/17/2015	Electrical Line - NW. of Bldg.	-2' SG	2	95.0	23.2	97.0	23.5	98	NU	Pass
UT	879	4/17/2015	Electrical Line - NW. of Bldg.	SG	2	93.3	22.9	97.0	23.5	96	NU	Pass
UT	880	5/5/2015	Electrical Line - NW. of Bldg.	-3' SG	5	133.7	8.5	137.0	10.0	98	NU	Pass
UT	881	5/5/2015	Electrical Line - NW. of Bldg.	-2' SG	5	135.1	8.4	137.0	10.0	99	NU	Pass
UT	886	5/12/2015	Electrical Line - NW. of Bldg.	SG	5	135.5	8.0	137.0	10.0	99	NU	Pass
WB	887	5/16/2015	NW Corner of E1 Room	-4' SG	2	89.6	25.6	97.0	23.5	92	NU	Pass
WB	888	5/16/2015	NW Corner of E1 Room	-3' SG	2	90.2	24.5	97.0	23.5	93	NU	Pass
WB	889	5/16/2015	NW Corner of E1 Room	-2' SG	2	91.3	25.2	97.0	23.5	94	NU	Pass
WB	890	5/16/2015	NW Corner of E1 Room	-2' SG	2	90.6	26.1	97.0	23.5	93	NU	Pass
WB	891	5/16/2015	NW Corner of E1 Room	-3' SG	2	88.7	24.7	97.0	23.5	91	NU	Pass
WB	892	5/16/2015	NW Corner of E1 Room	-2' SG	2	89.2	25.3	97.0	23.5	92	NU	Pass
CG	893	5/18/2015	Cabot Road Entry	SG	2	92.3	24.1	97.0	23.5	95	NU	Pass
CG	894	5/18/2015	Cabot Road Entry	SG	2	92.6	24.3	97.0	23.5	95	NU	Pass
CG	895	5/18/2015	Cabot Road Entry	SG	2	93.1	23.8	97.0	23.5	96	NU	Pass
SG	896	5/22/2015	Sidewalk - East	SG	2	93.6	25.1	97.0	23.5	96	NU	Pass
SG	897	5/22/2015	Sidewalk - East	SG	2	94.1	24.8	97.0	23.5	97	NU	Pass
SG	898	5/22/2015	Sidewalk - East	SG	2	93.1	26.0	97.0	23.5	96	NU	Pass
SG	899	5/22/2015	Sidewalk - East	SG	2	93.5	25.7	97.0	23.5	96	NU	Pass
SG	900	5/22/2015	Sidewalk - East	SG	2	94.0	26.3	97.0	23.5	97	NU	Pass
UT	901	5/29/2015	Storm Drain	330.0	2	90.0	25.4	97.0	23.5	93	NU	Pass
UT	902	5/29/2015	Storm Drain	330.0	2	88.9	25.3	97.0	23.5	92	NU	Pass
UT	903	5/29/2015	Storm Drain	330.0	2	89.3	26.1	97.0	23.5	92	SC	Pass
UT	904	5/29/2015	Storm Drain	330.0	2	91.1	25.3	97.0	23.5	94	SC	Pass
UT	905	5/29/2015	Storm Drain	330.0	2	90.2	26.4	97.0	23.5	93	SC	Pass
SG	906	6/1/2015	Transformer Pad NW of Bldg	SG	3	94.5	23.0	97.0	26.0	97	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
SG	907	6/1/2015	Transformer Pad NW of Bldg	SG	3	96.2	23.5	97.0	26.0	99	NU	Pass
SG	908	6/2/2015	Transformer Pad NW of Bldg	SG	3	95.1	26.0	97.0	26.0	98	NU	Pass
SG	909	6/2/2015	Transformer Pad NW of Bldg	SG	3	95.3	24.1	97.0	26.0	98	SC	Pass
UT	910	6/8/2015	Storm Drain - N Access Road	-3' SG	3	95.5	26.7	97.0	26.0	98	NU	Pass
UT	911	6/8/2015	Storm Drain - N Access Road	-2' SG	3	91.9	27.1	97.0	26.0	95	NU	Pass
UT	912	6/9/2015	Catch Basin NE of Bldg	322.0	3	90.8	28.2	97.0	26.0	94	NU	Pass
UT	913	6/9/2015	Catch Basin NE of Bldg	324.0	3	92.0	27.6	97.0	26.0	95	NU	Pass
UT	914	6/9/2015	Catch Basin NW of Bldg	323.0	3	89.8	27.7	97.0	26.0	93	NU	Pass
UT	915	6/9/2015	Catch Basin NW of Bldg	325.0	3	91.1	28.8	97.0	26.0	94	NU	Pass
UT	916	6/10/2015	Catch Basin NW of Bldg	-6' SG	3	92.3	27.7	97.0	26.0	95	NU	Pass
UT	917	6/10/2015	Catch Basin NW of Bldg	-3' SG	3	91.7	28.1	97.0	26.0	95	NU	Pass
UT	918	6/10/2015	Catch Basin NW of Bldg	-2' SG	3	91.3	27.2	97.0	26.0	94	NU	Pass
UT	919	6/10/2015	Catch Basin NW of Bldg	SG	3	92.1	27.7	97.0	26.0	95	NU	Pass
UT	920	6/10/2015	Catch Basin NW of Bldg	-3' SG	3	90.7	27.8	97.0	26.0	94	NU	Pass
SG	921	6/12/2015	Entrey Between Podiums	SG	6	121.8	11.0	128.0	10.0	95	NU	Pass
SG	922	6/12/2015	Entrey Between Podiums	SG	6	122.3	10.9	128.0	10.0	96	SC	Pass
SG	923	6/17/2015	Crown Valley Pkwy	SG	3	92.6	26.6	97.0	26.0	95	NU	Pass
SG	924	6/17/2015	Crown Valley Pkwy	SG	3	93.5	27.0	97.0	26.0	96	NU	Pass
SG	925	6/17/2015	Crown Valley Pkwy	SG	3	93.2	26.5	97.0	26.0	96	NU	Pass
SG	926	6/17/2015	Crown Valley Pkwy	SG	3	94.2	26.1	97.0	26.0	97	NU	Pass
SG	927	6/17/2015	Crown Valley Pkwy	SG	3	93.9	28.2	97.0	26.0	97	NU	Pass
SG	928	6/17/2015	Crown Valley Pkwy	SG	3	94.9	26.7	97.0	26.0	98	NU	Pass
SG	929	6/18/2015	Crown Valley Pkwy	SG	3	95.2	27.1	97.0	26.0	98	NU	Pass
SG	930	6/18/2015	Crown Valley Pkwy	SG	3	94.3	28.2	97.0	26.0	97	NU	Pass
SG	931	6/18/2015	Crown Valley Pkwy	SG	3	94.2	27.3	97.0	26.0	97	NU	Pass
SG	932	6/18/2015	Crown Valley Pkwy	SG	3	94.7	26.6	97.0	26.0	98	SC	Pass
SG	933	6/22/2015	Crown Valley Pkwy	SG	3	93.4	28.3	97.0	26.0	96	NU	Pass
CB	934	6/22/2015	Fire Access Road	SG	6	120.6	10.1	128.0	10.0	94	NU	Pass
CB	935	6/22/2015	Fire Access Road	SG	6	121.2	10.5	128.0	10.0	95	NU	Pass
CB	936	6/22/2015	Fire Access Road	SG	6	119.9	10.9	128.0	10.0	94	NU	Pass
CB	937	6/22/2015	Fire Access Road	SG	6	118.3	11.3	128.0	10.0	92	NU	Pass
CB	938	6/22/2015	Fire Access Road	SG	6	119.6	11.2	128.0	10.0	93	NU	Pass
CB	939	6/22/2015	Fire Access Road	SG	6	119.3	10.3	128.0	10.0	93	NU	Pass
CB	940	6/22/2015	Fire Access Road	SG	6	120.2	12.1	128.0	10.0	94	NU	Pass
CB	941	6/22/2015	Fire Access Road	SG	6	120.1	11.7	128.0	10.0	94	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	942	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	125.8	8.8	132.0	8.0	95	NU	Pass
B	943	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	124.8	8.1	132.0	8.0	95	NU	Pass
B	944	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	124.0	8.3	132.0	8.0	94	NU	Fail
B	944A	6/22/2015	Crown Valley Pkwy	-1.5' SG	11	126.6	9.2	132.0	8.0	96	NU	Pass
B	945	6/22/2015	Crown Valley Pkwy	-1' SG	11	127.7	8.7	132.0	8.0	97	NU	Pass
B	946	6/22/2015	Crown Valley Pkwy	-1' SG	11	125.8	8.4	132.0	8.0	95	NU	Pass
B	947	6/22/2015	Crown Valley Pkwy	-1' SG	11	125.3	8.8	132.0	8.0	95	NU	Pass
B	948	6/23/2015	Crown Valley Pkwy	-1' SG	11	125.9	8.5	132.0	8.0	95	NU	Pass
B	949	6/23/2015	Crown Valley Pkwy	-1' SG	11	126.2	8.9	132.0	8.0	96	NU	Pass
B	950	6/23/2015	Crown Valley Pkwy	-1' SG	11	126.6	8.4	132.0	8.0	96	NU	Pass
B	951	6/23/2015	Crown Valley Pkwy	-1' SG	11	127.4	8.3	132.0	8.0	97	NU	Pass
B	952	6/23/2015	Crown Valley Pkwy	-1' SG	11	125.9	8.7	132.0	8.0	95	NU	Pass
SG	953	6/23/2015	Cabot Road	SG	2	93.4	23.9	97.0	23.5	96	NU	Pass
SG	954	6/23/2015	Cabot Road	SG	2	92.5	24.1	97.0	23.5	95	NU	Pass
SG	955	6/23/2015	Cabot Road	SG	2	96.1	24.2	97.0	23.5	99	NU	Pass
SG	956	6/23/2015	Cabot Road	SG	2	93.0	25.1	97.0	23.5	96	NU	Pass
SG	957	6/23/2015	Cabot Road	SG	2	95.2	24.2	97.0	23.5	98	NU	Pass
SG	958	6/23/2015	Cabot Road	SG	2	93.8	24.8	97.0	23.5	97	NU	Pass
SG	959	6/23/2015	Cabot Road	SG	2	93.1	24.3	97.0	23.5	96	SC	Pass
SG	960	6/23/2015	Cabot Road	SG	2	92.3	23.8	97.0	23.5	95	SC	Pass
SG	961	6/23/2015	Cabot Road	SG	2	92.6	24.6	97.0	23.5	95	SC	Pass
WB	976	6/29/2015	Garage Ramp Entry	-2' SG	2	91.5	23.8	97.0	23.5	94	NU	Pass
WB	977	6/29/2015	Garage Ramp Entry	-1' SG	2	92.2	25.2	97.0	23.5	95	NU	Pass
WB	978	6/29/2015	Garage Ramp Entry	SG	2	91.7	23.9	97.0	23.5	95	NU	Pass
B	979	6/29/2015	Crown Valley and Cabot Road	SG	11	128.8	8.1	132.0	8.0	98	NU	Pass
B	980	6/29/2015	Crown Valley and Cabot Road	SG	11	127.7	8.4	132.0	8.0	97	NU	Pass
B	981	6/29/2015	Crown Valley and Cabot Road	SG	11	126.5	8.9	132.0	8.0	96	NU	Pass
SG	1015	7/6/2015	Cabot Road Lower Sidewalk	SG	3	92.7	27.1	97.0	26.0	96	NU	Pass
SG	1016	7/6/2015	Cabot Road Lower Sidewalk	SG	3	93.2	26.6	97.0	26.0	96	NU	Pass
SG	1017	7/6/2015	Cabot Road Lower Sidewalk	SG	3	92.9	27.3	97.0	26.0	96	NU	Pass
SG	1018	7/6/2015	Cabot Road Lower Sidewalk	SG	3	93.3	27.5	97.0	26.0	96	NU	Pass
B	1019	7/8/2015	Cabot Road Lower Sidewalk	SG	13	114.2	12.6	119.3	11.3	96	NU	Pass
B	1020	7/8/2015	Cabot Road Lower Sidewalk	SG	13	113.9	13.3	119.3	11.3	95	NU	Pass
B	1021	7/8/2015	Cabot Road Lower Sidewalk	SG	13	109.8	9.2	119.3	11.3	92	NU	Fail
B	1021A	7/8/2015	Cabot Road Lower Sidewalk	SG	13	114.3	12.7	119.3	11.3	96	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
B	1022	7/8/2015	Cabot Road Lower Sidewalk	SG	13	110.2	13.1	119.3	11.3	92	NU	Fail
B	1022A	7/8/2015	Cabot Road Lower Sidewalk	SG	13	115.1	12.4	119.3	11.3	96	NU	Pass
SG	1023	7/16/2015	Cabot Road Upper Sidewalk	SG	3	90.4	19.3	97.0	26.0	93	NU	Fail
SG	1023A	7/16/2015	Cabot Road Upper Sidewalk	SG	3	94.1	26.6	97.0	26.0	97	NU	Pass
SG	1024	7/16/2015	Cabot Road Upper Sidewalk	SG	3	94.4	27.2	97.0	26.0	97	NU	Pass
SG	1025	7/16/2015	Cabot Road Upper Sidewalk	SG	3	93.2	20.1	97.0	26.0	96	NU	Pass
SG	1026	7/16/2015	Cabot Road Upper Sidewalk	SG	3	88.2	27.8	97.0	26.0	91	NU	Fail
SG	1026A	7/16/2015	Cabot Road Upper Sidewalk	SG	3	93.3	27.2	97.0	26.0	96	SC	Pass
B	1027	7/17/2015	Cabot Road Upper Sidewalk	SG	13	115.1	12.1	119.3	11.3	96	NU	Pass
B	1028	7/17/2015	Cabot Road Upper Sidewalk	SG	13	111.2	13.2	119.3	11.3	93	NU	Fail
B	1028A	7/17/2015	Cabot Road Upper Sidewalk	SG	13	114.1	13.1	119.3	11.3	96	NU	Pass
B	1029	7/17/2015	Cabot Road Upper Sidewalk	SG	13	114.2	12.5	119.3	11.3	96	NU	Pass
B	1030	7/17/2015	Cabot Road Upper Sidewalk	SG	13	111.8	13.3	119.3	11.3	94	NU	Pass
B	1031	7/17/2015	Cabot Road Upper Sidewalk	SG	13	113.7	12.2	119.3	11.3	95	NU	Pass
SG	1032	7/22/2015	Driveway Main Entry	SG	3	94.0	27.6	97.0	26.0	97	NU	Pass
SG	1033	7/22/2015	Driveway Main Entry	SG	3	93.5	26.6	97.0	26.0	96	NU	Pass
SG	1034	7/22/2015	Driveway Main Entry	SG	3	91.9	22.4	97.0	26.0	95	NU	Pass
SG	1035	7/22/2015	Driveway Main Entry	SG	3	92.1	26.1	97.0	26.0	95	NU	Pass
SG	1036	7/22/2015	Driveway Main Entry	SG	3	93.8	27.3	97.0	26.0	97	NU	Pass
SG	1037	7/22/2015	Driveway Main Entry	SG	3	93.0	26.9	97.0	26.0	96	NU	Pass
SG	1038	7/22/2015	Driveway Main Entry	SG	3	93.6	27.4	97.0	26.0	96	SC	Pass
B	1039	7/22/2015	Driveway North Entry	SG	11	125.3	9.6	132.0	8.0	95	NU	Pass
B	1040	7/22/2015	Driveway North Entry	SG	11	125.6	9.2	132.0	8.0	95	NU	Pass
B	1041	7/22/2015	Driveway North Entry	SG	11	127.2	8.4	132.0	8.0	96	NU	Pass
B	1042	7/23/2015	Driveway North Entry	SG	11	125.3	8.8	132.0	8.0	95	NU	Pass
B	1043	7/23/2015	Driveway North Entry	SG	11	126.2	8.9	132.0	8.0	96	NU	Pass
B	1044	7/23/2015	Driveway North Entry	SG	11	127.2	9.1	132.0	8.0	96	NU	Pass
B	1045	7/23/2015	Driveway North Entry	SG	11	125.9	8.7	132.0	8.0	95	NU	Pass
B	1046	7/23/2015	Driveway North Entry	SG	11	126.6	9.3	132.0	8.0	96	NU	Pass
B	1047	7/23/2015	Driveway North Entry	SG	11	127.3	9.2	132.0	8.0	96	NU	Pass
B	1048	7/23/2015	Driveway North Entry	SG	11	125.9	9.7	132.0	8.0	95	NU	Pass
B	1049	7/23/2015	Driveway North Entry	SG	11	126.6	8.9	132.0	8.0	96	NU	Pass
B	1050	7/23/2015	Driveway North Entry	SG	11	127.3	8.5	132.0	8.0	96	NU	Pass
B	1051	7/23/2015	Driveway North Entry	SG	11	125.8	9.2	132.0	8.0	95	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	233		Lateral B	3/4	A	148.0	143.1	97	Pass
AC	234	1/0/1900	Lateral C	3/4	A	148.0	143.4	97	Pass
AC	235	1/0/1900	Lateral F	3/4	A	148.0	142.8	96	Pass
AC	257	1/0/1900	Lateral B	3/4	A	148.0	143.5	97	Pass
AC	258	1/0/1900	Lateral C	3/4	A	148.0	143.9	97	Pass
AC	263	1/0/1900	Cabot Rd	3/4	A	148.0	143.0	97	Pass
AC	264	1/0/1900	Cabot Rd	3/4	A	148.0	143.7	97	Pass
AC	265	1/0/1900	Cabot Rd	3/4	A	148.0	144.0	97	Pass
AC	266	1/0/1900	Cabot Rd	3/4	A	148.0	143.8	97	Pass
AC	267	1/0/1900	Cabot Rd	3/4	A	148.0	144.2	97	Pass
AC	672	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.2	96	Pass
AC	673	10/29/2014	Crown Valley Parkway	3/4	B	152.0	145.8	96	Pass
AC	674	10/29/2014	Crown Valley Parkway	3/4	B	152.0	145.3	96	Pass
AC	675	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.4	96	Pass
AC	676	10/29/2014	Crown Valley Parkway	3/4	B	152.0	146.0	96	Pass
AC	677	10/29/2014	Crown Valley Parkway	3/4	B	152.0	147.1	97	Pass
AC	682	10/30/2014	Crown Valley Parkway	3/4	B	152.0	146.6	96	Pass
AC	683	10/30/2014	Crown Valley Parkway	3/4	B	152.0	145.9	96	Pass
AC	702	12/18/2014	Crown Valley Parkway	3/4	C	149.0	145.2	97	Pass
AC	703	12/18/2014	Crown Valley Parkway	3/4	C	149.0	144.8	97	Pass
AC	704	12/18/2014	Crown Valley Parkway	3/4	C	149.0	145.0	97	Pass
AC	705	12/18/2014	Crown Valley Parkway	3/4	C	149.0	143.1	96	Pass
AC	729	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	144.3	97	Pass
AC	730	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	146.6	98	Pass
AC	731	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	147.8	99	Pass
AC	732	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	146.9	99	Pass
AC	733	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	148.2	99	Pass
AC	734	1/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.2	97	Pass
AC	760	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	148.0	99	Pass
AC	761	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.3	98	Pass
AC	762	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	145.0	97	Pass
AC	764	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	143.9	97	Pass
AC	765	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	143.3	96	Pass
AC	766	2/13/2015	Crown Valley & Cabot Rd	3/4	C	149.0	144.1	97	Pass
AC	803	2/26/2015	Picerne Shared Entry	3/4	D	146.0	142.1	97	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	804	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.1	97	Pass
AC	805	2/26/2015	Picerne Shared Entry	3/4	D	146.0	140.9	97	Pass
AC	806	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.5	97	Pass
AC	807	2/26/2015	Picerne Shared Entry	3/4	D	146.0	142.7	98	Pass
AC	808	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.6	97	Pass
AC	809	2/26/2015	Picerne Shared Entry	3/4	D	146.0	140.7	96	Pass
AC	810	2/26/2015	Picerne Shared Entry	3/4	D	146.0	141.8	97	Pass
AC	819	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.8	96	Pass
AC	820	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.2	96	Pass
AC	821	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	143.0	97	Pass
AC	822	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	140.9	95	Pass
AC	823	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.1	96	Pass
AC	824	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	140.7	95	Pass
AC	825	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	142.2	96	Pass
AC	826	3/4/2015	Cabot Road - North Bound	3/4	A	148.0	141.5	96	Pass
AC	827	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	140.8	95	Pass
AC	828	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	140.6	95	Pass
AC	829	3/5/2015	Cabot Road - North Bound	3/4	A	148.0	141.4	96	Pass
AC	854	3/26/2015	Cabot Road	3/4	A	148.0	141.6	96	Pass
AC	855	3/26/2015	Cabot Road	3/4	A	148.0	142.3	96	Pass
AC	856	3/26/2015	Cabot Road	3/4	A	148.0	142.4	96	Pass
AC	857	3/26/2015	Cabot Road	3/4	A	148.0	141.8	96	Pass
AC	858	3/26/2015	Cabot Road	3/4	A	148.0	142.0	96	Pass
AC	859	3/26/2015	Cabot Road	3/4	A	148.0	141.6	96	Pass
AC	860	3/26/2015	Cabot Road	3/4	A	148.0	143.1	97	Pass
AC	861	3/26/2015	Cabot Road	3/4	A	148.0	142.0	96	Pass
AC	862	3/26/2015	Cabot Road	3/4	A	148.0	142.6	96	Pass
AC	863	3/26/2015	Cabot Road	3/4	A	148.0	141.0	95	Pass
AC	864	3/26/2015	Cabot Road	3/4	A	148.0	140.8	95	Pass
AC	865	3/26/2015	Cabot Road	3/4	A	148.0	142.3	96	Pass
AC	866	3/26/2015	Cabot Road	3/4	A	148.0	141.2	95	Pass
AC	867	3/26/2015	Cabot Road	3/4	A	148.0	143.1	97	Pass
AC	882	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	142.0	96	Pass
AC	883	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	142.2	96	Pass
AC	884	5/6/2015	Crown Valley & Cabot Intersec.	3/4	A	148.0	141.4	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	885	5/6/2015	Crown Valley and Cabbot Inter	3/4	A	148.0	143.4	97	Pass
AC	962	6/23/2015	Station 11+05	3/4	D	146.0	140.8	96	Pass
AC	963	6/23/2015	Station 11+50	3/4	D	146.0	141.2	97	Pass
AC	964	6/23/2015	Station 12+20	3/4	D	146.0	139.9	96	Pass
AC	965	6/23/2015	Station 13+00	3/4	D	146.0	140.1	96	Pass
AC	966	6/23/2015	Station 13+60	3/4	D	146.0	139.4	95	Pass
AC	967	6/23/2015	Station 14+30	3/4	D	146.0	140.3	96	Pass
AC	968	6/23/2015	Station 14+10	3/4	D	146.0	141.7	97	Pass
AC	969	6/23/2015	Station 13+90	3/4	D	146.0	140.8	96	Pass
AC	970	6/23/2015	Station 13+50	3/4	D	146.0	142.1	97	Pass
AC	971	6/23/2015	Station 12+80	3/4	D	146.0	141.9	97	Pass
AC	972	6/23/2015	Station 11+95	3/4	D	146.0	142.7	98	Pass
AC	973	6/23/2015	Station 11+60	3/4	D	146.0	140.6	96	Pass
AC	974	6/23/2015	Station 12+40	3/4	D	146.0	140.8	96	Pass
AC	975	6/23/2015	Station 11+30	3/4	D	146.0	141.3	97	Pass
AC	982	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	143.6	96	Pass
AC	983	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	144.1	97	Pass
AC	984	6/30/2015	Cabot Road	3/4	C	149.0	143.8	97	Pass
AC	985	6/30/2015	Cabot Road	3/4	C	149.0	143.6	96	Pass
AC	986	6/30/2015	Cabot Road	3/4	C	149.0	142.9	96	Pass
AC	987	6/30/2015	Cabot Road	3/4	C	149.0	143.9	97	Pass
AC	988	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	143.8	97	Pass
AC	989	6/30/2015	Crown Valley and Cabbot Inter	3/4	C	149.0	144.3	97	Pass
AC	990	6/30/2015	Cabot Road	3/4	C	149.0	142.7	96	Pass
AC	991	6/30/2015	Cabot Road	3/4	C	149.0	143.3	96	Pass
AC	992	6/30/2015	Cabot Road	3/4	C	149.0	144.6	97	Pass
AC	993	6/30/2015	Cabot Road	3/4	C	149.0	142.7	96	Pass
AC	994	6/30/2015	Cabot Road	3/4	C	149.0	143.4	96	Pass
AC	995	6/30/2015	Cabot Road	3/4	C	149.0	142.9	96	Pass
AC	996	7/2/2015	Cabot Road	3/4	D	146.0	140.8	96	Pass
AC	997	7/2/2015	Cabot Road	3/4	D	146.0	141.4	97	Pass
AC	998	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	140.2	96	Pass
AC	999	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.1	97	Pass
AC	1000	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	142.2	97	Pass
AC	1001	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	139.8	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF ASPHALT TABLE

Required Compaction (%) = 95.0

Test Prefix*	Test No.	Date	Location	Size of AC (in)	Curve No.*	HVEEM BRICK DENSITY (PCF)	FIELD WET DENSITY (PCF)	Relative Compaction (%)	Pass or Fail
AC	1002	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	140.4	96	Pass
AC	1003	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.2	97	Pass
AC	1004	7/2/2015	Crown Valley Pkwy	3/4	D	146.0	141.7	97	Pass
AC	1005	7/2/2015	Crown Valley and Cabot	3/4	D	146.0	141.6	97	Pass
AC	1006	7/2/2015	Crown Valley and Cabot	3/4	D	146.0	142.4	98	Pass
AC	1007	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.8	96	Pass
AC	1008	7/2/2015	Cabot Road CAP	3/4	D	146.0	141.2	97	Pass
AC	1009	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.3	96	Pass
AC	1010	7/2/2015	Cabot Road CAP	3/4	D	146.0	139.7	96	Pass
AC	1011	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.8	96	Pass
AC	1012	7/2/2015	Cabot Road CAP	3/4	D	146.0	139.2	95	Pass
AC	1013	7/2/2015	Cabot Road CAP	3/4	D	146.0	140.9	97	Pass
AC	1014	7/2/2015	Cabot Road CAP	3/4	D	146.0	141.6	97	Pass
AC	1052	7/23/2015	Cabot Road CAP	3/4	D	146.0	142.2	97	Pass
AC	1053	7/23/2015	Driveway North Entry	3/4	D	146.0	140.9	97	Pass
AC	1054	7/23/2015	Driveway North Entry	3/4	D	146.0	141.3	97	Pass
AC	1055	7/23/2015	Driveway North Entry	3/4	D	146.0	140.2	96	Pass
AC	1056	7/23/2015	Driveway North Entry	3/4	D	146.0	139.6	96	Pass
AC	1057	7/23/2015	Driveway North Entry	3/4	D	146.0	141.1	97	Pass
AC	1058	7/23/2015	Driveway North Entry	3/4	D	146.0	140.3	96	Pass
AC	1059	7/23/2015	Driveway North Entry	3/4	D	146.0	141.7	97	Pass
AC	1060	7/23/2015	Driveway North Entry	3/4	D	146.0	139.4	95	Pass
AC	1061	7/23/2015	Driveway North Entry	3/4	D	146.0	140.9	97	Pass
AC	1062	7/23/2015	Driveway North Entry	3/4	D	146.0	140.3	96	Pass
AC	1063	7/23/2015	Driveway North Entry	3/4	D	146.0	141.4	97	Pass
AC	1064	7/23/2015	Driveway North Entry	3/4	D	146.0	139.8	96	Pass
AC	1065	7/23/2015	Driveway North Entry	3/4	D	146.0	140.5	96	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 3
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557-12

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	EXPANSION INDEX	
				UBC*	CBC**
1	Brown Silt	91.5	25.0	HIGH	EXPANSIVE
2	Brown Sandy Clay	97.0	23.5	MEDIUM	EXPANSIVE
3	Brown Silt	97.0	26.0	HIGH	EXPANSIVE
4	Crushed Miscellaneous Base	122.0	12.0	VERY LOW	NON-EXPANSIVE
5	Crushed Aggregate Base	137.0	10.0	VERY LOW	NON-EXPANSIVE
6	Light Brown Silty Sand	128.0	10.0	LOW	EXPANSIVE
7	Light Brown Clayey Sand	126.0	11.0	LOW	EXPANSIVE
8	NOT USED	--	--		
9	Crushed Miscellaneous Base	123.0	10.0	VERY LOW	NON-EXPANSIVE
10	Crushed Aggregate Base	134.6	5.5	VERY LOW	NON-EXPANSIVE
11	Crushed Aggregate Base	132.0	8.0	VERY LOW	NON-EXPANSIVE
12	Crushed Aggregate Base	136.1	7.0	VERY LOW	NON-EXPANSIVE
13	Crushed Miscellaneous Base	119.3	11.3	VERY LOW	NON-EXPANSIVE

*Reference: 1997 Uniform Building Code, Table 18-I-B.

**Reference: 2013 California Building Code, Section 18.02.3.2

TABLE 4
SUMMARY OF LABORATORY ASPHALT TEST RESULTS
ASTM D 2726-05A, CALTRANS 366

CURVE NO.	TEST	
	HVEEM MAX DENSITY	STABILITY
A	148	47
B	152	47
C	149	48
D	146	47

GEOCON

W E S T, I N C.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Subgrade for Walkways and Driveways and
Backfill of Utility Trenches and Retaining walls
(see Site Plan, Figures 1 through 9)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California
Grading Permit No. G13-005

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

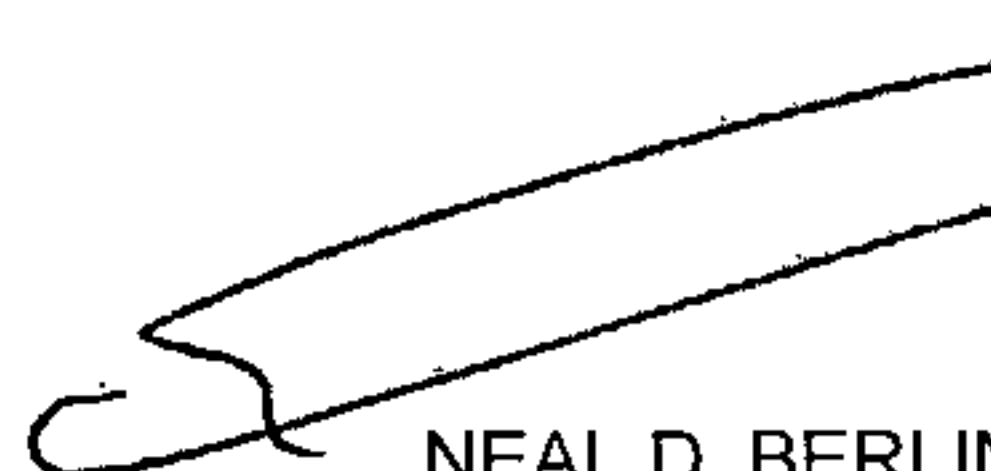
DATE WORK STARTED ON PROJECT: 10/01/2013

DATE FILL WAS COMPLETED: 07/23/2015

DATE OF THIS CERTIFICATE: 09/10/2015

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.*


NEAL D. BERLINER
G.E. 2576



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.



Cash Register Receipt

City of Laguna Niguel

Receipt Number
R16-0775

DESCRIPTION	ACCOUNT	QTY	PAID
PermitTRAK			\$28.50
G13-005 Address: 27960 Cabot Road Apn: 63604303			
Type: GRADING Subtype: PRECISE			
Description: Precise Grading, Crown Cabot Luxury Apartments			\$28.50
GRADING PERMIT DEPOSIT			\$28.50
TOTAL FEES PAID BY RECEIPT:R16-0775			\$28.50

Date Paid: Friday, March 11, 2016

Paid By: MILL CREEK RESIDENTIAL LLC

Payee Address: 2255 GLADES ROAD, SUITE 423 A BOCA RATON, FL 33431

Cashier: AS

Pay Method: CHECK 2551

G13-005

CITY OF LAGUNA NIGUEL

BUILDING AND SAFETY

27781 La Paz Road
Laguna Niguel, CA 92677

APPLICATION FOR A GRADING PERMIT

(949) 362-4360 Office
(949) 362-4381 Inspections

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JOB ADDRESS <u>27960 Cabot Road</u> <u>25891 Crown Valley Pkwy</u>		AREA <u>Crown Cabot</u> <u>Luxury Apartments</u>	
LEGAL DESCRIPTION (OR ATTACH)	TRACT	BLOCK	LOTS INCLUSIVE
A.P. NO. <u>636-093-02</u> <u>03</u>	SUPER DIST. NO.	LAND USE WAIVER	TOTAL NO. LOTS/UNITS
CROSS STREETS <u>Crown Valley</u> AND <u>Cabot Rd.</u>			
PURPOSE <u>Precise Grading</u>			
OWNER <u>MINT Investments LLC</u>		PHONE <u>(714) 800-1382</u>	
OWNER'S ADDRESS <u>949 S. Coast Drive</u>		CITY <u>Costa Mesa, Ca</u>	
PLANS BY <u>KHR Associates</u>		STATE LICENSE <u>30560</u>	
ADDRESS <u>4100 Newport Place Dr. Ste 200</u>		CITY <u>Newport Beach</u>	
APPROVED SOIL TESTING FIRM <u>Grocon West, Inc</u>		PHONE <u>(818) 841-1704</u>	
ADDRESS <u>3303 N. San Fernando Blvd. Ste 100</u>		CITY <u>Burbank, Ca</u>	
SOILS ENGINEER <u>Neal Berliner</u>		STATE LICENSE <u>2576</u>	
ADDRESS <u>3303 N. San Fernando Blvd. Ste 100</u>		CITY <u>Burbank</u>	
ENGINEERING GEOLOGIST		STATE LICENSE	
ADDRESS		CITY	
GRADING CONTRACTOR <u>Post Company Grading Contractors, Inc</u>		STATE LICENSE <u>788962</u>	
ADDRESS <u>1100 Irvine Blvd. # 291</u>		CITY <u>Tustin</u>	
		PHONE <u>(714) 832-1739</u>	
		ZIP CODE <u>92780</u>	

ZONE: _____

PROPOSED USE: _____

REMARKS: Additional bond
for removing 1.1 northern slope
is 7161, 461.70

LAND USE APPROVAL: _____

NAME _____ DATE _____

BOND ☐ NOT REQUIRED

BONDING CO. Westchester Fire Insurance Co

BOND NO. 108513065

BOND AMOUNT \$ 238,000.00

☒ SURETY ☐ CASH ☐ BLANKET BOND ☐ CERT. OF DEPOSIT

☐ LETTER OF CREDIT (Expiration date _____)

CERTIFICATION FOR REGULATION PERMIT

Contractors

I certify that the following Contr. Lic. No. 788962 and Classification C12 is in full force and effect. Workmen's Compensation Insurance Certificate on file verified by AD Expiration date: _____

Other Applicants

I hereby certify I am exempt from Sec. 7031.5 of the Business and Professional Code, Div. 3, Chap. 9, Contractor's License Law under the following section:

☐ Owner (Sect. 7044), or

☐ Minor Work under \$200 (Sect 7048), or

☐ Employee working for wages only (Sect. 7053), or

☐ OTHER

WORKERS COMPENSATION DECLARATION

Certification of Exemption from Sect 3800 of the California Labor Code, Article 3, Construction Permit.

☐ The permit is for One Hundred Dollars (\$100) or less. I certify that in the performance of the work for which the permit is issued I shall not employ any person in any manner so as to become subject to the Workmen's Compensation laws of California.

If, after making such certification the applicant for this permit should become subject to the Workmen's Compensation provisions of the Labor Code, the applicant shall forthwith comply with the provisions of Sect 3700 or this permit shall be deemed revoked.

I hereby acknowledge and state that the information I have provided is correct both on the permit and this certificate and agree to comply with all city Ordinances and State laws regulating building construction.

[Signature] Date: 9/25/13

(Applicant's Signature)

APPLICATION APPROVED [Signature] DATE 9/25/13

FINAL APPROVED [Signature] DATE 9/25/13

BOND RELEASED [Signature] DATE 3/7/16

I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION I HAVE PROVIDED IS CORRECT AND AGREE TO COMPLY WITH ALL CITY ORDINANCES AND STATE LAWS REGULATING BUILDING CONSTRUCTION.

CONSENT IS HEREBY GIVEN TO THE CITY OF LAGUNA NIGUEL, ITS OFFICERS, AGENTS AND EMPLOYEES, TO ENTER UPON THE LAND FOR THE PURPOSES OF SUCH INSPECTIONS, INVESTIGATIONS, OR CORRECTIVE ACTION AS THE BUILDING OFFICIAL OF SUCH CITY DEEMS NECESSARY.

I AM AWARE OF ORDINANCE NO. 2717 CONCERNING THE DISCLOSURE OF LOBBYIST.

SIGNATURE [Signature] OWNER OR AUTHORIZED AGENT

TYPE OF PERMIT	NUMBER OF CUBIC YARDS CUT:
☐ PRELIMINARY NO BUILDING PERMITS TO BE ISSUED UNTIL THIS PERMIT IS SUPERCEDED BY A PRECISE GRADING PERMIT	BORROW FILL:
☒ PRECISE ☐ BUILDING PERMITS MAY BE ISSUED AFTER ROUGH GRADING HAS BEEN APPROVED.	NATURAL FILL:
	FEE YARDAGE: VALUATION OF PROTECTIVE DEVICES AND IMPROVEMENTS \$

GRADING FEES	
PLAN CHECK	TOTAL P.C.
IMPROVEMENTS: (DIA 235) \$	
GRADING (GRA 235) \$	\$
GRADING PERMIT	TOTAL PERMIT
IMPROVEMENTS (DIB 235) \$	
GRADING (GRB 235) \$	
ISSUANCE FEE \$	\$

THIS FORM WHEN PROPERLY VALIDATED IS A PERMIT TO DO THE WORK DESCRIBED FOR A PERIOD OF 2 YEARS FROM DATE OF ISSUANCE

VALIDATION

*THIS PERMIT SUPERCEDES A PORTION / ALL OF GRADING PERMIT NO. _____ HAVING FEE YARDAGE IN THE AMOUNT OF _____ YD.³

F0250-855

VALIDATION
(OFFICE
USE ONLY)

CITY OF LAGUNA NIGUEL
COMMUNITY DEVELOPMENT DEPARTMENT
GRADING SECTION

Bond No. K08513065

GRADING PERMIT SURETY BOND

KNOW ALL MEN BY THESE PRESENTS: That CAL I Crown Valley LLC, a Delaware Limited Partnership, as Principal, and Westchester Fire Insurance Company, a corporation organized and existing under the laws of the State of Pennsylvania, and duly authorize to transact a surety business in the State of California, as Surety, are held and firmly bound unto the City of Laguna Niguel in the just and full sum of Two Hundred Thirty Eight Thousand and No/100 (\$238,000.00) DOLLARS, for the payment of which, well and truly to be made, said Principal and Surety bind themselves, their heirs, administrators, successors and assignee, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, the said Principal above named is applicant under Grading Permit No. G13-005 of the City of Laguna Niguel, California, for grading, on the following described property:

NOW, THEREFORE, IT IS AGREED that if the Principal shall:

- Comply with all the provisions of the City of Laguna Niguel Grading and Excavation code and other applicable laws and ordinances; and
- Comply with all the terms and conditions of the permit to the satisfaction of the Building Official; and
- Complete all of the work contemplated under the said permit within the time limit specified in the permit, and any extension or extensions thereof; and
- Reimburse the City for any work required by the permit that the Building Official deems necessary to complete, correct or otherwise undertake for the public safety, because of failure on the part of Principal, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the permit or of the work to be performed thereunder shall in any way affect its obligation on this bond and it does hereby waive notice of any such change, extension of time, alteration or modification of the permit or of work to be performed thereunder, and

PROVIDED FURTHER, that in case suit is brought upon the bond by the City of Laguna Niguel or any other person who may bring an action on this bond, a reasonable attorney's fee, to be fixed by the court, shall be paid by the Principal or Surety.

IN WITNESS WHEREOF, the said Principal and said Surety have caused these presents to be duly signed and sealed this 16th day of September, 2013.

CAL I Crown Valley LLC, a Delaware Limited Partnership

(Attach acknowledgment)

By: [Signature] Principal

By: _____

Westchester Fire Insurance Company

(Attach acknowledgement)

By: [Signature] Surety

Terri L. Morrison,

Attorney-in-Fact

Address: 436 Walnut Street, P. O. Box 1000, Philadelphia, PA 19106

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

No 5907

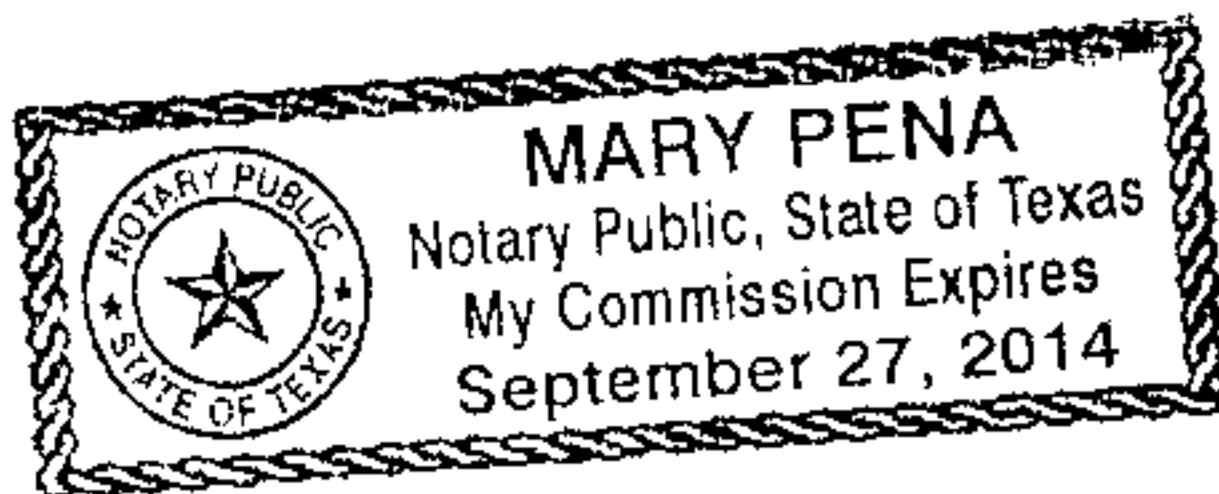
State of Texas

County of Harris

On September 16, 2013 before me, Mary Pena, Notary Public
DATE NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"

personally appeared Terri L. Morrison
NAME(S) OF SIGNER(S)

☐ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Mary Pena
SIGNATURE OF NOTARY

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ INDIVIDUAL
☐ CORPORATE OFFICER

- TITLE(S)
☐ PARTNER(S) ☐ LIMITED
☐ ATTORNEY-IN-FACT ☐ GENERAL
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☐ OTHER: _____

TITLE OR TYPE OF DOCUMENT

NUMBER OF PAGES

SIGNER IS REPRESENTING:

NAME OF PERSON(S) OR ENTITY(IES)

DATE OF DOCUMENT

SIGNER(S) OTHER THAN NAMED ABOVE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

No. 5907

State of _____

County of _____

On _____ before me, _____

DATE

NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"

personally appeared _____

NAME(S) OF SIGNER(S)

☐ personally known to me - OR - ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

SIGNATURE OF NOTARY

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ INDIVIDUAL
☐ CORPORATE OFFICER

TITLE OR TYPE OF DOCUMENT

- TITLE(S)
☐ PARTNER(S) ☐ LIMITED
☐ GENERAL

- ☐ ATTORNEY-IN-FACT
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☐ OTHER: _____

NUMBER OF PAGES

SIGNER IS REPRESENTING:

NAME OF PERSON(S) OR ENTITY(IES)

DATE OF DOCUMENT

SIGNER(S) OTHER THAN NAMED ABOVE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California

County of Orange

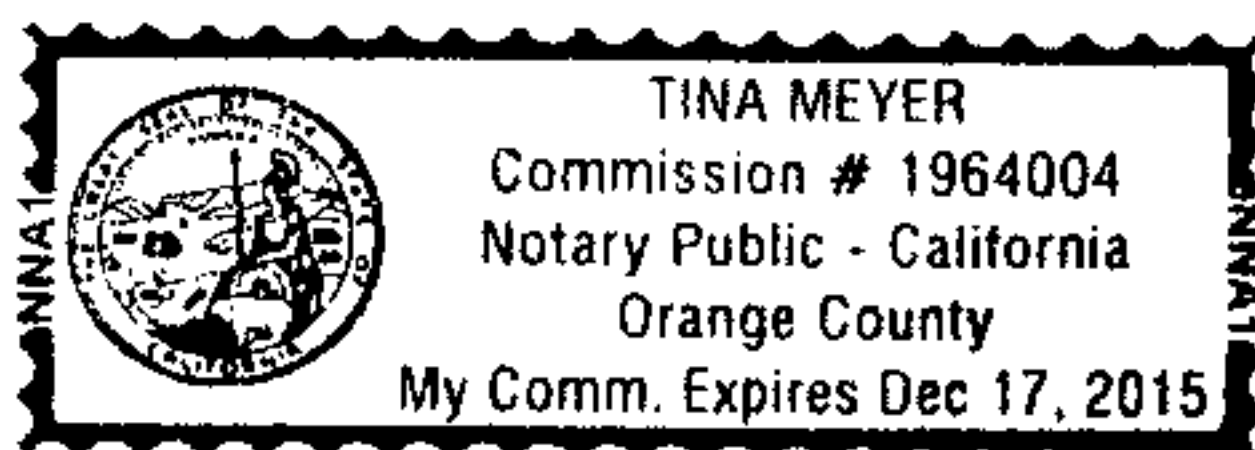
On 9-20-13
Date

before me,

Tina Meyer
Here Insert Name and Title of the Officer

personally appeared

Will Winkhofer
Name(s) of Signer(s)



who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s); or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:

Tina Meyer
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____

Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

☐ Corporate Officer — Title(s): _____

☐ Individual

☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

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Signer's Name: _____

☐ Corporate Officer — Title(s): _____

☐ Individual

☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

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Power of Attorney

WESTCHESTER FIRE INSURANCE COMPANY

Know all men by these presents: That WESTCHESTER FIRE INSURANCE COMPANY, a corporation of the Commonwealth of Pennsylvania pursuant to the following Resolution, adopted by the Board of Directors of the said Company on December 11, 2006, to wit:

RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
- (2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such persons written appointment as such attorney-in-fact.
- (3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (4) Each of the Chairman, the President and Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested.

Does hereby nominate, constitute and appoint Gina Rodriguez, Melissa Haddick, Sandra R Parker, Tannis Mattson, Terri L Morrison, all of the City of HOUSTON, Texas, each individually if there be more than one named, its true and lawful attorney-in-fact, to make, execute, seal and deliver on its behalf, and as its act and deed any and all bonds, undertakings, recognizances, contracts and other writings in the nature thereof in penalties not exceeding Twenty Five million dollars & zero cents (\$25,000,000.00) and the execution of such writings in pursuance of these presents shall be as binding upon said Company, as fully and amply as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office.

IN WITNESS WHEREOF, the said Stephen M. Haney, Vice-President, has hereunto subscribed his name and affixed the Corporate seal of the said WESTCHESTER FIRE INSURANCE COMPANY this 7 day of August 2013.

WESTCHESTER FIRE INSURANCE COMPANY

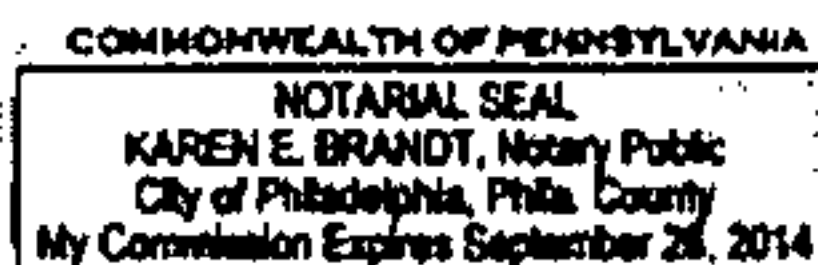



Stephen M. Haney, Vice President

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF PHILADELPHIA ss.

On this 7 day of August, AD. 2013 before me, a Notary Public of the Commonwealth of Pennsylvania in and for the County of Philadelphia came Stephen M. Haney, Vice-President of the WESTCHESTER FIRE INSURANCE COMPANY to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged that he executed the same, and that the seal affixed to the preceding instrument is the corporate seal of said Company, that the said corporate seal and his signature were duly affixed by the authority and direction of the said corporation, and that Resolution, adopted by the Board of Directors of said Company, referred to in the preceding instrument, is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Philadelphia the day and year first above written.




Karen E. Brandt
Notary Public

I, the undersigned Assistant Secretary of the WESTCHESTER FIRE INSURANCE COMPANY, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a substantially true and correct copy, is in full force and effect.

In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Corporation, this 16th day of September, 2013.




William L. Kelly, Assistant Secretary

THIS POWER OF ATTORNEY MAY NOT BE USED TO EXECUTE ANY BOND WITH AN INCEPTION DATE AFTER August 07, 2015.

CITY OF LAGUNA NIGUEL

BOND RELEASE FORM

I certify that I have deposited the required bond for the below mentioned permit:

Type of Fee: Ex. Bond to remove 1:1 northwly slope

Bond/Fee Reference: Bond # K08513028

Address: _____

City, State: _____

Telephone: _____

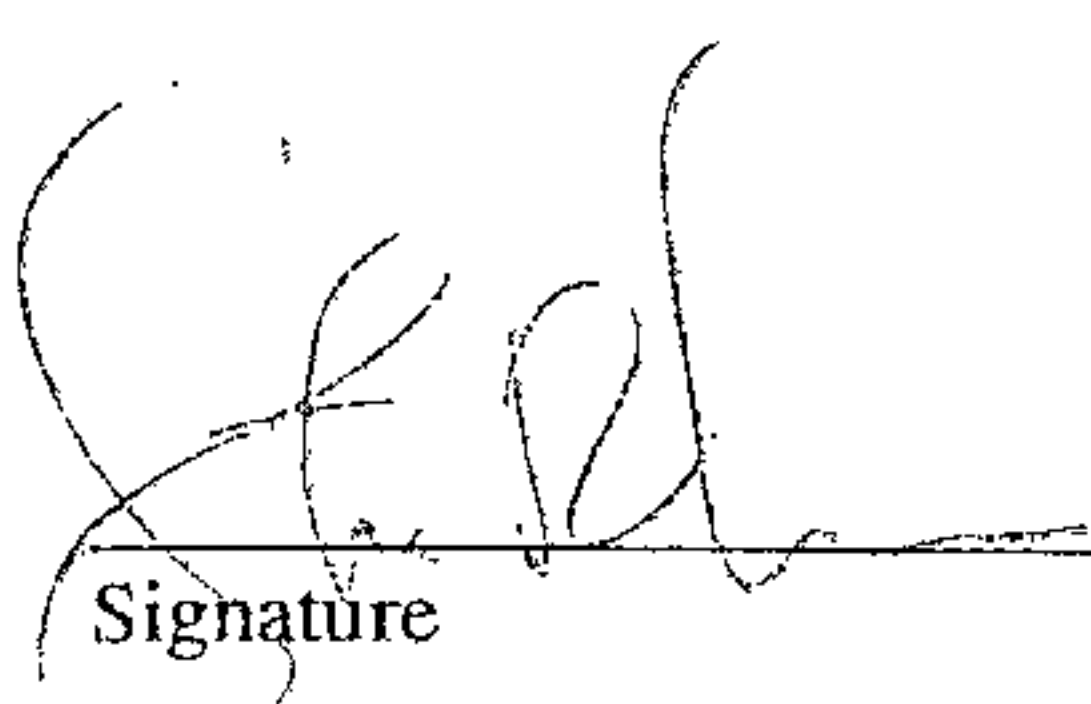
Please return subject bond/fee payable to:

Name: 2161 CROWN VALLEY LLC

Address: 3255 GLADES ROAD SUITE 4034

City, State: Boca Raton, FL 33431

Telephone: 714 949 9355


Signature

Please have this form notarized if it accompanies a cash bond.

CITY OF LAGUNA NIGUEL

BUILDING AND SAFETY

27781 La Paz Road
Laguna Niguel, CA 92677

APPLICATION FOR A GRADING PERMIT

(949) 362-4360 Office
(949) 362-4381 InspectionsP
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JOB ADDRESS <u>27960 Chestnut</u>		AREA	
LEGAL DESCRIPTION (OR ATTACH)	TRACT	BLOCK	LOTS INCLUSIVE
A.P. NO.	SUPER DIST. NO.	LAND USE WAIVER	TOTAL NO. LOTS/UNITS
CROSS STREETS		AND	
PURPOSE			
OWNER		PHONE	
OWNER'S ADDRESS		CITY	ZIP CODE
PLANS BY	STATE LICENSE	PHONE	
ADDRESS	CITY	ZIP CODE	
APPROVED SOIL TESTING FIRM		PHONE	
ADDRESS	CITY	ZIP CODE	
SOILS ENGINEER		STATE LICENSE	PHONE
ADDRESS	CITY	ZIP CODE	
ENGINEERING GEOLOGIST		STATE LICENSE	PHONE
ADDRESS	CITY	ZIP CODE	
GRADING CONTRACTOR		STATE LICENSE	PHONE
ADDRESS	CITY	ZIP CODE	
ZONE:			
PROPOSED USE:			
REMARKS:			
LAND USE APPROVAL:			
NAME DATE			
BOND ☐ NOT REQUIRED			
BONDING CO. <u>Wet</u>			
BOND NO. <u>112-112</u>			
BOND AMOUNT \$ <u>3,000.00</u>			
☒ SURETY ☐ CASH ☐ BLANKET BOND ☐ CERT. OF DEPOSIT			
☐ LETTER OF CREDIT (Expiration date _____)			
CERTIFICATION FOR REGULATION PERMIT			
Contractors			
I certify that the following Contr. Lic. No. <u>112-112</u> and Classification <u>112</u> is in full force and effect. Workmen's Compensation Insurance Certificate on file verified by <u>112</u> Expiration date: _____			
Other Applicants			
I hereby certify I am exempt from Sec. 7031.5 of the Business and Professional Code, Div. 3, Chap. 9, Contractor's License Law under the following section: ☐ Owner (Sect. 7044), or ☐ Minor Work under \$200 (Sect. 7048), or ☐ Employee working for wages only (Sect. 7053), or ☐ OTHER			
WORKERS COMPENSATION DECLARATION			
Certification of Exemption from Sect 3800 of the California Labor Code, Article 3, Construction Permit. ☐ The permit is for One Hundred Dollars (\$100) or less. I certify that in the performance of the work for which the permit is issued I shall not employ any person in any manner so as to become subject to the Workmen's Compensation laws of California. If, after making such certification the applicant for this permit should become subject to the Workmen's Compensation provisions of the Labor Code, the applicant shall forthwith comply with the provisions of Sect 3700 or this permit shall be deemed revoked. I hereby acknowledge and state that the information I have provided is correct both on the permit and this certificate and agree to comply with all city Ordinances and State laws regulating building construction. <u>James L. L.</u> Date: <u>11-11-11</u> (Applicant's Signature)			
I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION I HAVE PROVIDED IS CORRECT AND AGREE TO COMPLY WITH ALL CITY ORDINANCES AND STATE LAWS REGULATING BUILDING CONSTRUCTION. CONSENT IS HEREBY GIVEN TO THE CITY OF LAGUNA NIGUEL, ITS OFFICERS, AGENTS AND EMPLOYEES, TO ENTER UPON THE LAND FOR THE PURPOSES OF SUCH INSPECTIONS, INVESTIGATIONS, OR CORRECTIVE ACTION AS THE BUILDING OFFICIAL OF SUCH CITY DEEMS NECESSARY. I AM AWARE OF ORDINANCE NO. 2717 CONCERNING THE DISCLOSURE OF LOBBYIST. SIGNATURE <u>James L. L.</u> OWNER OR AUTHORIZED AGENT			
TYPE OF PERMIT		NUMBER OF CUBIC YARDS CUT:	
☐ PRELIMINARY NO BUILDING PERMITS TO BE ISSUED UNTIL THIS PERMIT IS SUPERCEDED BY A PRECISE GRADING PERMIT		BORROW FILL:	
☒ PRECISE ☐ BUILDING PERMITS MAY BE ISSUED AFTER ROUGH GRADING HAS BEEN APPROVED.		NATURAL FILL:	
		FEE YARDAGE: VALUATION OF PROTECTIVE DEVICES AND IMPROVEMENTS \$	
GRADING FEES			
PLAN CHECK		TOTAL P.C.	
IMPROVEMENTS: (DIA 235) \$		\$	
GRADING (GRA 235) \$		\$	
GRADING PERMIT		TOTAL PERMIT	
IMPROVEMENTS (DIB 235) \$		\$	
GRADING (GRB 235) \$		\$	
ISSUANCE FEE \$		\$	
APPLICATION APPROVED <u>James L. L.</u> DATE <u>11/11/11</u>			
FINAL APPROVED <u>James L. L.</u> DATE <u>12/12/11</u>			
BOND RELEASED <u>James L. L.</u> DATE <u>3/7/11</u>			
THIS FORM WHEN PROPERLY VALIDATED IS A PERMIT TO DO THE WORK DESCRIBED FOR A PERIOD OF 2 YEARS FROM DATE OF ISSUANCE			
VALIDATION			
*THIS PERMIT SUPERCEDES A PORTION / ALL OF GRADING PERMIT NO. _____ HAVING FEE YARDAGE IN THE AMOUNT OF _____ YD. ³			

F0250-855

CASHIER

DATE

PERMIT NO.

PERMIT FEE

CODE

PLAN CHECK

TOTAL

VALIDATION
(OFFICE
USE ONLY)

CITY OF LAGUNA NIGUEL

BUILDING AND SAFETY

27781 La Paz Road
Laguna Niguel, CA 92677

APPLICATION FOR A GRADING PERMIT

(949) 362-4360 Office
(949) 362-4381 InspectionsP
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JOB ADDRESS <u>27781 La Paz Road</u> AREA _____				ZONE: _____ PROPOSED USE: _____ REMARKS: _____ LAND USE APPROVAL: _____ NAME _____ DATE _____ BOND ☐ NOT REQUIRED BONDING CO. _____ BOND NO. _____ BOND AMOUNT \$ _____ ☐ SURETY ☐ CASH ☐ BLANKET BOND ☐ CERT. OF DEPOSIT ☐ LETTER OF CREDIT (Expiration date _____)	
LEGAL DESCRIPTION (OR ATTACH)	TRACT	BLOCK	LOTS INCLUSIVE		
A.P. NO.	SUPER DIST. NO.	LAND USE WAIVER	TOTAL NO. LOTS/UNITS		
CROSS STREETS _____ AND _____					
PURPOSE _____					
OWNER _____		PHONE _____			
OWNER'S ADDRESS _____		CITY _____		ZIP CODE _____	
PLANS BY _____		STATE LICENSE _____		PHONE _____	
ADDRESS _____		CITY _____		ZIP CODE _____	
APPROVED SOIL TESTING FIRM _____		PHONE _____			
ADDRESS _____		CITY _____		ZIP CODE _____	
SOILS ENGINEER _____		STATE LICENSE _____		PHONE _____	
ADDRESS _____		CITY _____		ZIP CODE _____	
ENGINEERING GEOLOGIST _____		STATE LICENSE _____		PHONE _____	
ADDRESS _____		CITY _____		ZIP CODE _____	
GRADING CONTRACTOR _____		STATE LICENSE _____		PHONE _____	
ADDRESS _____		CITY _____		ZIP CODE _____	

CERTIFICATION FOR REGULATION PERMIT

Contractors

I certify that the following Contr. Lic. No. _____ and Classification _____ is in full force and effect. Workmen's Compensation Insurance Certificate on file verified by _____ Expiration date: _____

Other Applicants

I hereby certify I am exempt from Sec. 7031.5 of the Business and Professional Code, Div. 3, Chap. 9, Contractor's License Law under the following section:
☐ Owner (Sect. 7044), or
☐ Minor Work under \$200 (Sect. 7048), or
☐ Employee working for wages only (Sect. 7053), or
☐ OTHER

WORKERS COMPENSATION DECLARATION

Certification of Exemption from Sect 3800 of the California Labor Code, Article 3, Construction Permit.

☐ The permit is for One Hundred Dollars (\$100) or less. I certify that in the performance of the work for which the permit is issued I shall not employ any person in any manner so as to become subject to the Workmen's Compensation laws of California.

If, after making such certification the applicant for this permit should become subject to the Workmen's Compensation provisions of the Labor Code, the applicant shall forthwith comply with the provisions of Sect 3700 or this permit shall be deemed revoked.

I hereby acknowledge and state that the information I have provided is correct both on the permit and this certificate and agree to comply with all city Ordinances and State laws regulating building construction.

(Applicant's Signature) Date: 2/11/16

I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION I HAVE PROVIDED IS CORRECT AND AGREE TO COMPLY WITH ALL CITY ORDINANCES AND STATE LAWS REGULATING BUILDING CONSTRUCTION. CONSENT IS HEREBY GIVEN TO THE CITY OF LAGUNA NIGUEL, ITS OFFICERS, AGENTS AND EMPLOYEES, TO ENTER UPON THE LAND FOR THE PURPOSES OF SUCH INSPECTIONS, INVESTIGATIONS, OR CORRECTIVE ACTION AS THE BUILDING OFFICIAL OF SUCH CITY DEEMS NECESSARY. I AM AWARE OF ORDINANCE NO. 2717 CONCERNING THE DISCLOSURE OF LOBBYIST.

SIGNATURE _____ OWNER OR AUTHORIZED AGENT

TYPE OF PERMIT	NUMBER OF CUBIC YARDS CUT:
☐ PRELIMINARY NO BUILDING PERMITS TO BE ISSUED UNTIL THIS PERMIT IS SUPERCEDED BY A PRECISE GRADING PERMIT	BORROW FILL: _____
☒ PRECISE ☐ * BUILDING PERMITS MAY BE ISSUED AFTER ROUGH GRADING HAS BEEN APPROVED.	NATURAL FILL: _____
	FEE YARDAGE: _____
	VALUATION OF PROTECTIVE DEVICES AND IMPROVEMENTS \$ _____

GRADING FEES		
PLAN CHECK		TOTAL P.C.
IMPROVEMENTS: (DIA 235)	\$ _____	
GRADING (GRA 235)	\$ _____	\$ _____
GRADING PERMIT		TOTAL PERMIT
IMPROVEMENTS (DIB 235)	\$ _____	
GRADING (GRB 235)	\$ _____	
ISSUANCE FEE	\$ _____	\$ _____

VALIDATION

*THIS PERMIT SUPERCEDES A PORTION / ALL OF GRADING PERMIT NO. _____ HAVING FEE YARDAGE IN THE AMOUNT OF _____ YD.³

APPLICATION APPROVED _____ DATE _____

FINAL APPROVED _____ DATE 2/11/16

BOND RELEASED _____ DATE 2/11/16

THIS FORM WHEN PROPERLY VALIDATED IS A PERMIT TO DO THE WORK DESCRIBED FOR A PERIOD OF 2 YEARS FROM DATE OF ISSUANCE

F0250-855

VALIDATION
(OFFICE
USE ONLY)

CASHIER DATE PERMIT NO. PERMIT FEE CODE PLAN CHECK TOTAL

LETTER OF TRANSMITTAL

Date: November 12, 2014
To: Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

From: Mike Thomas
KHR Project No.: _____
Reference: MCRT-Crown & Cabot

KHR Associates
4100 Newport Place Drive
Suite 200
Newport Beach, CA 92660
(949) 756-6440 Fax (949) 756-6444

ATTENTION: Abdullah Sharif

TEL Number: (949) 362-4360

TRANSMITTED HEREWITH: SEE BELOW

TYPE OF MATERIAL:

☒ REPORT ☐ PLANS ☐ SPECIFICATIONS ☐ ESTIMATES ☐ ORIGINALS
☐ PROPOSAL ☐ ALTA ☐ MEMORANDUM ☐ LETTER ☐ COMPUTER DISK
☒ OTHER (SPECIFY) See below

DESCRIPTION:

For the Mill Creek Residential "Crown Cabot Luxury Apartments" project, Laguna Niguel, CA:

* Three (3) copies of Drainage Report

* Three (3) copies of WQMP Report

* Three (3) copies of Previously Approved Precise Grading Plan for Reference

* Three (3) Response Letters to JT Yean

VIA:

☐ MAIL ☒ DELIVERED ☐ EXPRESS MAIL ☐ MODEM ☐ TELECOPY (FAX)*
*Number of Pages (Including This Page) _____

FOR:

☐ YOUR USE ☒ REVIEW ☐ INFORMATION ☒ APPROVAL ☐ DISTRIBUTION
☐ SIGNATURE ☐ FILES ☐ FOLLOW-UP ☐ RETURN ☒ AS REQUESTED
☐ OTHER (SPECIFY) _____

REPLY:

☐ A.S.A.P. ☐ NONE REQUIRED ☐ WHEN CONTACTED ☐ RETURN WHEN DONE
☐ IN PERSON ☐ BY TELEPHONE ☐ IN WRITING ☒ AS INDICATED BELOW

COMMENTS:

Please contact me if you have any questions. Thank you.



BY: Mike Thomas

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

**WQMP / REVISION
REVIEW SHEET**

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/28/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: KHR Associates (949) 756-6440

Project Title: **Crown Cabot Luxury Apartments**
Report Title: WQMP - Crown Cabot Luxury Apartments
Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC
Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626
Telephone: (714) 800-1383

Prior to approval of the WQMP attend the items below:

1. Provide a copy of the original approved WQMP Exhibit and highlight the areas to be revised for reference.

If you have any question, please feel free to contact me.

Report Reviewed by: J.T. Yean Date: 11-01-2014
J.T. Yean, Civil Engineer

November 12, 2014

To: J.T. Yean
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630

Re: **WQMP Plan Check Correction List for 25891 Crown Valley Parkway,
Laguna Niguel, CA (Report Date 10/28/14; Project No. G13-005)**

The following is in response to your comments and/or questions to the above-referenced report.

1. Provide a copy of the original approved WQMP Exhibit and highlight the areas to be revised for reference.

Response: The Original Approved WQMP Exhibit has been added to the report.

If you desire additional information, or if there are any questions regarding this response letter, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,

KHR Associates

Mike Thomas

Abdullah Sharif
Grading Engineer
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

DRAINAGE STUDY / REVISION REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/29/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: KHR Associates **(949) 756-6440**

Project Title: **Crown Cabot Luxury Apartments**
Report Title: **Drainage Study**
Project Address: **25891 Crown Valley Parkway, Laguna Niguel, CA 92677**

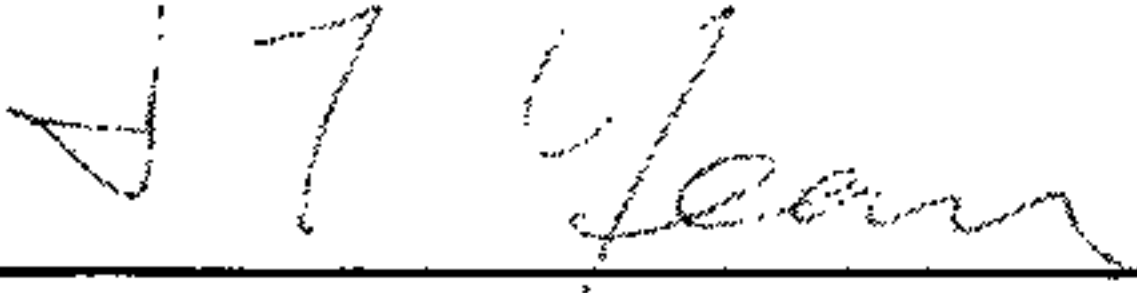
Developer/Owner: **Cal I Crown Valley LLC**
Address: **400 Howard Street, San Francisco, CA 94105**
Telephone: **(415) 670-2000**

Prior to Approval of Drainage Study Attend to Items Below:

1. Cover Page: Indicate the original approval date and revision dates.
2. Proposed Hydrology Map: Provide additional information as described below:
 - Delineate the major drainage boundary for each outlet point. Building areas should be delineated to the outlet points.
 - Show Q100 and Drainage Area at each outlet point.
 - Highlight the proposed drain lines and catch basins in the hydrology map.
 - Show the proposed site drainage and how it ties into drainage of surrounding or adjacent areas.
 - Show off-site runoff patterns (with arrow heads).
 - Show on-site runoff patterns (with arrow heads).
 - Distinguish the drainage areas where runoff will not be collected into the pipe and leave the site with sheet flow.
3. Provide a copy of the Original Approved Hydrology Map and highlight the areas to be revised for reference.

All the design parameters in hydrology and hydraulics calculations shall be able to be verified in the hydrology maps.

If you have any question, please feel free to contact me.

Report Reviewed by:  Date: **11-01-2014**
J.T. Yean, Civil Engineer

November 12, 2014

To: J.T. Yean
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630

Re: Hydrology Report Plan Check Correction List for 25891 Crown Valley Parkway, Laguna Niguel, CA (Report Date 10/29/14; Project No. G13-005)

The following is in response to your comments and/or questions to the above-referenced report.

1. Cover Page: Indicate the original approval date and revision dates.

Response: The date has been added.

2. Proposed Hydrology Map: Provide additional information as described below:

- Delineate the major drainage boundary for each outlet point. Building areas should be delineated to the outlet points.

Response: See revised plan.

- Show Q_{100} and Drainage Area at each outlet point.

Response: See revised plan.

- Highlight the proposed drain lines and catch basins in the hydrology map.

Response: See revised plan.

- Show the proposed site drainage and how it ties into drainage of surrounding or adjacent areas.

Response: See revised plan.

- Show off-site runoff patterns (with arrow heads).

Response: See revised plan.

- Show on-site runoff patterns (with arrow heads).

Response: See revised plan.

- Distinguish the drainage areas where runoff will not be collected into the pipe and leave the site with sheet flow.

Response: See revised plan.

3. Provide a copy of the Original Approved Hydrology Map and highlight the areas to be revised for reference.

Response: The Original Approved Hydrology Map has been added to the report.

If you desire additional information, or if there are any questions regarding this response letter, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,

KHR Associates

Mike Thomas

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

**Precise Grading & Drainage Plans / Revision
REVIEW SHEET**

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/28/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Valley/Cabot Apartments**

Plan Title: Mill Creek Residential Trust / Crown Valley/Cabot Apartments / Precise Grading & Drainage Plans

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

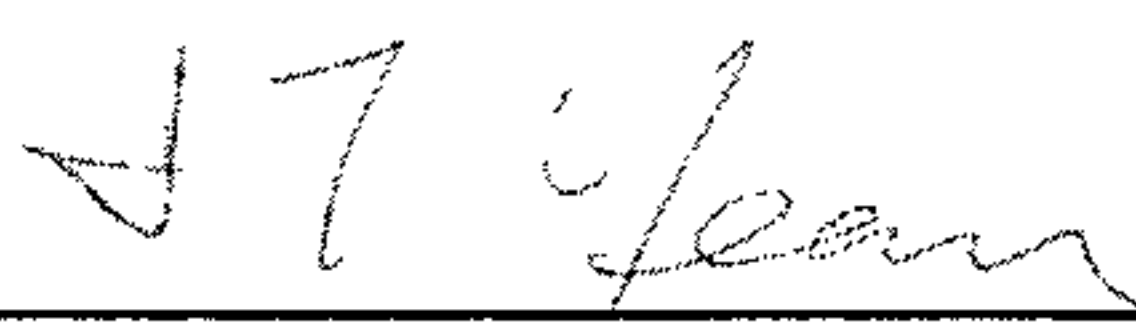
Telephone: (714) 800-1383

Prior to approval of the grading plan attend the items below:

1. Provide a copy of the approved Precise Grading & Drainage Plans for Crown Valley/Cabot Apartments prepared by KHR dated 09/16/2013 for reference, specifically the following design sheets:

- C-8: Precise Grading Plan
- C-9: Precise Grading Plan
- C-14: Storm Drain Plan
- C-16: Storm Drain Plan
- C-17: Storm Drain Plan

If you have any question, please feel free to contact me.

Report Reviewed by:  Date: 11-01-2014
J.T. Yean, Civil Engineer

November 12, 2014

To: J.T. Yean
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630

Re: **Precise Grading & Drainage Plan Check Correction List for 25891 Crown Valley Parkway, Laguna Niguel, CA (Report Date 10/28/14; Project No. G13-005)**

The following is in response to your comments and/or questions to the above-referenced report.

1. Provide a copy of the approved Precise Grading & Drainage Plans for Crown Valley/Cabot Apartments prepared by KHR dated 09/16/2013 for reference, specifically the following design sheets:
 - C-8: Precise Grading Plan
 - C-9: Precise Grading Plan
 - C-14: Storm Drain Plan
 - C-16: Storm Drain Plan
 - C-17: Storm Drain Plan

Response: Sheet C-8, 9, 14, 16 & 17 are provided for your reference.

If you desire additional information, or if there are any questions regarding this response letter, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,

KHR Associates

Mike Thomas

October 17, 2014

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Mr. John Peters
Mill Creek Residential Trust
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

**SUBJECT: CERTIFICATION OF THE INSTALLATION FILTERRA BIO-RETENTION ROOF
DRAIN SYSTEMS AT MCRT CROWN-CABOT APARTMENTS SITE, IN THE
CITY OF LAGUNA NIGUEL, CALIFORNIA (SENT VIA E-MAIL)**

Gentlemen:

Per the request of Mill Creek Residential Trust, a survey was conducted at the subject site to locate the 4 installed Filterra Bioretention Roof Drain Systems. As the civil engineer of record, I, James H. Kawamura, P.E., hereby certify that the survey found said Filterra Bioretention Roof Drain Systems to be installed per manufacturer's recommendations and in substantial conformance, both horizontally and vertically, with the City-approved Precise Grading & Drainage Plans (Permit No. G13-005) for the project, prepared by **KHR Associates**, Newport Beach, California.

If there are any questions regarding this matter, or if you desire additional information, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,
KHR Associates


James H. Kawamura, P.E.
RCE No. 30560 Exp. 03/31/16



October 10, 2014

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Mr. John Peters
Mill Creek Residential Trust
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

**SUBJECT: CERTIFICATION OF LINE & GRADE FOR THE PRECISE GRADING STORM
DRAIN, IN THE CITY OF LAGUNA NIGUEL, CALIFORNIA (SENT VIA E-MAIL)**

Gentlemen:

On October 3 & 9, 2014 a survey was conducted to check the lines and grades of a portion of the Precise Grading Storm Drain Line.

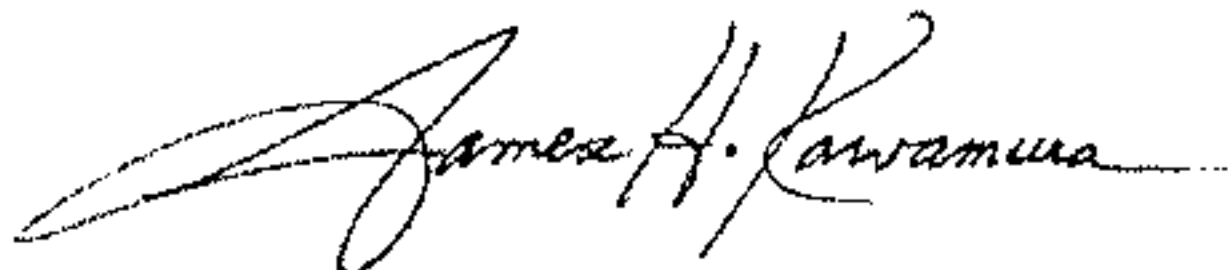
Storm Drain Line B

±117 L.F. of 10" HDPE Drainage Pipe
±48 L.F. of 8" PVC Drainage Pipe
±54 L.F. of 6" PVC Drainage Pipe
±122 L.F. of 4" PVC Drainage Pipe

The survey found said storm drain lines to be in substantial conformance, both horizontally and vertically, with the Precise Grading & Drainage Plans prepared by **KHR Associates**, Newport Beach, California, for said project.

If there are any questions regarding this matter, or if you desire additional information, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,
KHR Associates



James H. Kawamura, P.E.
RCE No. 30560 Exp. 03/31/14





KHR ASSOCIATES

CONSULTING ENGINEERS/SURVEYORS/PLANNERS

August 28, 2014

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Mr. John Peters
Mill Creek Residential Trust
949 South Coast Drive, Suite 400
Costa Mesa, California 92626

**SUBJECT: CERTIFICATION OF LINE & GRADE FOR THE PRECISE GRADING STORM DRAIN, IN
THE CITY OF LAGUNA NIGUEL, CALIFORNIA (SENT VIA E-MAIL)**

Gentlemen:

On August 19, 2014, a survey was conducted to check the lines and grades of the Precise Grading Filterra Bioretention Roof Drain Systems and the Precise Grading Storm Drain Line.

Eastern 8'x12' Filterra Bioretention Roof Drain System

Southern 8'x12' Filterra Bioretention Roof Drain System

Storm Drain Main Line D and All Storm Drain Laterals Tying Into Main Line D
±189 L.F. of 12" PVC Drainage Pipe

Storm Drain Main Line South of Eastern 8'x12' Filterra Bioretention Roof Drain System and
All Storm Drain Laterals Tying Into Main Line
±30 L.F. of 10" PVC Drainage Pipe
±99 L.F. of 12" PVC Drainage Pipe

The survey found said Filterra Bioretention Roof Drain systems and storm drain lines to be in substantial conformance, both horizontally and vertically, with the Precise Grading & Drainage Plans prepared by **KHR Associates**, Newport Beach, California, for said project.

If there are any questions regarding this matter, or if you desire additional information, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,
KHR Associates

James H. Kawamura, P.E.
RCE No. 30560 Exp. 03/31/16



Abdullah Sharif

To: John Peters
Cc: Boyd Lindquist; payala@khrdesign.com
Subject: RE: MCRT-Laguna Niguel-Filterra Boxes & Storm Drain Line & Grade Certification

John,
Thank you for the line & grade certificate, however, as we discussed several times all water quality structures, including hydro modification structures and system should also be field inspected by the project civil engineer and field memos should be submitted to the City at the time of inspection verifying the above structures have been installed per the approved plans. Please submit the additional field memos as soon as possible. Thanks,
Abdullah Sharif

From: John Peters [<mailto:jpeters@mcrtrust.com>]
Sent: Thursday, August 28, 2014 5:53 PM
To: Abdullah Sharif
Cc: Boyd Lindquist
Subject: Fwd: MCRT-Laguna Niguel-Filterra Boxes & Storm Drain Line & Grade Certification

Abdulla,

Please find certification letter for Filterra structures and storm drain. Let me know if you need anything else.

Thank you,

John

Begin forwarded message:

From: Paulo Ayala <payala@khrdesign.com>
Date: August 28, 2014 at 4:58:35 PM PDT
To: 'John Peters' <jpeters@mcrtrust.com>
Cc: Mike Thomas <mthomas@khrdesign.com>
Subject: MCRT-Laguna Niguel-Filterra Boxes & Storm Drain Line & Grade Certification

Hi John,

Per your request, please see attached pdf for a copy of the certification letter you requested.

Let me know if you need anything else.

Thanks,

Paulo Ayala, E.I.T. || KHR Associates
Project Engineer
4100 Newport Place Drive
Newport Beach, CA 92660
Tel: (949) 756-6440
Fax: (949) 756-6444

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

WQMP REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
06/15/2015	06/24/2015	06/25/2015	1 st Plan Check

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Cabot Luxury Apartments**

Report Title: WQMP - Crown Cabot Luxury Apartments (Revision)

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

The BMPs as proposed in the above referenced WQMP (revised: June 15, 2015) were found adequate to mitigate the water quality impacts due to the project. The revision is due to the widening of the access ramp. A total of five (5) Flow-thru Planter (#14 - #19) were reduced in sizes, but the design capacities still met the design criteria. Approval was therefore recommended to the above referenced WQMP Revision #2.

If you have any question, please feel free to contact me.

Report Reviewed by: J.T. Yean

J.T. Yean, Civil Engineer

Date: 6-25-2015



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 06/25/2015
Invoice No. LGN-06252015

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: WQMP Revision #2
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (06/24/2015 through 06/25/2015)

Contract Item	Contract Amount	Balance
	Hourly	
2 nd Plan Check on WQMP – Revision #2 (KHR, dated 06/23/2015)	\$120@3.0Hr	\$360
Total :		\$360

Thank You

OK.
A

Total Due This Invoice \$360.

entered
7/13/15

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

**Precise Grading & Drainage Plans / Revision
REVIEW SHEET**

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
11/10/2014	11/13/2014	11/15/2014	2 nd Plan Check

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Valley/Cabot Apartments**

Plan Title: Mill Creek Residential Trust / Crown Valley/Cabot Apartments / Precise Grading & Drainage Plans

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

The following design documents have been reviewed and found adequate to mitigate the storm runoff and water quality impacts. Hereby the final approval is recommended for the items below:

1. Precise Grading Drainage Study for Crown Cabot Luxury Apartments prepared by KHR dated 11/10/2014,
2. Revised WQMP for Crown Cabot Luxury Apartments prepared by KHR dated 10/28/2014,
3. Precise Grading & Drainage Plans for Crown Valley/Cabot Apartments prepared by KHR dated 10/27/2014, specifically for the following design sheets:
 - C-8: Precise Grading Plan
 - C-9: Precise Grading Plan
 - C-14: Storm Drain Plan
 - C-16: Storm Drain Plan
 - C-17: Storm Drain Plan

The revised BMPs and the drainage facilities as shown in the above grading plan were found consistent with the BMPs proposed in the WQMP and the drainage facilities in the Drainage Report.

If you have any question, please feel free to contact me.

Report Reviewed by: _____

J.T. Yean, Civil Engineer

Date: 11-15-2014



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 11/15/2014
Invoice No. LGN-11152014

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: Grading Plan, WQMP & Drainage Study / Revision
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (11/13/2014 through 11/15/2014)

Contract Item	Contract Amount	Balance
	Hourly	
2 nd Plan Check on Grading Plans – Revision (KHR, dated 10/27/2014)	\$120@2.0Hr	\$240
2 nd Plan Check on Drainage Study – Revision (KHR, dated 11/10/2014)	\$120@3.0Hr	\$360
2 nd Plan Check on WQMP – Revision (KHR, dated 10/28/2014)	\$120@2.0Hr	\$240
Total :		\$840

Thank You

Total Due This Invoice \$840.

OK
AD

entered

Project: Grading Plan, WQMP & Drainage Study / Revision
Crown Cabot Apartments / Cal I Crown Valley LLC

project No. G13-005

Invoice No.	Amount	Link
LGN-11012014	360	<u>11-01-2014 G13-005 Revision Invoice.pdf</u>
LGN-11152014	840	<u>11-15-2014 G13-005 Revision Invoice.pdf</u>

Total: 1200



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 11/01/2014
Invoice No. LGN-11012014

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: Grading Plan, WQMP & Drainage Study / Revision
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (10/29/2014 through 11/01/2014)

Contract Item	Contract Amount	Balance
	Hourly	
1 st Plan Check on Grading Plans – Revision (KHR, dated 10/28/2014)	\$120@1.0Hr	\$120
1 st Plan Check on Drainage Study – Revision (KHR, dated 10/28/2014)	\$120@1.0Hr	\$120
1 st Plan Check on WQMP – Revision (KHR, dated 10/28/2014)	\$120@1.0Hr	\$120
Total :		\$360

Thank You

OK.

Pa. id

Total Due This Invoice \$360.

entered

Abdullah Sharif
Grading Engineer
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

DRAINAGE STUDY / REVISION REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/29/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: KHR Associates (949) 756-6440

Project Title: Crown Cabot Luxury Apartments
Report Title: Drainage Study
Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC
Address: 400 Howard Street, San Francisco, CA 94105
Telephone: (415) 670-2000

Prior to Approval of Drainage Study Attend to Items Below:

1. Cover Page: Indicate the original approval date and revision dates.
2. Proposed Hydrology Map: Provide additional information as described below:
 - Delineate the major drainage boundary for each outlet point. Building areas should be delineated to the outlet points.
 - Show Q100 and Drainage Area at each outlet point.
 - Highlight the proposed drain lines and catch basins in the hydrology map.
 - Show the proposed site drainage and how it ties into drainage of surrounding or adjacent areas.
 - Show off-site runoff patterns (with arrow heads).
 - Show on-site runoff patterns (with arrow heads).
 - Distinguish the drainage areas where runoff will not be collected into the pipe and leave the site with sheet flow.
3. Provide a copy of the Original Approved Hydrology Map and highlight the areas to be revised for reference.

All the design parameters in hydrology and hydraulics calculations shall be able to be verified in the hydrology maps.

If you have any question, please feel free to contact me.

Report Reviewed by: J.T. Yean Date: 11-01-2014
J.T. Yean, Civil Engineer

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

**Precise Grading & Drainage Plans / Revision
REVIEW SHEET**

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/28/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Valley/Cabot Apartments**

Plan Title: Mill Creek Residential Trust / Crown Valley/Cabot Apartments / Precise Grading & Drainage Plans

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

Prior to approval of the grading plan attend the items below:

1. Provide a copy of the approved Precise Grading & Drainage Plans for Crown Valley/Cabot Apartments prepared by KHR dated 09/16/2013 for reference, specifically the following design sheets:
 - C-8: Precise Grading Plan
 - C-9: Precise Grading Plan
 - C-14: Storm Drain Plan
 - C-16: Storm Drain Plan
 - C-17: Storm Drain Plan

If you have any question, please feel free to contact me.

Report Reviewed by: _____

J.T. Yean, Civil Engineer

Date: 11-01-2014

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

WQMP / REVISION REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/28/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: KHR Associates (949) 756-6440

Project Title: **Crown Cabot Luxury Apartments**

Report Title: WQMP - Crown Cabot Luxury Apartments

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

Prior to approval of the WQMP attend the items below:

1. Provide a copy of the original approved WQMP Exhibit and highlight the areas to be revised for reference.

If you have any question, please feel free to contact me.

Report Reviewed by: _____

J.T. Yean, Civil Engineer

Date: 11-01-2014

Abdullah Sharif
Grading Engineer
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

DRAINAGE STUDY / REVISION REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
10/29/2014	10/31/2014	11/01/2014	1 st Plan Check

By the Consulting Firm: **KHR Associates** (949) 756-6440

Project Title: **Crown Cabot Luxury Apartments**
Report Title: **Drainage Study**
Project Address: **25891 Crown Valley Parkway, Laguna Niguel, CA 92677**

Developer/Owner: **Cal I Crown Valley LLC**
Address: **400 Howard Street, San Francisco, CA 94105**
Telephone: **(415) 670-2000**

Prior to Approval of Drainage Study Attend to Items Below:

1. Cover Page: Indicate the original approval date and revision dates.
2. Proposed Hydrology Map: Provide additional information as described below:
 - Delineate the major drainage boundary for each outlet point. Building areas should be delineated to the outlet points.
 - Show Q100 and Drainage Area at each outlet point.
 - Highlight the proposed drain lines and catch basins in the hydrology map.
 - Show the proposed site drainage and how it ties into drainage of surrounding or adjacent areas.
 - Show off-site runoff patterns (with arrow heads).
 - Show on-site runoff patterns (with arrow heads).
 - Distinguish the drainage areas where runoff will not be collected into the pipe and leave the site with sheet flow.
3. Provide a copy of the Original Approved Hydrology Map and highlight the areas to be revised for reference.

All the design parameters in hydrology and hydraulics calculations shall be able to be verified in the hydrology maps.

If you have any question, please feel free to contact me.

Report Reviewed by: J.T. Yean Date: **11-01-2014**
J.T. Yean, Civil Engineer



23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (Page 1 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00



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GEOTECHNICAL REVIEW FEE SHEET (Page 2 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005
PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road
OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 – Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00
"Partial Building Pad Approval, Area Bounded by Gridlines T-J (N/S) & 14 – Y10/Y11 (E/W) and Gridlines H (N/S) & 16 (E/W), Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 18, 2013.	11/22/13	APPROVED	\$ 245.00
"Deepened Foundations, Gridline H & Gridlines 11-18 and Gridline Y6 & Gridline X7, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated December 5, 2013.	12/10/13	APPROVED	\$272.50
"Partial Building Pad Approval, Area Bounded by Gridlines A-F & 11-24/Y11, and Gridline Y9 at Gridlines J, H, and G, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated REVISED January 15, 2014.	1/17/14	APPROVED	\$277.50



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GEOTECHNICAL REVIEW FEE SHEET (Page 3 of 3)

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines S-T.5 & 2-14 and Gridlines 8-14 & J.2-T.5, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 28, 2014.	3/10/14	APPROVED	\$277.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines J.2-T.5 & 8-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated April 14, 2014.	4/21/14	APPROVED	\$287.50
"Report of Observation and Testing Services during Grading for Slab-On-Grade Subgrade, Area Bounded by Gridlines F-J.2 & 8-Y9 and Gridlines D-F & Y6-Y9, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated (revised) April 14, 2014.	4/22/14	APPROVED	\$287.50

GEOCON

WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03

January 22, 2014

Mr. Greg Lucas
CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Subject: FIELD INSPECTION OF TEMPORARY BEDROCK CUT SLOPE
NORTHERN PROPERTY LINE
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY, LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

In accordance with your request, this letter provides written approval for the western 250 feet of the bedrock cut slope located along the of the northern side of the site (see Sheet 3, attached).

The cut bedrock slope was inspected on January 22, 2014. Based on the field inspection of the slope, neither adverse bedding conditions nor slope failures were observed in the cut slope. The slope is considered both grossly and surficially stable. It is the opinion of this office that, provided our recommendations are followed and properly maintained, the completed cut slope and proposed grading will be safe for its intended use against hazard from landslide, settlement or slippage during the duration of construction, and the completed cut slope and proposed grading will have no adverse effect on the stability of the site or adjoining properties.

Proper surface drainage is critical to the future performance of the slope. Positive site drainage should be provided away from the top of the slope to controlled drainage structures. Drainage should not be allowed to flow uncontrolled over any descending slope.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

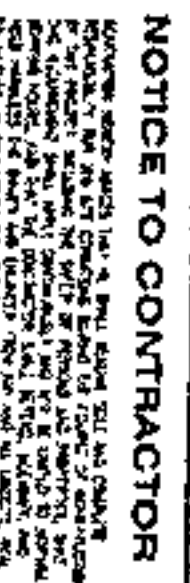
Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576

Addressee





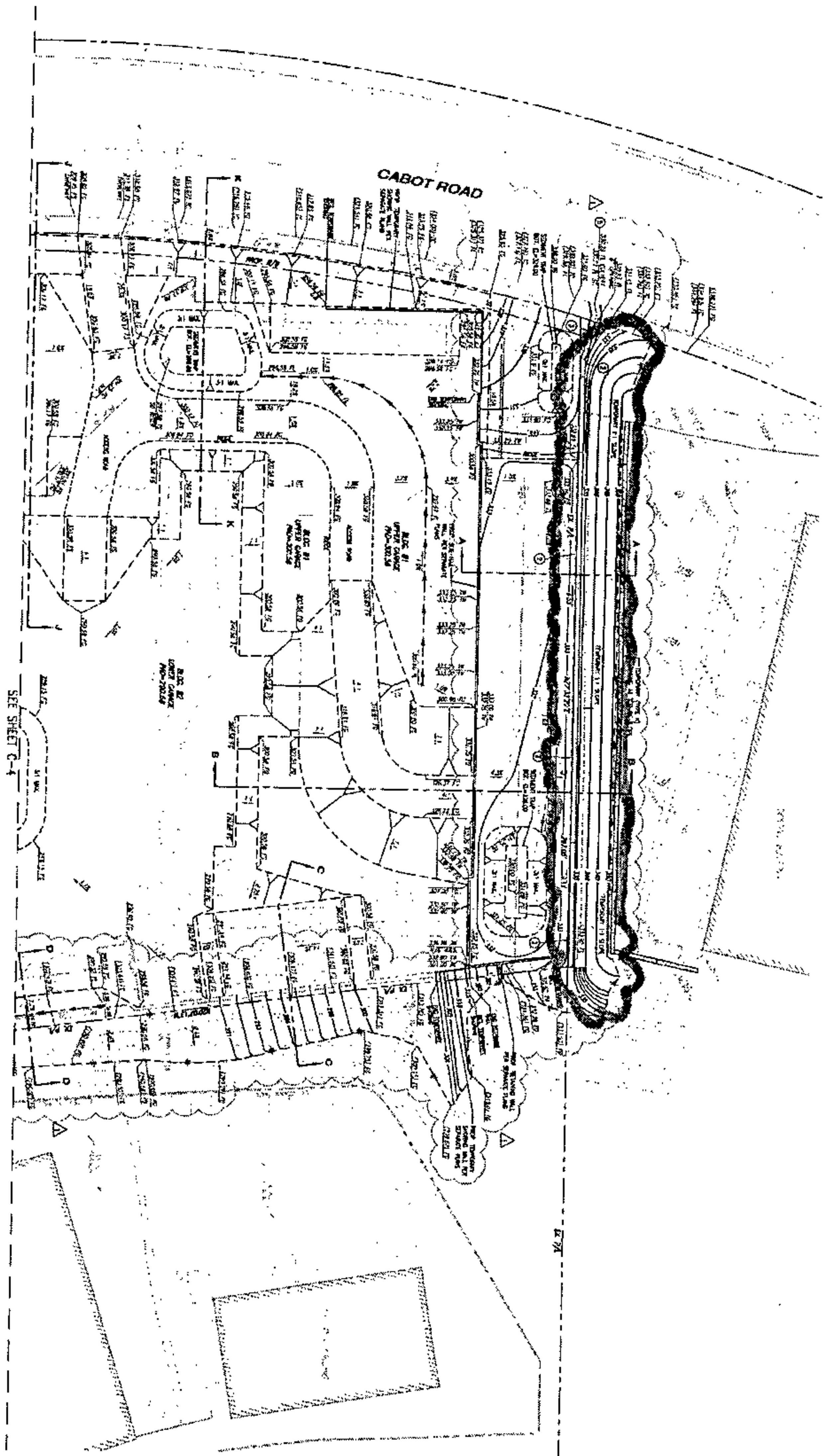
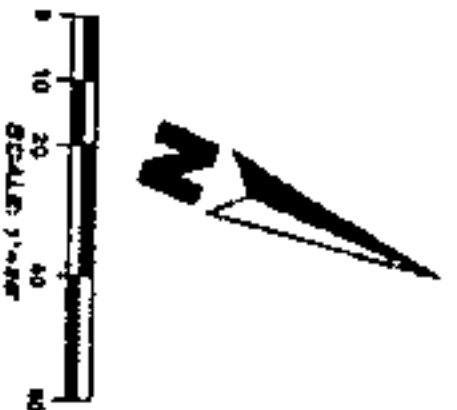
REVISIONS		
NO.	DATE	DESCRIPTION
1	1-1-75	REVISOR: RICHARD W. LUTZ, JR.
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CONSULTING ENGINEERS, SURVEYORS, PLANNERS
4100 Harport Plaza Drive - Suite 200
Portland, ME 04103
Tel: 603/866-1100
Fax: 603/866-1101
E-mail: info@kva.com
Web: www.kva.com



5471 JACOBSON
INTERIM GRADING PLAN
CROWN CABOT LUXURY APARTMENTS
25881 - CROWN VALLEY
LAGUNA NIGUEL, CALIFORNIA

PROJECT NUMBER
B376001
SHEET NO.



CONSTRUCTION NOTES

- ⑦ DOMESTIC 1-100 AND DOMESTIC CARRIER, SEE 5405
C-7, ITEM 12. 200 U.
- ⑧ DOMESTIC CARRIER CARRIER, AIRCRAFT, SEE 5405
C-7, ITEM 12. 200 U.
- ⑨ DOMESTIC CARRIER CARRIER, AIRCRAFT, SEE 5405
C-7, ITEM 12. 200 U.
- ⑩ DOMESTIC CARRIER CARRIER, AIRCRAFT, SEE 5405
C-7, ITEM 12. 200 U.

GENERAL NOTES:

- STANDARD 11: THE LIVES AND FAMILIES OF THE SOL DROPPED AS EVIDENCE IN THE SOL REPORT, WITH ADDITIONAL FROM THE CITY OF PALM BEACH'S CHANGING CIRCUMSTANCES.

BRIEFING

EACH WORK QUANTITIES			
OUT	=	15.534 C.Y.	EXPORT = 0 C.Y.
ILL	=	244 C.Y.	EXPORT = 156.534 C.Y.
MI	=	156.202 C.Y.	

LEGEND:

- ORDER SENT TO RE ZONE AT 1:35 PM. TO EXTRACT W/17 CROSS STREET
STILL REMAINING TO BE LOST AND RECOVERED
IN COUNCIL TOWN

February 3, 2014

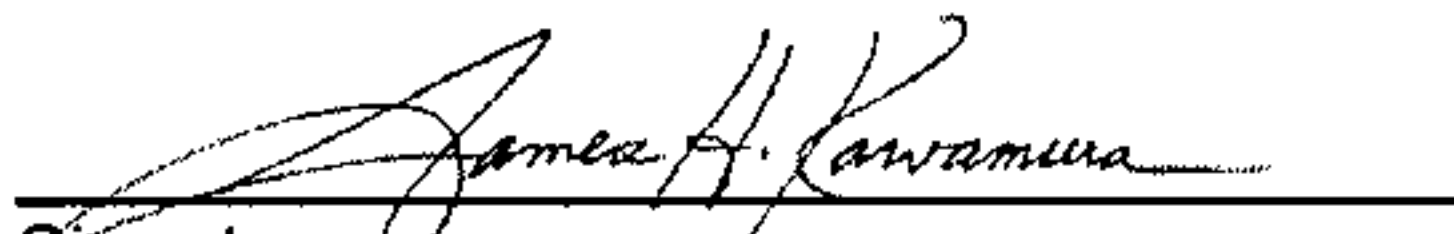
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Attention: Abdullah Sharif, City Grading Inspector Subject:

Civil Engineer's (Architects) Certification of Final Grading

Reference Project: Grading Permit No. G13- 005
Address: 25891 Crown Valley Parkway
Tract No. PM 2012-124 Lot(s) , inclusive

I hereby approve the rough grading for the referenced project in accordance with my responsibilities under the City of Laguna Niguel Grading and Excavation Code. Rough grading has been completed substantially in conformance with the approved grading plan for the following scope of work: Temporary 1:1 slope located along the north side of the project site.


Signature

(R.C.E # 30560) (AIA #)





Project No. A8803-06-01A
May 22, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Ron Schulman

Subject: GRADING RECOMMENDATIONS AND REVIEW OF
PRECISE GRADING & DRAINAGE PLANS
CROWN VALLEY / CABOT APARTMENTS
25891 CROWN VALLEY PARKWAY AND 27961 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

References: *Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc.,
GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc.,
dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by
GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

Precise Grading & Drainage Plans, prepared by KHR Associates, Sheet Nos. C-1
through C-23, Project No. 5376001, dated April 15, 2013.

Dear Mr. Schulman:

This letter has been prepared to summarize the grading recommendations provided in the referenced geotechnical reports and addenda for the proposed Crown Valley Cabot Apartments located at 25891 Crown Valley Parkway and 27961 Cabot Road in Laguna Niguel, California. This letter also provides written confirmation that the above referenced Precise Grading and Drainage Plans have been reviewed by the undersigned Geotechnical Engineer.

Based on our review of the grading plans, we have updated the grading recommendations as needed. Where differing, the recommendations provided herein supersede previous recommendations.

1. CONCLUSIONS AND RECOMMENDATIONS

1.1 General

- 1.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the construction of the proposed development provided the grading recommendations presented herein are followed and implemented during construction.
- 1.1.2 The subject property is underlain by artificial fill over bedrock.
- 1.1.3 The maximum vertical depth of excavation for construction of the proposed subterranean portion of the structure is approximately 36 feet in height and is located along the north building line. Due to the depth of the excavation, shoring measures will be implemented along the north building line and will continue approximately 44½ feet and 23 feet in length along the east and west building lines, respectively. Recommendations for the design and construction of temporary shoring are provided in the project geotechnical reports and addenda.
- 1.1.4 Where shoring is not implemented, temporary excavations will be sloped back at a uniform 1:1 slope gradient or flatter. Excavations along the northern and eastern portions of the site will expose bedrock and will be inspected by the Project Geologist (a representative of Geocon). All excavations must be conducted in a manner that maintains stability and additional recommendations will be provided if necessary.
- 1.1.5 Proposed south-facing excavations may expose some components of unfavorable bedding or jointing. Although site exploration indicates that some components of unfavorable bedding or jointing may be exposed by south facing excavations, the bedrock is poorly bedded to massive and continuous planes of bedding are not anticipated. Sloping and/or shoring measures will be required to maintain a stable excavation. All cut slopes must be observed by the Project Geologist (a representative of Geocon) during excavation. Recommendations for temporary excavations are provided in Section 1.5 of this report.
- 1.1.6 Proposed temporary excavations along the east building line will generate slopes up to 14 feet in height constructed at a gradient of 1:1 or flatter. These temporary west-facing slopes are anticipated to expose bedrock with bedding orientation that is considered to be neutral or favorable with respect to stability of the temporary excavation. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 1.5).

- 1.1.7 Proposed temporary excavations along the south building line will generate slopes up to 21 feet in height constructed at a gradient of 1:1 or flatter. These temporary south-facing slopes are anticipated to expose existing artificial fill and bedrock. South-facing excavations which expose bedrock may expose some components of unfavorable bedding or jointing; however, the bedrock is poorly bedded to massive and continuous planes of bedding are not anticipated. Excavations must be conducted in a manner that maintains stability and must be observed and approved in writing by the Project Geologist (a representative of Geocon West, Inc.). Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 1.5).
- 1.1.8 Proposed temporary excavations along the west building line will generate slopes up to 24 feet in height constructed at a gradient of 1:1 or flatter. These temporary east-facing slopes are anticipated to expose existing artificial fill. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 1.5).
- 1.1.9 Where new, permanent cut or fill slopes are planned, all slope gradients should be 2:1 (horizontal to vertical) or flatter.
- 1.1.10 It is the opinion of this office, based on the findings of the referenced geotechnical investigation report and addenda, provided our recommendations are followed and properly maintained the proposed grading and development will have no adverse effect on the stability of the site or adjoining properties.
- 1.1.11 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

1.2 Soil and Excavation Characteristics

- 1.2.1 The in-situ fill and bedrock can be excavated with moderate effort using heavy duty excavation equipment. Concretions or well cemented layers may be encountered in the bedrock which could make excavation or drilling conditions difficult. Coring or jack-hammering may be required where concretions are encountered and both excavation and shoring contractors should be prepared for these potential difficult conditions.
- 1.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped/shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

1.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping or shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 1.5).

1.2.4 The artificial fill soils and bedrock encountered during the investigation are considered to have a "medium" in situ expansive potential to a "high" expansive potential when excavated and compacted (see Figure B5) and are classified as "expansive" based on the 2010 California Building Code (CBC) Section 1803.5.32. The in-situ bedrock is considered to have a "medium" expansive potential if undisturbed. The recommendations presented in this report assume that foundations and slabs will derive support in these materials.

1.3 Grading

1.3.1 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill and bedrock encountered during exploration, is suitable for re-use as an engineered fill provided any oversize material (greater than 6-inches), or deleterious debris (such as wood and roots) is removed. If bedrock is to be utilized as an engineered fill, it will likely have to be crushed prior to utilization.

1.3.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

1.3.3 Grading should commence with the removal of all existing vegetation from the area to be graded. Deleterious debris should be exported from the site and should not be mixed with the fill soils. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein.

1.3.4 Excavations along the northern and eastern portions of the site will expose bedrock and excavations must be conducted in a manner that maintains stability. Proposed south-facing excavations may expose some components of unfavorable bedding or jointing. All excavations must be observed and approved in writing by the project Geologist during excavation to determine the presence of jointing and requirements for sloping and/or shoring. Any recommendations deemed necessary will be provided at that time. Recommendations for temporary excavations are provided in Section 1.5 of this report.

- 1.3.5 Any bedrock exposed in the excavation bottom must be cut or benched to create horizontal planes so that fill can be placed and compacted on horizontal surfaces. All excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.) prior to the placement of engineered fill.
- 1.3.6 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to 2 percent above optimum moisture content, and compacted to at least 90 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Fills in excess of 5 vertical feet must be compacted to at least 92 percent relative compaction.
- 1.3.7 All imported fill shall be observed, tested and approved by Geocon West, Inc. prior to importing to the site. Rocks larger than six inches in diameter shall not be used in the fill. Imported soils should have an expansion index less than 50 and corrosive characteristics that are equally or less detrimental to that of the existing onsite soils.
- 1.3.8 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least one foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).
- 1.3.9 All excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

1.4 Shrinkage

Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of between 3 and 5 percent should be anticipated when excavating and compacting the existing fill on the site to an average relative compaction of 92 percent. Bulking of cut bedrock is likely to occur and should be considered when determining export volumes.

1.5 Temporary Excavations

- 1.5.1 Excavations of up to 36 feet in vertical height may be required for the structure and retaining wall systems for this project, and excavations are expected to expose fill and bedrock. Although site exploration indicates that some components of unfavorable bedding or jointing may be exposed by south facing excavations, the bedrock is poorly bedded to massive and continuous planes of bedding are not anticipated. However, sloping and shoring measures will be required in order to maintain a stable excavation. All cut slopes must be observed by the Project Geologist (a representative of Geocon West, Inc.). Any recommendations deemed necessary will be provided at that time.
- 1.5.2 Shoring measures will be implemented along the north building line and will continue approximately 44½ feet and 23 feet in length along the east and west building lines, respectively. Due to the potential for some components of adverse bedding configuration of the bedrock with respect to south-facing excavations, proper shoring should be maintained during construction in order to provide a stable excavation. Recommendations for the design and construction of temporary shoring are provided in the project geotechnical reports and addenda.
- 1.5.3 Proposed temporary excavations along the east building line will generate slopes up to 14 feet in height constructed at a gradient of 1:1 or flatter. These temporary west-facing slopes are anticipated to expose bedrock with bedding orientation that is considered to be neutral or favorable with respect to stability of the temporary excavation. Temporary excavations conducted in this manner are anticipated to have a Factor of Safety of greater than 1.5 with respect to temporary stability (see Figure 1).
- 1.5.4 Proposed temporary excavations along the south building line will generate slopes up to 21 feet in height constructed at a gradient of 1:1 or flatter. These temporary south-facing slopes are anticipated to expose existing artificial fill and bedrock. South-facing excavations which expose bedrock may expose some components of unfavorable bedding or jointing; however, the bedrock is poorly bedded to massive and continuous planes of bedding are not anticipated. Excavations must be conducted in a manner that maintains stability and must be observed and approved in writing by the Project Geologist (a representative of Geocon West, Inc.). Temporary excavations conducted in this manner are anticipated to have a Factor of Safety of greater than 1.5 with respect to temporary stability (see Figure 1).
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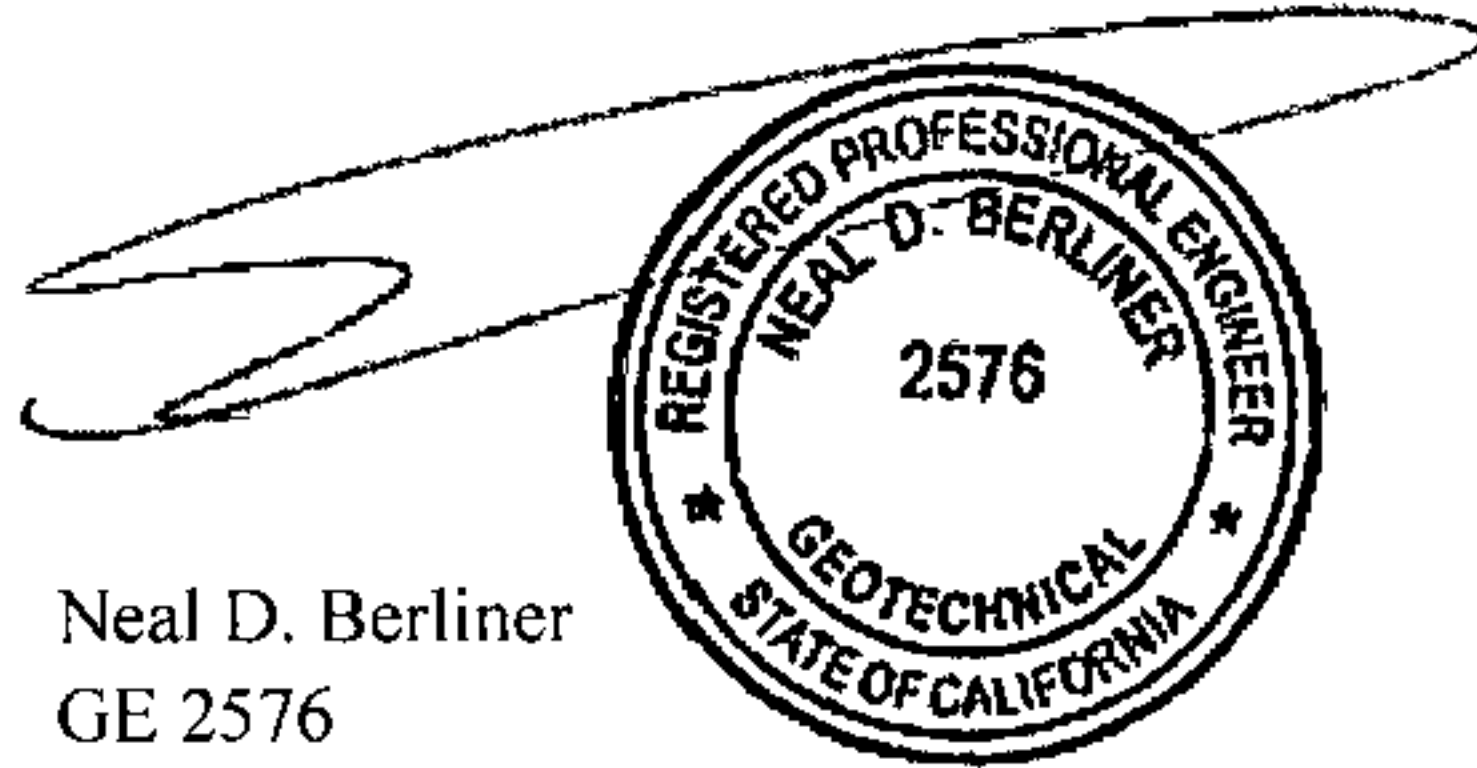
1.5.6 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. The soils exposed in the cut slopes should be inspected during excavation by our personnel so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

If you have any questions regarding this response, or if we may be of further service, please contact the undersigned.

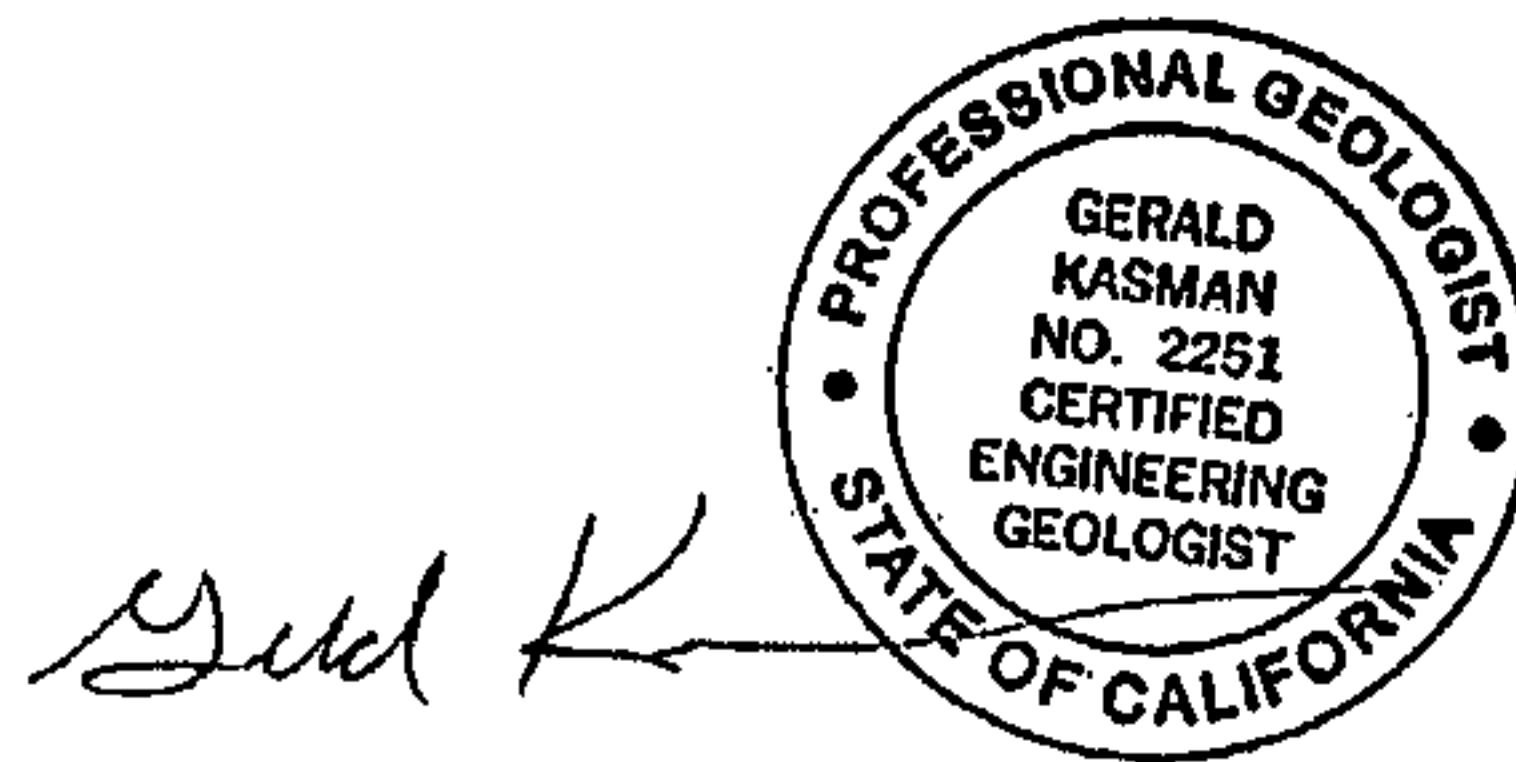
Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



Gerald Kasman
CEG 2251



(5) Addressee

Enclosures: Figures 1 and 2, Temporary Excavation Calculation

COMPOUND EXCAVATION CALCULATION

Search for lowest factor of safety based on assumed compound excavation as shown hereon. Assume frictional resistance of failure plane only and bracket lowest factor of safety.

MATERIAL PROPERTIES

Cohesion	=	650.00 psf.
Friction Angle	=	27.00 degrees.
Unit Weight	=	120.00 pcf.

EXCAVATION DATA

Vertical Height	=	0.00 feet.
Sloped Height	=	21.00 feet.
Slope Angle	=	45 degrees.

RESULTS

Trial Angles (degrees)	26	31	36
Area (square ft.)	135.37	103.29	68.03
Weight (kips)	16.24	12.40	8.16
Ft (kips)	7.14	6.40	4.81
Fn (kips)	14.59	10.62	6.60
R (kips)	38.52	31.87	26.54
Factor of Safety	5.40	4.98	5.52

5.40 > 4.98 < 5.52
4.98 > 1.25: OK

COMPOUND EXCAVATION CALCULATION

Search for lowest factor of safety based on assumed compound excavation as shown hereon. Assume frictional resistance of failure plane only and bracket lowest factor of safety.

MATERIAL PROPERTIES

Cohesion	=	1000.00 psf.
Friction Angle	=	10.00 degrees.
Unit Weight	=	115.00 pcf.

EXCAVATION DATA

Vertical Height	=	0.00 feet.
Sloped Height	=	24.00 feet.
Slope Angle	=	45 degrees.

RESULTS

Trial Angles (degrees)	25	30	35
Area (square ft.)	184.56	143.66	98.33
Weight (kips)	21.22	16.52	11.31
Ft (kips)	8.99	8.28	6.50
Fn (kips)	19.23	14.30	9.25
R (kips)	60.05	50.41	43.38
Factor of Safety	6.68	6.09	6.67

6.68 > 6.09 < 6.67
6.09 > 1.25: OK

GEOCON

W E S T, I N C.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-01A
May 22, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Ron Schulman

Subject: REVIEW OF PRECISE GRADING & DRAINAGE PLANS
CROWN VALLEY / CABOT APARTMENTS
25891 CROWN VALLEY PARKWAY AND 27961 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

References: *Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc.,
GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc.,
dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by
GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

Soil Nail Design Parameters, by Geocon West, Inc., dated August 1, 2012;

Earth Retention Plan, prepared by DRS Engineering, Inc., Sheet Nos. SH-1 through SH-4,
dated September 5, 2012.

Precise Grading & Drainage Plans, prepared by KHR Associates, Sheet Nos. C-1
through C-23, Project No. 5376001, dated April 15, 2013

Dear Mr. Schulman:

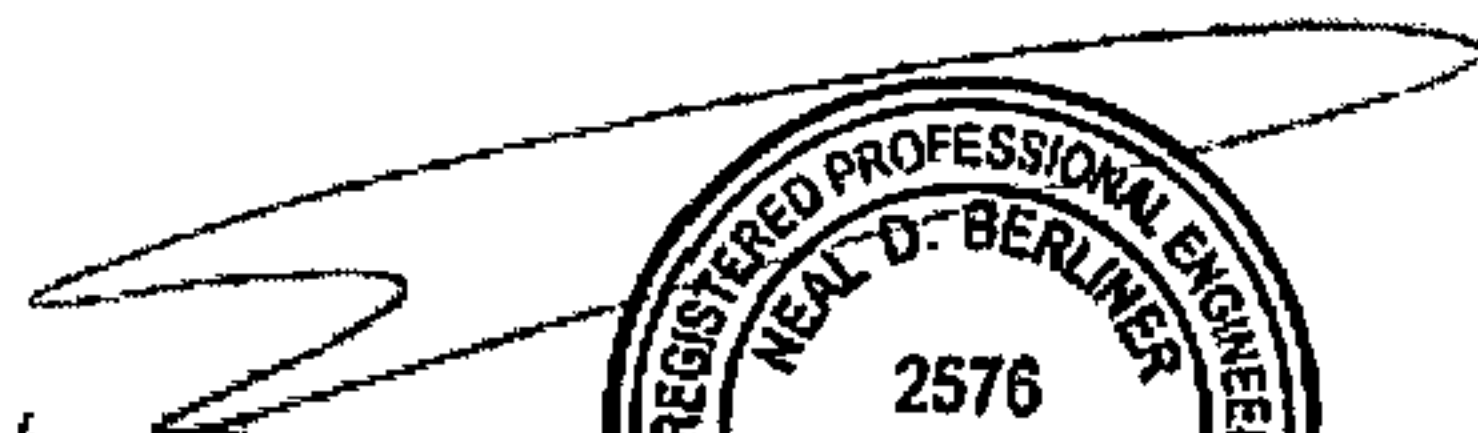
This letter has been prepared subsequent to our review of the referenced Precise Grading and Drainage Plans for the subject development. The purpose of this letter is to provide written confirmation that subject plans have been reviewed by the undersigned Geotechnical Engineer. Based on our review, it is our opinion that the plans appear to be in conformance with the intent of the referenced project geotechnical recommendations.

Any future revisions or modifications to this plan set should be submitted to our office for review and approval.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Neal D. Berliner
GE 2576



(5) Addressee



Project No. A8803-06-01A
May 22, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Ron Schulman

Subject: GRADING RECOMMENDATIONS AND REVIEW OF
PRECISE GRADING & DRAINAGE PLANS
CROWN VALLEY / CABOT APARTMENTS
25891 CROWN VALLEY PARKWAY AND 27961 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

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dated January 5, 2012;

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GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

Precise Grading & Drainage Plans, prepared by KHR Associates, Sheet Nos. C-1
through C-23, Project No. 5376001, dated April 15, 2013.

Dear Mr. Schulman:

This letter has been prepared to summarize the grading recommendations provided in the referenced geotechnical reports and addenda for the proposed Crown Valley Cabot Apartments located at 25891 Crown Valley Parkway and 27961 Cabot Road in Laguna Niguel, California. This letter also provides written confirmation that the above referenced Precise Grading and Drainage Plans have been reviewed by the undersigned Geotechnical Engineer.

Based on our review of the grading plans, we have updated the grading recommendations as needed. Where differing, the recommendations provided herein supersede previous recommendations.

1. CONCLUSIONS AND RECOMMENDATIONS

1.1 General

- 1.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the construction of the proposed development provided the grading recommendations presented herein are followed and implemented during construction.
- 1.1.2 The subject property is underlain by artificial fill over bedrock.
- 1.1.3 The maximum vertical depth of excavation for construction of the proposed subterranean portion of the structure is approximately 36 feet in height and is located along the north building line. Due to the depth of the excavation, shoring measures will be implemented along the north building line and will continue approximately 44½ feet and 23 feet in length along the east and west building lines, respectively. Recommendations for the design and construction of temporary shoring are provided in the project geotechnical reports and addenda.
- 1.1.4 Where shoring is not implemented, temporary excavations will be sloped back at a uniform 1:1 slope gradient or flatter. Excavations along the northern and eastern portions of the site will expose bedrock and will be inspected by the Project Geologist (a representative of Geocon). All excavations must be conducted in a manner that maintains stability and additional recommendations will be provided if necessary.
- 1.1.5 Proposed south-facing excavations may expose some components of unfavorable bedding or jointing. Although site exploration indicates that some components of unfavorable bedding or jointing may be exposed by south facing excavations, the bedrock is poorly bedded to massive and continuous planes of bedding are not anticipated. Sloping and/or shoring measures will be required to maintain a stable excavation. All cut slopes must be observed by the Project Geologist (a representative of Geocon) during excavation. Recommendations for temporary excavations are provided in Section 1.5 of this report.
- 1.1.6 Proposed temporary excavations along the east building line will generate slopes up to 14 feet in height constructed at a gradient of 1:1 or flatter. These temporary west-facing slopes are anticipated to expose bedrock with bedding orientation that is considered to be neutral or favorable with respect to stability of the temporary excavation. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 1.5).

- 1.1.7 Proposed temporary excavations along the south building line will generate slopes up to 21 feet in height constructed at a gradient of 1:1 or flatter. These temporary south-facing slopes are anticipated to expose existing artificial fill and bedrock. South-facing excavations which expose bedrock may expose some components of unfavorable bedding or jointing; however, the bedrock is poorly bedded to massive and continuous planes of bedding are not anticipated. Excavations must be conducted in a manner that maintains stability and must be observed and approved in writing by the Project Geologist (a representative of Geocon West, Inc.). Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 1.5).
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- 1.1.9 Where new, permanent cut or fill slopes are planned, all slope gradients should be 2:1 (horizontal to vertical) or flatter.
- 1.1.10 It is the opinion of this office, based on the findings of the referenced geotechnical investigation report and addenda, provided our recommendations are followed and properly maintained the proposed grading and development will have no adverse effect on the stability of the site or adjoining properties.
- 1.1.11 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

1.2 Soil and Excavation Characteristics

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1.3 Grading

1.3.1 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill and bedrock encountered during exploration, is suitable for re-use as an engineered fill provided any oversize material (greater than 6-inches), or deleterious debris (such as wood and roots) is removed. If bedrock is to be utilized as an engineered fill, it will likely have to be crushed prior to utilization.

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Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of between 3 and 5 percent should be anticipated when excavating and compacting the existing fill on the site to an average relative compaction of 92 percent. Bulking of cut bedrock is likely to occur and should be considered when determining export volumes.

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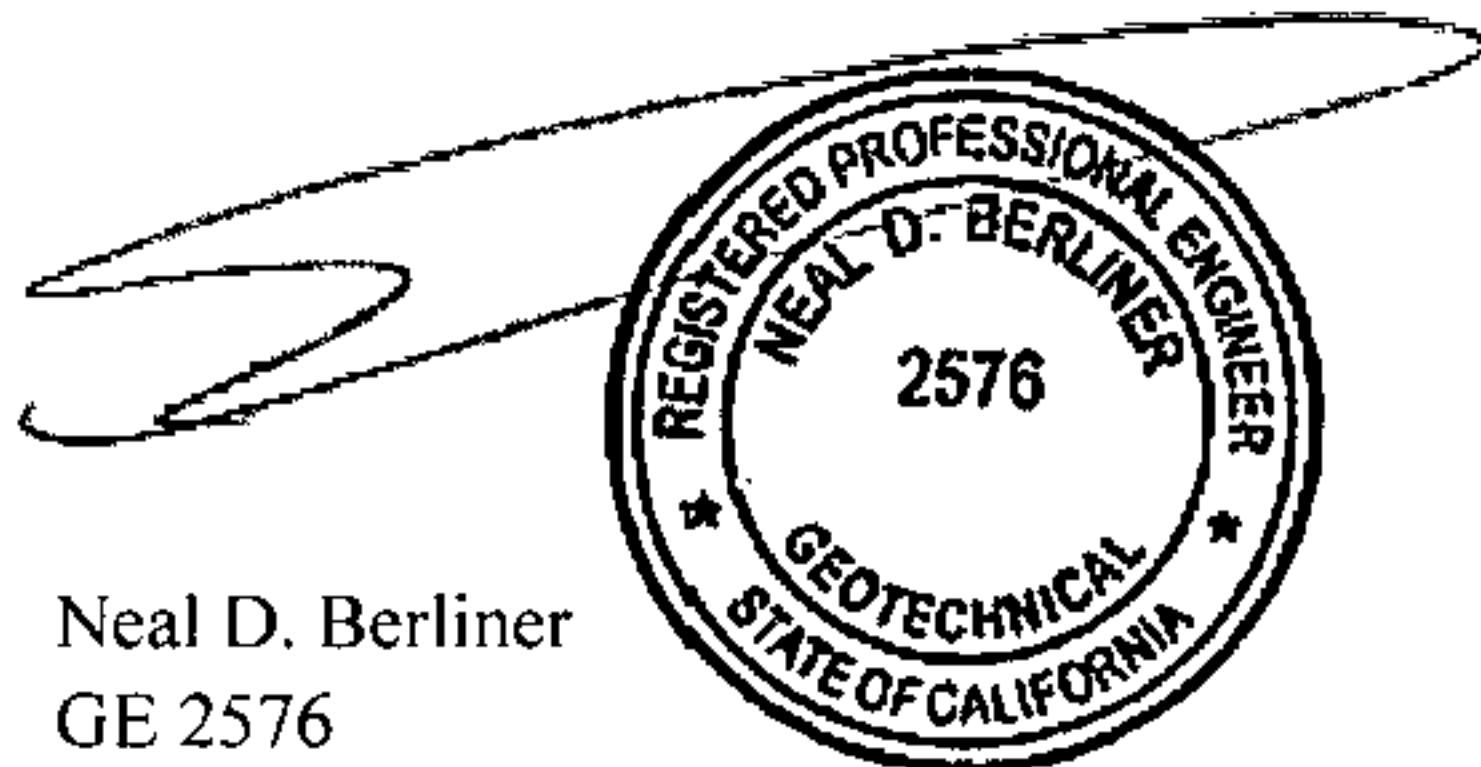
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If you have any questions regarding this response, or if we may be of further service, please contact the undersigned.

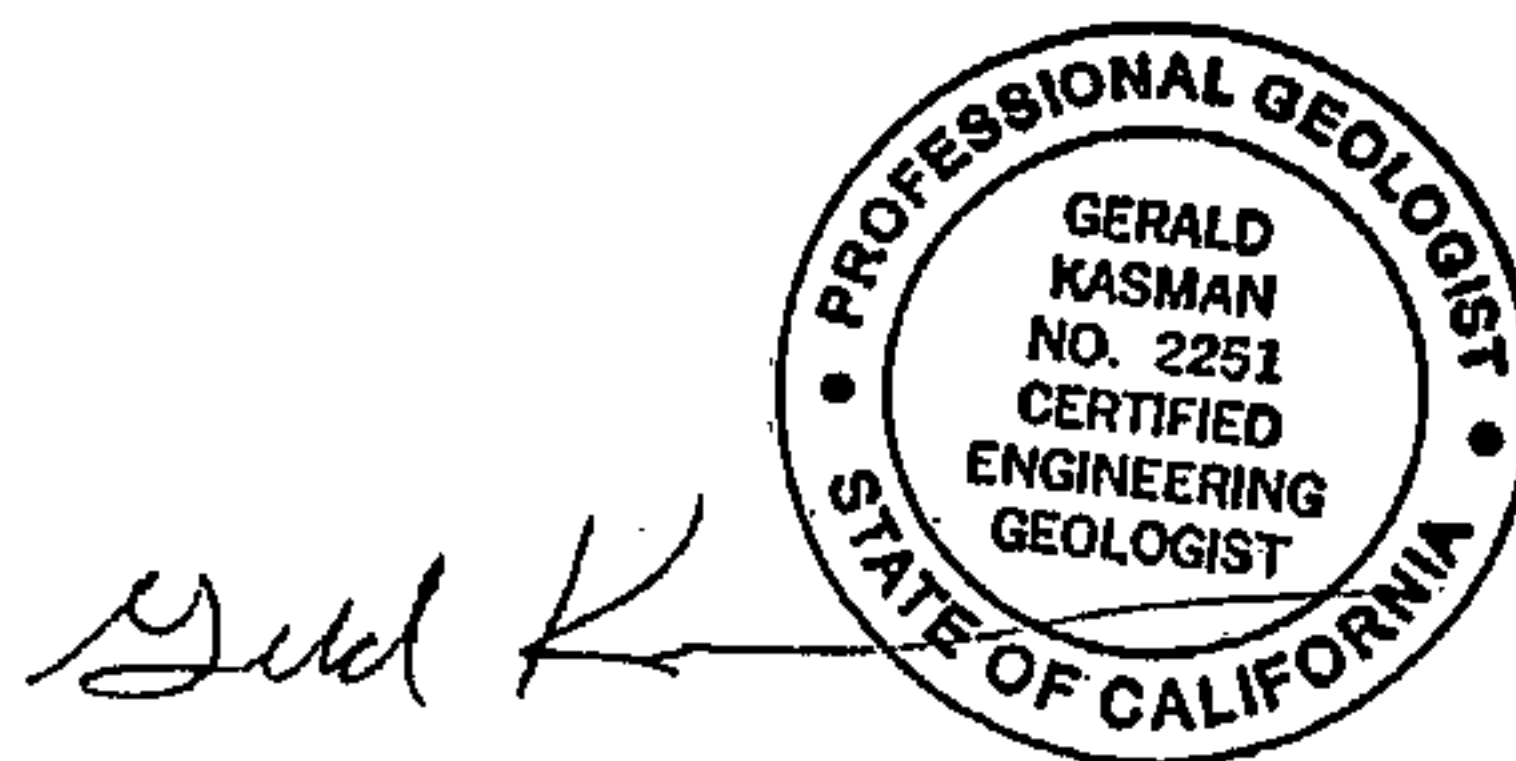
Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



Gerald Kasman
CEG 2251



(5) Addressee

Enclosures: Figures 1 and 2, Temporary Excavation Calculation

COMPOUND EXCAVATION CALCULATION

Search for lowest factor of safety based on assumed compound excavation as shown hereon. Assume frictional resistance of failure plane only and bracket lowest factor of safety.

MATERIAL PROPERTIES

Cohesion	=	650.00 psf.
Friction Angle	=	27.00 degrees.
Unit Weight	=	120.00 pcf.

EXCAVATION DATA

Vertical Height	=	0.00 feet.
Sloped Height	=	21.00 feet.
Slope Angle	=	45 degrees.

RESULTS

Trial Angles (degrees)	26	31	36
Area (square ft.)	135.37	103.29	68.03
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5.40 > 4.98 < 5.52
4.98 > 1.25: OK

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Vertical Height	=	0.00 feet.
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R (kips)	60.05	50.41	43.38
Factor of Safety	6.68	6.09	6.67

6.68 > 6.09 < 6.67
6.09 > 1.25: OK

Figure 2



Project No. A8803-06-01A
May 22, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Ron Schulman

Subject: REVIEW OF PRECISE GRADING & DRAINAGE PLANS
CROWN VALLEY / CABOT APARTMENTS
25891 CROWN VALLEY PARKWAY AND 27961 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

References: *Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc.,
GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc.,
dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by
GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

Soil Nail Design Parameters, by Geocon West, Inc., dated August 1, 2012;

Earth Retention Plan, prepared by DRS Engineering, Inc., Sheet Nos. SH-1 through SH-4,
dated September 5, 2012.

Precise Grading & Drainage Plans, prepared by KHR Associates, Sheet Nos. C-1
through C-23, Project No. 5376001, dated April 15, 2013

Dear Mr. Schulman:

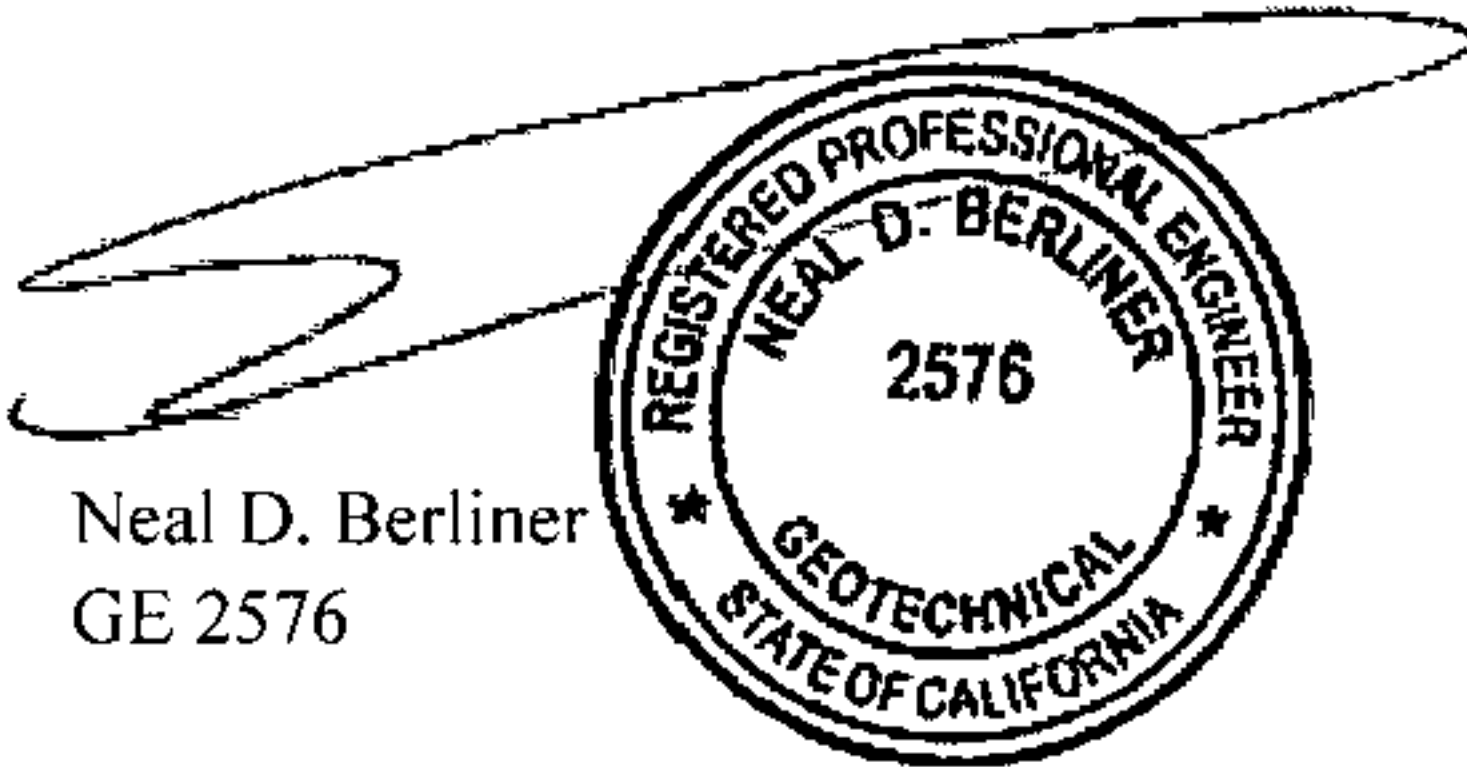
This letter has been prepared subsequent to our review of the referenced Precise Grading and Drainage Plans for the subject development. The purpose of this letter is to provide written confirmation that subject plans have been reviewed by the undersigned Geotechnical Engineer. Based on our review, it is our opinion that the plans appear to be in conformance with the intent of the referenced project geotechnical recommendations.

Any future revisions or modifications to this plan set should be submitted to our office for review and approval.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Neal D. Berliner
GE 2576

(5) Addressee

September 23, 2013

Mr. Abdullah Sharif
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

**SUBJECT: DISSIMILAR STORM DRAIN PIPE MATERIAL TRANSITION DETAIL FOR THE
PROPOSED "CROWN VALLEY/CABOT APARTMENTS" PROJECT LOCATED
ON 25891 CROWN VALLEY PARKWAY, LAGUNA NIGUEL, CALIFORNIA**

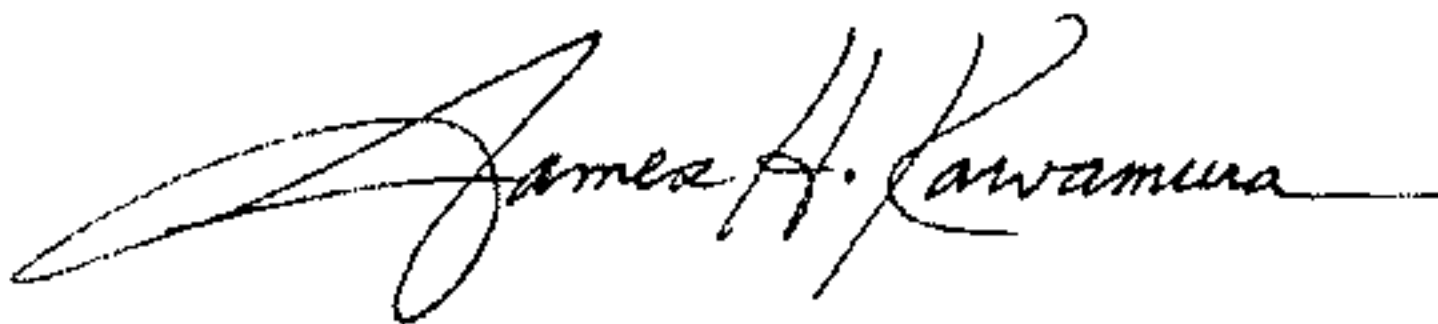
Dear Mr. Sharif,

Per your request, this letter is to confirm that the alternative method the contractor has used to mitigate dissimilar storm drain pipe material with the use of wye fittings and adaptors is equal to detail 4 as shown on sheet 19 of the Precise Grading Plans. The contractor's use of Prinsco HDPE pipe fittings and adaptors to transition from HDPE to PVC is acceptable based on our review of field data.

If there are any other questions, or if additional information is needed, please do not hesitate to call me at your convenience, at 949-756-6440.

Sincerely yours,

KHR Associates



James H. Kawamura, P.E.
President



Project No. A8803-06-03
September 19, 2013

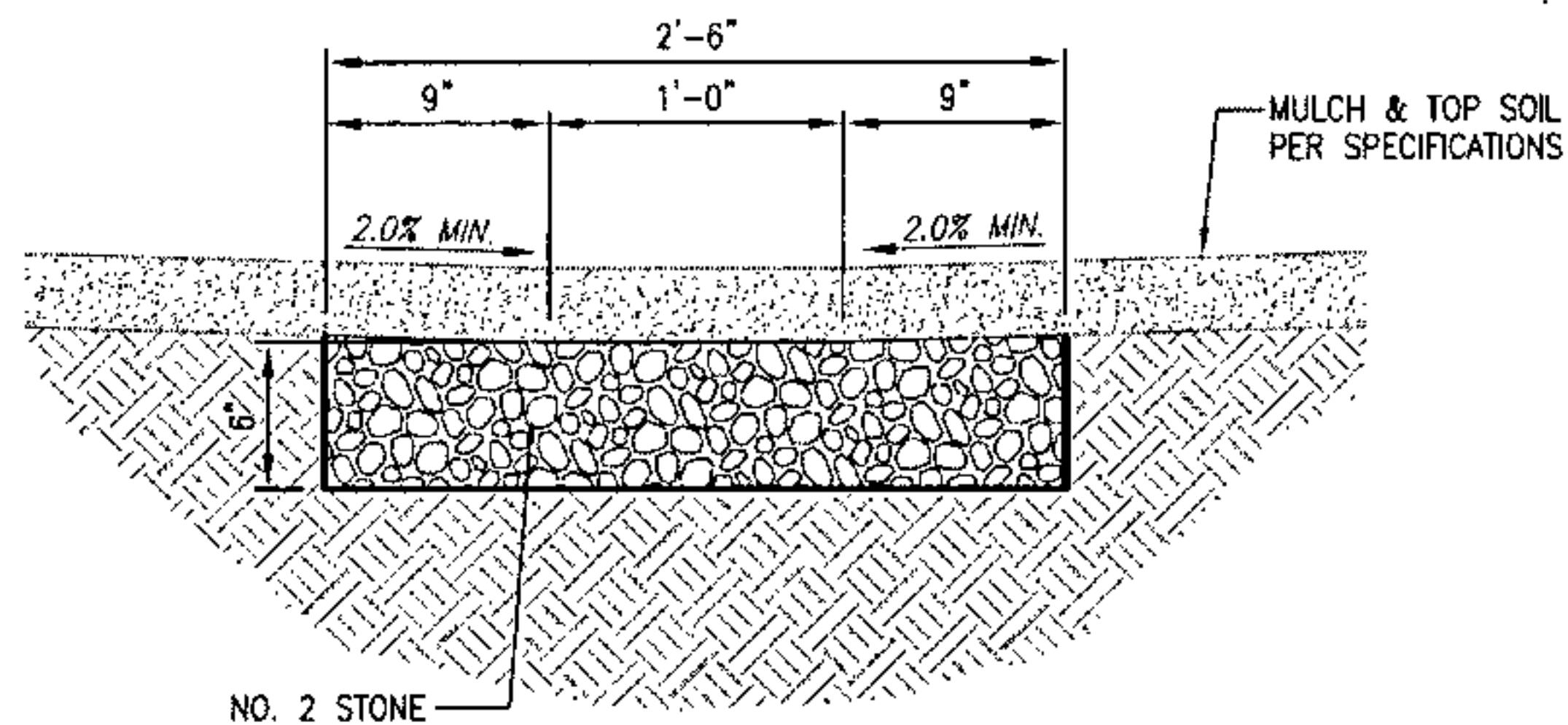
CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: STABILIZED EARTHEN SWALE
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

The purpose of this letter is to provide formal written approval for the stabilized earthen swale detail provided below. Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records. It is our understanding that these earthen swales will be implemented where slopes exceed 4 percent. Geocon approves the use of the detail below.



SCALE: NONE

STABILIZED EARTHEN SWALE

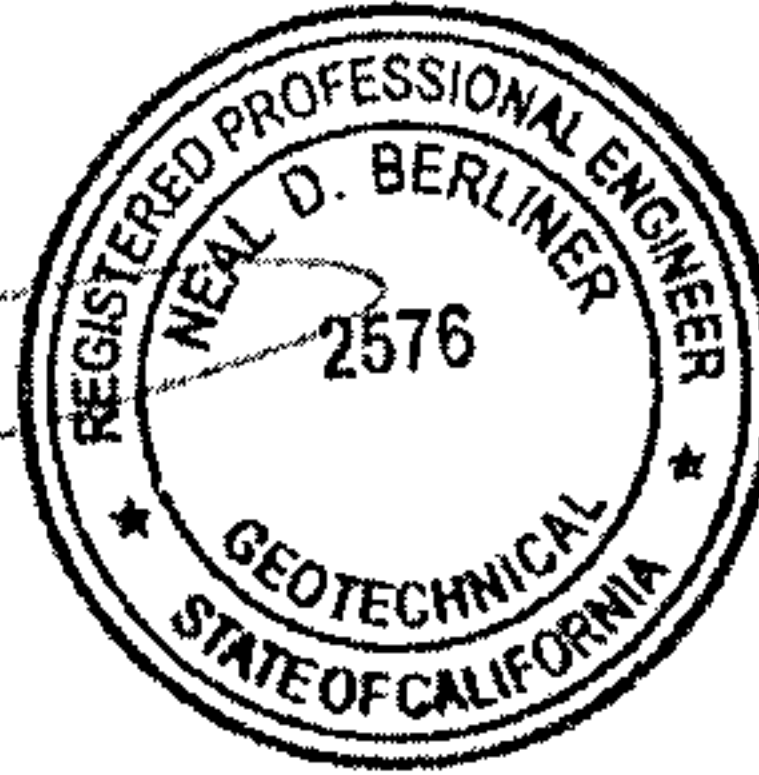
13

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



(1) Addressee

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03

September 9, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: INTERIM ROUGH GRADING PERMIT
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

Please accept this letter as formal notification that the interim rough grading phase for the Crown at Cabot site, including mass excavation and cutting of 1 to 1 slopes, is substantially complete. Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his sign off and close out this permit.

The project is awaiting Precise Grade permit approval and preparing for blue top pad certification for the southern portion. Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



(1) Addressee



GEOCON
WEST, INC.

3303 N. San Fernando Blvd., Suite 100
Burbank, California 91504
Tel. (818) 841-8388
Fax (818) 841-1704

DATE: 09/21/13

DAY OF WEEK: Saturday

PAGE 1 OF 1

FIELD REPORT

PROJECT NAME: Crown Valley Cabot Apts		PROJECT NO. A8803-06-03	
PROJECT MANAGER: NDB		PERSON COMPLETING REPORT: Matthew Lewin	
SUBJECT: Utilities		INFORMATION PLOTTED ON SHEET: C-11 & 12	
TIME	FIELD ACTIVITIES - INDICATE ACTIVITIES YOU DID AND DID NOT OBSERVE, DOCUMENT CONVERSATIONS, OBSERVATIONS, OR OCCURRENCES, DEEMED SIGNIFICANT TO THE PROGRESS OF WORK. BE SPECIFIC AS TO WHO, WHAT, WHEN, AND WHERE.		
0700	On-site as requested by John Peters of Mill Creek to observe and inspect soil related activities .		
1)	Mark company continued to backfill along the east side of the shoring wall along the NE side of the site . Soil is being moisture conditioned and mixed prior to placement. Soil is being placed and compacted by an excavator with a compaction wheel. The storm drain line had minimum 12" of shading sand placed over the top of pipe and was jetted to consolidate the sand around the hunch of the pipe. Soil is being placed in 8-12" and then compacted . The storm drain line runs from the bottom of pile #7 going north and connecting to the storm drain line in the fire lane. In place density tests indicated the soil achieved at least 90% relative compaction and 92% for depths in excess of 5' .		
12-1230	Lunch		
2)	Mark company excavated for Line "D" storm drain starting in the upper mse wall area going west. excavation stopped at the west end of the upper MSE wall. The excavation bottom was in compacted engineered fill . Mark Company placed minimum 6" of bedding sand in the bottom of the trench prior to pipe placement. Bottom is approved.		
1530	Off site		
	Further inspection required for additional storm drain and soil nail work		
NOTICE LEFT WITH:  John Peters Supt. Mill Creek		SITE TIME: 8.0	
		TRAVEL TIME: 1.0	
		OTHER:	
		TOTAL HOURS BILLED: 9.0	

CITY OF LAGUNA NIGUEL, CALIFORNIA
ENGINEER'S ESTIMATE OF PROBABLE PRECISE GRADING QUANTITIES & COSTS

PREPARED BY: KHR Associates
PROJECT NAME: Crown Cabot Luxury Apartments
LOCATION: Cabot Road and Crown Valley
 Laguna Niguel, California
ESTIMATE DATE: September 13, 2013

CLIENT: Mill Creek Residential Trust
CONTACT: Ron Schulman/Steve Rhodes
ESTIMATE: James H. Kawamura, P.E.
JOB NO. 5275032
TRACT:

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
-	Cut	1,500	CY.	\$23.50	\$35,250.00
1.	Fill	15,000	CY.	\$23.50	\$352,500.00
2.	4-inch AC over 12-inches CAB	6,492	S.F.	\$5.50	\$35,706.00
3.	80mm Pavers over 1.5 inches sand over CAB	471	S.F.	\$4.00	\$1,884.00
4.	8-inch Wide Gravity Retaining Curb	100	L.F.	\$25.00	\$2,500.00
5.	4-inch PVC (SDR 35) Drainage Pipe	339	L.F.	\$20.00	\$6,780.00
6.	6-inch PVC (SDR 35) Drainage Pipe	62	L.F.	\$25.00	\$1,550.00
7.	6-inch PVC (SCH 40) Drainage Pipe	20	L.F.	\$30.00	\$600.00
8.	8-inch PVC (SDR 35) Drainage Pipe	132	L.F.	\$30.00	\$3,960.00
9.	10-inch PVC (SDR 35) Drainage Pipe	268	L.F.	\$35.00	\$9,380.00
10.	12-inch HDPE Drainage Pipe	126	L.F.	\$40.00	\$5,040.00
11.	18-inch HDPE Drainage Pipe	16	L.F.	\$60.00	\$960.00
12.	PVC Storm Drain Cleanout	6	EA.	\$250.00	\$1,500.00
13.	Eccentric Reducer	8	EA.	\$40.00	\$320.00
14.	9-inch x 9-inch Square Grate	9	EA.	\$25.00	\$225.00
15.	12-inch x 12-inch Square Grate	26	EA.	\$50.00	\$1,300.00
16.	18-inch x 18-inch Square Grate	3	EA.	\$100.00	\$300.00
17.	24-inch x 24-inch Concrete Drop Inlet	3	EA.	\$2,750.00	\$8,250.00
18.	4-inch Round Chrome Grate	2	EA.	\$20.00	\$40.00
19.	6-inch NDS Atrium Grate	2	EA.	\$20.00	\$40.00
20.	4-inch ACO Trench Drain	43	L.F.	\$20.00	\$860.00
21.	6-inch ACO Trench Drain	43	L.F.	\$30.00	\$1,290.00
22.	12-inch ACO Trench Drain	20	L.F.	\$60.00	\$1,200.00
23.	Tee	29	EA.	\$30.00	\$870.00
24.	45 degree bend	7	EA.	\$30.00	\$210.00
25.	30 degree bend	11	EA.	\$30.00	\$330.00
26.	45 degree wye	6	EA.	\$30.00	\$180.00
27.	4' x 8' Roof Drain Filterra	2	EA.	\$12,100.00	\$24,200.00
28.	8' x 12' Roof Drain Filterra	2	EA.	\$28,900.00	\$57,800.00
29.	6-inch PCC Curb	563	L.F.	\$16.00	\$9,008.00
30.	8-inch PCC Curb	39	L.F.	\$18.00	\$702.00
31.	18-inch wide PCC Gutter	434	S.F.	\$8.00	\$3,472.00
32.	24-inch wide PCC Gutter	64	L.F.	\$8.00	\$512.00
33.	Variable Height PCC Curb	30	L.F.	\$16.00	\$480.00
34.	8-inch CMU Flow Through Planter System	1,157	L.F.	\$5.00	\$5,785.00
35.	8-inch CMU Retaining Wall	210	L.F.	\$29.66	\$6,226.50
36.	4-inch Gravel Bed	595	S.F.	\$5.00	\$2,975.00
37.	0-inch to 6-inch PCC Curb	45	L.F.	\$16.00	\$720.00
38.	Adjust Existing SD Manhole/Cleanout Frame	5	EA.	\$450.00	\$2,250.00
39.	6' high Construction Fence	1,601	L.F.	2.70	4,322.70
40.	Silt Fence	1,547	L.F.	\$2.64	\$4,084.08
41.	Gravel Bags	1,338	EA.	\$0.60	802.80
42.	Construction Entrance	1,250	S.F.	\$8.56	10,700.00
43.	Earthguard	144,283	S.F.	\$0.06	8,656.98
Subtotal Precise Grading					615,722.06
Construction Contingency (10%)					61,572.21
Estimate Total					677,294.27

G = 390,090



NOTE: This Engineer's Estimate of Probable Costs may not include all possible civil engineering-related items of work, and is therefore not necessarily a maximum cost of the improvements, either singularly or totally. The Estimate is subject to change and excludes landscaping & irrigation; governmental & utility fees; inspections; and incidentals, unless otherwise noted.

G = 390,090.00

D = 241,406

Amount of bond = $(390,090)(0.3) + (241,406)(0.5) = 117,027 + 120,703$
 $\approx \$238,000$

CITY OF LAGUNA NIGUEL, CALIFORNIA
ENGINEER'S ESTIMATE OF PROBABLE QUANTITIES & COSTS TO REPLACE INTERIM 1:1 SLOPE

PREPARED BY: KHR Associates
PROJECT NAME: Crown Cabot Luxury Apartments
LOCATION: Cabot Road and Crown Valley
Laguna Niguel, California
ESTIMATE DATE: August 27, 2013

CLIENT: Mill Creek Residential Trust
CONTACT: Ron Schulman/Steve Rhodes
ESTIMATE: James H. Kawamura, P.E.
JOB NO. 5275032
TRACT: _____

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>EXTENSION</u>
1.	Import of Dirt	990	CY.	\$23.50	\$23,265.00
2.	Removal of Concrete V-Ditch	302	L.F.	\$3.00	\$906.00
3.	Concrete V-Ditch	302	L.F.	\$6.00	\$1,812.00
4.	CMU Retaining Wall - 10' High	3,020	S.F.	\$40.00	\$120,800.00
	Subtotal Precise Grading				\$146,783.00
	Construction Contingency (10%)				\$14,678.30
	Estimate Total				\$161,461.30



NOTE: This Engineer's Estimate of Probable Costs may not include all possible civil engineering-related items of work, and is therefore not necessarily a maximum cost of the improvements, either singularly or totally. The Estimate is subject to change and excludes landscaping & irrigation; governmental & utility fees; inspections; and incidentals, unless otherwise noted.



CONSULTING ENGINEERS/SURVEYORS/PLANNERS

August 13, 2013

To: Abdullah Sharif
City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, CA 92677

Re: **Precise Grading Plan Check Correction List for 25891 Crown Valley Parkway, Laguna Niguel, CA (1st Submittal Date: 7/11/2013; Project No. G13-005)**

The following is in response to your comments and/or questions to the above-referenced report.

I. APPLICATION COMPLETION

a. Sign and Complete Application.

RESPONSE: DONE AT INITIAL SUBMITTAL

b. Provide 3 complete sets of corrected plans. The maximum size shall be 36" x 42". All sheets shall be uniform size.

RESPONSE: 3 SETS PROVIDED AT RE-SUBMITTAL

c. Provide verification of insurance for worker's compensation coverage or sign exemption, if applicable.

RESPONSE: OWNER TO FOLLOW UP

d. Plan Check Fees:

Paid.._____

Balance.._____

RESPONSE: OWNER TO FOLLOW UP

e. Permit Fees:

Grading:_____

RESPONSE: OWNER TO FOLLOW UP.

f. Bond required in the amount of \$_____.

City Bond Form use is required.

RESPONSE: OWNER TO FOLLOW UP

II. CLEARANCES ARE REQUIRED FROM

a. City-Engineering/Drainage Section (Initial plan has been routed.)

RESPONSE: IN PROGRESS

c. Community Development – Planning

RESPONSE: IN PROGRESS

- g. A permit or clearance is required from City-Engineering/Public Property Permits Section, for any encroachment in the public right of way, prior to issuance of grading permit.

RESPONSE: IN PROGRESS

- h. Submit an additional set of drawings for public works review. Provide evidence of public works approval.

RESPONSE: ADDITIONAL SET PROVIDED

- i. California Regional Water Quality Control Board, 6809 Indiana Ave., Suite 200, Riverside, CA 926506, (714) 684-9330.

RESPONSE: WDID NUMBER ON PLAN

- l. Fire Department (for Fuel Modification clearance) – Submit request to Orange County Fire Department, Fuel Modification Office, 180 S. Water St., Orange CA 92666

RESPONSE: NOT APPLICABLE

- o. MNWD and Fire Department

RESPONSE: IN PROGRESS

III. GENERAL REQUIREMENTS

- d. Show On Plans:

☐ North Arrow	☐ Grading Limits
☐ Scale	☐ Permit Limits
☐ Grading Legend	☐ Property Lines
☐ Vicinity Map	☐ Tract Number
☐ Bldg. Numbers	☐ Lot Numbers

RESPONSE: PROVIDED, SEE REVISED PLANS.

- e. Show location of all existing and proposed structures, buried tanks and wells.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- f. Submit an itemized summary of the cost of all drainage devices, grading, paving, and erosion control.

RESPONSE: PROVIDED, SEE ATTACHED COST ESTIMATE.

- g. A notarized letter of permission from adjacent property owner(s) is required for slope encroachment or other off-site grading or work. Include legal description and Assessor's Parcel number

RESPONSE: IN PROGRESS, OWNER TO FOLLOW UP.

- h. Retaining walls are not a part of the grading permit. Submit for separate building permit. Note on plans. Show locations of walls on grading plan plus top of wall, adjacent finished surface elevation and a cross section detail.

RESPONSE: PROVIDED, NOTE ON PLAN.

- i. Show all cut/fill transitions and daylight lines.

RESPONSE: NO FILL ALL CUT.

- j. Show existing and proposed elevations using contours and/or spot elevations.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- n. Show all easements.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- o. Extend existing contours or spot elevations to reflect off-site areas and identify drainage pattern.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- p. Incorporate _____ Conditions of Approval into plans and grading notes.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- q. Construction with basement or excavation near the property line:
 - 1. Provide a shoring plan and calculation prepared by a registered Civil Engineer.
 - 2. Sheet piles are not permitted for shoring due to vibration damage to adjacent properties.
 - 3. Excavation and shoring shall be made entirely within the project site.
 - 4. The Geotechnical Engineer shall stamp and sign the shoring plan.
 - 5. Write a note on drawing that the Geotechnical Engineer will provide continuous inspections during shoring-excavation, shoring-placement and removal of shoring.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- t. Show detail on plan how finished grades meet adjoining property.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- v. Call out bench mark and bearing reference point.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- w. The percentage grade of the driveway shall be shown on the plan.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- y. There may be additional comments after pre-inspection has been conducted. The pre-inspection is a field of verification that the plan and soils report accurately reflects existing conditions.

RESPONSE: DULY NOTED

IV. DRAINAGE

- b. Submit a hydrology study and/or hydraulic calculations for

RESPONSE: PROVIDED

- d. Show existing off-site terrace and drainage features that could significantly affect the project.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- g. Show location and provide details for all subdrain systems (1), as recommended in the soil/geology report, by _____ dated _____ or (2), approved standard.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- h. Maximum gradient for sheet flow 10%

RESPONSE: DULY NOTED

- i. Minimum acceptable gradients:

1. Earth 1.0%
2. Asphaltic Concrete 1.0%
3. Concrete in Earth 0.5%
4. Concrete in A.C. 0.28%
5. Lot Sales 2.0%
6. Terrace Drains 6.0%

RESPONSE: DULY NOTED

- j. Show plan and section details for typical lot drainage. Minimum 2%, maximum 21%, away from a building pad to a swale is required.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- k. Show finished grades by spot elevation to indicate proper drainage. All surfaces shall be designed to a minimum gradient for proper drainage (Paved 1%, not-paved 2%). Use arrows to indicate direction of drainage.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- l. Planter areas require drains.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- m. Provide specifications for drain lines. Specify diameter (4"min.) and type of material. Drain line materials must be:

1. ABS,	SDR	35
2. ABS,	Schedule	40
3. PVC,	SDR	35
4. PVC, Schedule 40		

RESPONSE: PROVIDED, SEE REVISED PLANS.

- o. Drainage over a manufactured slope is not permitted except in approved devices.

RESPONSE: DULY NOTED, LARGE SURFACE ARE PREVENTED FROM DRAINING OVER SLOPES.

- p. Show limits of roof gutters and location of down spouts.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- t. Concentrated drainage exceeding 4% gradient requires concrete, gunite, or other approved non-erosive device.

RESPONSE: NOT APPLICABLE IN LANDSCAPE AREAS.

- u. Revise plans to show complete details for all drainage structures, i.e.,

RESPONSE: PROVIDED, SEE REVISED PLANS.

- w. Show detail and locations of extra depth footings.

RESPONSE: NOT APPLICABLE

- x. Provide 7' setback from top of slope to building to accommodate graded drainage swale or 5' set back with P.C.C. device to carry drainage, lots

RESPONSE: NOT APPLICABLE

- y. Show flow line elevations of all swales and other drainage devices. Show top of drain elevations and drain invert elevation.

RESPONSE: PROVIDED, SEE REVISED PLANS.

- z. Show retaining wall subdrain details with disposal points, flow line elevations and pipe material.

RESPONSE: NOT APPLICABLE

- aa. Show typical section of driveway and/or pavement section.

RESPONSE: PROVIDED, SEE REVISED PLANS.

V. SLOPES

- a. Provide building or structure setbacks from top and bottom of slope as outlined in the Grading and Excavation Code and UBC.

RESPONSE: PROVIDED, SEE REVISED PLANS.

VI. GEOTECHNICAL

- c. Soils and geology reports must be approved by City Geologist.

RESPONSE: IN PROGRESS

- d. Delineate areas of over-excavation and recompaction as recommended by the soil engineer. Detail and show volume as separate item. Where depth exceeds 12", soil engineer to verify recommended compaction in his final report.

RESPONSE: DULY NOTED

VII. ADDITIONAL

See comments on plan

RESPONSE: SEE REVISED PLANS

If you desire additional information, or if there are any questions regarding this response letter, please do not hesitate to call me at (949) 756-6440.

Sincerely yours,

KHR Associates

Cesar Morales
Project Manager

GEOCON

WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-01A

December 31, 2012

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Ron Schulman

Subject: PAVING RECOMMENDATIONS
CROWN VALLEY / CABOT APARTMENTS
25891 CROWN VALLEY PARKWAY AND 27961 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

References: *Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc.,
GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc.,
dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by
GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

Rough Grading Plan, prepared by KHR Associates, Sheet Nos. C-1 and C-2, Project No.
5376001;

Grading Recommendations, by Geocon West, Inc., dated September 10, 2012.

Dear Mr. Schulman:

This letter has been prepared at the request of KHR Associates and is intended to provide preliminary recommendations for both rigid and flexible pavement sections for the subject development. Please be aware that based on the amount of grading proposed for this project, the R-value of the subgrade soil should be verified subsequent to completion of grading to confirm the suitability of the recommended pavement sections presented herein.

Where new paving is to be placed, it is recommended that all existing fill and soft or unsuitable alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all soft or unsuitable alluvial soils in the area of new paving is not required, however, paving constructed over existing unsuitable soils may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of paving subgrade soil should be excavated and properly compacted to at least 92 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

The pavement sections presented below are based on an assumed R-Value of 20. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans).

PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking & Driveways	5	3	7
Large Truck Drive Aisles & Fire Lanes	7	4	12

Asphalt concrete should conform to Section 203-6 of the *"Standard Specifications for Public Works Construction"* (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the *"Standard Specifications of the State of California, Department of Transportation"* (Caltrans). Crushed Miscellaneous Base should conform to Section 200-2.4 of the *"Standard Specifications for Public Works Construction"* (Green Book).

Unless specifically designed and evaluated by the project structural engineer, where concrete paving will be utilized for support of vehicles, it is recommended that the concrete be a minimum of 6 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The base material should be compacted to at least 95 percent relative compaction as determined by ASTM Test Method D 1557 (latest edition).

It is our understanding that prefabricated pavers (80 mm thick) will also be constructed at the entry along Cabot Road. It is acceptable from a geotechnical standpoint to construct the pavers over 1 inch of sand underlain by aggregate base and a properly prepared subgrade per the following table. The aggregate base should be compacted to at least 95 percent relative compaction as determined by ASTM Test Method D 1557 (latest edition). Pavers should be constructed in accordance with the manufacture's guidelines.

PAVER DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Prefabricated Concrete Paver (inches)	Class 2 Aggregate Base (inches)
Automobile Parking & Driveways	5	3½	7
Large Truck Drive Aisles & Fire Lanes	7	3½	14

Where different pavement sections are to be constructed adjacent to each other, it is recommended that consideration be given to the use of deepened base sections to maintain a uniform base thickness and avoid stepped cuts for placement of base material. This condition is anticipated to occur across the transition across the areas of asphalt paving and prefabricated pavers.

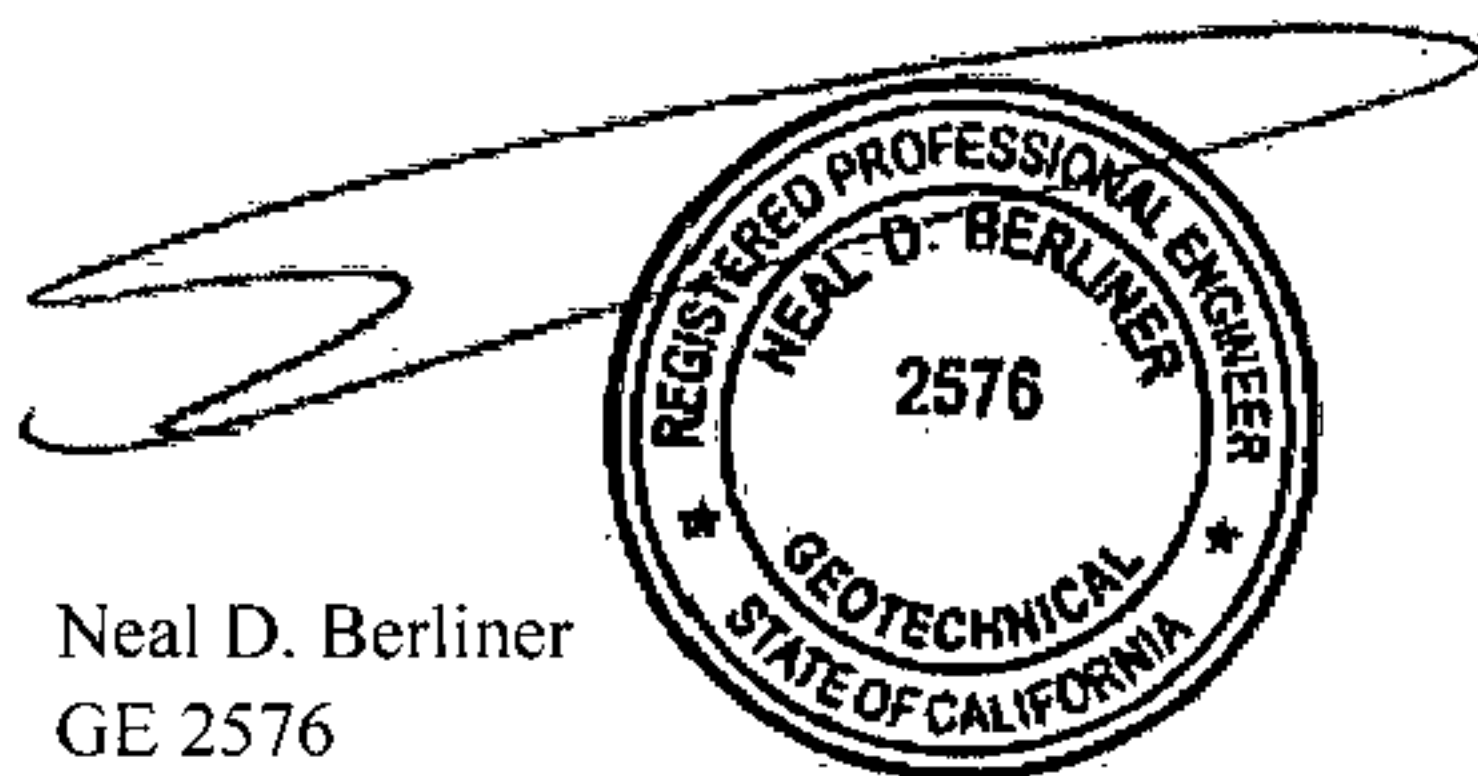
The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving. If pervious pavers are utilized, measures must be implemented to assure proper drainage so that the underlying base and subgrade section is not saturated.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



- (1) Addressee
- (1) KHR Associates



Project No. A8803-06-03
August 14, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: CONCRETE STRENGTH AND WATER SOLUBLE SULFATE CONTENT
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

References: *Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;

Dear Mr. Lucas:

This letter has been prepared at the request of the building official and is intended to provide clarification with respect to presence of aggressive water soluble sulfates and the need for special cement types for site concrete.

Based on limited testing of the representative earth and bedrock materials comprising the site, the bedrock has been identified as having a *severe* sulfate exposure to concrete structures; therefore, any concrete in direct contact with the bedrock should utilize Type V Cement with a maximum water to cement ratio of 0.45 and have a minimum compressive strength of 4,500 psi (2010 CBC Section 1904.3 and ACI 318 Section 4.2 and 4.3.).

**REQUIREMENTS FOR CONCRETE EXPOSED TO
SULFATE-CONTAINING SOLUTIONS**

Sulfate Exposure	Exposure Class	Water-Soluble Sulfate Percent by Weight	Cement Type	Maximum Water to Cement Ratio by Weight	Minimum Compressive Strength (psi)
Negligible	S0	0.00-0.10	--	--	2,500
Moderate	S1	0.10-0.20	II	0.50	4,000
Severe	S2	0.20-2.00	V	0.45	4,500
Very Severe	S3	> 2.00	V+Pozzolan or Slag	0.45	4,500

It is anticipated that the need for this special concrete will be limited to the driven pile foundations; however, all concrete structures in direct contact with the bedrock will be subject to this requirement.

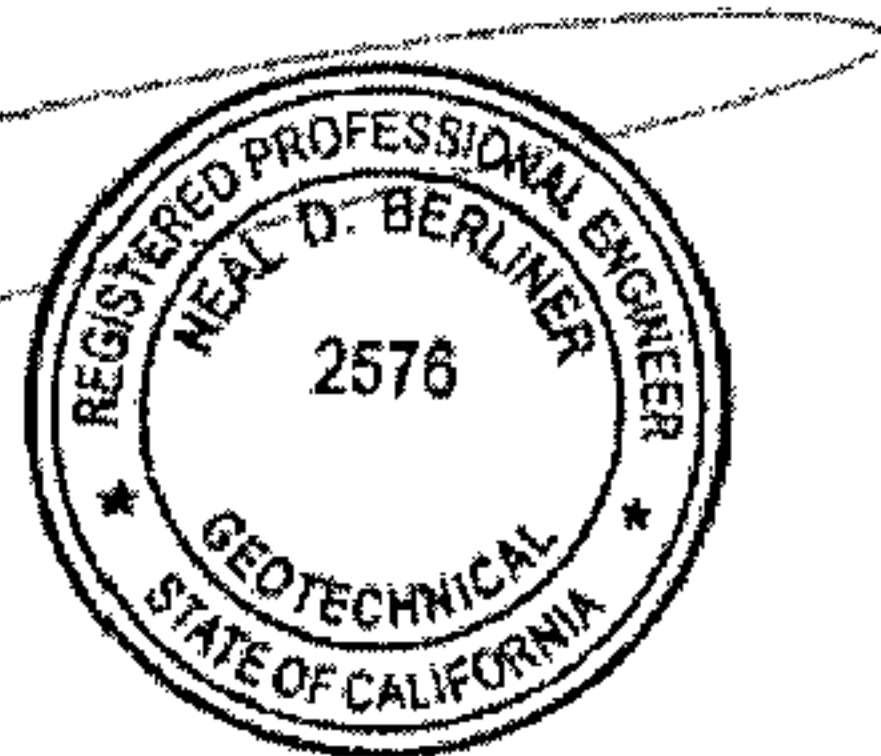
All other concrete in direct contact with the site soils may be designed in accordance with the requirements of the project structural engineer, as is indicated in the project plans, and specifications. Geocon has no objection to the use of 2,500 psi concrete provided the concrete strength was specified by the project structural engineer, and the concrete is not in direct contact with bedrock.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



(1) Addressee



Project No. A8803-06-01A
May 22, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Ron Schulman

Subject: REVIEW OF PRECISE GRADING & DRAINAGE PLANS
CROWN VALLEY / CABOT APARTMENTS
25891 CROWN VALLEY PARKWAY AND 27961 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

References: *Updated Geotechnical Investigation*, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc.,
GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc.,
dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by
GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

Soil Nail Design Parameters, by Geocon West, Inc., dated August 1, 2012;

Earth Retention Plan, prepared by DRS Engineering, Inc., Sheet Nos. SH-1 through SH-4,
dated September 5, 2012.

Precise Grading & Drainage Plans, prepared by KHR Associates, Sheet Nos. C-1
through C-23, Project No. 5376001, dated April 15, 2013

Dear Mr. Schulman:

This letter has been prepared subsequent to our review of the referenced Precise Grading and Drainage Plans for the subject development. The purpose of this letter is to provide written confirmation that subject plans have been reviewed by the undersigned Geotechnical Engineer. Based on our review, it is our opinion that the plans appear to be in conformance with the intent of the referenced project geotechnical recommendations.

Any future revisions or modifications to this plan set should be submitted to our office for review and approval.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.


Neal D. Berliner
GE 2576

(5) Addressee

Contact Name Cesar Morales
Telephone (949) 756-6440

CITY OF LAGUNA NIGUEL
GRADING DEPARTMENT

City of Laguna Niguel
Community Development
27781 La Paz Road
Laguna Niguel, CA 92677
(714) 362-4360

9/25/13
Plan 0.4

Plan Check Record
Initial Check 7/11/13
Re-check _____
Re-check _____
Re-check _____
Re-check _____
Re-check _____

GRADING PLAN STANDARDS AND CORRECTION LIST

Tract No. _____ Lot(s) _____
Owner MCRT Investments LLC Project Address 25891 Crown Valley Pkwy
Checked By A. Schmitz Phone No. (949) 362-4323 Date contact name notified 7/10/13
Plan Check # G13-005 Type of Permit: Precise ☒ Preliminary _____

CIRCLE ITEMS REQUIRED CORRECTION OR SUBMITTAL:

Corrections shall be made on the tracings and 3 new sets of plans shall be submitted. IF YOU MAKE CHANGES TO THE PLAN OTHER THAN OR IN ADDITION TO WHAT PLAN CHECK HAS REQUESTED, YELLOW HIGHLIGHT THE CHANGES ON ONE SET OF THE RESUBMITTED PLANS.

RETURN THIS SHEET WITH CORRECTED PLANS AND THE ORIGINAL CHECK PRINT. Payment of a new plan check fee shall be required for all plans on which no action is taken by the applicant for a period of 180 days. Applications for which no permit is issued within 180 days following date of submittal shall expire by limitation, and shall be discarded.

I.

APPLICATION COMPLETION

- a. sign and complete application.
- b. Provide 3 complete sets of corrected plans. The maximum size shall be 36"x 42". All sheets shall be uniform size.
- c. Provide verification of insurance for worker's compensation coverage or sign exemption, if applicable.
- d. Plan Check fees:
Paid .. _____
Balance.. _____
- e. Permit fees:
Grading \$10,000
- f. Bond required in the amount of \$ _____.
City Bond Form use is required.

Submit Cost Estimate

II.

CLEARANCES ARE REQUIRED FROM

- a. City-Engineering/Drainage Section (Initial plan has been routed). (Public Works)
- b. City-Engineering/Transportation Section (Initial plan has been routed).
- c. Community Development - Planning
- d. Community Development-Environmental Services (Environmental Clearance)
- e. Community Development for review of grading related to trails within scenic highways, scenic highway alignments and corridor grading submit 1 plan.
- f. City/Parks & Recreation (for trails, open space and recreation areas, and local park grading review. Submit 1 plan.

g. A permit or clearance is required from City-Engineering/Public Property Permits Section, for any encroachment in the public right of way, prior to issuance of grading permit.

h. Submit an additional set of drawing for public works review. Provide evidence of public works approval.

i. California Regional Water Quality Control Board, 6809 Indiana Ave., Suite 200, Riverside, CA 92506, (714) 684-9330.

j. California Department of Fish & Game, 245 W. Broadway, Suite 350, Long Beach, CA 90802, (213) 590-5132.

k. City-Engineering Building Plan Check for acoustical clearance.

l. Fire Department (for Fuel Modification clearance) - Submit request to Orange County Fire Department, Fuel Modification Office, 180 S. Water St., Orange CA 92666.

m. Environmental Health (for vector control clearance).

n. Homeowner's Association approval.

o. MANWD, Fire Dept.

p. _____

III. GENERAL REQUIREMENTS

a. Show assigned project address on title sheet of plan.

b. Show yardage figures on plans.
Cut _____ yds over-excavation _____ yds.
natural fill _____ yds import _____ yds
export _____ yd.

c. Plans to be signed by licensed Civil Engineer or Architect.

d. Show on plans:
____ North Arrow ☒ Grading Limits
____ Scale ☐ Permit Limits
____ Grading Legend ☐ Property Lines
____ Vicinity Map ☒ Tract Number
____ Bldg. Numbers ☒ Lot Numbers

e. Show location of all existing and proposed structures, buried tanks and wells.

f. Submit an itemized summary of the cost of all drainage devices, grading, paving, and erosion control.

g. A notarized letter of permission from adjacent property owner(s) is required for slope encroachment or other off-site grading or work. Include legal description and Assessor's Parcel number.

h. Retaining walls are not a part of the grading permit. Submit for separate building permit. Note on plans. Show location of walls on grading plan plus top of wall, adjacent finished surface elevation and a cross section detail.

i. Show all cut/fill transitions and daylight lines.

j. Show existing and proposed elevations using contours and/or spot elevations.

k. Indicate disposition of excess earth materials. A separate permit may be required.

l. Add the following to the plan tracings:

1. Grading notes. See attached sheet.

2. Paving notes. See attached sheets.

3. Detail sheets _____.

4. Erosion control notes. See attached sheet.

5. _____
Show street width and centerline. Include cross-section detail.

m. Show all easements.

n. Extend existing contours or spot elevations to reflect off-site areas and identify drainage pattern.

o. Incorporate _____
Conditions of Approval into plans and grading notes.

p. Construction with basement or excavation near the property line:

① Provide a shoring plan and calculation prepared by a registered Civil Engineer.

② Sheet piles are not permitted for shoring due to vibration damage to adjacent properties.

③ Excavation and shoring shall be made entirely within the project site.

④ The Geotechnical Engineer shall stamp and sign the shoring plan.

⑤ Write a note on drawing that the Geotechnical Engineer will provide continuous inspections during shoring-excavation, shoring-placement and removal of shoring.

Planning Commission review of grading plans(s) is required prior to issuance of grading permit. Submit 10 sets of pre-folded final plans (suitable for mailing), color coded, showing approved concept vs. proposed deviations, and a letter of explanation and justification.

Approved erosion control measures are to be installed and functional during the rainy season from October 1 to April 30. Justify design with hydrology and hydraulic calculations. Submit 4 copies of an erosion control plan and a cost summary of erosion control facilities.

Show detail on plan how finished grades meet adjoining property.

Show on plans name, address, and telephone number of:

____ owner ____ Soil Engineer
____ Architect ____ Archaeologist
____ Paleontologist ____ Civil Engineer
____ Grading Contractor
____ Engineering Geologist

Call out bench mark and bearing reference point.

The percentage grade of the driveway shall be shown on the plan.

Leach field/seepage pits must be plotted on the grading plan.

There may be additional comments after pre-inspection has been conducted. The pre-inspection is a field verification that the plan and soils report accurately reflects existing conditions.

IV. DRAINAGE

a. A notarized letter of acceptance is required from adjacent property owner(s) for acceptance of unnatural drainage. Include legal description and Assessor's parcel number. Applicant must have this document recorded. (Form enclosed).

b. Submit a hydrology study and/or hydraulic calculations for _____

c. Show limits of Flood Plain and finish floor elevations per FP-2 requirements. Subdivision/drainage section will verify required minimum finish floor elevation. Show existing off-site terrace and drainage features that could significantly affect the project.

d. A berm, 12" high by 4' wide is required at tops of all slopes. Illustrate with typical details.

e. Provide 1 copy of CC& R's outlining drainage rights and maintenance responsibilities.

f. Show location and provide details for all subdrain systems (1), as recommended in the soil/geology report, by _____ dated _____ or (2), approved standard.

Maximum gradient for sheet flow 10%.
Minimum acceptable gradients:

1.	Earth	1.0%
2.	Asphaltic concrete	1.0%
3.	Concrete in earth	0.5%
4.	Concrete in A.C.	0.28%
5.	Lot sales	2.0%
6.	Terrace drains	6.0%

g. Show plan and section details of typical lot drainage. Minimum 2%, maximum 21%, away from a building pad to a swale is required.

h. Show finished grades by spot elevation to indicate proper drainage. All surfaces shall be designed to a minimum gradient for proper drainage (Paved 1%, not-paved 2%). Use arrows to indicate direction of drainage.

i. Planter areas require drains.

j. Provide specifications for drain lines. Specify diameter (4" min.) and type of material. Drain line materials must be:

1. ABS, SDR 35.
2. ABS, Schedule 40
3. PVC, SDR 35
4. PVC, Schedule 40

k. Drainage shall be conducted to a street, natural watercourse, or other approved location.

o. Drainage over a manufactured slope is not permitted except in approved devices.
p. Show limits of roof gutters and location of down spouts.

q. Interceptor drains (brow ditches) at top of manufactured slopes are required to intercept surface drainage. Show on plans and provide detail.

r. Cut off walls are required at inlet of paved drains. Show detail on plan.

s. Velocity reducers (i.e., energy dissipators) are required where drains discharge onto natural ground. If riprap is to be used, specify class and size. Show on plan and provide detail.

t. Concentrated drainage exceeding 4% gradient requires concrete, gunite, or other approved non-erosive device.

u. Revise plans to show complete details for all drainage structures, i.e., _____.

v. Provide concrete device in asphalt section to carry concentrated water.

w. Show detail and locations of extra depth footings.

x. Provide 7' setback from top of slope to building to accommodate graded drainage swale or 5' setback with P.C.C. device to carry drainage, lots _____.

y. Show flow line elevations of all swales and other drainage devices. Show top of drain elevations and drain invert elevation

z. Show retaining wall subdrain details with disposal points, flow line elevations and pipe material.

aa. Show typical section of driveway and/or pavement section.

bb. Add attached detail of weep screed requirements to plan.

V. SLOPES

a. Provide building or structure setbacks from top and bottom of slope as outlined in the Grading and Excavation Code and UBC.

b. Show detail of typical slope benching preparatory to fill placement.

c. Provide a minimum 6' wide terrace at maximum 30 foot intervals measured vertically. Minimum paved width to be

5' with 18" depth (flow line to top of paved conc.).

d. Provide a minimum 12' wide terrace if slope exceeds 60 feet in height. (Lowest Terrace) (Show section detail).

e. A downdrain shall be installed for every single run of terrace drain that collects runoff from a slope watershed area of 13,500 sq.ft.

f. Show on plans the proposed location and fully dimensioned cross sectional details of all buttress fills recommend by the project soil engineer and/or engineering geologist.

g. Show top and toe of cut and fill slopes. Incorporate the following hillside design criteria or justify in writing why it does not apply to your project:

1. Slope rounding
2. Slope contouring at daylight line.
3. Undulating slopes with a minimum of long, flat, inclined planes and acute angles.
4. Max slope height (Type B - 35 feet) (Type C - 20 feet).
5. Ten foot bench exclusive of drainage facilities.
6. Manufactured (cut and fill) slopes shall have a maximum slope ratio of 2:1 (26 degrees).

VI. GEOTECHNICAL

a. Submit for review and approval (1)(2) copies of the following reports:

- ___ Preliminary soil engineering
- ___ Preliminary engineering geology
- ___ Percolation Report

b. Submit for approval two copies of a precise grading plan and site review report from your soil engineer.

c. Soils and geology reports must be approved by City Geologist.

- d. Delineate areas of over-excavation and recompaction as recommended by the soil engineer. Detail and show volume as separate item. Where depth exceeds 12", soil engineer to verify recommended compaction in his final report.
- e. Delineate on the plans and provide details for rock disposal areas as recommended by the project soil engineer.
- f. Your soil report recommends 2 or more options of site development. Show on plan what option is to be used.

VII. ADDITIONAL

See comments on plans

GRADING RECEIPT

RECEIPT NUMBER: **R13-1030**

APD #: G13-005

TYPE: Grading

SITE ADDRESS: 25891 CROWN VALLEY PKWY LN

PARCEL: 636-043-03

OCFA Service Req. #:

Payor: MILL CREEK RESIDENTIAL TRUST LLC

Address:

2255 GLADES ROAD, SUITE 423 A
BOCA RATON, FL

33431

Phone:

TRANSACTION DATE: 05/09/2013	TOTAL PAYMENT:	10,000.00
	TOTAL PAID FROM TRUST:	.00
	TOTAL PAID FROM CURRENCY:	10,000.00

TRANSACTION LIST:

Type	Method	Description	Amount
Payment	Check	7240	10,000.00
TOTAL:			10,000.00

ACCOUNT ITEM LIST:

Description	Account Code	Current Pmts
Grading Plan Check	3311	10,000.00
TOTAL:		10,000.00

RECEIPT ISSUED BY: COUNTER

INITIALS: AS

ENTERED DATE: 05/09/2013

TIME: 03:35 PM

GRADING RECEIPT

RECEIPT NUMBER: R13-1030

APD #: G13-005 TYPE: Grading
SITE ADDRESS: 25891 CROWN VALLEY PKWY LN
PARCEL: 636-043-03
OCFA Service Req. #:

Payor: MILL CREEK RESIDENTIAL TRUST LLC
Address: 2255 GLADES ROAD, SUITE 423 A
BOCA RATON, FL
33431

Phone:

TRANSACTION DATE: 05/09/2013	TOTAL PAYMENT:	10,000.00
	TOTAL PAID FROM TRUST:	.00
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ACCOUNT ITEM LIST:

Description	Account Code	Current Pmts
Grading Plan Check	3311	10,000.00
TOTAL:		10,000.00

RECEIPT ISSUED BY: COUNTER INITIALS: AS
ENTERED DATE: 05/09/2013 TIME: 03:35 PM

Abdullah Sharif

From: Tina Meyer <TMeyer@mcrtrust.com>
Sent: Wednesday, September 25, 2013 8:31 AM
To: Abdullah Sharif
Cc: Willard Winkenhofer III; Greg Lucas
Subject: Refund Check

Importance: High

Abdullah,

Per Will please make the checkout payable to:

"CAL I Crown Valley LLC" and have the refund check returned to our office here in Costa Mesa.

Thank you,

TINA MEYER
Mill Creek Residential
949 South Coast Drive | Suite 400 | Costa Mesa, CA 92626
D 714.800.1380 | F 657.212.4603
tmeyer@MCRTrust.com



MILL CREEK
PEOPLE • PLACES • RELATIONSHIPS



Please consider the environment before printing this e-mail



GMIU
GEOTECHNICAL, INC.

23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET (continued)

"Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.5, Gridlines 2-14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013 - Revised.	10/24/13	APPROVED	\$192.50
"Partial Building Pad Approval, Area Bounded by Gridlines T.5 & AA and Gridlines 14 & Y10/Y11, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated October 30, 2013.	11/6/13	APPROVED	\$295.00
"Pile Foundations for Retaining Wall, Along Gridline T Between Gridlines 2 - 14, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated November 7, 2013.	11/7/13	CONDITIONALLY APPROVED	\$295.00

$\Sigma = \$1,712.50$



23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005

PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road

OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10, Gridlines 2-13, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 2, 2013; (2) Civil Engineer's Certification of Final Grading, 25891 Crown Valley Parkway, prepared by KHR Associates, dated October 2, 2013; (3) Architectural Site Plan, Crown Cabot Luxury Apartments, prepared by TCA, date illegible.	10-4-13	Conditional Approval	\$ 340.00
(1) "Report of Observation and Testing Services During Upper MSE Wall Construction and Partial Building Pad Approval, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 10, 2013.	10-21-13	Approval	\$295.00
(1) "Partial Building Pad Approval, Area Bounded by Gridlines J.2 - S Gridlines 1 -8, Crown Valley Luxury Apartments, 25891 Crown Valley Parkway, Laguna Niguel California," prepared by Geocon West, Inc., dated October 22, 2013.	10-24-13	Approval	\$295.00

↓
Permit

GEOCON
WEST, INC.

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS



Project No. A8803-06-03
September 17, 2013

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: FOUNDATION UNDERLAYMENT – UPPER MSE WALL
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA

Dear Mr. Lucas:

The purpose of this letter is to provide formal written approval for the foundation underlayment for the upper MSE wall. Please provide a copy of this letter to Mr. Abdullah Sharif, Grading Engineer with the City of Laguna Niguel for his records.

The excavation bottom for the upper MSE wall was observed by a Geocon representative during excavation. Bedrock was exposed throughout the entire excavation with the exception of the westernmost 10 feet where artificial fill was encountered. The area of artificial fill was excavated an additional 3 feet to expose bedrock, and approximately four feet of engineered fill was placed to achieve the required subgrade elevation. Approximately two feet of engineered fill was placed between stations 11+91.41 and 12+88 to achieve the required subgrade elevation.

In place density testing indicates that the engineered fill was compacted to at least 92 percent relative compaction in accordance with ASTM test method D1557-12 (Laboratory Compaction Test). The excavation bottom was approved by a Geocon representative on September 11, 2013.

Should you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Neal D. Berliner
GE 2576



(1) Addressee



CITY of LAGUNA NIGUEL

Community Development Department

30111 Crown Valley Parkway • Laguna Niguel, California 92677
Phone/949•362•4360 Fax/949•362•4369

CITY COUNCIL

Laurie Davies
Linda Lindholm
Jerry McCloskey
Robert Ming
Jerry Slusiewicz

Pregrade Meeting

Date: _____ Job Address: _____ Permit Number: _____

Owner:

Name: STEVE GIBBES

Address: 4557A MESA

Tel: 714 697 2416

Signature: _____

Civil Engineer/Architect:

Name: MIKE THOMAS

Address: 4100 NEWPORT PLACE DR, SUITE 200

Tel: 949 756 6440

Signature: _____

Geotechnical Engineer:

Name: Gerald Kasman

Address: 3303 N. San Fernando Bl
Burbank

Tel: 818 - 841 - 8388

Signature: _____

Superintendent:

Name: Van Peters

Address: Andover Hills, CA

Tel: 714 496 2301

Signature: _____

Grading Contractor

Name: Dennis Post

Address: 1100 IRVINE BLVD
TRUSTED CA 92780

Tel: 714 832 4739

Signature: _____



CITY of LAGUNA NIGUEL

Community Development Department

30111 Crown Valley Parkway • Laguna Niguel, California 92677

Phone/949•362•4360 Fax/949•362•4369

CITY COUNCIL

Laurie Davies

Linda Lindholm

Jerry McCloskey

Robert Ming

Jerry Slusiewicz

COMMUNITY DEVELOPMENT DEPARTMENT

PRELIMINARY GRADING PERMIT

(NO BUILDING PERMIT WILL BE ISSUED)

Date: 9/30/13

Inspector: Abdullah Sharif

Inspector's Phone #: 949-362-4327

Office Hours: 8 A.M.

4 P.M.

Public Works Insp.: Rick Barr

Phone #: 949-362-4346

Crown Cabot Ruxury Apartments
APN: 636-043-02

Tract No.: _____ Lot No.: _____

Owner: MCR Investment LLC

Job Address: 25891 Crown Valley Hwy

Grading Permit No.: G/3-005

Date Expires: _____

I. General Requirements:

- A. An approved set of grading plans and a copy of the grading permit must be on the job site at all times.
- B. The Grading Section shall be notified before 3:30 p.m. the day prior to when the job is ready for inspection. You must furnish the permit number, owner's name and address of the job. To request inspection, call (949)362-4381. Inspection will be provided on the date and time requested if workload logistics allow.
- C. The grading permit number for this site shall be referred to in all reports, certification and correspondence.
- D. If the inspector finds the soil or other conditions not as stated I the approved plans or geotechnical reports, he may refuse to approve further work until approval is obtained for a revised grading plan or geotechnical report which will conform to the existing conditions.
- E. Prior to placement of any utilities within a tract or commercial site, approval must be obtained from the grading inspector.

II. Grading Inspections

The following is a list of normally required grading inspections to be made by the grading inspector. If any work requiring inspection is covered or concealed by additional work without first having been inspected, the grading inspector may require, by written notice, that such work be exposed for examination. Prior to placement of any utilities within a tract or commercial site, approval must be obtained from the grading inspector.

A. START OF WORK

B. EXCAVATION AND FILL INSPECTION

1. Canyon Cleanout:

After all brush and unsuitable material has been removed and an acceptable base has been exposed, but before any fill is placed. The soil engineer and/or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.

2. Toe bench and key:

After the natural ground or bedrock is exposed and prepared to receive fill, but before fill is placed. The soil engineer and/or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.

3. Over-Excavation:

After area has been excavated but before fill is placed. The soil engineer and/or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before the time of inspection.

4. Excavation;

a. After the excavation is started, but before the vertical depth of the excavation exceeds ten (10) feet, and every ten (10) feet interval thereafter, the soil engineer and/or geologist shall leave a memo.

b. Each working day of cut.

5. Fill:

a. After the fill has started, but before the vertical height of the fill exceeds ten (10) feet, and every ten (10) feet interval thereafter.

b. Each working day of fill.

C. DRAINAGE DEVICE OTHER THAN CONCRETE OR GUNITE INSPECTION

1. Subdrains:

a. After excavation, but prior to placement of filter material and pipe. Subdrain pipe and filter material shall be on-site for inspection.

b. After subdrain and supporting filter material have been placed, but prior to covering with remaining filter material and fill. Soil Engineer shall provide a field memo approving placement of subdrain.

- c. After all filter material has been placed. Soil Engineer shall provide a field memo approving placement of filter material.

2. Earth Swales:

- a. Prior to rough grading approval.
- b. After slab pour but prior to lumber drop.
- c. Prior to final grading approval.

D. ROUGH GRADE INSPECTION (Precise Grading Permits only)

When all rough grading has been completed, this inspection may be called for without the necessity of the Grading Section having previously reviewed and approved the required reports. Rough grade release will be withheld pending review and approval of the required reports. Under normal circumstances, all subdrains and slope drains shall be in place before requesting rough grade inspection. At or before the time of inspection, the inspector shall be provided with:

- 1. Civil engineer or architect's written approval of Rough Grade. A blue top and witness stake with actual elevation and building corner stakes shall be provided for each building pad. Temporary or final property corners shall be installed for inspection.
- 2. Contractor's statement of compliance.
- 3. Soil report from the soil engineer and/or geologist approving rough grade. The building permit will not be issued until the report is reviewed and found acceptable (this limitation generally includes retaining wall permits).
- 4. As-built plan, if appropriate.

E. CONCRETE OR GUNITE DRAINAGE DEVICES INSPECTION

- 1. Ribbon gutter and/or concrete devices draining asphalt:
 - a. Subgrade (prior to placement of concrete). Subgrade is to be prepared and the forms are in place with the required reinforcement. The civil engineer, or architect, shall provide written approval of line and grade; soil engineer to provide a field memo approving the subgrade at or before the inspection.
 - b. Concrete placement:

Inspection to be made during placement.
- 2. Curb and gutter (private property):
 - a. Subgrade (prior to placement of concrete): Subgrade is to be made, forms are to be in place with the required reinforcement. The engineer or

architect shall provide written approval of line and grade; the soil engineer shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.

- b. Concrete Placement: Inspection(s) to be made during placement.
- 3. Terrace drains, down drains, brow ditches, and all other paved drainage devices.
 - a. Thickness control wire or forms and reinforcing steel or welded wire mesh are to be installed prior to placement of gunite or concrete. The civil engineer, or architect, shall provide written approval of line and grade; soil engineer shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
 - b. Concrete or gunite placement.
- 4. Storm drain and inlets:
 - a. After RCP delivery (if used) to confirm that pipe conforms to plan requirements.
 - b. After placement of storm drains but prior to covering with backfill. The civil engineer shall provide a field memo that line and grade is set in accordance with the approved plans.
 - c. After placement of inlet forms, but prior to pouring concrete. The civil engineer shall provide a field memo that line and grade is set in accordance with the approved plans.

F. PAVING INSPECTION

(Pavement and base course specifications shall be in accordance with the provisions of the standard specifications currently used by the Environmental Management Agency.

- 1. Pre-paving meeting shall be held when required by the Grading Inspector. The project coordinator shall contact the Inspector at least 48 hours in advance and shall also contact the following principals to be represented at the meeting: paving contractor, civil engineer, (or architect) and the soil engineer.
- 2. Subgrade:

After subgrade has been established, tested and approved by the soil engineer, or his qualified representative, a field memo of test results must be left on-site for the inspector. The civil engineer, or architect, shall provide a field memo approving line and grade at or before the inspection and state in writing the actual section he has approved.
- 3. Base laydown:

After untreated base course has been placed, tested and approved by the soil engineer, or his qualified representative, but prior to prime coat and asphalt

placement, the soil engineer, or his qualified representative, is required to leave memo on-site to provide compaction test results for the inspector (material invoices may be required). The civil engineer or architect may be required to provide written approval of line and grade at or before inspection.

It may be necessary, as determined by the Grading Inspector, to have the rock base tested by the Soil Engineer to ensure its compliance with code and job specifications.

4. Asphalt laydown:

Inspection shall be made during asphalt laydown to verify continuous inspection by the soil engineer or his qualified representative (material invoices may be required). The soil engineer must inspect for proper material, equipment, temperatures, thickness and compaction.

5. Water test:

Prior to application of seal coat, the paved surface shall be water tested to reveal any irregularities, and shall be patched where required (material invoices may be required).

G. FINAL INSPECTION

When all work, including installation of all drainage structures, monumentation and protective devices has been completed and all written professional approvals and the required reports have been submitted, this inspection may be requested.

Professional approvals and reports include:

1. Final written approval from civil engineer or architect.
2. Final soil/geology report for all relevant work done after rough grade soil report.

Required reports from the soil engineer shall include but not be limited to interior and exterior utility trench backfill compaction, retaining wall backfill compaction, and asphalt concrete, based and subgrade compaction (when appropriate).

An as-built plan will be required, if in the opinion of the grading inspector, the finished site significantly deviates from the approved grading plan.

Final grading release will be withheld pending review and approval of the required reports and concurrence of Public Works Inspector. Bonds will not be released until after final approval.

H. SILTATION CONTROL FACILITIES (rainy season: October 15 to April 15):

1. Pre-build:

Prior to the start of any work on desilting basins and erosion control facilities, the grading inspector shall be called to review the placement of said facilities.

2. During installation:

- a. After excavation, but prior to fill placement. Pre-fabricated devices to be available on-site for inspection.
- b. After fill placement, but prior to placement of concrete or other non-erosive materials.
- c. Before any concrete is poured and after structure is complete, memo from the Soil Engineer, approving earth-constructed basins.

3. Sandbags shall be provided to control erosion during the rainy season.

I. OTHER CONCERNS

See page 7

I. EROSION CONTROL AND OTHER REQUIREMENTS

1. During the wet season, between October 1st and April 30th, the entire *erosion and Sediment Control measures shall be installed and functional* at the end of each working day when the 5-day probability of rain exceeds 40%. During the remainder of the year, *erosion & Sediment Control measures* shall be on-site and ready for installation when the 5-day probability of rain exceeds 50% and the visqueen plastic shall be installed anchored with sandbags when the 48-hour probability of rain exceeds 50%. **All erosion and sediment control measures shall be installed per *interim/approved erosion and Sediment Control Plan prepared by the Civil engineer.***
2. All bare slopes, including manufactured slopes, shall be provided with protective erosion control measures (jute netting, erosion blankets, etc.) and planted with an approved plant material.
3. All work must be done in accordance with the soil engineer/geologists's recommendations contained in the soils report and per civil engineer's recommendations/approved grading plans.
4. All work including excavations, back cuts, keyways, benching, geogrids, subdrains, backfill must be inspected and approved by the soil engineer/ geologist. Daily field memos must be submitted to the City at the time of inspections.
5. The backfill and compaction of all utility trenches, including area drain trenches shall be inspected and approved by the soil engineer. The subgrade of all concrete V-ditches, pipe anchors and down drain anchors in the slopes shall be inspected and approved by the project soil engineer. Field memos must be given to the City inspector at the time of inspections.
6. The project civil engineer shall inspect all drainage structures (drain pipes, subdrains, concrete V-ditches, down drains, junction structures, etc.) and submit line and grade certificates to the City inspector at the time of inspections. *The project Civil engineer shall field inspect all Water quality/ Hydromodification features/structures and Submit field memos to the City approving installation and Construction of the above items.*
7. *All interim drainage system shall be constructed/installed per the interim drainage plan prepared by the Civil engineer.*

BUILDING AND SAFETY

APPLICATION FOR A GRADING PERMIT

(949) 362-4360 Office
(949) 362-4381 Inspections

G13-005

PRESS HARD WHEN WRITING

JOB ADDRESS 25891 Crown Valley Pkwy Crown Cabot Luxury Apartments					
LEGAL DESCRIPTION (OR ATTACH)		TRACT	BLOCK	LOTS INCLUSIVE	
A.P. NO. 636-093-02		SUPER DIST. NO.	LAND USE WAIVER	TOTAL NO. LOTS/UNITS	
CROSS STREETS Crown Valley AND Cabot Rd.					
PURPOSE Precise Grading					
OWNER MIRT Investments LLC		PHONE (714) 800-1382		ZONE:	
OWNER'S ADDRESS 949 S. Coast Drive		CITY Costa Mesa, Ca	ZIP CODE 92626	PROPOSED USE:	
PLANS BY KHR Associates		STATE LICENSE 30560	PHONE (949) 756-6440	REMARKS: Additional bond for removing 1st weathering slope is \$161,461.76	
ADDRESS 4100 Newport Place Dr., Ste 200		CITY Newport Beach	ZIP CODE 92660		
APPROVED SOIL TESTING FIRM Geocom West, Inc		PHONE (918) 841-1704			
ADDRESS 3303 N. San Fernando Blvd, Ste 100		CITY Burbank, Ca	ZIP CODE 91504	LAND USE APPROVAL:	
SOILS ENGINEER Neal Berliner		STATE LICENSE 2576	PHONE	NAME _____ DATE _____	
ADDRESS 3303 N. San Fernando Blvd, Ste 100		CITY Burbank	ZIP CODE 91504	BOND ☐ NOT REQUIRED	
ENGINEERING GEOLOGIST		STATE LICENSE	PHONE	BONDING CO. Westchester Fire Insurance Co	
ADDRESS		CITY	ZIP CODE	BOND NO. 1028513065	
GRADING CONTRACTOR Post Company Grading Contractors, Inc		STATE LICENSE 788962	PHONE (714) 832-4739	BOND AMOUNT \$ 238,000.00	
ADDRESS 1100 Irvine Blvd. # 291		CITY Tustin	ZIP CODE 92780	☒ SURETY ☐ CASH ☐ BLANKET BOND ☐ CERT. OF DEPOSIT	
☐ LETTER OF CREDIT (Expiration date _____)					

CERTIFICATION FOR REGULATION PERMIT Contractors I certify that the following Contr. Lic. No. <u>788962</u> and Classification <u>C12</u> is in full force and effect. Workmen's Compensation Insurance Certificate on file verified by <u>AN</u> Expiration date: _____ Other Applicants I hereby certify I am exempt from Sec. 7031.5 of the Business and Professional Code, Div. 3, Chap. 9, Contractor's License Law under the following section: ☐ Owner (Sect. 7044), or ☐ Minor Work under \$200 (Sect 7048), or ☐ Employee working for wages only (Sect. 7053), or ☐ OTHER WORKERS COMPENSATION DECLARATION Certification of Exemption from Sect 3800 of the California Labor Code, Article 3, Construction Permit. ☐ The permit is for One Hundred Dollars (\$100) or less. I certify that in the performance of the work for which the permit is issued I shall not employ any person in any manner so as to become subject to the Workmen's Compensation laws of California. If, after making such certification the applicant for this permit should become subject to the Workmen's Compensation provisions of the Labor Code, the applicant shall forthwith comply with the provisions of Sect 3700 or this permit shall be deemed revoked. I hereby acknowledge and state that the information I have provided is correct both on the permit and this certificate and agree to comply with all city Ordinances and State laws regulating building construction. <u>[Signature]</u> Date: <u>9/25/13</u> (Applicant's Signature)		I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION I HAVE PROVIDED IS CORRECT AND AGREE TO COMPLY WITH ALL CITY ORDINANCES AND STATE LAWS REGULATING BUILDING CONSTRUCTION. CONSENT IS HEREBY GIVEN TO THE CITY OF LAGUNA NIGUEL, ITS OFFICERS, AGENTS AND EMPLOYEES, TO ENTER UPON THE LAND FOR THE PURPOSES OF SUCH INSPECTIONS, INVESTIGATIONS, OR CORRECTIVE ACTION AS THE BUILDING OFFICIAL OF SUCH CITY DEEMS NECESSARY. I AM AWARE OF ORDINANCE NO. 2717 CONCERNING THE DISCLOSURE OF LOBBYIST. SIGNATURE <u>[Signature]</u> OWNER OR AUTHORIZED AGENT

TYPE OF PERMIT	NUMBER OF CUBIC YARDS CUT:
☐ PRELIMINARY NO BUILDING PERMITS TO BE ISSUED UNTIL THIS PERMIT IS SUPERCEDED BY A PRECISE GRADING PERMIT	BORROW FILL:
☒ PRECISE ☐ BUILDING PERMITS MAY BE ISSUED AFTER ROUGH GRADING HAS BEEN APPROVED.	NATURAL FILL:
	FEE YARDAGE:
	VALUATION OF PROTECTIVE DEVICES AND IMPROVEMENTS
	\$

GRADING FEES		
PLAN CHECK	TOTAL P.C.	
IMPROVEMENTS: (DIA 235)	\$	
GRADING (GRA 235)	\$	\$
GRADING PERMIT	TOTAL PERMIT	
IMPROVEMENTS (DIB 235)	\$	
GRADING (GRB 235)	\$	
ISSUANCE FEE	\$	\$

APPLICATION APPROVED <u>[Signature]</u> DATE <u>9/25/13</u> FINAL APPROVED _____ DATE _____ BOND RELEASED _____ DATE _____	THIS FORM WHEN PROPERLY VALIDATED IS A PERMIT TO DO THE WORK DESCRIBED FOR A PERIOD OF 2 YEARS FROM DATE OF ISSUANCE

VALIDATION

*THIS PERMIT SUPERCEDES A PORTION / ALL OF GRADING PERMIT NO. _____ HAVING FEE YARDAGE IN THE AMOUNT OF _____ YD.³

F0250-855

VALIDATION
(OFFICE
USE ONLY)

CASHIER

DATE _____

PERMIT NO.

PERMIT FEE

CODE

PLAN CHECK

TOTAL

CITY OF LAGUNA NIGUEL
COMMUNITY DEVELOPMENT DEPARTMENT
GRADING SECTION

Bond No. K08513028

GRADING PERMIT SURETY BOND

KNOW ALL MEN BY THESE PRESENTS: That CAL I Crown Valley LLC, a Delaware Limited Partnership, as Principal, and Westchester Fire Insurance Company, a corporation organized and existing under the laws of the State of Pennsylvania, and duly authorize to transact a surety business in the State of California, as Surety, are held and firmly bound unto the City of Laguna Niguel in the just and full sum of One Hundred Sixty One Thousand Four Hundred Sixty One and 30/100 -- (\$161,461.30) DOLLARS, for the payment of which, well and truly to be made, said Principal and Surety bind themselves, their heirs, administrators, successors and assignee, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, the said Principal above named is applicant under Grading Permit No. 613-005 of the City of Laguna Niguel, California, for grading, on the following described property:

NOW, THEREFORE, IT IS AGREED that if the Principal shall:

- Comply with all the provisions of the City of Laguna Niguel Grading and Excavation code and other applicable laws and ordinances; and
- Comply with all the terms and conditions of the permit to the satisfaction of the Building Official; and
- Complete all of the work contemplated under the said permit within the time limit specified in the permit, and any extension or extensions thereof; and
- Reimburse the City for any work required by the permit that the Building Official deems necessary to complete, correct or otherwise undertake for the public safety, because of failure on the part of Principal, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the permit or of the work to be performed thereunder shall in any way affect its obligation on this bond and it does hereby waive notice of any such change, extension of time, alteration or modification of the permit or of work to be performed thereunder, and

PROVIDED FURTHER, that in case suit is brought upon the bond by the City of Laguna Niguel or any other person who may bring an action on this bond, a reasonable attorney's fee, to be fixed by the court, shall be paid by the Principal or Surety.

IN WITNESS WHEREOF, the said Principal and said Surety have caused these presents to be duly signed and sealed this 16th day of September, 19 ^{XX}2013.

CAL I Crown Valley LLC, a Delaware Limited Partnership

(Attach acknowledgment)

By:

Principal

By:

Westchester Fire Insurance Company

(Attach acknowledgement)

By:

Surety

Terri L. Morrison,

Attorney-in-Fact

Address: 436 Walnut Street, P. O. Box 1000, Philadelphia, PA 19106

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

No 5907

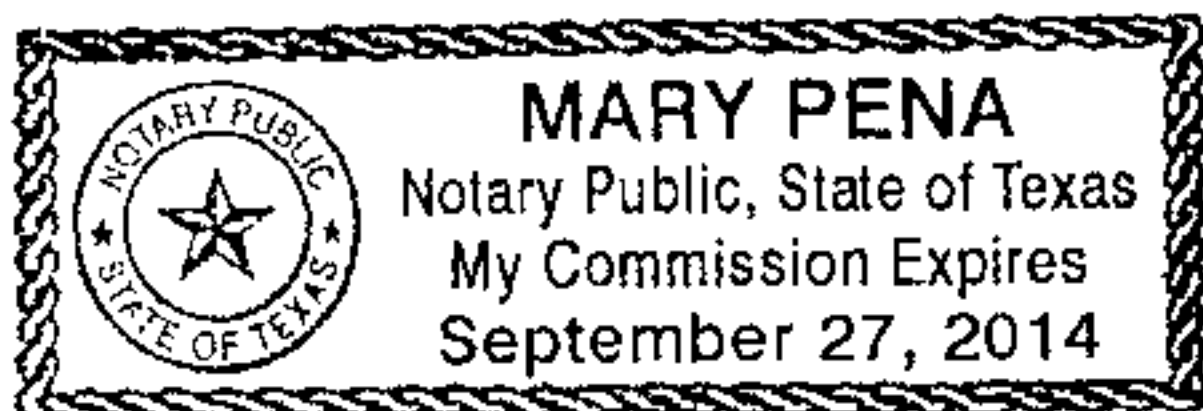
State of Texas

County of Harris

On September 16, 2013 before me, Mary Pena, Notary Public
DATE NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"

personally appeared Terri L. Morrison
NAME(S) OF SIGNER(S)

☐ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Mary Pena
SIGNATURE OF NOTARY

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ INDIVIDUAL
☐ CORPORATE OFFICER

- ☐ PARTNER(S) ☐ LIMITED
☐ ATTORNEY-IN-FACT ☐ GENERAL
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☐ OTHER: _____

TITLE OR TYPE OF DOCUMENT

NUMBER OF PAGES

SIGNER IS REPRESENTING:

NAME OF PERSON(S) OR ENTITY(IES)

DATE OF DOCUMENT

SIGNER(S) OTHER THAN NAMED ABOVE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California

County of Orange

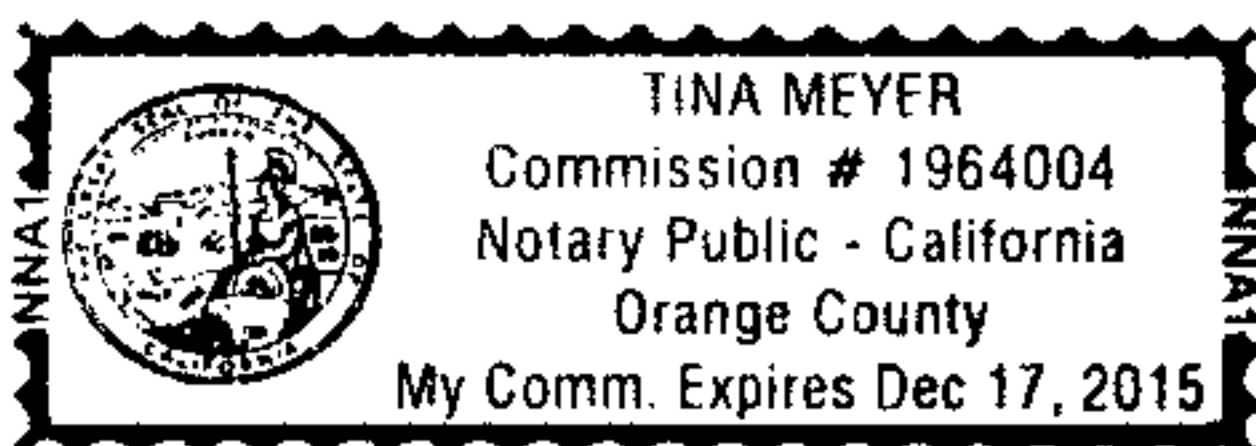
On 9-20-13
Date

before me,

Tina Meyer
Here Insert Name and Title of the Officer

personally appeared

Will Winkenhote
Name(s) of Signer(s)



who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Tina Meyer

Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____

Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

☐ Corporate Officer — Title(s): _____

☐ Individual

☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

Top of thumb here

Signer's Name: _____

☐ Corporate Officer — Title(s): _____

☐ Individual

☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

Top of thumb here

Power of Attorney

WESTCHESTER FIRE INSURANCE COMPANY

Know all men by these presents: That WESTCHESTER FIRE INSURANCE COMPANY, a corporation of the Commonwealth of Pennsylvania pursuant to the following Resolution, adopted by the Board of Directors of the said Company on December 11, 2006, to wit:

RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into the ordinary course of business (each a "Written Commitment").

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
- (2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such persons written appointment as such attorney-in-fact.
- (3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (4) Each of the Chairman, the President and Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

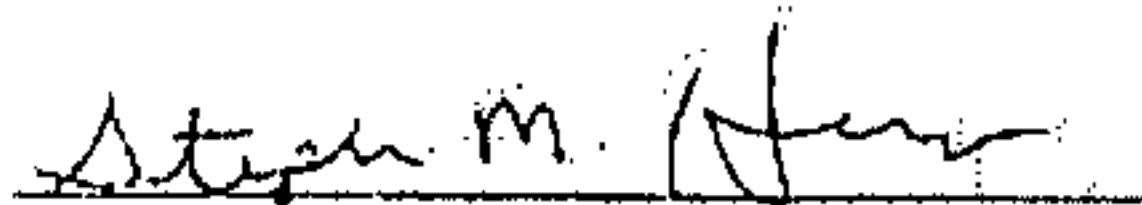
FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested.

Does hereby nominate, constitute and appoint Gina Rodriguez, Melissa Haddick, Sandra R Parker, Tannis Mattson, Terri L Morrison, all of the City of HOUSTON, Texas, each individually if there be more than one named, its true and lawful attorney-in-fact, to make, execute, seal and deliver on its behalf, and as its act and deed any and all bonds, undertakings, recognizances, contracts and other writings in the nature thereof in penalties not exceeding Twenty Five million dollars & zero cents (\$25,000,000.00) and the execution of such writings in pursuance of these presents shall be as binding upon said Company, as fully and amply as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office.

IN WITNESS WHEREOF, the said Stephen M. Haney, Vice-President, has hereunto subscribed his name and affixed the Corporate seal of the said WESTCHESTER FIRE INSURANCE COMPANY this 7 day of August 2013.

WESTCHESTER FIRE INSURANCE COMPANY

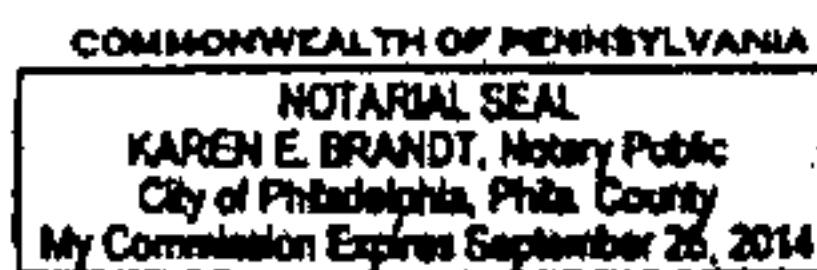



Stephen M. Haney, Vice President

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF PHILADELPHIA ss.

On this 7 day of August, AD 2013 before me, a Notary Public of the Commonwealth of Pennsylvania in and for the County of Philadelphia came Stephen M. Haney, Vice-President of the WESTCHESTER FIRE INSURANCE COMPANY to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged that he executed the same, and that the seal affixed to the preceding instrument is the corporate seal of said Company, that the said corporate seal and his signature were duly affixed by the authority and direction of the said corporation, and that Resolution, adopted by the Board of Directors of said Company, referred to in the preceding instrument, is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Philadelphia the day and year first above written.

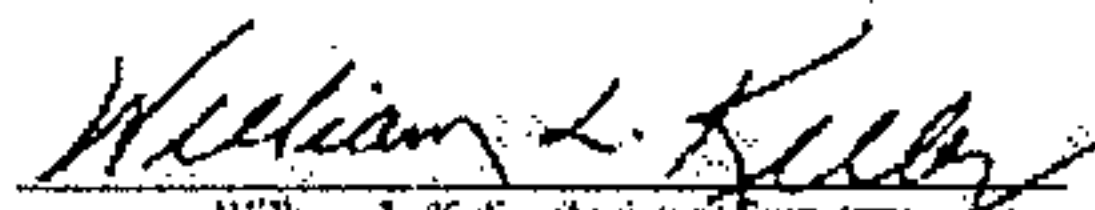



Notary Public

I, the undersigned Assistant Secretary of the WESTCHESTER FIRE INSURANCE COMPANY, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a substantially true and correct copy, is in full force and effect.

In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Corporation, this 16th day of September, 2013




William L. Kelly, Assistant Secretary

THIS POWER OF ATTORNEY MAY NOT BE USED TO EXECUTE ANY BOND WITH AN INCEPTION DATE AFTER August 07, 2015.

CITY OF LAGUNA NIGUEL

BOND RELEASE FORM

I certify that I have deposited the required bond for the below mentioned permit:

Type of Fee: Bond to remove 1:1 northwly slope

Bond/Fee Reference: Bond # K08513028

Address: _____

City, State: _____

Telephone: _____

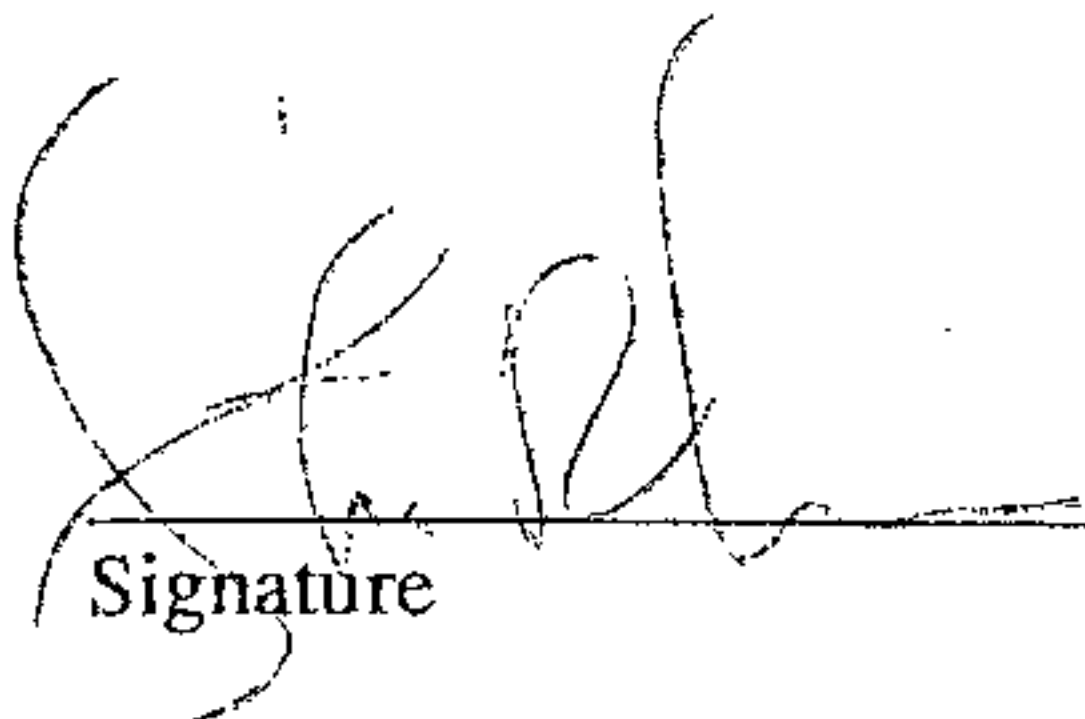
Please return subject bond/fee payable to:

Name: 2161 CROWN VALLEY LLC

Address: 2255 GUNDES ROAD SUITE 4034

City, State: BUCA RATON, FL 33431

Telephone: 714 949 9355


Signature

Please have this form notarized if it accompanies a cash bond.

GEOCON

WEST, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. A8803-06-03
October 10, 2013

VIA OVERNIGHT DELIVERY

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING UPPER MSE WALL CONSTRUCTION &
PARTIAL BUILDING PAD APPROVAL
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the placement of backfill for the upper MSE wall and excavation of the building pad on the subject property. Our services were performed during the period of September 12, 2013 through October 1, 2013. The scope of our services included the following:

- Observing the grading operation, including the excavation and proper compaction of existing artificial fill and surficial native soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the proposed retaining wall.

GRADING

Grading consisted of excavation and compaction of existing onsite soil, as well as placement and compaction of retaining wall backfill. The installation of geosynthetic reinforcement for the retaining wall was also observed. The geosynthetic reinforcement was attached to the retaining wall unit and was typically placed in 3-foot vertical intervals extending 16 to 17 feet into the backfill area. In order to facilitate the construction of the MSE wall, the existing ground surface was sloped at a gradient of 1:1 (H:V) behind the MSE wall. The backcut for construction of the upper MSE wall extended into a portion of the building footprint. An illustration depicting the retaining wall, geosynthetic reinforcement, and backcut is provided on the Site Plan (see Figure 2).

Prior to placing any fill, the existing soils were removed to expose competent, undisturbed bedrock throughout the majority of the MSE wall footprint. At the western most side of the MSE wall, the excavation exposed artificial fill which was removed a minimum of 4 feet below the bottom of the MSE wall elevation. The clean bottom of excavated plane was observed and approved by a representative of this firm prior to placement of fill.

Fill was placed by means of CAT 966 loads and 623 scrapers, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loaders, scrapers, and a vibratory drum roller with sheepsfoot wheel. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figures 1 and 2).

In-place density tests were performed in conformance with ASTM Test Method D1556-07 (Sand Cone), and ASTM Test Method ASTM D6938-08A (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 90 percent in accordance with ASTM test method D1557-12 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figures 1 and 2).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed for the upper MSE wall construction was derived from onsite excavations as well as from import. The fill consist primarily of silt and CMB import.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.

1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines Y.5 – AA and 2 – 11 identified on Sheet S0.10 has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. The subject building pad area is indicated on the portion of Sheet S0.10, which is appended to this report. This area has been observed by Geocon. Artificial fill and a small area of engineered fill is exposed throughout this portion of the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill and engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

2.1 The soils exposed at the subgrade elevation are considered to have a “medium” to “high” expansive potential based on the 2010 California Building Code (CBC) Section 1803.5.3. Special considerations for expansive soils have been incorporated in the geotechnical recommendations. No additional recommendations are considered necessary at this time.

3.0 Future Grading

3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed below slabs in parkways, sidewalks, patios, driveways, as retaining wall backfill, in parking lots, around footings, below garden walls, and in utility trenches is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 Prior to placing steel or concrete in the footing excavations, a site visit should be made by a representative of Geocon West, Inc. to see that the footings are free of loose and disturbed material and are supported on the properly compacted fill. A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, October 1, 2013. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

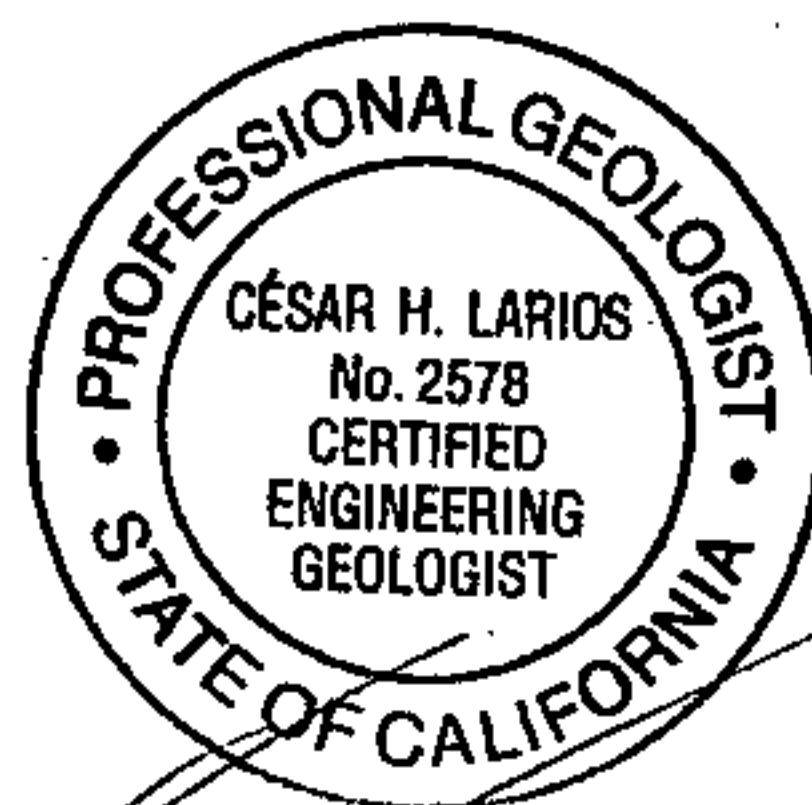
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Jelisa Thomas
PE 74946



César H. Larios
CEG 2578



Neal D. Berliner
G.E. 2576

Enclosures: Figures 1 and 2 - Site Plan
 Explanation of Coded Terms
 Tables 1 and 2
 Portion of Sheet S0.10
 Certification

(Email) Addressee

References

Updated Geotechnical Investigation, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc., dated January 5, 2012;

Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls, by Geocon West, Inc. dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

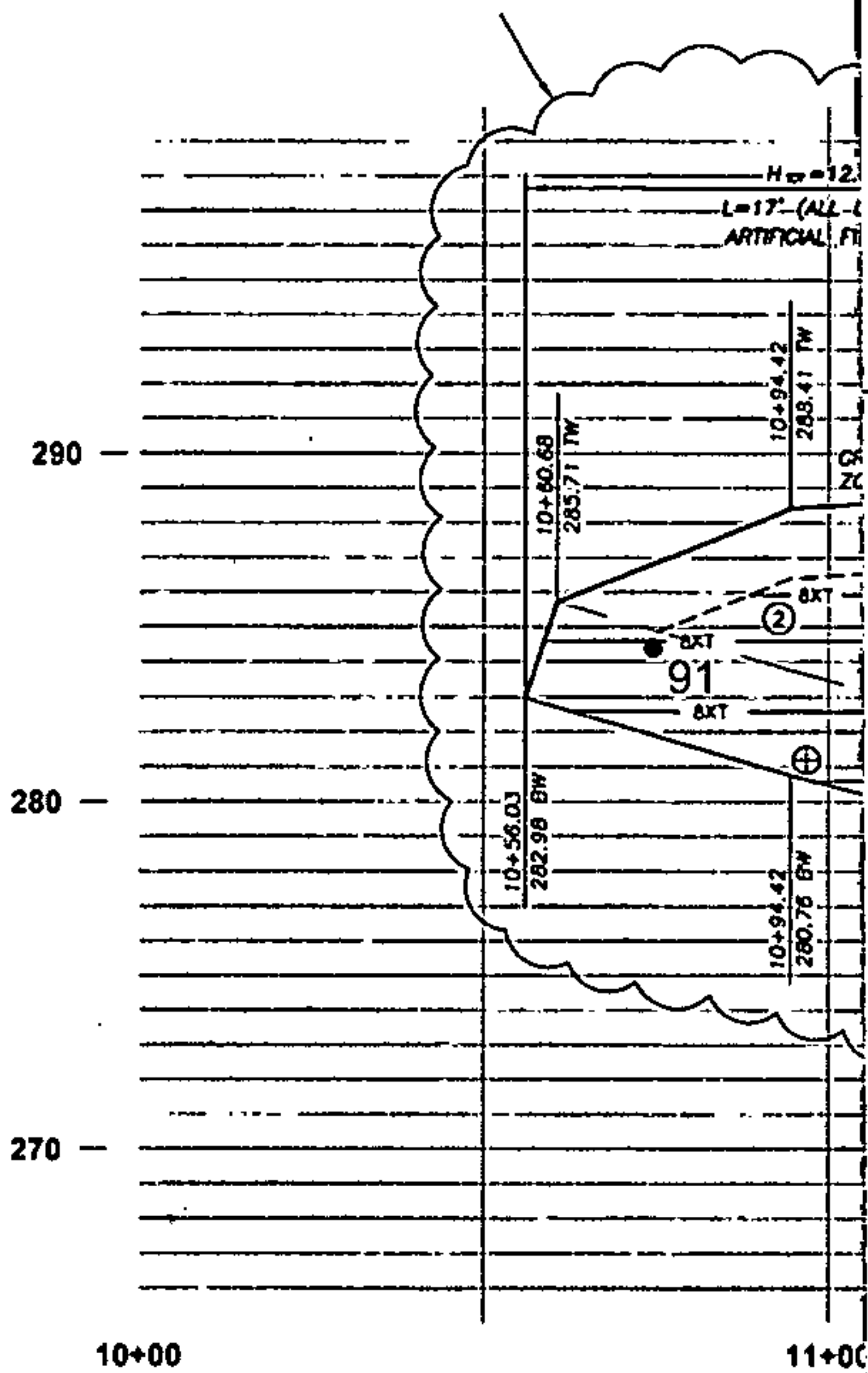
Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls, by Geocon West, Inc. dated March 12, 2013;

Supplemental Geotechnical Recommendations for Deepened Foundations, by Geocon West, Inc. dated August 3, 2012;

Report of Indicator Pile Test Program and Production Pile Recommendations, by Geocon West, Inc. dated August 23, 2012;

Foundation Underlayment – Upper MSE Wall, by Geocon West, Inc., dated September 17, 2013;

Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10 Gridlines 2 – 13, by Geocon West, Inc., dated October 4, 2013 – Revised.

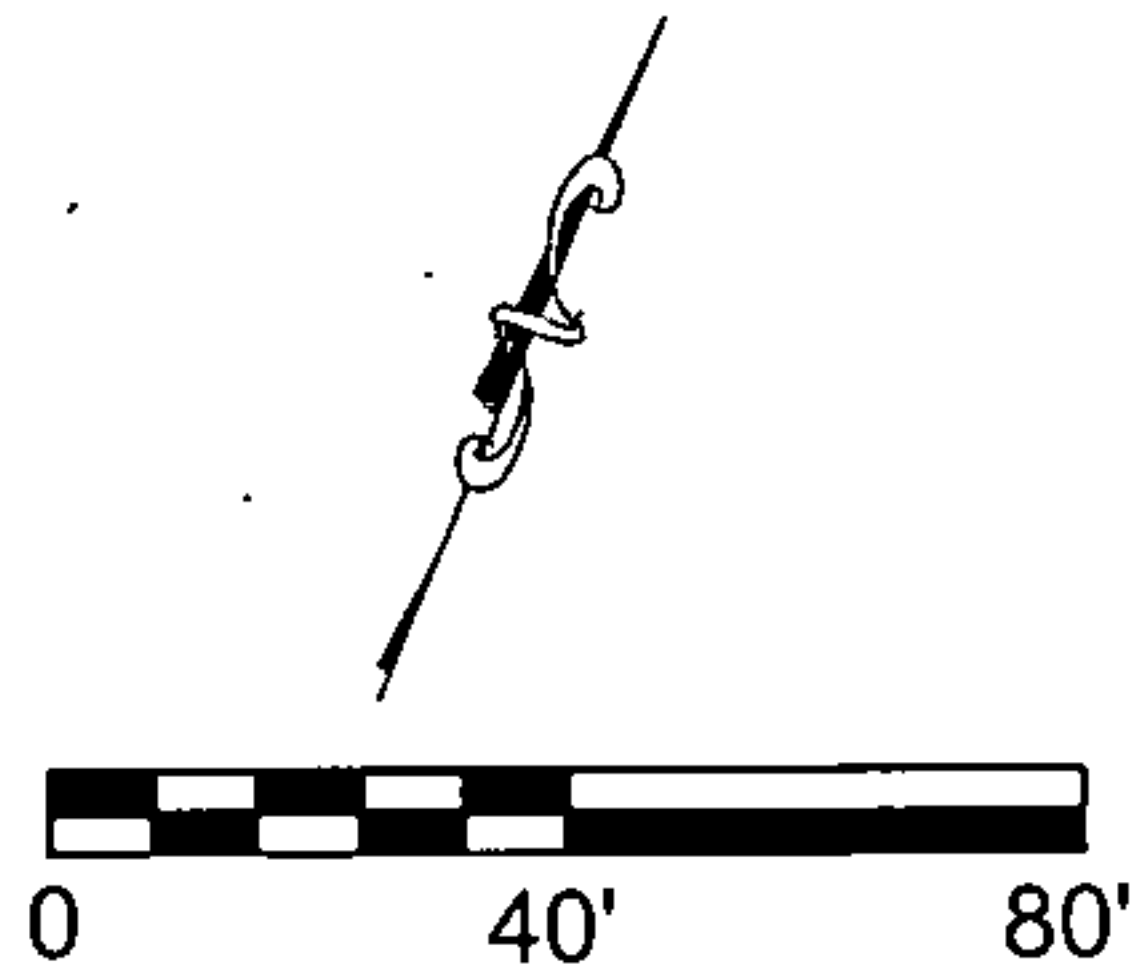
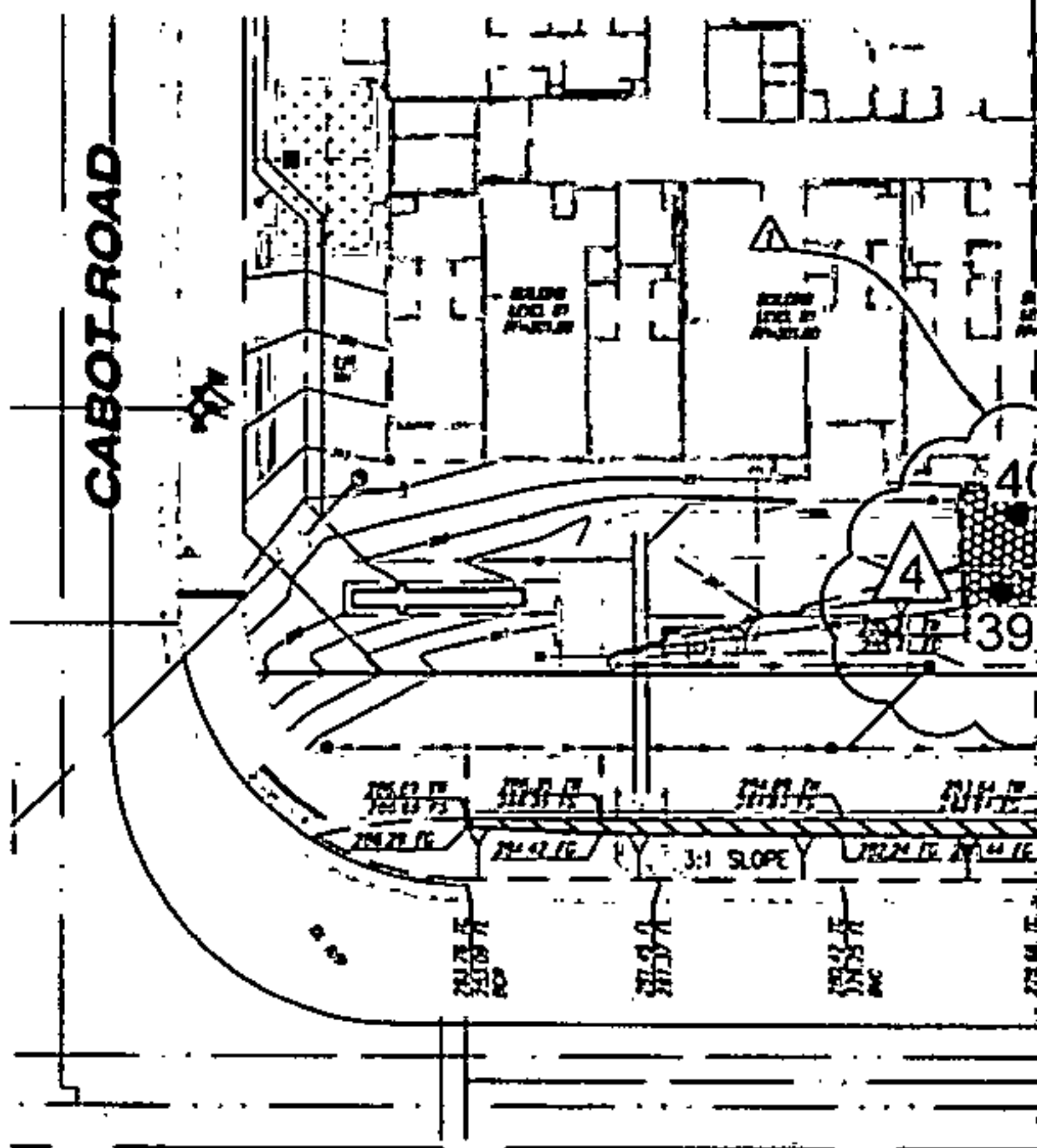


LEGEND

Approximate Location of Density Test

Approximate Limits of Engineered Fill

Approximate Depth of Engineered Fill (in feet)



GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
 3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
 PHONE (818) 841-8388 - FAX (818) 841-1704

JMT

8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS
 CAL I Crown Valley, LLC
 25891 CROWN VALLEY PARKWAY
 LAGUNA NIGUEL, CALIFORNIA

OCT. 10, 2013

PROJECT NO. A8803-06-03

FIG. 1

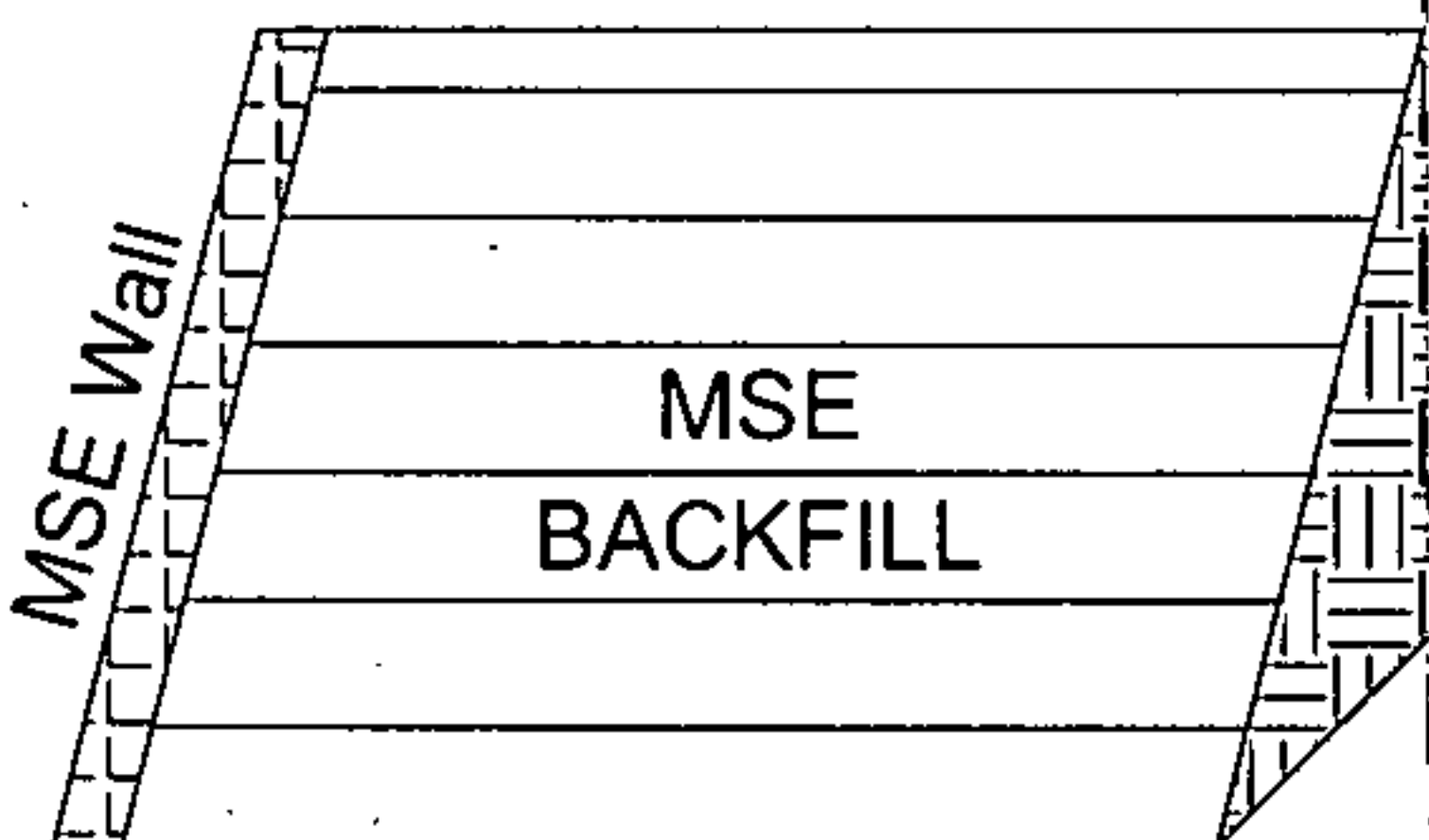


FIG. 2

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DW - Driveway	PT - Plumbing Trench	SL - Sewer Lateral	SZ - Slope Zone
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
BP - Building Pad	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
BF - Backfill	JT - Joint Trench	SG - Subgrade	SW - Sidewalk	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, . . . : Retest of previous density test failure, following moisture conditioning and/or recompaction.
R : Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test



TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	39	9/12/2013	Upper MSE Wall	280.0	1	84.2	28.1	91.5	25.0	92	NU	Pass
BF	40	9/12/2013	Upper MSE Wall	282.0	1	84.8	27.5	91.5	25.0	93	SC	Pass
WB	56	9/16/2013	Upper MSE Wall	270.0	4	112.2	14.1	122.0	12.0	92	NU	Pass
WB	57	9/16/2013	Upper MSE Wall	270.0	4	114.0	13.9	122.0	12.0	93	NU	Pass
WB	58	9/16/2013	Upper MSE Wall	272.0	4	111.7	14.6	122.0	12.0	92	NU	Pass
WB	59	9/16/2013	Upper MSE Wall	272.0	4	111.4	13.4	122.0	12.0	91	SC	Pass
WB	71	9/17/2013	Upper MSE Wall	274.0	4	112.6	11.4	122.0	12.0	92	NU	Pass
WB	72	9/17/2013	Upper MSE Wall	274.0	4	112.7	12.1	122.0	12.0	92	NU	Pass
WB	73	9/17/2013	Upper MSE Wall	274.0	4	110.4	10.5	122.0	12.0	90	SC	Pass
WB	74	9/17/2013	Upper MSE Wall	276.0	4	113.4	10.9	122.0	12.0	93	NU	Pass
WB	75	9/17/2013	Upper MSE Wall	276.0	4	113.5	10.9	122.0	12.0	93	NU	Pass
WB	76	9/17/2013	Upper MSE Wall	276.0	4	115.2	11.5	122.0	12.0	94	SC	Pass
WB	77	9/17/2013	Upper MSE Wall	278.0	4	113.3	12.4	122.0	12.0	93	NU	Pass
WB	78	9/17/2013	Upper MSE Wall	278.0	4	111.5	12.1	122.0	12.0	91	NU	Pass
WB	79	9/17/2013	Upper MSE Wall	278.0	4	115.9	11.5	122.0	12.0	95	SC	Pass
WB	80	9/18/2013	Upper MSE Wall	280.0	4	113.9	11.9	122.0	12.0	93	NU	Pass
WB	81	9/18/2013	Upper MSE Wall	280.0	4	114.3	10.6	122.0	12.0	94	NU	Pass
WB	82	9/18/2013	Upper MSE Wall	280.0	4	114.8	10.0	122.0	12.0	94	NU	Pass
WB	83	9/18/2013	Upper MSE Wall	280.0	4	114.5	11.1	122.0	12.0	94	SC	Pass
WB	84	9/18/2013	Upper MSE Wall	282.0	4	115.2	12.2	122.0	12.0	94	NU	Pass
WB	85	9/18/2013	Upper MSE Wall	282.0	4	112.8	10.5	122.0	12.0	92	NU	Pass
WB	86	9/18/2013	Upper MSE Wall	282.0	4	113.3	11.9	122.0	12.0	93	NU	Pass
WB	87	9/18/2013	Upper MSE Wall	282.0	4	111.6	11.5	122.0	12.0	91	SC	Pass
WB	88	9/18/2013	Upper MSE Wall	284.0	4	114.8	13.4	122.0	12.0	94	NU	Pass
WB	89	9/18/2013	Upper MSE Wall	284.0	4	114.0	10.8	122.0	12.0	93	NU	Pass
WB	90	9/18/2013	Upper MSE Wall	284.0	4	113.4	10.5	122.0	12.0	93	NU	Pass
WB	91	9/18/2013	Upper MSE Wall	284.0	4	115.2	11.7	122.0	12.0	94	SC	Pass
WB	92	9/18/2013	Upper MSE Wall	286.0	4	114.8	12.8	122.0	12.0	94	NU	Pass
WB	93	9/18/2013	Upper MSE Wall	286.0	4	113.3	12.5	122.0	12.0	93	NU	Pass
WB	94	9/18/2013	Upper MSE Wall	286.0	4	111.6	13.1	122.0	12.0	91	NU	Pass
WB	95	9/18/2013	Upper MSE Wall	286.0	4	110.4	10.4	122.0	12.0	90	SC	Pass
BF	117	10/1/2013	Upper MSE Wall BackCut	270.0	4	113.5	11.0	122.0	12.0	93	NU	Pass
BF	118	10/1/2013	Upper MSE Wall BackCut	270.0	4	115.0	11.9	122.0	12.0	94	NU	Pass
BF	119	10/1/2013	Upper MSE Wall BackCut	272.0	4	113.3	11.5	122.0	12.0	93	NU	Pass
BF	120	10/1/2013	Upper MSE Wall BackCut	272.0	4	113.4	13.1	122.0	12.0	93	NU	Pass

* - See "Explanation of Coded Terms"



TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	121	10/1/2013	Upper MSE Wall BackCut	274.0	4	113.5	13.0	122.0	12.0	93	NU	Pass
BF	122	10/1/2013	Upper MSE Wall BackCut	274.0	4	114.0	12.5	122.0	12.0	93	NU	Pass
BF	123	10/1/2013	Upper MSE Wall BackCut	274.0	4	113.2	11.4	122.0	12.0	93	SC	Pass
BF	124	10/1/2013	Upper MSE Wall BackCut	276.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BF	125	10/1/2013	Upper MSE Wall BackCut	276.0	3	89.2	26.5	97.0	26.0	92	SC	Pass
BF	126	10/1/2013	Upper MSE Wall BackCut	276.0	3	90.1	27.5	97.0	26.0	93	NU	Pass
BF	127	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BF	128	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.2	26.9	97.0	26.0	92	NU	Pass
BF	129	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.2	27.5	97.0	26.0	92	SC	Pass
BF	130	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
BF	131	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.7	27.1	97.0	26.0	92	NU	Pass
BF	132	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.2	28.1	97.0	26.0	92	NU	Pass
BF	133	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.4	26.5	97.0	26.0	92	SC	Pass
BF	134	10/1/2013	Upper MSE Wall BackCut	282.0	3	89.3	26.9	97.0	26.0	92	NU	Pass
BF	135	10/1/2013	Upper MSE Wall BackCut	282.0	3	89.2	27.1	97.0	26.0	92	NU	Pass
BF	136	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.3	26.8	97.0	26.0	92	NU	Pass
BF	137	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BF	138	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.7	27.8	97.0	26.0	92	NU	Pass
BF	139	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.2	28.4	97.0	26.0	92	SC	Pass
BF	140	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.1	26.9	97.0	26.0	92	NU	Pass
BF	141	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.5	27.8	97.0	26.0	92	NU	Pass
BF	142	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.6	2.8	97.0	26.0	92	NU	Pass
BF	143	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.1	26.5	97.0	26.0	91	NU	Pass
BF	144	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.7	28.1	97.0	26.0	91	NU	Pass
BF	145	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.9	27.9	97.0	26.0	92	SC	Pass
BF	146	10/1/2013	Upper MSE Wall BackCut	290.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
BF	147	10/1/2013	Upper MSE Wall BackCut	290.0	3	89.3	27.0	97.0	26.0	92	NU	Pass
BF	148	10/1/2013	Upper MSE Wall BackCut	290.0	3	87.3	27.0	97.0	26.0	90	NU	Pass
BF	149	10/1/2013	Upper MSE Wall BackCut	290.0	3	87.4	27.5	97.0	26.0	90	SC	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557-12

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	EXPANSION INDEX	
				UBC*	CBC**
1	Brown Silt	91.5	25.0		
2	Not Used				
3	Brown Silt	97.0	26.0		
4	CMB Import	122.0	12.0		
5					
6					
7					
8					
9					
10					

*Reference: 1997 Uniform Building Code, Table 18-I-B.

**Reference: 2010 California Building Code, Section 1803.5.3





**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Upper MSE Wall
(see Site Plan, Figures 1 and 2)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 09/12/2013

DATE FILL WAS COMPLETED: 10/01/2013

DATE OF THIS CERTIFICATE: 10/10/2013

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.*


NEAL D. BERLINER
G.E. 2576



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.



Project No. A8803-06-03

October 10, 2013

VIA OVERNIGHT DELIVERY

CAL I Crown Valley, LLC
949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

Attention: Mr. Greg Lucas

Subject: REPORT OF OBSERVATION AND TESTING SERVICES
DURING UPPER MSE WALL CONSTRUCTION &
PARTIAL BUILDING PAD APPROVAL
CROWN VALLEY LUXURY APARTMENTS
25891 CROWN VALLEY PARKWAY
LAGUNA NIGUEL, CALIFORNIA
GRADING PERMIT # G13-005

Dear Mr. Lucas:

In accordance with your request we have provided testing and observation services during the placement of backfill for the upper MSE wall and excavation of the building pad on the subject property. Our services were performed during the period of September 12, 2013 through October 1, 2013. The scope of our services included the following:

- Observing the grading operation, including the excavation and proper compaction of existing artificial fill and surficial native soils.
- Performing inspection and approval of all excavation bottoms prior to placing fill.
- Verification of the suitability of soils used as engineered fill.
- Performing laboratory tests to aid in evaluating the compaction characteristics of soil types used for fill and verification of the suitability of import soils.
- Performing in-place density tests on the earth materials placed and compacted.
- Preparing a Site Plan and this final report of observation and testing services.

GENERAL

The purpose of the testing and observations was to determine that the specifications required by the City of Laguna Niguel, the California Building Code, and the recommendations of the referenced reports and addenda were followed. Grading was performed under City of Laguna Niguel Grading Permit No. G13-005. This work was requested by John Peters of Mill Creek Residential Trust.

The newly compacted fill will be utilized as structural fill for support of the proposed retaining wall.

GRADING

Grading consisted of excavation and compaction of existing onsite soil, as well as placement and compaction of retaining wall backfill. The installation of geosynthetic reinforcement for the retaining wall was also observed. The geosynthetic reinforcement was attached to the retaining wall unit and was typically placed in 3-foot vertical intervals extending 16 to 17 feet into the backfill area. In order to facilitate the construction of the MSE wall, the existing ground surface was sloped at a gradient of 1:1 (H:V) behind the MSE wall. The backcut for construction of the upper MSE wall extended into a portion of the building footprint. An illustration depicting the retaining wall, geosynthetic reinforcement, and backcut is provided on the Site Plan (see Figure 2).

Prior to placing any fill, the existing soils were removed to expose competent, undisturbed bedrock throughout the majority of the MSE wall footprint. At the western most side of the MSE wall, the excavation exposed artificial fill which was removed a minimum of 4 feet below the bottom of the MSE wall elevation. The clean bottom of excavated plane was observed and approved by a representative of this firm prior to placement of fill.

Fill was placed by means of CAT 966 loads and 623 scrappers, in loose lifts of about 6 to 8 inches, moistened as required to achieve optimum moisture content by means of a water truck, and compacted by wheel rolling with the loaders, scrapers, and a vibratory drum roller with sheepsfoot wheel. Approximate limits and depths of engineered fill are indicated on the Site Plan (see Figures 1 and 2).

In-place density tests were performed in conformance with ASTM Test Method D1556-07 (Sand Cone), and ASTM Test Method ASTM D6938-08A (Nuclear Density Gage). The results of the in-place dry density and moisture content tests are summarized on Table 1. In general, the in-place density test results indicate that the earth materials placed have achieved a relative compaction of at least 90 percent in accordance with ASTM test method D1557-12 (Laboratory Compaction Test). The approximate locations of all in-place density tests are indicated on the Site Plan (see Figures 1 and 2).

Laboratory tests were performed on the earth materials used as engineered fill to evaluate moisture-density relationships, optimum moisture content and maximum dry density. The results of the laboratory tests are summarized in Table 2. Fill soils placed for the upper MSE wall construction was derived from onsite excavations as well as from import. The fill consist primarily of silt and CMB import.

CONCLUSIONS AND RECOMMENDATIONS

1.0 General

- 1.1 Based on observations and test results, it is the opinion of Geocon West, Inc. that the grading and placement of engineered materials has been performed in substantial conformance with the requirements of the City of Laguna Niguel, the California Building Code and the recommendations of the referenced reports and addenda.
- 1.2 It is the opinion of Geocon West, Inc. that the area of the building pad bounded by gridlines Y.5 – AA and 2 – 11 identified on Sheet S0.10 has been prepared as required by Geocon and is approved for the placement of the driven pile foundation system. The subject building pad area is indicated on the portion of Sheet S0.10, which is appended to this report. This area has been observed by Geocon. Artificial fill and a small area of engineered fill is exposed throughout this portion of the building pad. The observed conditions are consistent with the conditions anticipated by the project geotechnical report and addenda. The existing artificial fill and engineered fill will not be utilized for support of the proposed structure; within this portion of the building pad the proposed structure will be supported on driven piles which penetrate through the fill and derive support in the underlying competent bedrock. The recommendations for driven pile foundations provided in the project geotechnical report and addenda remain applicable to the project.

2.0 Expansive Soils

- 2.1 The soils exposed at the subgrade elevation are considered to have a “medium” to “high” expansive potential based on the 2010 California Building Code (CBC) Section 1803.5.3. Special considerations for expansive soils have been incorporated in the geotechnical recommendations. No additional recommendations are considered necessary at this time.

3.0 Future Grading

- 3.1 Any additional grading performed at the site should be accomplished in conjunction with our observation and compaction testing services. This office should be notified at least 24 hours prior to commencing additional grading or fill placement operations.

4.0 Drainage

- 4.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 4.2 Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Sealing planters which are located adjacent to foundations should be considered to minimize moisture intrusion into the engineered fill.
- 4.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

5.0 Closure

- 5.1 Fill which is placed beyond the limits shown on the Site Plan should be compacted with suitable equipment and observed by our representative. Geocon West, Inc. assumes no responsibility for compacted fill or earth materials placed beyond the limits shown by test elevations on the Site Plan. Any additional fill which is placed below slabs in parkways, sidewalks, patios, driveways, as retaining wall backfill, in parking lots, around footings, below garden walls, and in utility trenches is the responsibility of the contractor to place in accordance with the approved plans and specifications.
- 5.2 Prior to placing steel or concrete in the footing excavations, a site visit should be made by a representative of Geocon West, Inc. to see that the footings are free of loose and disturbed material and are supported on the properly compacted fill. A 24-hour notice is requested for a site visit.

LIMITATIONS

The conclusions and recommendations contained herein apply only to our work with respect to grading, and represent conditions at the date of our final observation, October 1, 2013. Any subsequent grading should be done in conjunction with our observation and testing services. As used herein, the term "observation" implies only that we observed the progress of the work with which we agreed to be involved. Our services did not include the evaluation or identification of the potential presence of hazardous or corrosive materials. Our conclusions and opinions as to whether the work essentially complies with the job specifications are based on our observations, experience, and test results. Subsurface conditions, and the accuracy of tests used to measure such conditions, can vary greatly at any time. We make no warranty, express or implied, except that our services were performed in accordance with engineering principles generally accepted at this time and location.

We will accept no responsibility for any subsequent changes made to the site by others, by the uncontrolled action of water, or by the failure of others to properly repair damages caused by the uncontrolled action of water. The findings and recommendations of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

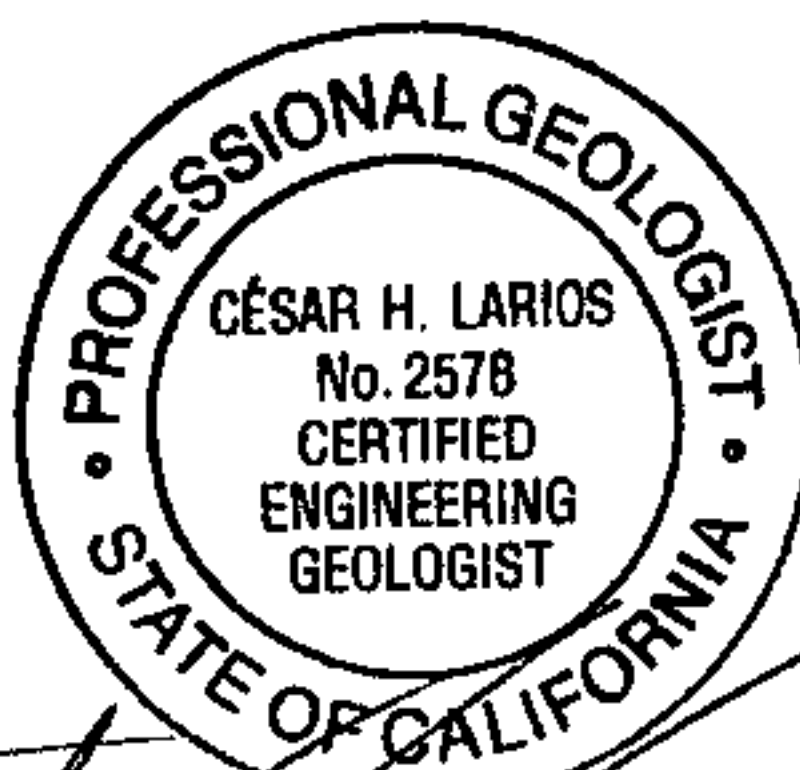
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.



Jelisa Thomas
PE 74946



César H. Larios
CEG 2578



Neal D. Berliner
G.E. 2576

Enclosures: Figures 1 and 2 - Site Plan
 Explanation of Coded Terms
 Tables 1 and 2
 Portion of Sheet S0.10
 Certification

(Email) Addressee

References

Updated Geotechnical Investigation, by Geocon West, Inc., dated February 17, 2011;

City of Laguna Niguel Geotechnical Review Sheet, prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated August 23, 2011;

Response to City of Laguna Niguel Geotechnical Review Sheet, by Geocon West, Inc., dated January 5, 2012;

Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls, by Geocon West, Inc. dated January 5, 2012;

City of Laguna Niguel Geotechnical Review Sheet (Conditional Approval), prepared by GMU Geotechnical Inc., GMU Reference No. SP11-003, dated February 2, 2012;

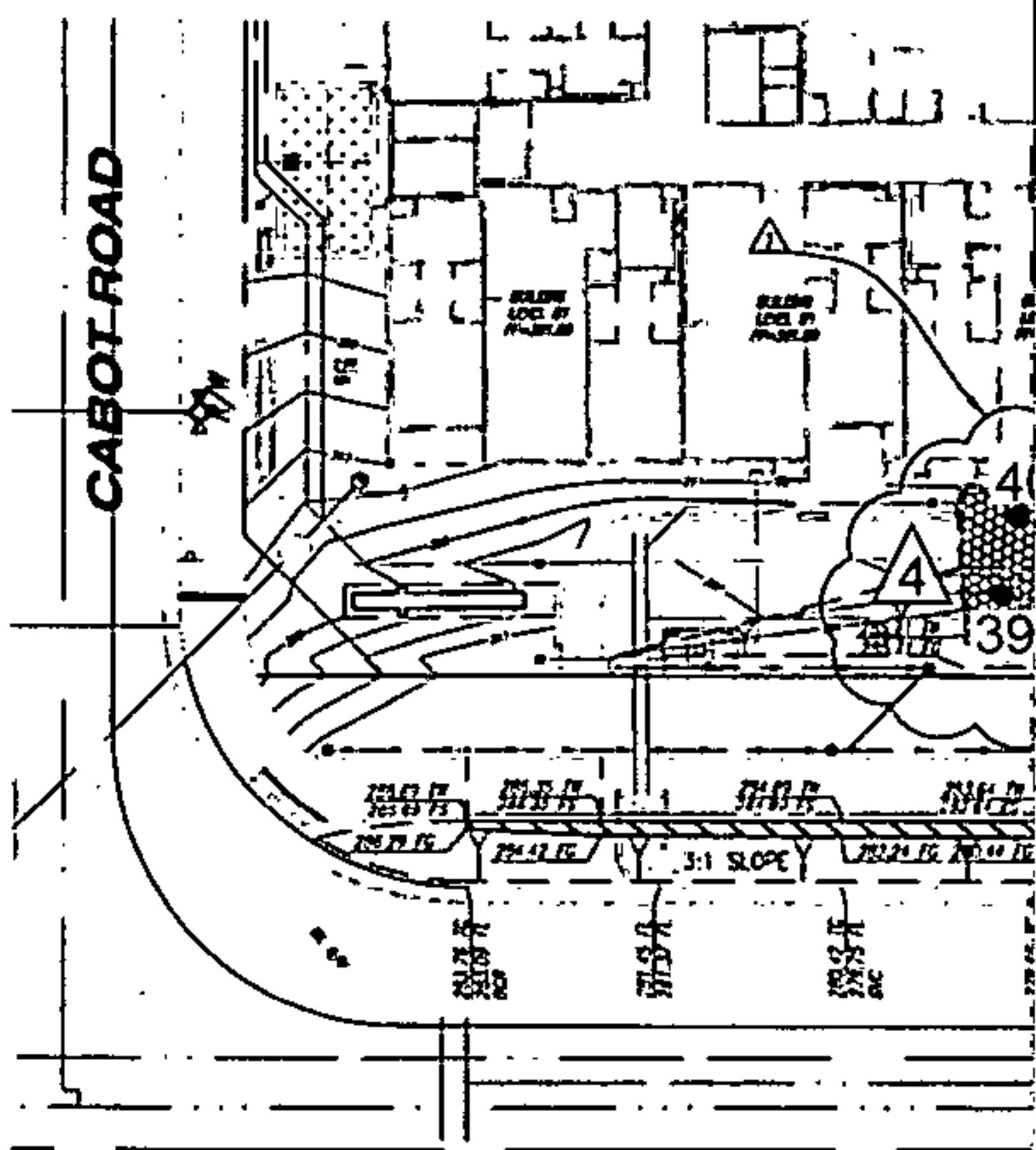
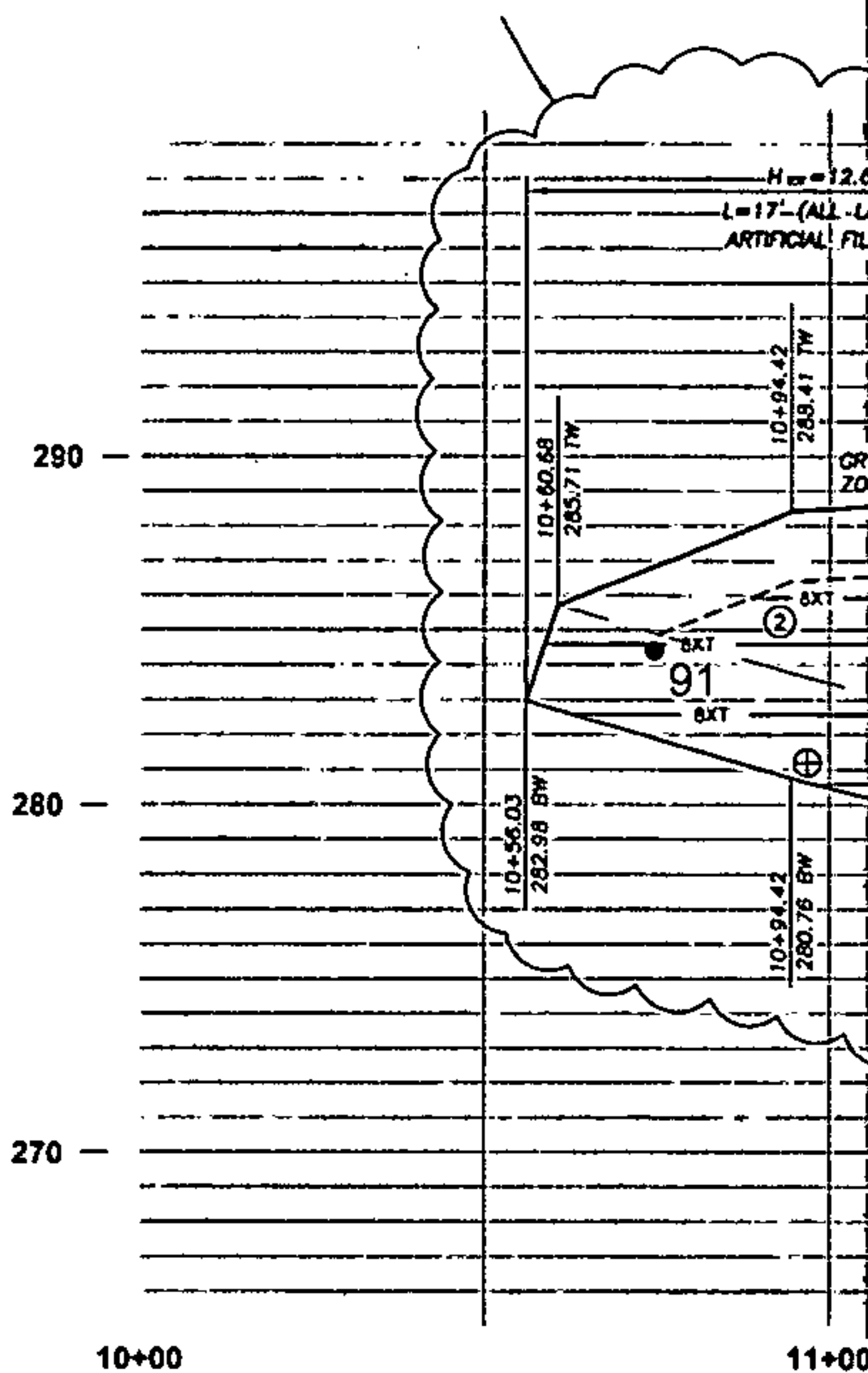
Updated Geotechnical Design Criteria for Mechanically Stabilized Earth Retaining Walls, by Geocon West, Inc. dated March 12, 2013;

Supplemental Geotechnical Recommendations for Deepened Foundations, by Geocon West, Inc. dated August 3, 2012;

Report of Indicator Pile Test Program and Production Pile Recommendations, by Geocon West, Inc. dated August 23, 2012;

Foundation Underlayment – Upper MSE Wall, by Geocon West, Inc., dated September 17, 2013;

Partial Building Pad Approval, Area Bounded by Gridlines T.5 - Y.10 Gridlines 2 – 13, by Geocon West, Inc., dated October 4, 2013 – Revised.

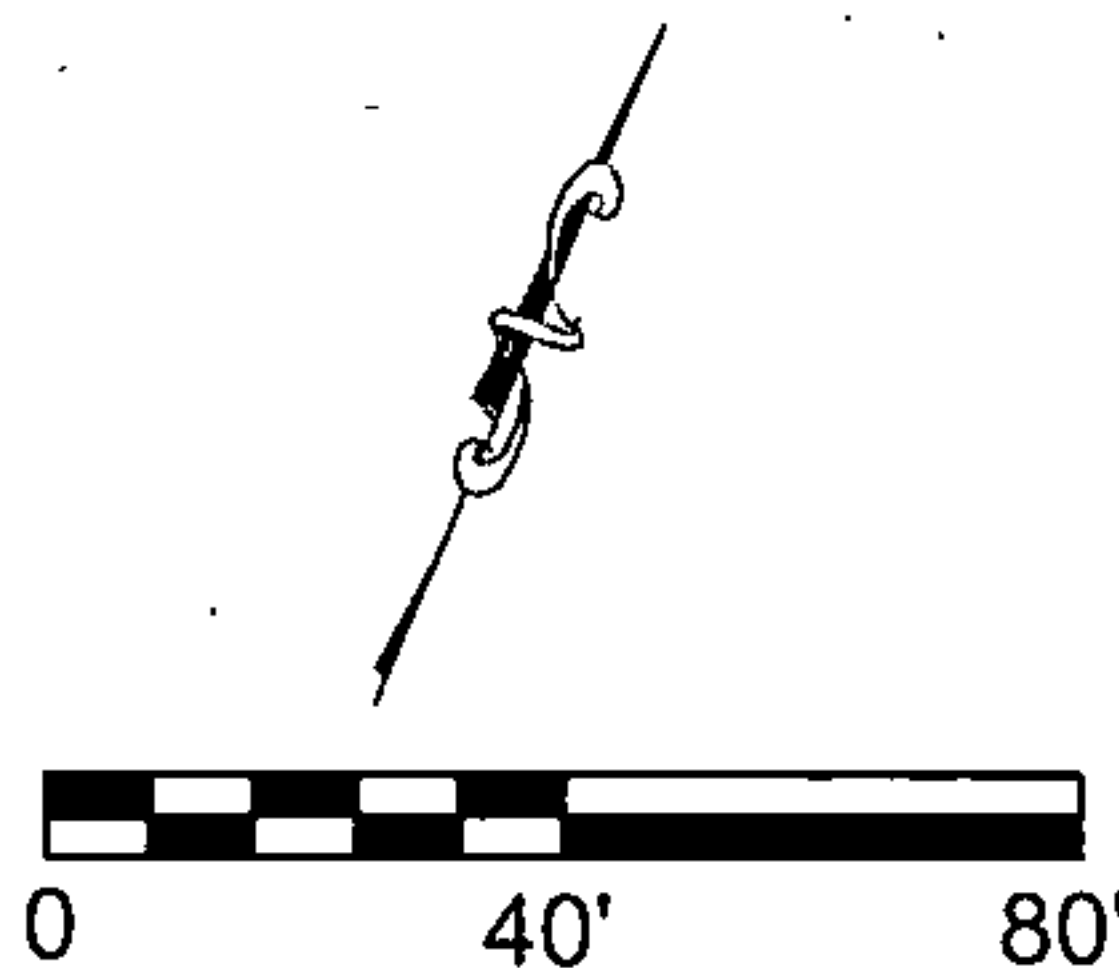


LEGEND

Approximate Location of Density Test

Approximate Limits of Engineered Fill

Approximate Depth of Engineered Fill (in feet)



GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

JMT

8000

SITE PLAN

CROWN VALLEY LUXURY APARTMENTS

CAL I Crown Valley, LLC

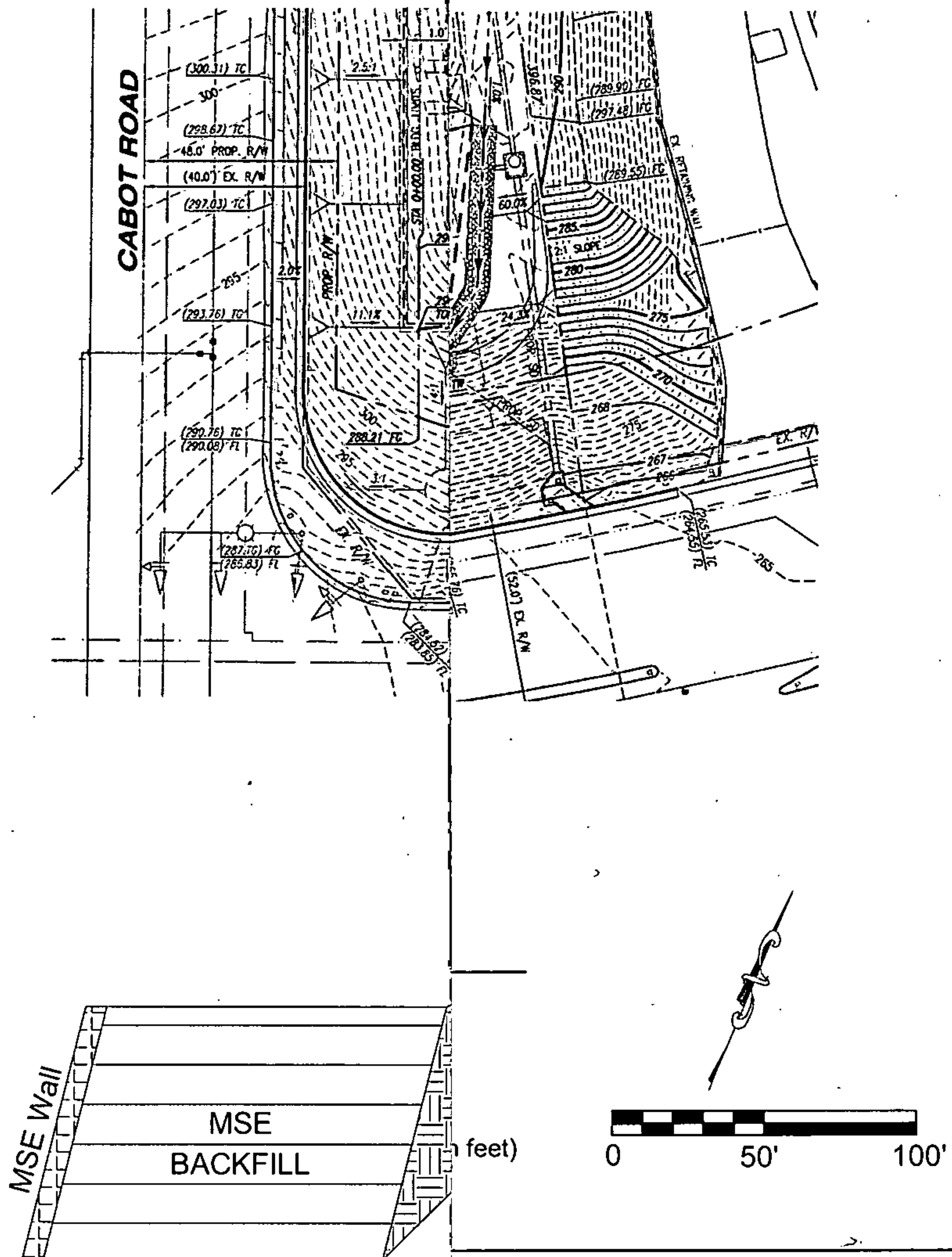
25891 CROWN VALLEY PARKWAY

LAGUNA NIGUEL, CALIFORNIA

OCT. 10, 2013

PROJECT NO. A8803-06-03

FIG. 1



SITE PLAN

CROWN VALLEY LUXURY APARTMENTS

CAL I Crown Valley, LLC

25891 CROWN VALLEY PARKWAY

LAGUNA NIGUEL, CALIFORNIA

OCT. 10, 2013

PROJECT NO. A8803-06-03

FIG. 2

EXPLANATION OF CODED TERMS

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

AC - Asphalt Concrete	DW - Driveway	PT - Plumbing Trench	SL - Sewer Lateral	SZ - Slope Zone
B - Base	FG - Finish Grade	RW - Retaining Wall	SM - Sewer Main	WB - Wall Backfill
BP - Building Pad	IT - Irrigation Trench	SD - Storm Drain	ST - Slope Test	WL - Water Lateral
BF - Backfill	JT - Joint Trench	SG - Subgrade	SW - Sidewalk	WM - Water Main

- SUFFIX CODE DESIGNATION FOR TEST NUMBERS

A, B, C, ...	: Retest of previous density test failure, following moisture conditioning and/or recompaction.
R	: Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- TEST LOCATION ABBREVIATIONS[†]

M - Adjacent to, or in, Median Strip	N - North Side of Street
V - Joint or Electrical Trench Vault	S - South Side of Street
X - Joint or Electrical Trench Crossing	E - East Side of Street
	W - West Side of Street

[†] For Example: "M-E" would describe a density test taken on the East Side of the Median Strip at the specified street and station number (i.e., MILLER RD 10+00 M-E)

- CURVE NO.

Corresponds to curve numbers listed in Table II, representing the laboratory maximum dry density/optimum moisture content data for selected fill soil samples encountered during testing and observations.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are then unadjusted values.

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- TYPE OF TEST

SC:	Sand Cone Test
NU:	Nuclear Density Test
DC:	Drive Cylinder Test



TABLE 1
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	39	9/12/2013	Upper MSE Wall	280.0	1	84.2	28.1	91.5	25.0	92	NU	Pass
BF	40	9/12/2013	Upper MSE Wall	282.0	1	84.8	27.5	91.5	25.0	93	SC	Pass
WB	56	9/16/2013	Upper MSE Wall	270.0	4	112.2	14.1	122.0	12.0	92	NU	Pass
WB	57	9/16/2013	Upper MSE Wall	270.0	4	114.0	13.9	122.0	12.0	93	NU	Pass
WB	58	9/16/2013	Upper MSE Wall	272.0	4	111.7	14.6	122.0	12.0	92	NU	Pass
WB	59	9/16/2013	Upper MSE Wall	272.0	4	111.4	13.4	122.0	12.0	91	SC	Pass
WB	71	9/17/2013	Upper MSE Wall	274.0	4	112.6	11.4	122.0	12.0	92	NU	Pass
WB	72	9/17/2013	Upper MSE Wall	274.0	4	112.7	12.1	122.0	12.0	92	NU	Pass
WB	73	9/17/2013	Upper MSE Wall	274.0	4	110.4	10.5	122.0	12.0	90	SC	Pass
WB	74	9/17/2013	Upper MSE Wall	276.0	4	113.4	10.9	122.0	12.0	93	NU	Pass
WB	75	9/17/2013	Upper MSE Wall	276.0	4	113.5	10.9	122.0	12.0	93	NU	Pass
WB	76	9/17/2013	Upper MSE Wall	276.0	4	115.2	11.5	122.0	12.0	94	SC	Pass
WB	77	9/17/2013	Upper MSE Wall	278.0	4	113.3	12.4	122.0	12.0	93	NU	Pass
WB	78	9/17/2013	Upper MSE Wall	278.0	4	111.5	12.1	122.0	12.0	91	NU	Pass
WB	79	9/17/2013	Upper MSE Wall	278.0	4	115.9	11.5	122.0	12.0	95	SC	Pass
WB	80	9/18/2013	Upper MSE Wall	280.0	4	113.9	11.9	122.0	12.0	93	NU	Pass
WB	81	9/18/2013	Upper MSE Wall	280.0	4	114.3	10.6	122.0	12.0	94	NU	Pass
WB	82	9/18/2013	Upper MSE Wall	280.0	4	114.8	10.0	122.0	12.0	94	NU	Pass
WB	83	9/18/2013	Upper MSE Wall	280.0	4	114.5	11.1	122.0	12.0	94	SC	Pass
WB	84	9/18/2013	Upper MSE Wall	282.0	4	115.2	12.2	122.0	12.0	94	NU	Pass
WB	85	9/18/2013	Upper MSE Wall	282.0	4	112.8	10.5	122.0	12.0	92	NU	Pass
WB	86	9/18/2013	Upper MSE Wall	282.0	4	113.3	11.9	122.0	12.0	93	NU	Pass
WB	87	9/18/2013	Upper MSE Wall	282.0	4	111.6	11.5	122.0	12.0	91	SC	Pass
WB	88	9/18/2013	Upper MSE Wall	284.0	4	114.8	13.4	122.0	12.0	94	NU	Pass
WB	89	9/18/2013	Upper MSE Wall	284.0	4	114.0	10.8	122.0	12.0	93	NU	Pass
WB	90	9/18/2013	Upper MSE Wall	284.0	4	113.4	10.5	122.0	12.0	93	NU	Pass
WB	91	9/18/2013	Upper MSE Wall	284.0	4	115.2	11.7	122.0	12.0	94	SC	Pass
WB	92	9/18/2013	Upper MSE Wall	286.0	4	114.8	12.8	122.0	12.0	94	NU	Pass
WB	93	9/18/2013	Upper MSE Wall	286.0	4	113.3	12.5	122.0	12.0	93	NU	Pass
WB	94	9/18/2013	Upper MSE Wall	286.0	4	111.6	13.1	122.0	12.0	91	NU	Pass
WB	95	9/18/2013	Upper MSE Wall	286.0	4	110.4	10.4	122.0	12.0	90	SC	Pass
BF	117	10/1/2013	Upper MSE Wall BackCut	270.0	4	113.5	11.0	122.0	12.0	93	NU	Pass
BF	118	10/1/2013	Upper MSE Wall BackCut	270.0	4	115.0	11.9	122.0	12.0	94	NU	Pass
BF	119	10/1/2013	Upper MSE Wall BackCut	272.0	4	113.3	11.5	122.0	12.0	93	NU	Pass
BF	120	10/1/2013	Upper MSE Wall BackCut	272.0	4	113.4	13.1	122.0	12.0	93	NU	Pass

* - See "Explanation of Coded Terms"



PROJECT NO. A8803-06-03

TABLE 1 CONTINUED
SUMMARY OF IN-PLACE DENSITY TESTS

Test Prefix*	Test No.	Date	Location	Elevation (FT.)	Curve No.*	Field		Max. Dry Density (pcf)	Opt. Moisture Content (%)	Relative Compaction (%)	Type of Test*	Pass or Fail
						Dry Unit Weight (pcf)	Moisture Content (%)					
BF	121	10/1/2013	Upper MSE Wall BackCut	274.0	4	113.5	13.0	122.0	12.0	93	NU	Pass
BF	122	10/1/2013	Upper MSE Wall BackCut	274.0	4	114.0	12.5	122.0	12.0	93	NU	Pass
BF	123	10/1/2013	Upper MSE Wall BackCut	274.0	4	113.2	11.4	122.0	12.0	93	SC	Pass
BF	124	10/1/2013	Upper MSE Wall BackCut	276.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BF	125	10/1/2013	Upper MSE Wall BackCut	276.0	3	89.2	26.5	97.0	26.0	92	SC	Pass
BF	126	10/1/2013	Upper MSE Wall BackCut	276.0	3	90.1	27.5	97.0	26.0	93	NU	Pass
BF	127	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.3	28.0	97.0	26.0	92	NU	Pass
BF	128	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.2	26.9	97.0	26.0	92	NU	Pass
BF	129	10/1/2013	Upper MSE Wall BackCut	278.0	3	89.2	27.5	97.0	26.0	92	SC	Pass
BF	130	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.5	27.9	97.0	26.0	92	NU	Pass
BF	131	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.7	27.1	97.0	26.0	92	NU	Pass
BF	132	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.2	28.1	97.0	26.0	92	NU	Pass
BF	133	10/1/2013	Upper MSE Wall BackCut	280.0	3	89.4	26.5	97.0	26.0	92	SC	Pass
BF	134	10/1/2013	Upper MSE Wall BackCut	282.0	3	89.3	26.9	97.0	26.0	92	NU	Pass
BF	135	10/1/2013	Upper MSE Wall BackCut	282.0	3	89.2	27.1	97.0	26.0	92	NU	Pass
BF	136	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.3	26.8	97.0	26.0	92	NU	Pass
BF	137	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.6	27.1	97.0	26.0	92	NU	Pass
BF	138	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.7	27.8	97.0	26.0	92	NU	Pass
BF	139	10/1/2013	Upper MSE Wall BackCut	284.0	3	89.2	28.4	97.0	26.0	92	SC	Pass
BF	140	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.1	26.9	97.0	26.0	92	NU	Pass
BF	141	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.5	27.8	97.0	26.0	92	NU	Pass
BF	142	10/1/2013	Upper MSE Wall BackCut	286.0	3	89.6	2.8	97.0	26.0	92	NU	Pass
BF	143	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.1	26.5	97.0	26.0	91	NU	Pass
BF	144	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.7	28.1	97.0	26.0	91	NU	Pass
BF	145	10/1/2013	Upper MSE Wall BackCut	288.0	3	88.9	27.9	97.0	26.0	92	SC	Pass
BF	146	10/1/2013	Upper MSE Wall BackCut	290.0	3	88.5	27.5	97.0	26.0	91	NU	Pass
BF	147	10/1/2013	Upper MSE Wall BackCut	290.0	3	89.3	27.0	97.0	26.0	92	NU	Pass
BF	148	10/1/2013	Upper MSE Wall BackCut	290.0	3	87.3	27.0	97.0	26.0	90	NU	Pass
BF	149	10/1/2013	Upper MSE Wall BackCut	290.0	3	87.4	27.5	97.0	26.0	90	SC	Pass

* - See "Explanation of Coded Terms"



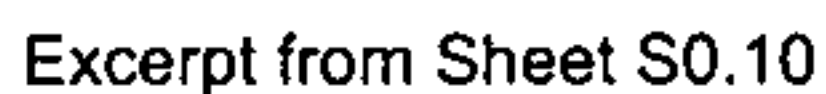
PROJECT NO. A8803-06-03

TABLE 2
SUMMARY OF MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT RESULTS
ASTM D 1557-12

CURVE NO.	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	EXPANSION INDEX	
				UBC*	CBC**
1	Brown Silt	91.5	25.0		
2	Not Used				
3	Brown Silt	97.0	26.0		
4	CMB Import	122.0	12.0		
5					
6					
7					
8					
9					
10					

*Reference: 1997 Uniform Building Code, Table 18-I-B.

**Reference: 2010 California Building Code, Section 1803.5.3





**ENGINEER'S CERTIFICATE OF COMPLIANCE
FOR
COMPACTED EARTH FILLS**

LOCATION OF FILL: Upper MSE Wall
(see Site Plan, Figures 1 and 2)

JOB ADDRESS: Crown Valley Luxury Apartments
25891 Crown Valley Parkway
Laguna Niguel, California

SOIL TESTING AGENCY: Geocon West, Inc.

PROPERTY OWNER'S NAME: CAL I Crown Valley, LLC
OWNER'S ADDRESS: 949 South Coast Drive, Suite 400
Costa Mesa, CA 92626

PER REPORTS ON OUR PROJECT NO: A8803-06-03

DATE WORK STARTED ON PROJECT: 09/12/2013

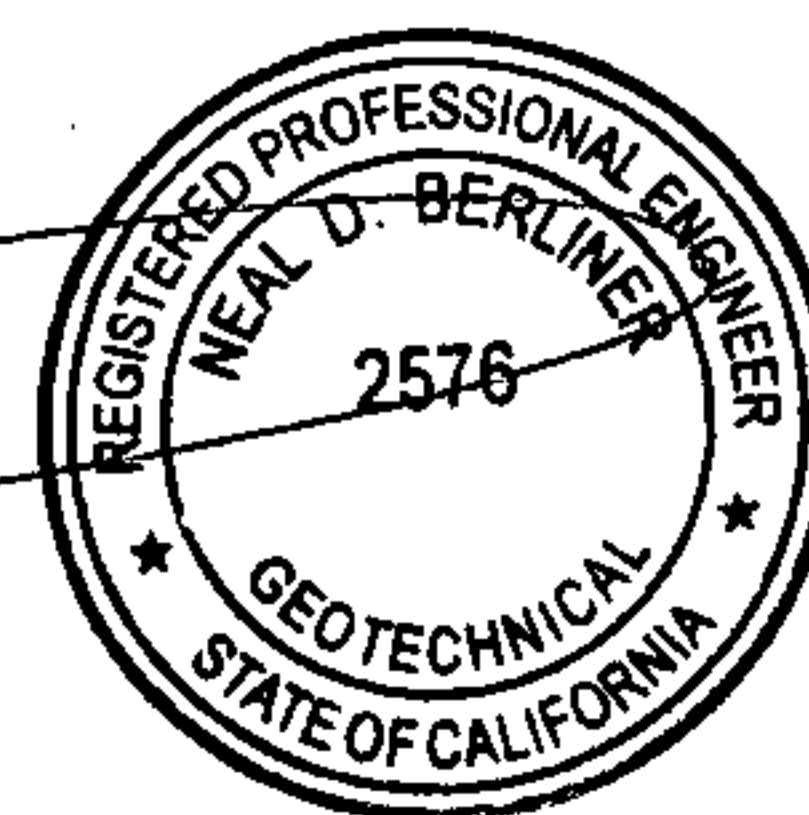
DATE FILL WAS COMPLETED: 10/01/2013

DATE OF THIS CERTIFICATE: 10/10/2013

TO THE SUPERINTENDENT OF BUILDING:

I hereby certify that I have personally observed and tested the placing of compacted earth fill on the above described property, and on the basis of these observations and tests, it is my opinion that the same was placed in conformity with the requirements of the City of Laguna Niguel and the California Building Code.

NEAL D. BERLINER
G.E. 2576



*For the purpose of this Certificate, to "have personally observed and tested" shall include observation and testing performed by any person responsible to the licensed engineer signing this Certificate. Where the inspection and testing of all or part of the work above is delegated, full responsibility shall be assumed by the licensed engineer whose signature is affixed thereon.

Business and Professions Code, Ch.229, Sec.3.6735.5. The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or landsurveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 09/21/2013
Invoice No. LGN-09212013

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: Grading Plan & Drainage Study
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (09/16/2013 through 09/21/2013)

Contract Item	Contract Amount	Balance
	Hourly	
2 nd Plan Check on Grading Plans (KHR, dated 09/16/2013)	\$120@1.0Hr	\$120
3 rd Plan Check on Drainage Study (KHR, dated 09/16/2013)	\$120@1.0Hr	\$120
Total : \$240		

Thank You

Total Due This Invoice \$240.

O.K.
M

Order



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 1

GMU REFERENCE NO.: G13-005

DATE: June 17, 2013

PROJECT DESCRIPTION: Proposed Multi-Family Residential Development

LOCATION: 25891 Crown Valley Parkway and 27961 Cabot Road

DEVELOPER/OWNER: CAL I Crown Valley, LLC

GEOTECHNICAL FIRM: Geocon West, Inc.

THEIR JOB NO.: A8803-06-01A

GEOTECHNICAL ENGINEER: Neal D. Berliner, GE 2576

ENGINEERING GEOLOGIST: Gerald A. Kasman, CEG 2251

DOCUMENTS REVIEWED: (1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.

REFERENCES: (1) "Letter of Findings, Supplemental Test Pit Excavations, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated March 8, 2012; (2) "Review of Interim Grading and Drainage Plans and Earth Retention Plan, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 13, 2013; (3) Soil Management Plan, 25891 Crown Valley Parkway, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 31, 2013; (4) Interim Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated December 4, 2012; (5) "Grading Recommendations and Review of Grading Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated



CITY OF LAGUNA NIGUEL

Public Works/Engineering
27791 La Paz Road | Laguna Niguel, California 92677
Phone (949) 362-4337 | Fax (949) 362-4385

GEOTECHNICAL REVIEW SHEET

Reviewed by:

GMU GEOTECHNICAL, INC.
23241 Arroyo Vista
Rancho Santa Margarita, CA 92688
(949) 888-6513 • Fax: (949) 888-1380

Page 2

GMU REFERENCE NO.: G13-005

DATE: June 17, 2013

September 10, 2012; (5) Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated September 4, 2012; (6) "Limited Phase II Subsurface Investigation of Vacant Parcel, 25891 Crown Valley Parkway, Laguna Niguel, Orange County, California," prepared by Property Solutions, Inc., dated December 15, 2010; (7) "Updated Geotechnical Investigation, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated February 17, 2011; (8) Conceptual Site Plan and Architectural Plan, Mill Creek Apartments, Crown Valley Parkway and Cabot Road, prepared by TCA Architects, Inc., dated July 21, 2011; (9) "Response to City of Laguna Niguel Geotechnical Review Sheet, Proposed Multi-Family Residential Development, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated January 5, 2012.

ACTION:

- ☒ RECOMMENDED APPROVAL OF DOCUMENT SUBMITTED
☐ CONDITIONAL APPROVAL OF DOCUMENT SUBMITTED – *See Comments*
☐ REQUEST ADDITIONAL DATA FOR REVIEW – *See COMMENTS next page.*
Send responses directly to City of Laguna Niguel, Attention: Mr. Abdullah Sharif; GMU Geotechnical will only accept responses forwarded from the City.

REVIEWED BY:

Lisa L. Bates, CEG 2293
Senior Geologist

DISTRIBUTION:

Mr. Abdullah Sharif, City of Laguna Niguel
Mr. Larry Longenecker, Senior Planner, City of Laguna Niguel
Mr. Neal D. Berliner, Geocon West, Inc.
Mr. Ron Schulman, CAL 1 Crown Valley, LLC



23241 Arroyo Vista
Rancho Santa Margarita
CA 92688

voice: 949.888.6513
fax: 949.888.1380
web: www.gmugeo.com

GEOTECHNICAL REVIEW FEE SHEET

ATTENTION: Abdullah Sharif

FROM: Lisa Bates
GMU Geotechnical, Inc.

GMU REFERENCE NO.: G13-005
PROJECT ADDRESS: 25891 Crown Valley Parkway and 27961 Cabot Road
OWNER OR DEVELOPER: CAL I Crown Valley, LLC

Document Reviewed	Review Sheet Dated	Status of Review	Charge
(1) "Grading Recommendations and Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (2) "Review of Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, 25891 Crown Valley Parkway and 27961 Cabot Road, Laguna Niguel, California," prepared by Geocon West, Inc., dated May 22, 2013; (3) Precise Grading and Drainage Plans, Crown Valley/Cabot Apartments, prepared by KHR Associates, dated June 5, 2013.	6-17-13	Approval	\$500.00

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

Precise Grading & Drainage Plans REVIEW SHEET

Permits Numbers: **G13-005**

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
09/16/2013	09/17/2013	09/21/2013	Approval

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Valley/Cabot Apartments**

Plan Title: Mill Creek Residential Trust / Crown Valley/Cabot Apartments / Precise Grading & Drainage Plans

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

The following design documents have been reviewed and found adequate to mitigate the storm runoff and water quality impacts. Hereby the final approval is recommended for the items below:

1. Precise Grading Drainage Study for Crown Cabot Luxury Apartments prepared by KHR dated 09/16/2013,
2. Precise Grading & Drainage Plans for Crown Valley/Cabot Apartments prepared by KHR dated 09/16/2013, specifically for the following design sheets:
 - C-6: Site Sections
 - C-8: Precise Grading Plan
 - C-9: Precise Grading Plan
 - C-10: Precise Grading Plan
 - C-11: Precise Grading Plan
 - C-14: Storm Drain Plan
 - C-15: Storm Drain Plan
 - C-16: Storm Drain Plan
 - C-17: Storm Drain Plan
 - C-18: Storm Drain Details
 - C-19: Storm Drain Details
 - C-20: Flow Through Planter Details (Corrections Required, See Below)
 - C-21: Flow Through Planter Details
 - C-22: Flow Through Planter Details
 - C-25: Erosion Control
 - C-26: Erosion Control

The BMPs and the drainage facilities as shown in the above grading plan were found consistent with the BMPs proposed in the WQMP and the drainage facilities in the Drainage Report. The erosion control plans were found adequate.

If you have any question, please feel free to contact me.

Report Reviewed by: J.T. Yean Date: 9-21-2013
J.T. Yean, Civil Engineer

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

Precise Grading & Drainage Plans REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
08/13/2013	08/14/2013	08/24/2013	1 st Plan Check

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Valley/Cabot Apartments**

Plan Title: Mill Creek Residential Trust / Crown Valley/Cabot Apartments / Precise Grading & Drainage Plans

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

The following design documents have been reviewed and found adequate to mitigate the storm runoff and water quality impacts. Hereby the final approval is recommended for the items below:

1. Precise Grading & Drainage Plans for Crown Valley/Cabot Apartments prepared by KHR dated 08/13/2013, specifically for the following design sheets:
 - C-6: Site Sections
 - C-8: Precise Grading Plan
 - C-9: Precise Grading Plan
 - C-10: Precise Grading Plan
 - C-11: Precise Grading Plan
 - C-14: Storm Drain Plan
 - C-15: Storm Drain Plan
 - C-16: Storm Drain Plan
 - C-17: Storm Drain Plan
 - C-18: Storm Drain Details
 - C-19: Storm Drain Details
 - C-20: Flow Through Planter Details (Corrections Required, See Below)
 - C-21: Flow Through Planter Details
 - C-22: Flow Through Planter Details
 - C-25: Erosion Control
 - C-26: Erosion Control

The BMPs and the drainage facilities as shown in the above grading plan were found consistent with the BMPs proposed in the WQMP and the drainage facilities in the Drainage Report. The erosion control plans were found adequate.

Prior to the approval of Grading Plans attend the items below:

2. C-20 - Legend Note #1: "BOTH ENDS OR PIPE" should be "BOTH ENDS OF PIPE".
3. C-20 - Typical Flow Through Planter Detail (#1): Specify the distance between downspout and splash pad.
4. C-20 - General Outlet Detail: Show Cross Fitting and Perforated Pipe.

If you have any question, please feel free to contact me.

Report Reviewed by:



J.T. Yean, Civil Engineer

Date: 8-25-2013

Abdullah Sharif
Grading Engineer
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

DRAINAGE STUDY REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
08/18/2013	08/14/2013	08/18/2013	2 nd Plan Check

By the Consulting Firm: James Kawamura/KHR Associates (949) 756-6440

Project Title: Crown Cabot Luxury Apartments
Report Title: Drainage Study
Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC
Address: 400 Howard Street, San Francisco, CA 94105
Telephone: (415) 670-2000

Prior to Approval of Drainage Study Attend to Items Below:

1. Section 2.3: Describe the major outlet facilities (Line A and Line B) including lengths and sizes.
2. Section 5: Add a hydraulics section to confirm that the proposed drainage facilities have sufficient hydraulic capacities. Provide a table listing the design capacities, and the hydraulic variables (Q, D, S%, V, etc.) for Line A and Line B.
3. Proposed Hydrology Map: Indicate the sizes of the major outlet facilities. Show Q100 and Drainage Area at each outlet point (Line A and Line B).

If you have any question, please feel free to contact me.

Report Reviewed by: _____


J.T. Yean, Civil Engineer

Date: 8-18-2013

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
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(949) 331-5889

WQMP REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
June 5, 2013	08/06/2013	08/17/2013	2 nd Plan Check

By the Consulting Firm: James Kawamuri/KHR Associates (949) 756-6440

Project Title: **Crown Cabot Luxury Apartments**

Report Title: WQMP - Crown Cabot Luxury Apartments

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

Prior to approval of the WQMP attend the items below:

1. Cover Page: Revise the date of report.
2. WQMP Exhibit-1: Add location map

If you have any question, please feel free to contact me.

Report Reviewed by: J.T. Yean Date: 8-17-2013
J.T. Yean, Civil Engineer



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 08/18/2013
Invoice No. LGN-08182013

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: Drainage Study
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (08/14/2013 through 08/18/2013)

Contract Item	Contract Amount	Balance
	Hourly	
2 nd Plan Check on Drainage Study (KHR, dated 08/12/2013)	\$120@3Hr	\$360
Total :		\$360

Thank You

Total Due This Invoice \$360.

OK
AS

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JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 08/17/2013
Invoice No. LGN-08172013

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: WQMP
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (08/01/2013 through 08/17/2013)

Contract Item	Contract Amount	Balance
	Hourly	
2 nd Plan Check on WQMP (KHR, dated 06/05/2013)	\$120@2.5Hr	\$300
Total :		\$300

Thank You

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Total Due This Invoice \$300.

On hand

Transmission Report

Date/Time 06-26-2013 02:43:17 p.m. Transmit Header Text
Local ID 1 949-362-4369 Local Name 1 comdev xerox

This document : Confirmed
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Document size : 8.5"x11"



CITY OF LAGUNA NIGUEL
Community Development Department
30111 Crown Valley Parkway Laguna Niguel, California 92677
Phone: (949) 362-4360 Fax: (949) 362-4369

FAX TRANSMITTAL

DATE: 6/26/13
TO: Mr. Omar Morales
AGENCY/ COMPANY: KHR
FAX #: (949) 756-6444
FROM: Abdallah Sharif
TELEPHONE #: (949) 362-4327
FAX #: (949) 362-4369

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Abbreviations:

HS: Host send	PL: Polled local	MP: Mailbox print	CP: Completed	TS: Terminated by system
HR: Host receive	PR: Polled remote	RP: Report	FA: Fail	G3: Group 3
WS: Waiting send	MS: Mailbox save	FF: Fax Forward	TU: Terminated by user	EC: Error Correct



CITY OF LAGUNA NIGUEL

Community Development Department

30111 Crown Valley Parkway Laguna Niguel, California 92677

Phone: (949) 362-4360 Fax: (949) 362-4369

FAX TRANSMITTAL

DATE: 6/26/13

TO: Mr. Cesar Morales

AGENCY /
COMPANY: KHR

FAX #: (949) 756-6444

FROM: Abdullah Sharif

TELEPHONE #: (949) 362-4327

FAX #: (949) 362-4369

Transmitting 2 pages including this page.

Description:

Abdullah Sharif
Grading Department
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

WQMP REVIEW SHEET

Permits Numbers: G13-005

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
June 5, 2013	June 13, 2013	June 23, 2013	1 st Plan Check

By the Consulting Firm: KHR Associates (949) 756-6440

Project Title: **Crown Cabot Luxury Apartments**

Report Title: WQMP - Crown Cabot Luxury Apartments

Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC

Address: 949 South Coast Drive, Suite 400, Costa Mesa, CA 92626

Telephone: (714) 800-1383

Prior to approval of the WQMP attend the items below:

1. Cover Page: Add grading permit number: G13-005.
2. Owner's Certification: Sign and date by the owner.
3. WQMP Exhibit-1: Add location map, grading permit number: G13-005.
4. WQMP Exhibit-2: Add a detail sheet of the proposed BMPs:
 - TC1 Flow-Through Planters,
 - TC2 Filterra Roofdrain Units, and
 - TC3 Permeable Pavers.
5. Both WQMP Exhibits need engineer's stamp and signature

Grading and building plans must be consistent with the approved BMP exhibit.

If you have any question, please feel free to contact me.

Report Reviewed by:


J.T. Yean, Civil Engineer

Date: 6-23-2013



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 06/23/2013
Invoice No. LGN-06232013

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: WQMP
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (06/15/2013 through 06/23/2013)

Contract Item	Contract Amount	Balance
	Hourly	
1 st Plan Check on WQMP (KHR, dated 06/05/2013)	\$120@4.0Hr	\$480
Total :		\$480

Thank You

Total Due This Invoice \$480.

On hand

Transmission Report

Date/Time 06-18-2013 09:31:10 a.m. Transmit Header Text
Local ID 1 949-362-4369 Local Name 1 comdev xerox

This document : Confirmed
(reduced sample and details below)
Document size : 8.5"x11"



CITY OF LAGUNA NIGUEL
Community Development Department
30111 Crown Valley Parkway Laguna Niguel, California 92677
Phone: (949) 362-4360 Fax: (949) 362-4369

FAX TRANSMITTAL

DATE: 6/18/13

TO: Mr. Cesar Morales

AGENCY /
COMPANY: KHA

FAX #: (949) 756-6444

FROM: Abdullah Sharif

TELEPHONE #: (949) 362-4327

FAX #: (949) 362-4369

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Total Pages Confirmed : 3

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	650	9497566444	09:29:21 a.m. 06-18-2013	00:01:00	3/3	1	EC	HS	CP14400

Abbreviations:

HS: Host send
HR: Host receive
WS: Waiting send

PL: Polled local
PR: Polled remote
MS: Mailbox save

MP: Mailbox print
RP: Report
FF: Fax Forward

CP: Completed
FA: Fail
TU: Terminated by user

TS: Terminated by system
G3: Group 3
EC: Error Correct



CITY OF LAGUNA NIGUEL

Community Development Department

30111 Crown Valley Parkway Laguna Niguel, California 92677

Phone: (949) 362-4360 Fax: (949) 362-4369

FAX TRANSMITTAL

DATE: *6/18/13*

TO: *Mr. Cesar Morales*

AGENCY /
COMPANY: *KHR*

FAX #: *(949) 756 - 6444*

FROM: *Abdullah Sharif*

TELEPHONE #: *(949) 362 - 4327*

FAX #: (949) 362-4369

Transmitting *3* pages including this page.

Description:

Abdullah Sharif
Grading Engineer
City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

J.T. Yean, Ph.D., P.E., D.WRE, CFM
Hydrologist
22341 Blueberry Lane
Lake Forest, CA 92630
(949) 331-5889

DRAINAGE STUDY REVIEW SHEET

Permits Numbers: **G13-005**

<u>Report Date</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Plan Check Status</u>
May 9, 2013	06/12/2013	06/16/2013	1 st Plan Check

By the Consulting Firm: KHR Associates (949) 756-6440

Project Title: Crown Cabot Luxury Apartments
Report Title: Drainage Study
Project Address: 25891 Crown Valley Parkway, Laguna Niguel, CA 92677

Developer/Owner: Cal I Crown Valley LLC
Address: 400 Howard Street, San Francisco, CA 94105
Telephone: (415) 670-2000

Prior to Approval of Drainage Study Attend to Items Below:

1. Section 2.2.2: Describe the site drainage how it drains to Crown Valley Parkway and Cabot Road under the existing and proposed conditions (areas, runoff, overland flow, pipe flow, etc.)
2. Section 2.2.2: Discuss the potential impacts to the drainage system in Crown Valley Parkway and Cabot Road due to the project.
3. Section 2.3: Provide a table listing the proposed length/quantities of drainage facilities including, pipe sizes, catch basins, outlets, etc.)
4. Section 3: Remove Sections 3.1.2 and 3.1.3. WQMP related sizing criteria and BMPs are for reference only in drainage report, as they are to be reviewed in WQMP.
5. Section 4.1: Delineate the major drainage areas based on the final outlet points to Crown Valley Parkway and Cabot Road. Discuss how the roof drains and downspouts tie into drainage of surrounding or adjacent areas.
6. Section 4.2: Provide a table showing the comparison of drainage areas and design Qs to Crown Valley Parkway and Cabot Road under the existing and proposed conditions.
7. Section 5: Add a hydraulics section to confirm that the proposed drainage facilities have sufficient hydraulic capacities. Provide a table listing all the proposed drainage facilities, design capacities, and the required capacities.
8. Appendix: Follow **Figure D-4, Page D-14**, OC Hydrology Manual to prepare Rational Method Calculation Summary Table.

Preparation of Hydrology Maps (24" x 36")

9. Follow **Figure D-5, Page D-17**, OC Hydrology Manual to prepare Hydrology Maps.
10. Show project boundaries, drainage boundaries, grading limits and permit limits.
11. Delineate the major drainage boundary for each outlet point, and sub-drainage boundaries for concentration points. Building areas should be delineated to the outlet points.
12. Show Q100 and Drainage Area at each outlet point.
13. Highlight the proposed drain lines and catch basins in the hydrology map.
14. Show the existing site drainage and how it ties into drainage of surrounding or adjacent areas.
15. Show the proposed site drainage and how it ties into drainage of surrounding or adjacent areas.
16. Show off-site runoff patterns (with arrow heads).
17. Show on-site runoff patterns (with arrow heads).
18. Distinguish the drainage areas where runoff will not be collected into the pipe and leave the site with sheet flow.
19. Add permit number on the hydrology map.
20. Hydrology Map needs engineer's stamp and signature.

All the design parameters in hydrology and hydraulics calculations shall be able to be verified in the hydrology maps.

If you have any question, please feel free to contact me.

Report Reviewed by:



J.T. Yean, Civil Engineer

Date: 6-16-2013



JT Yean Company

22341 Blueberry Lane
Lake Forest, CA 92630
Tel: (949) 768-6558

INVOICE

Date: 06/16/2013
Invoice No. LGN-06162013

City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, California 92677

Job No. G13-005

Attention: **Abdullah Sharif**

Subject: Drainage Study
Crown Cabot Apartments / Cal I Crown Valley LLC

Current Billing Period (06/01/2013 through 06/16/2013)

Contract Item	Contract Amount	Balance
	Hourly	
1 st Plan Check on Drainage Study (KHR, dated 05/09/2013)	\$120@4.5Hr	\$540
Total :		\$540

Thank You

Total Due This Invoice \$540.

entered