

COURTYARD MARRIOTT

1

INSTALLATION & QUALITY CONTROL

2

VIBROREPLACEMENT (VR) STONE COLUMNS

1. SHOP DRAWINGS REFERENCE SHEET S2.01, RECEIVED FEBUARY 8, 2022 AS PREPARED BY ASE ENGINEERING SERVICES, INC.
2. VR DESIGN, TESTING AND CERTIFICATION SHALL BE UNDER THE DIRECTION OF AN EARTH TECH GEOTECHNICAL ENGINEER SPECIALIZING IN GROUND IMPROVEMENT.
3. VR LAYOUT SHALL BE CONFIRMED FOR EVERY COLUMN PRIOR TO INSTALLATION USING EITHER A GPS SURVEY INSTRUMENT OR ACCURATE MEASUREMENTS FROM KNOWN SITE BENCHMARKS. VR PLAN LOCATION MAY NOT DEVIATE BY MORE THAN ±12 INCHES FROM THE DESIGN LOCATION WITHOUT APPROVAL.
4. AS-BUILT VR PLAN LOCATION, IF OUTSIDE OF THE TOLERANCE SPECIFIED ABOVE, SHALL BE REVIEWED BY THE GROUND IMPROVEMENT DESIGN ENGINEER (EARTH TECH) TO DETERMINE ACCEPTABILITY.
5. ALL VR PROBES SHALL BE INSTALLED TO THE LISTED DEPTHS BELOW BOTTOM OF FOOTING.
6. POSITIVE AMPERAGE INCREASE OF AT LEAST 50 AMPS OVER FREE-HANGING SHALL BE ENSURED THROUGH THE FULL INSTALLATION DEPTH OF EVERY STONE COLUMN, UNLESS OTHERWISE APPROVED BY THE GROUND IMPROVEMENT DESIGN ENGINEER.
7. SHOULD PRACTICAL REFUSAL OF THE VIBROFLOT OCCUR BEFORE REACHING DESIGN VR DEPTH, THE GROUND IMPROVEMENT DESIGN ENGINEER SHALL BE INFORMED IMMEDIATELY.
 - 7.1. SHOULD THIS OCCUR, IT SHALL BE CLEARLY DOCUMENTED.
 - 7.2. GROUND IMPROVEMENT DESIGN ENGINEER SHALL ADVISE AS TO WHAT CORRECTIVE MEASURES, IF ANY, SHALL BE TAKEN.
 - 7.3. PRACTICAL REFUSAL IS DEFINED AS THE INABILITY TO FURTHER ADVANCE THE VIBROFLOT USING TYPICAL MEANS, SUCH THAT TOOL DAMAGE MAY OCCUR OR SAFETY MAY BE COMPROMISED. THIS IS INDICATED BY THE FOLLOWING:
 - 7.3.1. DEVELOPMENT OF MAXIMUM SAFE TOOL AMPERAGE (200 AMPS OR HIGHER) WITH NO FURTHER PENETRATION OF THE TOOL
 - 7.3.2. VIBRATOR CHOKERS COMING OFF THE HOOK WITH NO FURTHER PENETRATION OF THE TOOL

8. UNLESS OTHERWISE APPROVED BY THE GROUND IMPROVEMENT DESIGN ENGINEER BASED ON OBSERVED SOIL RESPONSE TO VR INSTALLATION, STONE COLUMNS SHALL HAVE A NOMINAL INSTALLED DIAMETER OF 3-FT (+/-).
9. SOIL CONDITIONS, VR DESIGN ASSUMPTIONS AND/OR AS-BUILT VR PERFORMANCE MAY BE VERIFIED USING STANDARD PENETRATION TEST (SPT) BORINGS OR CONE PENETROMETER TEST (CPT) SOUNDINGS, AS DIRECTED BY THE GROUND IMPROVEMENT DESIGN ENGINEER.

POST-VR GROUND PREPARATION

1. FOLLOW ALL SITE PREPARATION RECOMMENDATIONS AS OUTLINED IN THE REPORT OF GEOTECHNICAL CONSULTING SERVICES PREPARED BY UNIVERSAL ENGINEERING SERVICES DATED APRIL 25 2019.
2. VR-SUPPORTED FOUNDATIONS PREPARED IN ACCORDANCE WITH THE ABOVE MAY BE DESIGNED FOR AN ALLOWABLE SOIL BEARING CAPACITY OF 5,000 PSF, UNLESS NOTED OTHERWISE.

GENERAL NOTES

1. THE SURVEY POINTS SHOWN ON THE SHOP DRAWING SHALL BE PROVIDED (BY OTHERS) FOR USE BY EARTH TECH IN LAYOUT OF THE VR COLUMN LOCATIONS.
2. THESE DRAWINGS SHALL NOT BE USED FOR FOUNDATION LAYOUT.
3. PER THE REPORT OF GEOTECHNICAL CONSULTING SERVICES PREPARED BY UNIVERSAL ENGINEERING SCIENCES, DATED JUNE 12, 2018, FOUNDATIONS DESIGNED FOR LESS THAN 2,500 PSF AVERAGE BEARING PRESSURE DO NOT REQUIRE VR TREATMENT AND ARE NOT INCLUDED IN THIS SCOPE. EARTH TECH SHALL BE NOTIFIED IF ANY OF THE FOUNDATIONS INDICATED AS UNTREATED ON THESE SHOP DRAWINGS ARE DESIGNED FOR MORE THAN 2,500 PSF AVERAGE BEARING PRESSURE.



2620 Hunt Rd
Land O Lakes, FL 34638
Ph. (813) 909-8000
www.earthtech.com

NOTES

COURTYARD MARRIOTT

LAKE CITY, FL

PROJECT NUMBER: 21-112 ISSUE DATE: 11/11/21

REV. NO.	REVISION DESCRIPTION	DATE
1	PER REVIEW COMMENTS	12/14/21
2	PER STRUCTURAL REVISION	2/8/22

ENGINEER OF RECORD:

Digitally signed by Kevin R. Johnson
Date: 2022.02.11 10:58:20 -0500

EARTH TECH, LLC CERTIFICATE OF AUTHORIZATION
FLORIDA NO. 30823

DRAWN BY: AJD

SHEET NUMBER:
ET-1.0

This item has been digitally signed and sealed by Kevin R. Johnson, Ph.D., P.E. on 02/11/2022 using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.

Use of Proposals and Designs

Designs, sketches, specifications, and/or proposals ("Designs") prepared by Earth Tech, LLC. ("ET") and/or it's employees have been prepared for exclusive use by ET and based upon, and in anticipation of, ET performing the work called for in such Designs. ET makes no warranties or guarantees as to the suitability of the Design for use by others. The Designs are subject to protection under the Copyright Act of 1976 and Architectural Works Copyright Protection Act of 1990. Use, control, reproduction, publication, or dissemination of such Designs without the prior written consent of an authorized representative of ET is strictly prohibited. ET is, and shall continue to be, the sole owner of the Designs.

Y:\Heavy Civil\2 - Jobs\Active\Courtyard Marriott (Lake City, FL) 21-112\Technical\Shop Drawings\Courtyard Marriott (Lake City, FL) 21-007_VR_REV2.dwg2/11/2022

2 LEGEND

○ 33 Ø3.0-FT (±) VIBRO REPLACEMENT (VR) LOCATION AND NUMBER

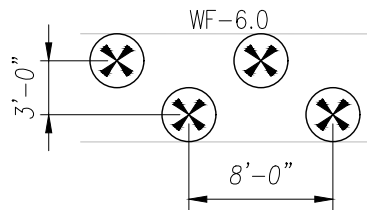
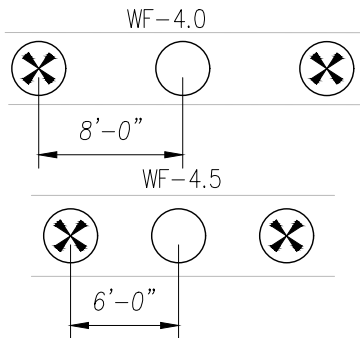
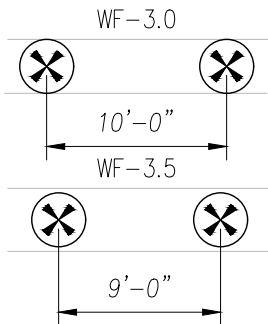
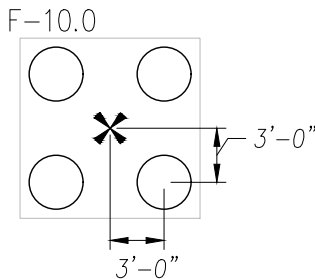
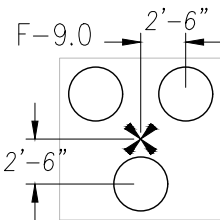
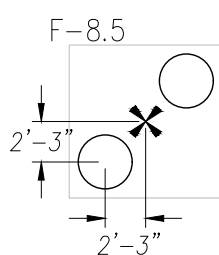
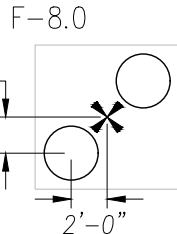
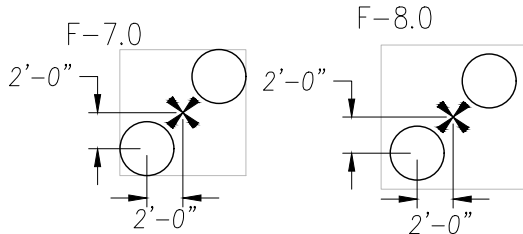
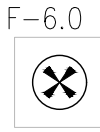
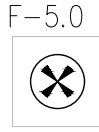
✕ REQUIRED SURVEY STAKE (BY OTHERS)

1

FOUNDATIONS NOT TREATED
(ALLOWABLE 2,500 PSF BEARING PRESSURE, PER
UES REPORT DATED 6/12/18)

3 TYPICAL VIBRO REPLACEMENT LAYOUT

Scale: 3/32" = 1'-0"



FOUNDATION SCHEDULE

Footing Mark	Footing Width (ft)	Footing Length (ft)	VR Columns Spacing (ft)	Number of VR Column Rows	Number of VR Columns per Footing	VR Design Length (ft) Below BOF
F-4.0	4.0	4.0	NA	NA	1	10
F-5.0	5.0	5.0	NA	NA	1	10
F-6.0	6.0	6.0	NA	NA	1	10
F-7.0	7.0	7.0	NA	NA	2	10
F-8.0	8.0	8.0	NA	NA	2	15
F-8.5	8.5	8.5	NA	NA	2	15
F-9.0	9.0	9.0	NA	NA	3	15
F-10.0	10.0	10.0	NA	NA	4	15
F-10x20	10.0	20.0	NA	NA	8	15
WF-3.0	3.0	NA	10	1	NA	15
WF-3.5	3.5	NA	9	1	NA	15
WF-4.0	4.0	NA	8	1	NA	16
WF-4.5	4.5	NA	6	1	NA	18
WF-6.0	6.0	NA	8	2	NA	18
ELEV	11.0	22.0	NA	NA	8	15



2620 Hunt Rd
Land O Lakes, FL 34638
Ph. (813) 909-8000
www.earthtech.com

DETAILS

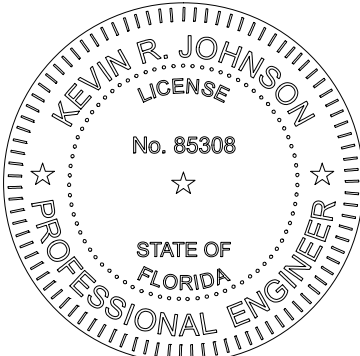
COURTYARD MARRIOTT

LAKE CITY, FL

PROJECT NUMBER: 21-112
ISSUE DATE: 11/11/21

REV. NO.	REVISION DESCRIPTION	DATE
1	PER REVIEW COMMENTS	12/14/21
2	PER STRUCTURAL REVISION	2/8/22

ENGINEER OF RECORD:



EARTH TECH, LLC CERTIFICATE OF
AUTHORIZATION
FLORIDA NO. 30823

DRAWN BY: AJD

SHEET NUMBER:
ET-2.0

Use of Proposals and Designs

Designs, sketches, specifications, and/or proposals ("Designs") prepared by Earth Tech, LLC. ("ET") and/or it's employees have been prepared for exclusive use by ET and based upon, and in anticipation of, ET performing the work called for in such Designs. ET makes no warranties or guarantees as to the suitability of the Design for use by others. The Designs are subject to protection under the Copyright Act of 1976 and Architectural Works Copyright Protection Act of 1990. Use, control, reproduction, publication, or dissemination of such Designs without the prior written consent of an authorized representative of ET is strictly prohibited. ET is, and shall continue to be, the sole owner of the Designs.

Y:\Heavy Civil\2 - Jobs\Active\Courtyard Marriott (Lake City, FL) 21-112\Technical\Shop Drawings\Courtyard Marriott (Lake City, FL) 21-007_VR_REV2.dwg2/11/2022

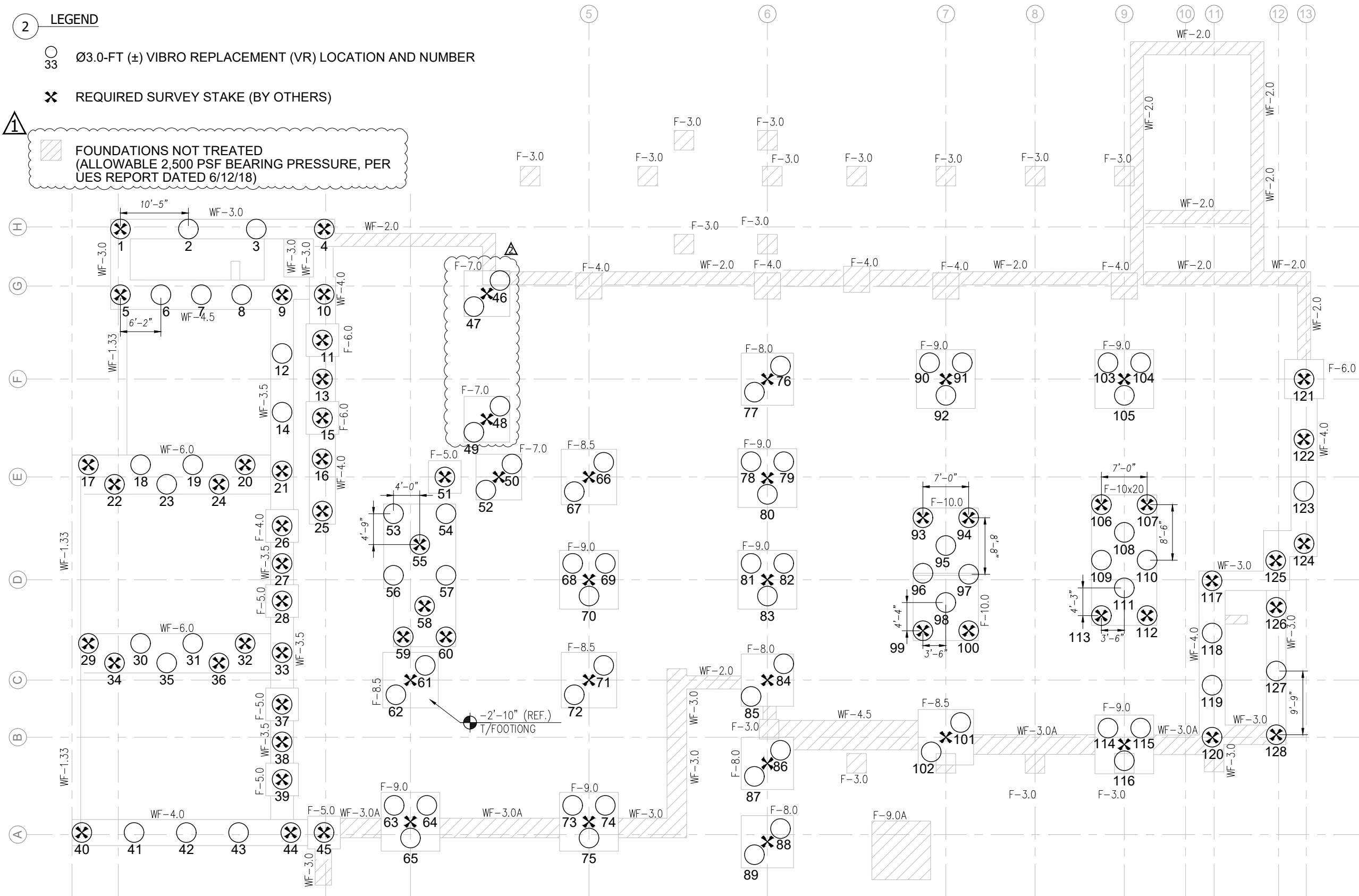
2 LEGEND

○ 33 Ø3.0-FT (±) VIBRO REPLACEMENT (VR) LOCATION AND NUMBER

✕ REQUIRED SURVEY STAKE (BY OTHERS)

1

FOUNDATIONS NOT TREATED
(ALLOWABLE 2,500 PSF BEARING PRESSURE, PER
UES REPORT DATED 6/12/18)



2620 Hunt Rd
Land O Lakes, FL 34638
Ph. (813) 909-8000
www.earthtech.com

VIBRO REPLACEMENT
LAYOUT

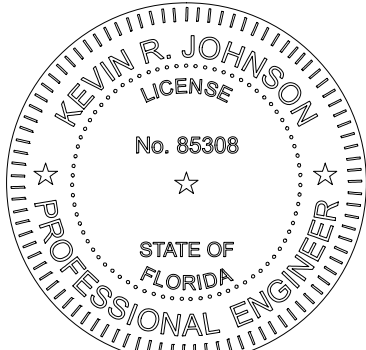
COURTYARD MARRIOTT

LAKE CITY, FL

PROJECT NUMBER: 21-112
ISSUE DATE: 11/11/21

REV. NO.	REVISION DESCRIPTION	DATE
1	PER REVIEW COMMENTS	12/14/21
2	PER STRUCTURAL REVISION	2/8/22

ENGINEER OF RECORD:



EARTH TECH, LLC CERTIFICATE OF
AUTHORIZATION
FLORIDA NO. 30823

DRAWN BY: AJD

SHEET NUMBER:
ET-3.0

Use of Proposals and Designs

Designs, sketches, specifications, and/or proposals ("Designs") prepared by Earth Tech, LLC. ("ET") and/or it's employees have been prepared for exclusive use by ET and based upon, and in anticipation of, ET performing the work called for in such Designs. ET makes no warranties or guarantees as to the suitability of the Design for use by others. The Designs are subject to protection under the Copyright Act of 1976 and Architectural Works Copyright Protection Act of 1990. Use, control, reproduction, publication, or dissemination of such Designs without the prior written consent of an authorized representative of ET is strictly prohibited. ET is, and shall continue to be, the sole owner of the Designs.