VORTEX
ENGINEERING, INC.

TO: Martha's Vineyard Commission
Development of Regional Impact (DRI) Coordinator
The Olde Stone Building
33 New York Avenue
Oak Bluffs, MA 02557

RE: Drainage Report Letter
FedEx Ground
15 North Line Road
Edgartown, MA 02539

DATE: August 10, 2021

VEI #: F20-073

To Whom It May Concern,

This letter is to request the acceptance and approval of the storm sewer improvements proposed for the subject property. The improvements to the site are precipitated by a proposed modular dock building and site infrastructure associated with the addition.

As part of this project it is proposed to add 2 (two) dry wells and 2 (two) leach areas, respectively, and an inlet that drains to one of the leach fields located in the south.

Approximately, 12,750 square feet of impervious area is proposed with this plan, consisting of concrete and asphalt pavement, and the roof of the proposed building. The above impervious area increases the imperviousness of the lot by approximately 7,350 square feet from the existing conditions. The 10-year/24-hour storm event was used to size the dry wells, located in the south and the east of the proposed building. The basin includes the runoff generated by the above-described improvements. The area inlet is designed with 4' deep sumps and a skimming baffle for treatment and removal of the pollutants of the initial flush and to prevent the majority of the particulates and trash from entering the dry wells. The dry wells are to be installed on a gravel bed, with additional gravel embedding the dry well structures. The gravel is to have a void ratio of 0.39.

This design and the soil's hydraulic conductivity shall improve the management of the runoff as well as the treatment of water prior to discharging into the soil. The attached dry well calculations are provided for your consideration and approval.

Upon your review of the enclosed documents, should you have any questions or require additional information, please do not hesitate to contact me at 970-245-9051 or by e-mail at rjones@vortexeng.us. Thank you.

COMMONWEALTH OF MASSACHUSETTS
ROBERT W. JONES II
CIVIL
No. 50382
REGISTERED PROFESSIONAL ENGINEER

8-10-21

Vortex Engineering, Inc.

Robert W. Jones II, P.E.

Cc: FedEx
File

FXG_Martha's Vineyard, MA
Dry Well Sizing

Vortex Engineering, Inc.
June 7, 2021

10 year/24 hour Storm Depth =	4.88 in		*(Hydrology Handbook For Conservation Commissioners, Massachusetts Department of Environmental Protection, March 2002)*
Gravel Void Ratio Required =	0.39		*Volume 2, Chapter 2: Structural BMP Specifications for the Massachusetts Stormwater Handbook*
Drainage Basin Area =	12,750 sf		*(100% imprevious)*
Runoff Volume =	5,185 cf	=	**38784 gal**
1000 gal Wet Well proposed =	2		
Volume in Dry Wells =	267 cf		
Volume of Gravel Required =	12,609 cf		
Gravel Depth =	10.00 ft		
Gravel Area Req'd =	1,261 sf		