RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
STORMWATER ENGINEERING REVIEW
REQUEST FOR ADDITIONAL INFORMATION

Date: 9/05/2018 **Reviewer:** Nicholas A. Pisani, P.E.

Application Number:

FWW#:	
WQC#:	16-171
GWD/UIC#:	
RIPDES#:	RIR101477
OTHER:	

Applicant Name: National Grid LNG, LLC

Project Name: Liquefaction Plant

Plans and Analysis Reviewed: Plans and Reports received by DEM on 7/20/2018.

Engineering Review conducted with Checklist rev. date: **2/20/2014.**

Interim Review Findings:

1) **Drainage Issues-** See comments below.
2) **Floodplain Issues-** The site is located within a coastal floodplain.

Interim Technical Justification: If the site plans for the proposed development include a BMP that does not fully comply with all the applicable design requirements of the RISDISM, then please note below:

1) NA

Review Comments:

(1) The submitted response to the previous review comment regarding the need to address nitrogen impacts using the "Stormwater Compensation Method" does not meet Rhode Island Stormwater Design and Installation Standards Manual (RISDISM) standard 5.5.4 bullet 1 which states that the entire treatment system (including pretreatment) shall be sized to temporarily hold at least 75% of the WQv. A porosity value (V_v/V_t) of 0.33 shall be used to account for storage within the filter media. The submitted design does not provide the full 75% of water quality volume as a stored static volume within the stormwater filter practice and its forebay, but instead indicates and demonstrates that the water quality volume will not overtop or bypass the proposed sand filter. Therefore, while this reviewer concurs that the water quality volume will flow through the proposed sand filter, this reviewer cannot concur that the proposed sand filter and forebay combination is acceptably sized in accordance with Standard 5.5.4 bullet 1 of the RISDISM. Therefore, please resize the proposed sand filter to meet RISDISM Standard 5.5.4 bullet 1. Please also note that the storage within the stone layer and collection pipe system beneath the proposed sand filter cannot be considered to be part of the sand filter volume. This volume exists beyond the treatment zone of the sand filter itself. Please revise the analysis accordingly.

(2) As an alternative to the above design and analysis change, please provide a pre-project vs. post-project pollutant loading analysis that will clearly demonstrate that the post-project pollutant loads for both bacteria and for nitrogen will not be increased by the proposed project.

(3) Please provide the back-up ground cover information used in the existing and the proposed condition hydrologic analyses. Please ensure that the proposed design will clearly demonstrate that the associated proposed condition impervious area that needs to be treated per the "Stormwater Compensation Method" will actually be delivered to the proposed water quality treatment practice (sand filter and forebay).

(4) At this point, this reviewer has some remaining uncertainties regarding the amount of area requiring water quality treatment. Based on the information submitted it appears that the treatment areas appear to be approximately accurate. However, it would be helpful to have additional information to ensure more accuracy in the review. Therefore, please indicate the following areas:

- In order to adequately evaluate the required amount of water quality treatment and which impervious areas will require water quality treatment, please address the following items. For all areas of impervious cover on the proposed condition subwatershed map drainage area map, please label each area of impervious cover as being in one of the following categories:
  - Pre-existing impervious areas that will not be altered in any way from the pre-project condition. These areas do not require any treatment.
  - Areas of pre-existing pavement that have been simply overlain with new pavement, as opposed to have been subject to a full-depth reconstruction. These areas will not require any treatment.
  - Areas of pavement or pre-existing building area that will be subject to full depth. Fifty percent of these areas will require treatment.
  - Pre-existing pervious areas that will be converted to new impervious cover. These areas will need to be treated in accordance with the "Compensation Method". Given that no infiltration is proposed, the treatment of 250% of this area needs to be treated to meet nitrogen standards. Otherwise a pollutant loading analysis is needed.
  - Any pre-existing pervious areas to be remain as pervious areas. No treatment is required for this area.